MEMORANDUM

Subject: Response to Public Comments on Proposed Amendments to National Emission Standards for Hazardous Air Pollutants for Existing Stationary Reciprocating Internal Combustion Engines and New Source Performance Standards for Stationary Internal Combustion Engines

From: Melanie King, Energy Strategies Group

To: EPA Docket EPA-HQ-OAR-2008-0708

Date: January 14, 2013

On June 7, 2012, the Environmental Protection Agency (EPA) proposed amendments to the national emission standards for hazardous air pollutants (NESHAP) for stationary reciprocating internal combustion engines (RICE) in 40 CFR part 63, subpart ZZZZ (77 FR 33812). The EPA also proposed amendments to the New Source Performance Standards (NSPS) for Stationary Internal Combustion Engines in 40 CFR part 60, subparts IIII and JJJJ on that same date. In addition, the EPA reopened the comment period on October 3, 2012 to solicit comments on one specific issue regarding existing engines on offshore vessels (77 FR 60341). The purpose of this document is to present a summary of the public comments that EPA received on the proposed rule and the responses developed. This summary of comments and responses serves as the basis for revisions made to the standards between proposal and promulgation.

EPA received 584 public comments on the proposed rule. Of these, 305 comments were from private citizens. A listing of all organizations submitting comments, their affiliation, and the Document ID for their comments is presented in Table 1. All comments can be obtained online from the Federal Docket Management System at http://www.regulations.gov. The docket number for this rulemaking is EPA-HQ-OAR-2008-0708. In this document, commenters are identified by the last three or four digits of the Document ID of their comments.

Of the private citizens who submitted public comments, the vast majority (more than 75 percent) were from two states: Pennsylvania and New York. The rest of the private citizen commenters were scattered from other regions of the country. Most of the private citizen commenters opposed the proposal to allow spark ignition (SI) RICE to avoid installation of pollution controls because of past and future health and economic impacts on their rural neighbors. In contrast, some private citizens supported the remote area

source SI RICE provisions as well as the demand response (DR) and peak shaving provisions because these provisions would help ensure reliability of the electric grid and prevent blackouts, particularly in rural areas of the country. Some private citizens also suggested that the EPA should provide more flexibility to sources to operate under the DR and peak shaving programs, e.g., allow use of emergency engines for up to 100 hours per year (hrs/yr) for any purpose and remove the April 16, 2017 sunset provision for peak shaving for some sources. Other private citizen commenters were concerned that the rule would result in electric utility rate increases. A few private citizen commenters supported the Alaska remote provisions, but suggested changes to clarify the definition. Finally a few private citizens said that the compliance deadlines should be extended.

Table 1. List of Commenters on the Proposed NESHAP and NSPS for Existing Stationary Reciprocating Internal Combustion Engines

Document ID[1,2,3,4]	Commenter	Affiliation
EPA-HQ-OAR-2008-0708-0867[5]	Stephanie Moyer, Environmental Quality Program Specialist, NSPS Coordinator, Program Planning & Development Unit	Nebraska Air Quality Division
EPA-HQ-OAR-2008-0708-0872	Yury Lundin, Facilities Director	Kaiser WLA Medical Center
EPA-HQ-OAR-2008-0708-0873	Randy L. Groff, Director of Facilities and Energy	Four Seasons Produce, Inc.
EPA-HQ-OAR-2008-0708-0874	Tim MCConnell, Electric Division Manager	Kethican Public Utilities (KPU)
EPA-HQ-OAR-2008-0708-0875	Brad Baumann	Marvin Windows and Doors
EPA-HQ-OAR-2008-0708-0876	Wes Pooler, Director, Facilities Management	Fletcher Allen Health Care
EPA-HQ-OAR-2008-0708-0877	Darron Scott, President/CEO	Kodiak Electronic Association (KEA)
EPA-HQ-OAR-2008-0708-0878[6] EPA-HQ-OAR-2008-0708-0886	Stephen M. Butka	Hague Equipment Company of Michigan, Inc.
EPA-HQ-OAR-2008-0708-0879	Donald Kooiman, Director of Facilities	Sanford USD Medical Center
EPA-HQ-OAR-2008-0708-0880	David R. Bell, Facility Supervisor/Sustainability Engineer	BD Diagnostic Systems (BD)
EPA-HQ-OAR-2008-0708-0881	Roger Schellenberger, Data Center Manager	The Telx Group, Inc.
EPA-HQ-OAR-2008-0708-0882	Richard A. Stedman, Air Pollution Control Officer	Monterey Bay Unified Air Pollution Control District (MBUAPCD)
EPA-HQ-OAR-2008-0708-0883	Ron Prediger and Barbara Beck	Beaver Dam, LLC
EPA-HQ-OAR-2008-0708-0884	Williamn J. Jones	Swatara Township Authority
EPA-HQ-OAR-2008-0708-0885	Duane Lehman	Esbenshade Farms
EPA-HQ-OAR-2008-0708-0887	Joseph A. Amabeli, Superintendent	City of Alliance Water and Wastewater Treatment Plant, Alliance, Ohio
EPA-HQ-OAR-2008-0708-0888	Stephen M. Lowe, CHFM, Director Engineering and Safety	East Texas Medical Center (ETMC)
EPA-HQ-OAR-2008-0708-0889	Matthew Shields, Milford Facilities Manager	Milton CAT
EPA-HQ-OAR-2008-0708-0891	Chris Gebhardt, President	VIRTBIZ Internet Services
EPA-HQ-OAR-2008-0708-0892	Robert Brown, President	Harsh International
EPA-HQ-OAR-2008-0708-0893	John S. Faile, Superintendent	Lincoln Water Commission
EPA-HQ-OAR-2008-0708-0894	Quinlan J. Shea, III, Vice President	Environment Edison Electric Institute

[1] EPA-HQ-OAR-2008-0708-0890 is the Manufacturers of Emission Controls Association's (MECA) oral testimony from 7/10/12 Public Hearing and is included in the transcript from the hearing (EPA-HQ-OAR-2008-0708-0944).
[2] EPA-HQ-OAR-2008-0708-0917 is background material and not a comment.
[3] EPA-HQ-OAR-2008-0708-0944 is the 7/10/12 public hearing transcript and not a comment.
[4] The EPA received more than 300 comments from private citizens, which are not listed in this table.
[5] EPA-HQ-OAR-2008-0708-0868 is Calpine's public hearing request and brief comments. Calpine's comments are reflected in EPA-HQ-OAR-2008-0708-1134.
[6] The commenter submitted very similar comments twice and comments in this document are represented by ID 886.

Document ID[1,2,3,4]	Commenter	Affiliation
		(EEI)
EPA-HQ-OAR-2008-0708-0895	Alan Quimby, Chief Sanitary Engineer	Sanitary District, Department of Public Works, Queen Anne's County, Maryland
EPA-HQ-OAR-2008-0708-0896	Jeff Biggs, Executive Vice President of Operations & Technology	Peak 10 Inc.
EPA-HQ-OAR-2008-0708-0897	Chris Albrecht, Environmental Manager, Aviation Department	City of Albuquerque, New Mexico
EPA-HQ-OAR-2008-0708-0898	Sami Sarrough, Energy Manager	Division of Water, Department of Public Utilities, City of Cleveland, Ohio
EPA-HQ-OAR-2008-0708-0899	Darren Eyler, Director	Facilities Operations, Equinix
EPA-HQ-OAR-2008-0708-0900	Gilbert Perez, Director of Operations	Victor Valley Wastewater Authority (VVWRA)
EPA-HQ-OAR-2008-0708-0901	Paul Bauer, VP Operational Affairs	Mountain High
EPA-HQ-OAR-2008-0708-0902	John A. Ackiewicz, AWI Environmental/ABP Senior EHS Manager, Corporate EH&S	Armstrong World Industries, Inc.
EPA-HQ-OAR-2008-0708-0903	Fred Flook, Director, Plant Operations	Medical City Dallas Hospital
EPA-HQ-OAR-2008-0708-0904	Mary Burns, Property Manager	Obrecht-Riehl & Pinkard, LLC (ORP)
EPA-HQ-OAR-2008-0708-0905	Greg Longacre, Facilities Manager	CUNA Mutual Group – Fort Worth, UGL Services, Unicco Operations
EPA-HQ-OAR-2008-0708-0906	John F. Loughlin, Superintendent	Rockland Sewer Department, Town of Rockland
EPA-HQ-OAR-2008-0708-0907	Rick Johnson, Administrator of Operations	Covenant Village of Cromwell
EPA-HQ-OAR-2008-0708-0908	John Therrien, Director of Plant Operations and Security	Holyoke Medical Center
EPA-HQ-OAR-2008-0708-0909	Robert Gurdikian, PG, CHMM, Environmental Project Manager	Level 3 Communications LLC
EPA-HQ-OAR-2008-0708-0910	George M. Moser, Authority Manager	Berks-Montgomery Municipal Authority
EPA-HQ-OAR-2008-0708-0911	Rudy R. Quintanilla, Chief Engineer	Seton Medical Center Hays
EPA-HQ-OAR-2008-0708-0912	Kevin Downey, Facilities Engineer, New Product Development Senior Project Manager	Whirley-DrinkWorks
EPA-HQ-OAR-2008-0708-0913	Steve Jones, Manager	Country View Family Farms
EPA-HQ-OAR-2008-0708-0914	Andrew M. Serri, CEO and General Manager	Basin Electric Power Cooperative
EPA-HQ-OAR-2008-0708-0915	Bruce Jones, Plant Superintendent	Ambler Wastewater Treatment Plant (AWWTP)
EPA-HQ-OAR-2008-0708-0916	Brad Fehr	Riverwiew, LLP
EPA-HQ-OAR-2008-0708-0918	Greg Liedtka, Assistant Manager, Facilities Management	Elmhurst Memorial Hospital
EPA-HQ-OAR-2008-0708-0919	Matthew L. Hoopes, Assistant Superintendent of Utilities	Salem Utilities Department, City of Salem, Ohio
EPA-HQ-OAR-2008-0708-0920	Stacey Dahl, Manager of External Affairs	Minnkota Power Cooperative, Inc.
EPA-HQ-OAR-2008-0708-0921	John S. Smith, Director of Wastewater Operations	Wastewater Treatment Plant, New Freedom Borough, Pennsylvania
EPA-HQ-OAR-2008-0708-0922	Michael J. Lodge, Director of	Trident Seafoods Corporation

Document ID[1,2,3,4]	Commenter	Affiliation
	Environmental Compliance	
EPA-HQ-OAR-2008-0708-0923	Paul Oshel, District Engineer	Semitropic Water Storage District
EPA-HQ-OAR-2008-0708-0924	Meera Kohler, President and CEO	Alaska Village Electric Cooperative, Inc.
EPA-HQ-OAR-2008-0708-0925	Susan Sample, Mayor Pro Tem	The City of West University Place
EPA-HQ-OAR-2008-0708-0926	Christopher Peifer, Assistant City Manager and Public Works Director	The City of West University Place
EPA-HQ-OAR-2008-0708-0927	Robert Fry, Mayor	The City of West University Place
EPA-HQ-OAR-2008-0708-0928	Joan Johnson, City Council Member	The City of West University Place
EPA-HQ-OAR-2008-0708-0929	Dawn DeVries, Air Quality Specialist	Encana Oil & Gas (USA), Inc.
EPA-HQ-OAR-2008-0708-0930	Gary J. Gaissert, Facilities Manager	Brethren Village
EPA-HQ-OAR-2008-0708-0931	Ed Heathcott, City Council Member	The City of West University Place, Texas
EPA-HQ-OAR-2008-0708-0932	Michael Patten, Operations Manager	The Red Blazer Restaurant
EPA-HQ-OAR-2008-0708-0933	Kerby E. Zozula	Ventura County Air Pollution Control District, California
EPA-HQ-OAR-2008-0708-0934	Michael G. Ross, City Manager	The City of West University Place
EPA-HQ-OAR-2008-0708-0935	Richard (Dick) Yehle, Council Member	The City of West University Place
EPA-HQ-OAR-2008-0708-0936	Barry Halcrow	Virginia Department of Environmental Quality (VADEQ)
EPA-HQ-OAR-2008-0708-0937	Greg Graunke, Maintenance Team Lead, Plant/Maintenance Operations	Mercy Medical Center
EPA-HQ-OAR-2008-0708-0938	Roger Isom	California Cotton Growers Association, et. al.
EPA-HQ-OAR-2008-0708-0939	James M. Lisowski, Assistant General Manager	Chicopee Electric Light
EPA-HQ-OAR-2008-0708-0941 Supports comments of EPA-HQ-OAR-2008-0708-1104	Steven Rockwell, Mayor	Village of Milan
EPA-HQ-OAR-2008-0708-0942 Supports comments of EPA-HQ-OAR-2008-0708-1104	Eugene M. Toy, City Manager	City of Galion, Ohio
EPA-HQ-OAR-2008-0708-0943	Michael DiMauro, Environmental Engineer	Massachusetts Municipal Wholesale Electric Company (MMWEC)
EPA-HQ-OAR-2008-0708-0945 Supports comments of EPA-HQ-OAR-2008-0708-1104	Michael Goodwin, Village Administrator	Village of Monroeville, Monroeville, Ohio
EPA-HQ-OAR-2008-0708-0946	Marilyn Leland, Executive Director	Alaska Power Association (APA)
EPA-HQ-OAR-2008-0708-0947	Samuel Mason, Manager, Marketing & Communications	Beltrami Electric Cooperative, Inc.
EPA-HQ-OAR-2008-0708-0948	James R. Paul, General Manager	Board of Public Works, Carrollton Municipal Utilities
EPA-HQ-OAR-2008-0708-0949	Michael Morris, CEOE, Director of Facilities	Hollywood Slot Hotel & Raceway
EPA-HQ-OAR-2008-0708-0950	John W. Gillogley, Special Projects Manager	Colorado Department of Corrections (CDOC)
EPA-HQ-OAR-2008-0708-0951 Supports comments of EPA-HQ-OAR-2008-0708-1104	Robert Geissman, Mayor	The Village of Lodi, Ohio Municipal Electric Utility
EPA-HQ-OAR-2008-0708-0952	Jeff A. Brediger, Director of Utilities	Orrville Utilities

Document ID[1,2,3,4]	Commenter	Affiliation
Supports comments of EPA-HQ-OAR-2008-0708-1104		
EPA-HQ-OAR-2008-0708-0953 Supports comments of EPA-HQ-OAR-2008-0708-0982	Joe Aleixo, Manager, Technical Services	DCL International Inc.
EPA-HQ-OAR-2008-0708-0954	G. Vinson Hellwig, Chief, Air Quality Division	Michigan Department of Environmental Quality
EPA-HQ-OAR-2008-0708-0955	Michael Krancer, Secretary	Pennsylvania Department of Environmental Protection
EPA-HQ-OAR-2008-0708-0956	Rayburn L. Butts, Director, Environmental Services	Florida Power and Light Company (FPL)
EPA-HQ-OAR-2008-0708-0957	Chris Thull, Assistant Plant Engineer	Automatic Rolls of New England
EPA-HQ-OAR-2008-0708-0958	Randall Christopher, CEM, LEED AP, Energy Manager	Health Science Center, University of Texas
EPA-HQ-OAR-2008-0708-0959	Patrick Williams, CHFM, Director of Facilities	Las Colinas Medical Center
EPA-HQ-OAR-2008-0708-0960	Jeffrey A. Jones, Manager, Transmission Services	Bangor Hydro Electric Company (BHE)
EPA-HQ-OAR-2008-0708-0961	Geraldine A. Smith, General Environmental Counsel and Managing Director, Environment	PSEG Power LLC and PSEG Energy Resources & Trade LLC
EPA-HQ-OAR-2008-0708-0964	Christopher Brewton, Utility Director	City and Borough of Sitka, Alaska
EPA-HQ-OAR-2008-0708-0965	Susan Wilson, Senior Regulatory Specialist	BHP Billiton Petroleum (GOM), Inc.
EPA-HQ-OAR-2008-0708-0966	Karen Kauffman, Office Manager	Glenville Farms, Pennsylvania
EPA-HQ-OAR-2008-0708-0967	Pat Bloomquist, Office Administrator	International Union of Operating Engineers Local 49 Training Center (TC) and Associated General Contractors of Minnesota Apprenticeship and Training Program
EPA-HQ-OAR-2008-0708-0968 Supports the comments of EPA-HQ-OAR-2008-0708-1082	H. Floyd, Gilzow, Director of Public Affairs	Missouri Joint Municipal Electric Utility Commission (MJMEUC)
EPA-HQ-OAR-2008-0708-0969	Roger Williams, Office Administrator	Eide Bailly, LLP
EPA-HQ-OAR-2008-0708-0970 Supports comments of EPA-HQ-OAR-2008-0708-1104	Eric Norenberg, Oberlin City Manager	Oberlin Municipal Light and Power (OMLPS)
EPA-HQ-OAR-2008-0708-0971	Scott A. Wehler, Vice President, Engineering	Adams Electric Cooperative, Inc.
EPA-HQ-OAR-2008-0708-0972	David D. Stoneback, Utilities Director	City of Evanston, Illinois
EPA-HQ-OAR-2008-0708-0974	Charlie Sakeagak, Director, Department of Public Works	North Slope Borough, Alaska
EPA-HQ-OAR-2008-0708-0975	Lance Hovland, VP of Energy Distribution	Wright-Hennepin Cooperative Electric Association (WH)
EPA-HQ-OAR-2008-0708-0976 Supports the comments of EPA-HQ-OAR-2008-0708-1104	Marilyn John, Mayor	City of Shelby, Ohio

Document ID[1,2,3,4]	Commenter	Affiliation
EPA-HQ-OAR-2008-0708-0977	Steve Tschida, Building Maintenance	Local 49 Training Center, International Union of Operating Engineers
EPA-HQ-OAR-2008-0708-0978 Supports the comments of EPA-HQ-OAR-2008-0708-1082	Greg Ellis	City of Colby, Kansas
EPA-HQ-OAR-2008-0708-0979	Michael R. Johnson, Maintenance Director	North Branch Area Public Schools 138
EPA-HQ-OAR-2008-0708-0980	Len Alabovitz, Plant Manager	Pencor/TN Printing
EPA-HQ-OAR-2008-0708-0981	Mike Gilliland, Director of Utilities	City of Osage City, Kansas
EPA-HQ-OAR-2008-0708-0982	Joseph Kubsh, Executive Director	Manufacturers of Emission Controls Association (MECA)
EPA-HQ-OAR-2008-0708-0984 Supports the comments of EPA-HQ-OAR-2008-0708-1082	Joyce E. Martin, City Manager	City of Garnett, Kansas
EPA-HQ-OAR-2008-0708-0985 Supports the comments of EPA-HQ-OAR-2008-0708-1104	Ed Palestro, Electric Superintendent	City of Hubbard Electric Department
EPA-HQ-OAR-2008-0708-0986 Supports the comments of EPA-HQ-OAR-2008-0708-1104	Rex Katterheinrich, P.E., Administrator	Village of New Knoxville, Ohio
EPA-HQ-OAR-2008-0708-0988	Bill Satterfield, Executive Director	Delmarva Poultry Industry, Inc.
EPA-HQ-OAR-2008-0708-0989	Phillip M. Mueller, Senior Vice President, Government Affairs and Management Services	Illinois Municipal Electric Agency (IMEA)
EPA-HQ-OAR-2008-0708-0990[7] EPA-HQ-OAR-2008-0708-1062 (Revised version of 990)	Robert S. Grimm, President and CEO	Alaska Power & Telephone Company (AP&T)
EPA-HQ-OAR-2008-0708-0991	Felix Mestey	United States Department of Defense
EPA-HQ-OAR-2008-0708-0994	Douglas L. Biden, President and Jacob G. Smeltz, Vice President	Electric Power Generation Association (EPGA)
EPA-HQ-OAR-2008-0708-0995 EPA-HQ-OAR-2008-0708-1013	Jim Frueh, Director of Maintenance & Operations	Fargo Public Schools, Fargo, North Dakota
EPA-HQ-OAR-2008-0708-0996	Dave Rosenbrook, Facilities Manager	Slumberland Furniture
EPA-HQ-OAR-2008-0708-0997	Marvin Denzer, VP Energy Services	Minnesota Valley Cooperative (MVEC)
EPA-HQ-OAR-2008-0708-0998 Supports comments of EPA-HQ-OAR-2008-0708-0955 EPA-HQ-OAR-2008-0708-1033 EPA-HQ-OAR-2008-0708-0994	Kathryn Z. Klaber, President	Marcellus Shale Coalition (MSC)
EPA-HQ-OAR-2008-0708-0999 Supports comments of EPA-HQ-OAR-2008-0708-1102	D. Robert Thompson, Borough Manager	Borough of Ephrata
EPA-HQ-OAR-2008-0708-1000	Greg Miller	Panhandle Venture II LLC
EPA-HQ-OAR-2008-0708-1001	Craig Glazer, Vice President, Federal Government Policy and Jennifer	PJM Interconnection, LLC

[7] Alaska Power & Telephone submitted two letters, the second correcting the previous letter. Alaska Power & Telephone is represented in this summary as 1062.

Document ID[1,2,3,4]	Commenter	Affiliation
	Tribulski, Senior Counsel	
EPA-HQ-OAR-2008-0708-1002	John W. Mitchell, Director	Division of Environment, Kansas Department of Health and Environment (KDHE)
EPA-HQ-OAR-2008-0708-1003	Richard G. Burud, General Manager	Federated Rural Electric
EPA-HQ-OAR-2008-0708-1004	Joseph L. Suchecki, Director, Public Affairs	Truck & Engine Manufacturers Association (EMA)
EPA-HQ-OAR-2008-0708-1005	J. Rosenberg	
EPA-HQ-OAR-2008-0708-1006	Scott Willis, V.P. Generation	Alaska Electric Light & Power Company (AEL&P)
EPA-HQ-OAR-2008-0708-1007	Dallas Sloan, General Manager	Barron Electric Cooperative
EPA-HQ-OAR-2008-0708-1008 Supports the comments of EPA-HQ-OAR-2008-0708-1056 EPA-HQ-OAR-2008-0708-UARG?	Barbara A. Walz, Senior Vice President, External Relations and Environmental	Tri-State Generation and Transmission Association, Inc.
EPA-HQ-OAR-2008-0708-1011 EPA-HQ-OAR-2008-0708-1115	Wick Havens, Interim Executive Director	Ozone Transport Commission (OTC)
EPA-HQ-OAR-2008-0708-1012	Richard Corey, Deputy Executive Officer	Air Resources Board
EPA-HQ-OAR-2008-0708-1014	Timothy R. Ford, Facilities Manager	PRACS Institute
EPA-HQ-OAR-2008-0708-1015	John W. Cox, Jr. Vice President, External Affairs and General Counsel	Jo-Carroll Energy, Inc. (NFP)
EPA-HQ-OAR-2008-0708-1016	Graham Richard, Chief Executive Officer	Advanced Energy Economy (AEE)
EPA-HQ-OAR-2008-0708-1017	Colin Hansen, Executive Director	Kansas Municipal Utilities (KMU)
EPA-HQ-OAR-2008-0708-1018 Supports the comments of EPA-HQ-OAR-2008-0708-1104	Leon Towarnicki, Interim City Manager	City of Martinsville, Martinsville County, Virginia
EPA-HQ-OAR-2008-0708-1019	Ronald L. Horman, General Manager	Redwood Electric Cooperative (REC)
EPA-HQ-OAR-2008-0708-1020	William Grygar II, Director	Anadarko Petroleum Corporation
EPA-HQ-OAR-2008-0708-1021	Steve Albrecht, Director of Public Works	City of Burnsville, Minnesota
EPA-HQ-OAR-2008-0708-1022	Timothy N. Mergen, General Manager and CEO	Meeker Cooperative Light and Power Association
EPA-HQ-OAR-2008-0708-1023	Dave Rosenbrook, Facilities Manager	Slumberland, Inc.
EPA-HQ-OAR-2008-0708-1024	Elaine J. Garry, President and CEO	People's Energy Cooperative
EPA-HQ-OAR-2008-0708-1025	Mark A. Nielson, V.P. Staff Services	Delaware Electric Cooperative
EPA-HQ-OAR-2008-0708-1026	Bob Applegate	Virgil Gas Drilling Awareness Coalition
EPA-HQ-OAR-2008-0708-1027	Grant K. Sechler, Jr. City Superintendent	City of Anthony, Kansas
EPA-HQ-OAR-2008-0708-1028	Peter Rothstein, President	New England Clean Energy Council (NECEC)
EPA-HQ-OAR-2008-0708-1029 Supports comments of EPA-HQ-OAR-2008-0708-1104	Timothy L. Taylor, Town Manager	Town of Richlands, Virginia
EPA-HQ-OAR-2008-0708-1030	Steven B. Smith, Vice President, Environmental and Regulatory Affairs	Saint-Gobain Containers, Inc. (SGCI)

Document ID[1,2,3,4]	Commenter	Affiliation
EPA-HQ-OAR-2008-0708-1031	Gordy Wrobel, President	Southeast Conference (SEC)
EPA-HQ-OAR-2008-0708-1032	Timothy Serie, Esq. Counsel, Government Affairs and David Darling, Senior Director, Environmental Affairds	American Coatings Association (ACA)
EPA-HQ-OAR-2008-0708-1033	Arthur N. Marin, Executive Director	Northeast States for Coordinated Air Use Management (NESCAUM)
EPA-HQ-OAR-2008-0708-1034	Steve Shurts, President and Chief Executive Officer	East Central Energy (ECE)
EPA-HQ-OAR-2008-0708-1035	James Haler, Member Services Manager	South Central Electric Association
EPA-HQ-OAR-2008-0708-1036	Robert Haug, Executive Director	Iowa Association of Municipal Utilities
EPA-HQ-OAR-2008-0708-1037	Christopher Petree, Director	Public Works, City of Lakeville, Minnesota
EPA-HQ-OAR-2008-0708-1038	Barbara Schulze, Director, Global Safety and the Environment	Merck & Co., Inc.
EPA-HQ-OAR-2008-0708-1039	John Fitzpatrick, President and CEO	Woodcraft Industries
EPA-HQ-OAR-2008-0708-1040	Ralph Kloiber, Real Estate Director	HOM Furniture, Inc.
EPA-HQ-OAR-2008-0708-1041	Douglas R. Larson, Vice President of Regulatory Services	Dakota Electric Association, Minnesota
EPA-HQ-OAR-2008-0708-1042	Karen Price, President	West Virginia Manufacturers Association (WVMA)
EPA-HQ-OAR-2008-0708-1043	Don DiCristofaro, President	Blue Sky Environmental, LLC
EPA-HQ-OAR-2008-0708-1044	Arthur W. Iler, Assistant General Counsel	Midwest Independent Transmission System, Operators, Inc. (MISO)
EPA-HQ-OAR-2008-0708-1045	Bruce L. Rogers, City Manager, Utility Department	City of El Dorado Springs, Missouri
EPA-HQ-OAR-2008-0708-1046	J. Morsch	
EPA-HQ-OAR-2008-0708-1047	G.Vinson Hellwig, Michigan, Co-Chair, NACAA Air Toxics Committee and Robert H. Colby, Chattanooga, Tennessee, Co-Chair, NACAA Air Toxics Committee	National Association of Clean Air Agencies (NACAA)
EPA-HQ-OAR-2008-0708-1048		SouthCross Commerce Center IV
EPA-HQ-OAR-2008-0708-1049	Brian Krambeer, President/CEO	Tri-County Electric Cooperative, Minnesota
EPA-HQ-OAR-2008-0708-1050	D. R. Headley	
EPA-HQ-OAR-2008-0708-1051	Lisa G. Dowden, Counsel and Melissa E. Birchard, Counsel	Spiegel & McDiarmid LLP on behalf of Kansas Power Pool
EPA-HQ-OAR-2008-0708-1052	John T. Graves, Environmental Manager,	Minnkota Power Cooperative, Inc.
EPA-HQ-OAR-2008-0708-1053	Kenneth A. Nolan, Manager of Power Resources	Burlington Electric Department (BED)
EPA-HQ-OAR-2008-0708-1054	Chris M. Hobson, Chief Environmental Officer, Senior Vice President, Research and Environmental, Affairs	Southern Company
EPA-HQ-OAR-2008-0708-1055 Supports the comments of	Greg Fritz, Chief Executive Officer	North Iowa Municipal Electric Cooperative Association (NIMECA)

Document ID[1,2,3,4]	Commenter	Affiliation
EPA-HQ-OAR-2008-0708-1036 EPA-HQ-OAR-2008-0708-1082		
EPA-HQ-OAR-2008-0708-1056	Ted Cromwell, Sr. Principal, Environmental Policy	National Rural Electric Cooperative Association (NRECA)
EPA-HQ-OAR-2008-0708-1059	Scott W. Handy, President & CEO	Cass County Electric Cooperative (CCEC)
EPA-HQ-OAR-2008-0708-1060	Mike Roddy, Director of Environmental Affairs,	Seminole Electric Cooperative, Inc.
EPA-HQ-OAR-2008-0708-1061	Gregory Padden, Manager, Member Resources & Pricing,	Great River Energy
EPA-HQ-OAR-2008-0708-1063	Carl Rutz, Senior Environmental Manager	Alyeska Pipeline Service Company (Alyeska)
EPA-HQ-OAR-2008-0708-1064	Grif Bond, Chair, Environmental	Health & Safety Communications Panel (EHSCP)
EPA-HQ-OAR-2008-0708-1065	Thomas Mountfort, Environmental Compliance Supervisor	Denver Water, Denver, Colorado
EPA-HQ-OAR-2008-0708-1066[8] Supports the comments of EPA-HQ-OAR-2008-0708-1064	Kathleen Tobin, Manager Corporate Safety and Environmental Compliance,	Verizon
EPA-HQ-OAR-2008-0708-1067	Amy M. Trojecki, Director, Environmental and Fuels Policy and William J. Donohue, Associate General Counsel, Environmental, Health and Safety	Exelon Corporation
EPA-HQ-OAR-2008-0708-1069 Supports comments of EPA-HQ-OAR-2008-0708-1089 EPA-HQ-OAR-2008-0708-1106	Pamela A. Lacey, Senior Managing Counsel, Environment	American Gas Association (AGA)
EPA-HQ-OAR-2008-0708-1070[9] EPA-HQ-OAR-2008-0708-1116 Supports comments of EPA-HQ-OAR-2008-0708-1089	Pamela F. Faggert, Vice President and Chief Environmental Officer	Dominion
EPA-HQ-OAR-2008-0708-1071 EPA-HQ-OAR-2008-0708-1100	Donald P. Evans, Chairman, Air Quality Subcommittee	Offshore Operations Committee
EPA-HQ-OAR-2008-0708-1072	Zak Covar, Executive Director	Texas Commission on Environmental Quality (TCEQ)
EPA-HQ-OAR-2008-0708-1073	Can Boyce, Vice President, Environmental and Energy Policy	Duke Energy
EPA-HQ-OAR-2008-0708-1074	Bret Bauer, MPA, City Manager	City of Holton

[8] Verizon incorporated by reference the comments of the EHSCP in their comment letter and are represented in this document as commenter 1064.

[9] Dominion submitted two letters, one with additional comments. Dominion is represented in this document a commenter 1070.

Document ID[1,2,3,4]	Commenter	Affiliation
Supports the comments of EPA-HQ-OAR-2008-0708-1082		
EPA-HQ-OAR-2008-0708-1075	Thure Cannon, Executive Director	Texas Pipeline Association (TPA)
EPA-HQ-OAR-2008-0708-1076	Joseph Otis Minott, Esq, Executive Director, Clean Air Council and Joseph Osborne, Esq, Legal Director	Group Against Smog and Pollution
EPA-HQ-OAR-2008-0708-1077	James H. Cawley, Commissioner	Pennsylvania Public Utility Commission (PAPUC)
EPA-HQ-OAR-2008-0708-1078	Steve Hensley, Senior Director Regulatory Affairs	USA Rice Federation
EPA-HQ-OAR-2008-0708-1079	Larry Dokkestul, President & CEO	Pierce Pepin Cooperative Services
EPA-HQ-OAR-2008-0708-1080	Betsy Natz, Executive Director	Institute of Clean Air Companies (ICAC)
EPA-HQ-OAR-2008-0708-1082	Alex Hofmann, Sr. Energy & Environmental Services Engineer	American Public Power Association (APPA)
EPA-HQ-OAR-2008-0708-1083	Susan Schumann, Chair, FCG Environmental Committee	Florida Electric Power Coordinating Group, Inc. (FCG-EC)
EPA-HQ-OAR-2008-0708-1084 Supports the comments of EPA-HQ-OAR-2008-0708-1069 EPA-HQ-OAR-2008-0708-1089	Michael P. Lebeis, Senior Air Quality Engineer, Environmental Management and Resources	DTE Energy
EPA-HQ-OAR-2008-0708-1085	Darrell Martin, Maintenance Supervisor	Dutchland Incorporated
EPA-HQ-OAR-2008-0708-1088	Gary D. Milbury, Jr., Air Permit Programs manager, Air Resources Division	New Hampshire (NH) Department of Environmental Services (NHDES)
EPA-HQ-OAR-2008-0708-1089	Lisa Beal, Vice President, Environment and Construction Policy	Interstate Natural Gas Association of America (INGAA)
EPA-HQ-OAR-2008-0708-1090 EPA-HQ-OAR-2008-0708-1137 (duplicate)	Christina Simeone	Citizens for Pennsylvania's Future (PennFuture) et al.
EPA-HQ-OAR-2008-0708-1091	Brenner Munger, Manager, Environmental Department	Hawaiian Electric Company, Inc.
EPA-HQ-OAR-2008-0708-1092	Kimberly A. Walker, CHMM, Manager, Environmental	EQT Corporation
EPA-HQ-OAR-2008-0708-1093	Anna Kapetanakos	AT&T Inc.
EPA-HQ-OAR-2008-0708-1094	Laura Chappelle	PJM Power Providers Group (P3)
EPA-HQ-OAR-2008-0708-1095	Jeff Applekamp, Director, Government Affairs	Gas Processors Association (GPA)
EPA-HQ-OAR-2008-0708-1096 Supports the comments of EPA-HQ-OAR-2008-0708-1069	Marcelle Fiedler, Senior Environmental Scientist	New Mexico Gas Company (NMGC)
EPA-HQ-OAR-2008-0708-1097	Brian Rude, Vice President, External and Member Relations	Dairyland Power Cooperative
EPA-HQ-OAR-2008-0708-1098 EPA-HQ-OAR-2008-0708-1120 (duplicate)	Erin Badough, Environmental Committee Chairman	Gas Compressor Association (GCA)
EPA-HQ-OAR-2008-0708-1099	Verne Shortell, Vice President,	NRG Energy, Inc.

Document ID[1,2,3,4]	Commenter	Affiliation
	Environmental and Cortney Madea, Senior Counsel, Regulatory	
EPA-HQ-OAR-2008-0708-1101	Shanna Cleveland, Staff Attorney and Rachel Clark, Legal Intern	Conservation Law Foundation (CLF)
EPA-HQ-OAR-2008-0708-1102	Ali Mirzakhalili, Director	Delaware Department of Natural Resources & Environmental Control
EPA-HQ-OAR-2008-0708-1103	John C. Hendricks, Director-Air Quality Services,	American Electric Power (AEP)
EPA-HQ-OAR-2008-0708-1104	Julia M. Blankenship, Manager, Energy Policy and Sustainability	American Municipal Power, Inc. (AMP)
EPA-HQ-OAR-2008-0708-1105	Matthew Todd	American Petroleum Institute (API)
EPA-HQ-OAR-2008-0708-1106	Steve Donatiello, Senior Environmental Engineer	Laclede Gas Company
EPA-HQ-OAR-2008-0708-1107 Supports the comments of EPA-HQ-OAR-2008-0708-0994	Raymond L. Evans, Vice President, Environmental,	FirstEnergy
EPA-HQ-OAR-2008-0708-1110	Kenneth F. Alexander, President, Engineering Services	Old Dominion Electric Cooperative (ODEC)
EPA-HQ-OAR-2008-0708-1111	Gerald Loney, Energy Management Specialist	North Itasca Electric Cooperative Inc.
EPA-HQ-OAR-2008-0708-1112	Gregory M. Adams, Assistant Departmental Engineer, Air Quality Engineering, Technical Services Department	County Sanitation Districts of Los Angeles
EPA-HQ-OAR-2008-0708-1113 Supports the comments of EPA-HQ-OAR-2008-0708-1104	Dale A. Mathys, Village Administrator	Village of Edgerton
EPA-HQ-OAR-2008-0708-1114	Greg McFarland	Jackson Electric Cooperative
EPA-HQ-OAR-2008-0708-1117	Pat Stanton, Senior Vice President of Policy and Advocacy	Conservation Services Group (CSG)
EPA-HQ-OAR-2008-0708-1118	Randy Allison, Vice President, Production	Golden Spread Electric Cooperative, Inc.
EPA-HQ-OAR-2008-0708-1119	Wayne E. Penrod, Executive Manager, Environmental Policy	Sunflower Electric Power Corporation and Mid-Kansas Electric Company, LLC
EPA-HQ-OAR-2008-0708-1121	Julian M. Davis, Regulatory Compliance Specialist	Generac Power Systems, Inc.
EPA-HQ-OAR-2008-0708-1122	Jackson D. Morris, Director, Strategic Engagement	Pace Energy and Climate Center, Pace Law School et al
EPA-HQ-OAR-2008-0708-1123	David G. Tewsbury, King & Spalding LLP at el.	on Behalf of Nancy Bagot, Vice President of Regulatory Affairs, Electric Power Supply Association (EPSA) et al.
EPA-HQ-OAR-2008-0708-1124	Suzette Krausen, Executive Assistant,	Monitoring Analytics, LLC
EPA-HQ-OAR-2008-0708-1125	Daniel C. Esty, Commissioner	Connecticut Department of Energy and Environmental Protection (DEEP)
EPA-HQ-OAR-2008-0708-1126	Comment submitted by Robert C. Jagusch, Director of Engineering and Policy Analysis	Minnesota Municipal Utilities Association (MMUA)
EPA-HQ-OAR-2008-0708-1127	Comment submitted by James R. Hathaway, General Manager/Chief	Dunn Energy Cooperative

Document ID[1,2,3,4]	Commenter	Affiliation
	Executive Officer (CEO)	
EPA-HQ-OAR-2008-0708-1128	Comment submitted by Mike Hutcheson, Senior Environmental Engineer	Ameren Corporation
EPA-HQ-OAR-2008-0708-1129	Comment submitted by Chad Davis, Utility Director	Trenton Municipal Utilities (TMU), City of Trenton, Missouri
EPA-HQ-OAR-2008-0708-1130	Comment submitted by Sandra Moller, Deputy Director, Rural Energy	Alaska Energy Authority (AEA)
EPA-HQ-OAR-2008-0708-1131	Comment submitted by Charles M. Figueroa, Senior Project Manager,	Almega Environmental
EPA-HQ-OAR-2008-0708-1132	Comment submitted by Patrick Grenter, Esq., Executive Director	Center for Coalfield Justice et al.
EPA-HQ-OAR-2008-0708-1133	Comment submitted by Mike Wasson, Director Fleet Services	Exterran
EPA-HQ-OAR-2008-0708-1134	Comment submitted by Patrick Blanchard, Director, Environmental Services	Calpine Corporation
EPA-HQ-OAR-2008-0708-1135	Keith Berggren, IPEC Generation Supervisor	Inside Passage Electric Cooperative (IPEC)
EPA-HQ-OAR-2008-0708-1136	Comment submitted by Phillip Schlagel, Director, EHS Services	Anadarko Petroleum Corporation
EPA-HQ-OAR-2008-0708-1138	Late comment submitted by Greg Ransom, Facility Manager	Harris Hardwoods, Inc.
EPA-HQ-OAR-2008-0708-1139	Comment submitted by Alice Edwards, Director, Division of Air Quality	Alaska Department of Fnvironmental Conservation (ADEC)
EPA-HQ-OAR-2008-0708-1140	Comment submitted by Janice E. Nolen, Assistant Vice President, National Policy and Advocacy and Lyndsay F. Moseley, Director of Advocacy, Healthy Air Campaign, American Lung Association (ALA)	National Policy and Advocacy and American Lung Association (ALA)
EPA-HQ-OAR-2008-0708-1141	Comment submitted by Scott Newlun, General Manager, Yakutat Power	
EPA-HQ-OAR-2008-0708-1142	Richard H. Counihan, Vice President Government Affairs	EnerNOC Inc. on behalf of Comverge, Inc. et al
EPA-HQ-OAR-2008-0708-1143	Megan H. Berge	Baker Botts LLP on behalf of Class of '85 Regulatory Response Group
EPA-HQ-OAR-2008-0708-1144	Jeff Zimmerman, for Damascus Citizens for Sustainability, Inc. and NYH2O, Inc.	
EPA-HQ-OAR-2008-0708-1145 Supports the comments of EPA-HQ-OAR-2008-0708-1105	Kate Williams, Regulatory and Legal Affairs Manager	Alaska Oil and Gas Association (AOGA)
EPA-HQ-OAR-2008-0708-1146	Larry S. LLoyd, P.E., Chief Operating Officer	Beaver Water District (BWD), Lowell, Arkansas
EPA-HQ-OAR-2008-0708-1148	Cindy Holman, General Manager	Oklahoma Municipal Power Authority (OMPA)

Document ID[1,2,3,4]	Commenter	Affiliation
EPA-HQ-OAR-2008-0708-1149	Cathy S. Woolums, Sr. Vice President, Environmental and Chief Environmental Counsel	Mid-American Energy Holdings Company (MEHC)
EPA-HQ-OAR-2008-0708-1150	Kim M. Huxford, Operations Division Manager	Steele-Waseca Cooperative Electric (SWCE)
EPA-HQ-OAR-2008-0708-1151 Supports the comments of EPA-HQ-OAR-2008-0708-1082 EPA-HQ-OAR-2008-0708-0968	Comment submitted by Frederick P. Remelius, Director of Operations	Upper Merion Area School Distric
EPA-HQ-OAR-2008-0708-1152	Joseph Gress, Packaging Products, Americas, Principal Engineer, Demandside Energy	Ball Corporation
EPA-HQ-OAR-2008-0708-1169	Rob Nikula, VP of Power Supply	Wright Hennnepin Generation
EPA-HQ-OAR-2008-0708-1193	Charles E. Morgan, P.E., Inactive, Executive Director	Citizens for Environmental Clean Up
EPA-HQ-OAR-2008-0708-1196	Timothy J. Herndon, P.E., Utility Engineer	City of Bartlett
EPA-HQ-OAR-2008-0708-1315	Jim Lincoln, Facilities Vice President	Grand Casino Hinckley
EPA-HQ-OAR-2008-0708-1317	William F. Banke, General Manager	Stearns Electric Association
EPA-HQ-OAR-2008-0708-1318	Brian Finch, Manager Customer Service	Crow Wing Power
EPA-HQ-OAR-2008-0708-1319	Richard G. Burud, General Manager	Nobles Cooperative Electric
EPA-HQ-OAR-2008-0708-1323 Supports the comments of EPA-HQ-OAR-2008-0708-1069 EPA-HQ-OAR-2008-0708-1089	Greg F. Myers, Director, Environmental Services	Consumers Energy
EPA-HQ-OAR-2008-0708-1326	Joanne Wojciechowski, CEO	Rum River Eggs, Inc.
EPA-HQ-OAR-2008-0708-1378	Rick McClanahan, City Engineer	City of Bartlett, Texas
EPA-HQ-OAR-2008-0708-1381	Will Conjura, Purchasing Manager	Revere Smelting & Refining Corporation
EPA-HQ-OAR-2008-0708-1398	Camille George, R. Ted Harhai, and John R. Hornaman	Pennsylvania House of Representatives
EPA-HQ-OAR-2008-0708-1444	Lisa Kurkowski, U.S. Senator, Alaska	United States Senate
EPA-HQ-OAR-2008-0708-1445	Robert Porter, Director Electric and Water Utilities	City of Winfield
EPA-HQ-OAR-2008-0708-1446	Herbert J. Mays, Executive Director	Downingtown Area Regional Authority
EPA-HQ-OAR-2008-0708-1447	Mark Glaess, Manager	Minnesota Rural Electric Association
EPA-HQ-OAR-2008-0708-1448	Scott Nally, Director	Ohio Environmental Protection Agency
EPA-HQ-OAR-2008-0708-0940[10] EPA-HQ-OAR-2008-0708-0973 EPA-HQ-OAR-2008-0708-1449	Zach Muepo, Senior Environmental Specialist	Southern California Gas Company (SCG)
EPA-HQ-OAR-2008-0708-1457	Mayor Heather McTeer, Chair, LGAC and Supervisor Salud Carbajal, Chair, Air, Climate & Energy Workgroup	Local Government Advisory Committee (LGAC)

[10] Southern California Gas submitted several comment letters correcting previous letters. Southern California Gas is represented in this summary as commenter 1449, which is the last and corrected comment submittal.

Document ID[1,2,3,4]	**Commenter**	**Affiliation**
EPA-HQ-OAR-2008-0708-1458	Late comment from Kenneth L. Vogt, Jr., Wastewater Treatment Superintendent	Cape Fear Public Utility Authority (CFPUA)
EPA-HQ-OAR-2008-0708-1461	Susan Wilson, Senior Regulatory Specialist	BHP Billiton Petroleum (Americas), Inc.
EPA-HQ-OAR-2008-0708-1462	Pamela F. Faggert, Vice President and CEO	Dominion
EPA-HQ-OAR-2008-0708-1463	Ali Mirzakhalili, PE., Director	State of Delaware, Department of Natural Resources and Environmental Control (DNREC), Divison of Air Quality (DAQ)
EPA-HQ-OAR-2008-0708-1464	William W. (Bill) Grygar II, Director, EHS GOM	Anadarko Petroleum Corporation
EPA-HQ-OAR-2008-0708-1465	Donald P. Evans, Chairman, Air Quality Subcommittee	Offshore Operators Committee (OOC)
EPA-HQ-OAR-2008-0708-1466 EPA-HQ-OAR-2008-0708-1477 (Duplicate)	Daniel E. Donohoue, Chief, Emission Assessment Branch, Stationary Source Division	California Air Resources Board (CA ARB)
EPA-HQ-OAR-2008-0708-1467	John F. Pertgen, Director, Offshore Technical and Regulatory Affairs	International Association of Drilling Contractors (IADC)
EPA-HQ-OAR-2008-0708-1468	David C. Gill, Jr., Sr. Consultant, Regulatory Issues	ConocoPhillips Company
EPA-HQ-OAR-2008-0708-1469	Joseph Kubsh, Executive Director	Manufacturers of Emission Controls Association (MECA)
EPA-HQ-OAR-2008-0708-1470	J. Wick Havens, Interim Executive Director	Ozone Transport Commission (OTC)

Table of Contents

1.0 Emergency DR Provisions of 100 hrs/yr

1.1 Supportive of Proposed Emergency DR Provisions

1.1.1 Comment: A number of commenters (872, 873, 876, 879, 880, 881, 883, 884, 885, 887, 888, 889, 891, 892, 893, 895, 896, 897, 898, 899, 900, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 918, 919, 920, 921, 923, 925, 926, 927, 928, 930, 931, 932, 934, 935, 937, 941, 942, 945, 949, 951, 952, 956, 957, 958, 959, 968, 969, 970, 972, 975, 976, 977, 978, 979, 980, 981, 984, 985, 986, 988, 989, 995, 996, 997, 999, 1000, 1001, 1002, 1003, 1007, 1008, 1014, 1015, 1016, 1017, 1018, 1019, 1021, 1022, 1023, 1024, 1027, 1028, 1029, 1032, 1034, 1035, 1036, 1038, 1039, 1040, 1041, 1043, 1044, 1049, 1051, 1052, 1054, 1055, 1056, 1059, 1061, 1064, 1072, 1073, 1074, 1078, 1079, 1082, 1085, 1088, 1091, 1093, 1097, 1104, 1110, 1111, 1113, 1117, 1119, 1126, 1128, 1138, 1142, 1143, 1315, 1326, 1378, 1398, 1445, 1446, 1448, 1457, and 1458) expressed support for the changes the EPA has proposed to the NESHAP and NSPS concerning emergency engines participating in DR programs for up to 100 hrs/yr. Numerous commenters stated that EPA's assessment that emergency engine operations under emergency DR will have no adverse health or environmental impacts and that the proposed allowance is necessary.

Emergency Use Not Limited Before This Rule

One commenter (1142) stated that no national restrictions limiting the hourly use of emergency engines in emergency DR currently exist. The commenter (1142) argued that implementation of new hourly restrictions contained in the proposed rule represents a reduction in permissible hours compared to the status quo.

Another commenter (1043) said that the EPA has always allowed up to 100 hrs/yr to be used for non-emergency purposes, which includes testing and maintenance, and that the EPA is not changing the limit, but adding flexibility to how the hours can be used. One commenter (909) added that the EPA has not changed the current 100-hour limit for non-lights out use for engines; it has simply applied it in the context for this use.

Maintain Reliability of the Electric Grid

Several commenters (872, 873, 879, 880, 881, 883, 884, 885, 889, 891, 893, 895, 896, 898, 903, 904, 905, 910, and 913) stated that these engines play a vital role in keeping the electric grid stable. Several of these commenters (872, 873, 879, 880, 881, and 883) recommended that emergency engines

should be allowed to participate in emergency DR programs and maintain their status as emergency engines. The commenters (872, 873, 879, 880, and 896) explained that if the grid fails, every generator in the area will operate for many hours or days (whether or not the engine is properly permitted) until the electric grid is restored. Several commenters (873, 876, 881, 885, 888, 891, 893, 895, 896, 897, 899, 900, 903, 905, 906, 907, 908, 910, 911, 912, and 913) stated that DR is an essential part of their operations. Several of these commenters said that if they had to add controls and other upgrades and have to monitor and test, they would leave the emergency DR market.

One commenter (1142) believes that the portion of the proposed rule that pertains to DR is a reasonable compromise based on the EPA's diligent effort. The commenter (1142) fully supports the proposed rule regarding DR and recommends that the EPA issue a final rule as proposed. The commenter (1142) stated that the proposed rule promotes reliability and asserted that independent system operators (ISO), regional transmission operators (RTO), and utilities responsible for grid reliability support the proposed rule and have demonstrated that the previously approved 15 hrs/yr limit is not sufficient. The commenter (1142) further stated that while opponents of the increase in hours for emergency engines have argued that even with an allowance of 15 hrs/yr, emergency generators could still participate in emergency DR programs by aggregating their output, they have cited practical problems in doing so. The commenter (1142) asserted that grid operators are unified in the view that emergency DR at levels significantly higher than 15 hrs/yr is necessary to support reliability, and the EPA should reject the claims that 15 hours is sufficient made by others who lack responsibility for grid reliability.

DR Rarely Used in Past and Not Expected to Increase in Future

One commenter (1142) asserted that emergency DR has been rarely dispatched and references a comment letter submitted by PJM to the EPA in February 2011 (EPA-HQ-OAR-2008-0708-0813) (see Attachment 1). The commenter (1142) presented examples such as Texas, with only two emergency DR events under the Emergency Interruptible Load Service (EILS) Program, now called 10-minute Emergency Response Service ("10 minute ERS"), since its inception in 2008; and New England, wherein the use of emergency engines in emergency DR has only been called three times. The commenter (1142) added that as diesel-generator-based emergency DR has been rarely used in the past when there were no Federal limitations on hourly usage, there is no reason to assume that placing new restrictions on annual operations will lead to increased development or dispatch of emergency DR. The commenter (1142) also stated that implementing an upper limit of 100 hrs/yr as the maximum number of

hours an emergency engine can run in an emergency DR program will enable them to continue to participate in important reliability programs and will not lead to an unrestrained increase in the number of hours these programs are dispatched. The commenter (1142) asserted that only the entity responsible for maintaining system reliability can make that decision and that entity must go through a strict sequence of actions prior to declaring each emergency level and must report such actions to the North American Reliability Corporation (NERC). The commenter (1142) believes that the notion that any balancing authority is going to allow emergencies to become more frequent, in effect, abdicating its responsibility to maintain reliability, is entirely inconsistent with their essential mandate. The commenter (1142) stated that the proposed rule would assure that system operators will have more resources to help correct the system during emergencies thereby better protecting human health, the environment and the economy.

Commenter 968 said that the marketplace will limit the operation of the emergency units. The commenter (968) provided an example where their cities purchase power at prices under $65 dollars per megawatt (MW) hour (MW-hr) in almost all cases, but it costs over $250 per MW-hr, or more, to operate many of these units based on the cost of diesel fuel. The commenter (968) said that it is only during limited extreme periods of temperature and when conventional generating resources become unavailable that these units would conceivably be economic to run in the Midwest. Other commenters (1017, 1045, 1051, 1074, and 1129) agreed that there is little or no financial incentive to operate other than when absolutely necessary to maintain the local distribution grid and described the higher costs of operating such units.

In contrast, one commenter (1103) who supported flexibility in transitioning to a cleaner emission environment, believes that the EPA's statement that "stationary emergency engines typically operate well below 50 hrs/yr and more commonly about 1 to 2 hours per month" significantly underestimates the likelihood of these operations in the future. The commenter (1103) acknowledged that 100 hours of operation may seem adequate to address the future increase in usage, but believes that with the changing dynamics of oil, gas, and coal prices, and the shrinking reserve margins in the reliability regions across the country, these stationary units will see a significant increase in operation in the future.

DR and Market Structure

One commenter (1142) asserted that many arguments from opponents of the proposed rule are about market structure issues in PJM, and are thus in the jurisdiction of PJM and FERC and believes the

EPA should disregard them. The commenter (1142) stated that various parties will make claims that by implementing this proposed rule, the EPA will distort both energy and capacity markets and thereby stifle the construction of new, cleaner generation. However, according to the commenter (1142), most of these claims stem from policy disagreements with the structure of those markets, policy determinations that are within the purview of the organized wholesale markets (i.e., the ISO/RTO that cover a portion of the country) and the FERC which regulates the ISO/RTO.

The commenter (1142) stated that the EPA should let the ISO/RTO and FERC make the determinations as to what is needed both for reliability and for economic efficiency in their markets and not let parties re-litigate those issues here. In addition, the proposed rule would affect emergency engines throughout the country, not just in the organized wholesale markets, so the commenter (1142) believes the EPA needs to consider the bigger picture, not just the views of certain market participants in the organized markets.

The commenter (1142) added while emergency DR has contributed to lower prices in capacity markets, this is a benefit to consumers and should not prevent the EPA from adopting the proposed rule. Claims that the proposed rule will distort the nation's energy markets and allow behind-the-meter (BTM) generators to squeeze traditional generators out of the market, and result in suppressed prices, indicates, according to the commenter (1142), that generators and their trade associations are primarily interested in higher capacity prices at the expense of consumers. The commenter (1142) added that whether capacity prices resulting from emergency engines participating in capacity auctions are "suppressed" or simply "reasonable" is a matter of perspective.

The commenter (1142) asserted that the PJM Capacity Market model and similar mechanisms were designed to encourage reliability from a number of sources, including emergency DR. Therefore, the commenter (1142) stated, it cannot be concluded that DR participation, even through use of emergency engines, somehow "distorts the market" merely by participating. The FERC, according to the commenter (1142), has repeatedly supported greater participation of DR in capacity markets in different proceedings precisely because of the benefit to consumers.

Going forward in PJM, "Limited DR" will no longer compete with generation in capacity markets because, according to the commenter (1142), PJM has created three capacity products: Limited DR will only be able to bid into the Limited Capacity product while generation can bid into the Annual Capacity product. Therefore, the commenter (1142) stated, going forward, Limited DR will not compete against generation in the PJM capacity markets and will not be reducing the price for generation capacity. Furthermore, the commenter (1142) stated that PSEG (comment 961 in this document) has

noted that the saturation limit for Limited DR has already been hit, further undermining opponents' claims that the proposed rule will cause unconstrained growth of this resource.

The commenter (1142) also stated that it is important to remember that the proposed rule represents a reduction in allowed hours of operation in emergency operation from the status quo of unlimited hours to 100 hrs/yr or far less in most circumstances and, therefore, by itself will not lead to an increase of DR in capacity markets.

One commenter (1001) stated that it considers RICE that participate in its DR programs largely as BTM generation. The commenter (1001) asserted that a BTM generator differs from a generator directly interconnected to the bulk electric system in that it does not directly receive dispatch signals. The commenter (1001) stated that although it does not have the same level of operational visibility or control of these BTM units, as with generation connected directly to the bulk power system, they can be a component of an overall DR capacity portfolio offered into the capacity market. The commenter (1001) stated that during emergency conditions, the curtailment service provider receives the dispatch instruction and determines what resources it deploys, or actions it takes to meet the DR performance obligation. A curtailment service provider, the commenter (1001) stated, retains the ability to aggregate a number of such RICE units to meet the requisite run hour limits, regardless of the number of hours defined by the RICE rule under consideration, and their DR performance obligation. As a result, according to the commenter (1001), the environmental limitations on individual RICE units, although an important input into how DR resources are deployed, are not necessarily dispositive of the ability of DR resources to participate in markets or to maintain bulk power system reliability.

One commenter (1082) refuted assertions that DR associated with BTM generation is less legitimate than other means of achieving DR. The commenter (1082) stated this bifurcation between BTM and "legitimate efforts" stands in contrast to recent reports showing that DR is not always performing when called upon; for example, PJM reported that in two instances in which DR was called in May 2011, performance "was lower than expected (80 percent) and much lower than the committed amount of capacity (40 percent)." The commenter (1082) believes such uncertainty can compromise the key goal of DR, which is to ensure the reliability of power supply. The commenter (1082) stated that ensuring reliability is not dependent upon whether the DR is backed up by BTM generation or based on shifts in consumer demand. The commenter (1082) concluded that given the uncertainty of DR performance, the DR provided RICE units may provide a much needed and reliable source of capacity.

One commenter (988) was concerned about the State of Delaware's opposition to the use of emergency engines in emergency DR programs. (Commenter 988 represents a 2,000 member trade

association for the chicken industry in Delaware, Maryland, and Virginia). According to commenter 988, the State of Delaware (Commenter 1102 in this document) often confuses emergency DR with peak shaving or non-emergency DR programs. The commenter (988) expressed that it felt it was unfortunate that the State of Delaware does not understand the importance of using a small number of engines in order to prevent a blackout.

Relief for Small Utilities and Consumer Price Impacts

One commenter (1082) believes the EPA's proposed changes to the NESHAP RICE rule are appropriate and necessary to provide the needed relief for small municipally-owned utilities. The commenter (1082) appreciates that the EPA has proposed changes and added flexibility to protect the emergency operation of engines at many small communities across the United States while doing negligible harm to the environment. The commenter (1082) appreciated the EPA for understanding and addressing the small business issues raised by the RICE rule and for proposing changes that would modestly alleviate the high cost of compliance associated with this rule. The commenter (1082) added that the EPA's proposed 100-hour language with a broader definition of emergency is needed to lower the cost risk of RICE-related decision making as the ability of a utility to respond to condition- and situation-based emergencies resulting from forces or circumstances outside of a utility's control is essential.

The commenter (1082) further agreed with the EPA's proposed language adding needed flexibility to the operation of emergency RICE. The commenter (1082) stated that the EPA's proposed language on emergency DR is an appropriate way for the EPA to provide badly needed regulatory flexibility and relief for small utilities. The commenter (1082) explained that because a RICE unit might not run for 1, 2, or even 4 years, it is difficult for a small town to decide whether it should spend a significant portion of annual utility revenues to replace or retrofit its RICE unit.

Utilities argued that if only 15 hrs/yr were permitted, engines would have to be retrofitted at a very high cost, especially for local electric utilities that do not have extensive budgets. For example, one commenter (978) said that if the EPA does not finalize the 100 hrs/yr allowance, it would be forced to retrofit its engines at a cost of $615,000 for six engines, which is 11 percent of the utility's budget. Some commenters argued that without the suggested changes, many facilities will not be able to use their engines for emergency DR because the requirements for non-emergency engines under the NESHAP are too burdensome. A number of commenters stated that facilities may not afford to install add-on controls like oxidation catalyst and other engine upgrades, plus stack testing and reporting. Revenue received

from DR participating is often used to maintain the engines they have and to stay in operation and there are often not additional funds to make the necessary changes to meet the non-emergency requirements of the NESHAP.

One commenter (995) is strongly against regulating generators that operate infrequently. In the commenter's (995) case the generators operate only 50 to 60 hrs/yr when grid capacity is an issue and upgrading the engines would cost around $600,000. If the rulemaking proceeds, the commenter (995) urged the EPA to at least provide a 100-hour limit.

Some commenters (1045, 1074, and 1129) described the impact that failure to finalize this change would have on their utility budget during difficult economic times. One commenter (1074) added that the EPA should make decisions to keep the system stable giving the extensive changes coming as baseload coal-fired generation retrofits or converts from coal to gas. Another commenter (1036) said that small communities rely on the credit or payment they reserve to provide reserve capacity enables them to afford the engines that keep the lights on and emergency services operating in a storm. The commenter (1036) added that the cost of retrofitting engines with catalytic converters is high, and many engines cannot be retrofitted, because of their age, design, or inadequate physical space for the conversion equipment. The commenter (1136) provided an example of the cost that the RICE rule would impose on local residents (pages 5–6). Another commenter (937) noted that retrofitting engines to meet the non-emergency requirements of the RICE NESHAP would involve costly controls and other engine upgrades and stack testing where facilities such as theirs would need to take the engines out of the emergency DR program, which would leave the electric grid dangerously vulnerable.

Commenter 1051 added that these amendments constitute an important step toward ensuring that reliability needs are met for small, rural municipalities in areas of the country like Kansas where transmission limitations, small population bases, and economic constraints make large new power plants and transmission expansion infeasible. The commenter (1051) said that it must sometimes operate RICE units when, for example, severe weather causes a voltage event over a constrained transmission path, which is exactly what these RICE units are well-designed to do; backup generation that serves the community's needs on rare occasions when emergencies strike and the local power grid threatens to shut down. Commenter 1445 made similar comments regarding electric utility operating conditions in Kansas.

Commenter 968 noted that the proposal makes provisions for operation of emergency-only engines in limited circumstances to avoid collapse of local distribution systems, and this is an essential step for local municipal power companies to sustain service at a level that does not damage expensive

electric motors, industrial switch gear, home appliances, and sensitive consumer electronics. The commenter (968) added that the revision wisely authorizes cities to operate for a short period of time in a pro-active mode during unstable electric power conditions rather than allow conditions to escalate to a point where the engines will have to run a much longer time and at higher loads in order to restart and re-stabilize the regional or local distribution grid. In the long run, this can reduce emissions, in the commenter's (968) opinion.

One commenter (1017) noted that at the July 10, 2012, public hearing in Washington, D.C., a significant portion of the oral testimony that was provided by various stakeholders focused on the utilization of DR engines in the PJM marketplace.[11] As the commenter (1017) noted at that hearing, for public power systems in Kansas, the proposed RICE amendments are not about quarterly profits or integrated markets. Instead, the commenter (1017) said, the modest relief provided is about being able to sustain reliability in small, remote Midwestern communities. The commenter's (1017) members are not "corporate polluters," but instead small, financially challenged communities striving to keep the lights on and electricity bills as low as possible.

Avoid Adverse Impacts of Power Outages

Several local utilities, including commenters 981 and 984, expressed support for the proposed 100 hrs/yr because it is needed to prevent a black out or rolling brownouts from happening. One commenter (1143) said that the initial allowance of 15 hrs/yr is insufficient and that 100 hrs/yr will allow emergency engines to participate in DR programs helping to prevent harmful blackouts. In the commenter's (1143) opinion, the proposed increased allowance is particularly critical for isolated areas not covered by regional programs and that have less generation resources to call upon in the event of an emergency. Also, the commenter (1143) said that the allowance will improve reliability, avoiding reliance on larger of peaking units, which according to the commenter (1143) would often run at idle, resulting in increased net emissions as compared to infrequent emergency use of stationary RICE.

During electric grid failure, it can take days or weeks to fully restore the system, according to commenter (1043) who added that during blackouts, every backup generator, whether it is properly permitted or not will run around the clock until the lights are restored. Commenter 1043 said that during blackouts, public health and safety are harmed greatly. As an example, the commenter (1043) referred to the blackout of 2003 during which time millions of gallons of untreated sewerage poured into New York

[11] Transcript of Public Hearing. July 10, 2012. EPA-HQ-OAR-2008-0708-0944.

City's rivers. Two commenters (1028 and 1043) said that blackouts rarely occur and the last (and only) time emergency engines were used in the New England area under ISO New England (ISO-NE) was on August 2, 2006, for a total of 3.75 hours. However, during that instance, if it had not been for emergency DR, there would have been a widespread blackout, according to the commenter (1043), with the possibility of the entire electrical grid going down. Commenter 1028 said that could have been detrimental to both the environment and public health and safety.

Commenter 1043 stated that the EPA is doing the right thing and indicated that the Agency understands the importance of protecting the electrical grid and that grid failure would lead to more harm to the environment than by using a group of generators for a short amount of time to prevent blackouts and brownouts. The commenter (1043) argued that it is infinitely better to allow a subset of generators to be used for a brief period of time in order to prevent a blackout as opposed to waiting for the blackout to occur. The intense storms that caused the blackout lead to severe inconvenience to everyone who was affected especially because the blackout happened during an extreme heat wave, the commenter (1043) said. Thousands of gasoline generators were used at private residences and many generators were improperly ventilated leading to great potential harm to those in the vicinity and causing carbon monoxide (CO) poisoning, the commenter (1043) added. Further public safety and environmental harm was caused by the blackout itself, commenter 1043 said.

One commenter (968) added that the EPA's revised evaluation of the environmental impact did not include full analysis of one environmental stressor, which this modification will reduce. The commenter (968) said that under the current rule cities are prohibited from acting proactively to stabilize their distribution grid in the event of voltage drops. The commenter (968) believes that brownouts or blackouts will encourage residential customers and institutions, both exempt entities from compliance under the current rule, to install smaller, less efficient, less maintained and higher polluting SI and compression ignition (CI) generators. The commenter (968) said that this rule modification would discourage that investment because it allows cities to pro-actively use their generators to stabilize the system. Another commenter (1072) added that while emergency generator engines will generally emit more pollution on a pounds per kilowatt-hour (lbs/KW-hr) basis than a traditional generator providing power to the grid, limited operation of emergency generators to avert a potential blackout is preferable to the possible operation of thousands of generators if a blackout actually occurs.

One commenter (1088) believes that the air quality impacts from operating emergency engines to prevent a power outage are outweighed by the public health impacts created if a power outage were to occur. The commenter (1088) described an epidemiological study on the effects of the Northeastern

Blackout of 2003 on the New York City area. The commenter (1088) added that the increased use of personal generators in blackouts also have health impacts. Commenter 1025 stressed the importance of avoiding blackouts.

One commenter (919) noted the importance of backup generators to ensure continuous operations at its wastewater treatment plant.

Some commenters (881, 896, and 905) emphasized the importance of consistent power and DR to data centers. The commenters (881 and 896) explained that DR is an opportunity for data centers to use backup generators to help the community by preventing rolling blackouts. The commenters (881 and 886) stated that through participation in DR programs, data centers get advanced notification of pending grid issues, and when dispatched, can safely and methodically switch their facilities over to backup generators. In doing so, the commenters (881 and 886) stated that they are protecting their customers' data, and other area businesses and homes from the negative effects of a blackout.

Rule Should Not Increase Air Pollution Impacts

Some commenters (941, 942, 945, 951, 952, 968, 970, 1017, 1023, 1025, 1036, 1065, and 1113) concurred with the EPA that this modification to the rule can be made without an increase to air pollution levels in affected areas. One commenter (968) said that in Missouri's case these units are located in rural areas 75 or more miles from non-attainment areas for ozone, and in small communities.

Two commenters (1017 and 1051) said that the vast majority of RICE units in Kansas are "dual-fuel" engines operated primarily on cleaner burning natural gas. According to the commenters (1017 and 1051), dual-fuel engines may be run on diesel fuel if necessary, but far more commonly are only started up on diesel fuel and then operated using natural gas. The commenters (1017 and 1051) said that the result is that roughly 90 to 95 percent of the fuel used by dual fuel engines is cleaner burning natural gas. Commenter 1051 added that operators of dual fuel units prefer to run them on natural gas because that is the most efficient and cost-effective way to do so.

One commenter (873) claimed that emergency DR has a net positive impact on the environment. The commenter (873) explained that the proposed rule only applies to existing emergency backup generators; therefore, there is no pollution from construction, no land or water use issues, and no new transmission needed because nothing new is being built.

DR Replaces Need for Periodic Testing

One commenter (1043) noted that hours used during a DR event can and are used as substitutes for the routine testing and maintenance that is conducted on the engine. Commenter 919 said that it uses its participation in PJM's emergency DR program to fulfill its testing and maintenance requirements and argued that this actually lowers the carbon footprint of its facility. Commenter 923 also said that it tests its engines at the same time it is operating for the Pacific Gas & Electric's Negawatt Network DR program.

Multiple commenters stated when a DR event is called it typically replaces the need to test the generator during that time frame, and generates an additional source of funds that can be used for maintaining facilities, staff, etc. Several commenters (883, 887, 888, 889, 895, 897, 904, 908 and 913) added that this is in addition to providing a valuable service to the grid at the same time.

One commenter (1142) further stated that owners of emergency engines have a distinct financial incentive to skip testing when actual event hours have occurred because they can both avoid the diesel fuel expense and reduce the total number of run hours on the engine by doing so.

Commenter 1064 said that the EPA has taken the appropriate action and with the 100 hrs/yr allowance it provides stakeholders flexibility to balance DR operation, maintenance and routine testing, as the need for participation in DR and local environmental runtime restrictions and operational needs change. This commenter (1064) added that in some cases it is possible that the time spent for emergency DR may serve as the routine testing necessary to keep the engine in good operating condition. In addition, the commenter (873) explained because backup generators need periodic testing, in many cases operating these assets for emergency DR events does not increase runtime or emissions as testing during that period is no longer necessary.

One commenter (1082) agreed that, as the EPA concluded in the 2010 final RICE rule, emergency engines should be subject to work practice standards because they typically run for periods that are far shorter than needed to conduct the reference stack occur during an emergency because such periods cannot be predicted. The commenter (1082) argued that the same rationale applies to operation of engines for emergency DR purposes.

Several commenters (876, 903, 908 and 911) stated that as a health care facility that needs to meet the needs of patients 24/7, it needs to be able to ensure the reliability of the emergency generator system. One of these commenters (876) stated that the use of generators for non-emergency DR keeps generators in better condition, resulting in a system best equipped to meet true emergency needs.

Consistency with Other Rules

One commenter (1142) noted that the proposed rule would make the RICE NESHAP and NSPS consistent with the EPA's Mandatory Reporting of Greenhouse Gases; Final Rule that allows for the use of emergency engines in emergency DR programs.

One commenter (1044) agreed that the EPA's regulations should be modified to be more consistent with the DR qualification and operation provisions that have been developed by RTO/ISO (and that have been approved by the FERC) to ensure the continued reliability of the electric system. The commenter (1044) stated that the new proposed settlements ensure the DR qualification and operation parameters will be unchanged for its current members. The commenter (1044) added that it supports the revised rules, in part, because they are consistent with the requirements found in the commenter's own approved DR programs. The commenter (1044) asserted that the revised rules are also consistent with the fact that its members permit aggregations of DR customers and do not track the individual unit specific operation of generators that are used in DR programs.

Support DR for Other Types of Units

One commenter (1043) expressed support for the proposed change that revises the language to allow engines above 500 horsepower (HP) located at major sources of hazardous air pollutants (HAP) emissions to participate in emergency DR programs for up to 100 hrs/yr. One commenter (1151) expressed support for allowing public schools the ability to run their emergency generators in DR programs. The commenter (1151) said that the emergency generators need to be exercised to help them run more reliably and efficiently. According to the commenter (1151), unlike generators designed for commercial power applications, most emergency generators in public schools have very few run time hours on them, which means their piston rings and other components have little wear on them so they likely to produce less pollution than commercial power generators. The commenter (1151) added that the revenue from supporting the regional grid would be helpful and that running the generators would help lower a school district's peak load contribution in the PJM region, which would provide cost savings.

Response: The information submitted by the commenters supports the proposed amendments to limit operation for emergency DR to 100 hrs/yr. The EPA agrees with the commenters that the proposed amendments were appropriate. The EPA agrees with the commenters that it is appropriate to include a provision for operation of emergency engines for a limited number of hrs/yr as part of emergency DR

programs to help prevent grid failure or blackouts. The EPA believes that the emergency DR programs that exist across the country are important programs that protect the reliability and stability of the national electric service grid. The use of stationary emergency engines as part of emergency DR programs can help prevent grid failure or blackouts, by allowing these engines to be used for limited hours in specific circumstances of grid instability prior to the occurrence of blackouts. The EPA acknowledges the comments indicating the greater environmental and other costs and hazards that would result from a blackout if the power management authority did not take action to stabilize the system, like calling for emergency DR. The EPA also notes that increases in blackouts that can come from increased instability on the grid could lead to greater purchases and use of emergency engines, particularly smaller engines that may pollute more per kW/hr. The EPA acknowledges the comments stating that running emergency engines for emergency DR has not been shown to directly cause increases in exceedances of air quality standards, and it is questionable whether there is any correlation between ozone exceedances and emergency DR, or whether having other energy sources called during near blackout conditions rather than emergency engines is beneficial or detrimental to pollution concentrations, particularly for HAP, but the main question for the EPA in a technology-related standard setting is what is the proper standard for a particular source, not whether pollution concentrations would be reduced if the source were not operating. A standard that requires owners and operators of stationary emergency engines that participate in emergency DR programs to apply aftertreatment, as well as testing and other resulting requirements, could make it economically and/or practically infeasible for these engines to participate in these programs, impairing the ability of RTO and ISO to use these relatively small, quick-starting and reliable sources of energy to protect the reliability of their systems in times of critical need. The EPA also notes, as discussed elsewhere, the very high cost per ton of HAP reduced for aftertreatment on these emergency engines that operate so infrequently.[12] The EPA agrees that some of the comments adverse to this rule were related to the particular circumstances of the PJM area and are more relevant to review by FERC and PJM. The EPA also agrees that its regulations need to be reasonable across the country and cannot be solely related to what happens in the PJM area. The EPA notes that states retain their existing ability to regulate emissions and electricity use within their borders. The EPA agrees with commenters regarding small and municipal power authorities that rely on emergency generators to prevent blackouts. The EPA also agrees with the comment that some of the adverse comments confuse emergency DR, which is very limited in use and availability, with economic

[12]Memorandum from Bradley Nelson and Tanya Parise, EC/R, Inc. to Melanie King, EPA. Cost per Ton of HAP Reduced for Existing Stationary CI RICE. February 11, 2010. EPA-HQ-OAR-2008-0708-0290.

DR and peak shaving. As discussed in Chapter 2, the EPA does not consider peak shaving consistent with reasonable use of an emergency engine; whereas the limited use of emergency engines in emergency DR, which is a last resort to prevent blackouts, is consistent with reasonable use of an emergency engine. As the commenters noted, these emergency DR events are rarely called. Prior to the 2013 compliance dates for existing engines, there are no limitations on the hours of operation for those engines, and the evidence indicates that even with no EPA restrictions, use of emergency DR (which also refers to load reduction as well as use of BTM equipment like emergency engines), was very infrequent. The EPA also agrees with the commenters that EPA's incorporation of emergency DR into the hours allowed for testing and maintenance is particularly appropriate since the hours operated during emergency DR often take the place of otherwise needed maintenance and testing operation, thereby not resulting in any increased use of the engine. The standards that go into effect in 2013 will for the first time establish requirements for these engines, including limitations on their hours of operation in certain situations such as emergency DR.

Setting and Managing the Cap on DR Operation

1.1.2 Comment: Some commenters (909, 937, 1025 and 1448) noted that although emergency DR is rarely called, under various tariffs, engines need to be available for more than 15 hrs/yr to be treated as a valuable resource. Some commenters (1025 and 1038) added that under ISO tariffs, emergency DR must be available for up to 60 hrs/yr.

One commenter (1063) from the State of Alaska asked the EPA to revise §63.6640(f) and the definition of emergency RICE to limit all emergency RICE to 100 hrs/yr of operation, for any reason. Several commenters (975, 977, 979, 1111, 1150, 1169, 1317, 1318, 1319 and 1447) stated that the EPA should allow the use of emergency stationary RICE for up to 100 hrs/yr for any purpose.

One commenter (1149) agrees with the EPA's proposed changes to expand the allowable hours of operation for an emergency RICE unit during specific energy emergency periods, but is concerned with the proposed limit on hours of operation for an emergency RICE unit under these circumstances. The commenter (1149) does not believe that there should be any distinction between the operation of an emergency RICE by a facility to provide power to the facility due to the unavailability of the primary power source and the operation of an emergency RICE to maintain the reliability of the electric grid system during an energy emergency described by Federal reliability standards. A few commenters (1060, 1083, 1152, and 1381) expressed support of the proposal to allow emergency DR operation for up to 100 hrs/yr and stated that this is a significant improvement from the current rule. However, the

commenters (1060, 1083, 1152 and 1381) requested that the EPA not impose a restriction on the amount of time stationary engines can operate for emergency DR. One of the arguments presented by commenters was that by definition the operation of emergency engines for emergency DR entails the presence of an imminent emergency.

One commenter (1091) generally supported the proposed increase in the annual allowance for operating stationary emergency RICE as part of an emergency DR program, but stated that the proposed 100-hour limit represents a significant reduction from their current emergency DR program annual requirement of 300 hours for participating emergency RICE, which was established to protect the reliability of its uniquely situated island systems. The commenter (1091) argued that preservation of its DR program, including its 300-hour participation requirement, is especially critical because its isolated island systems are not covered by a regional program and have fewer generation resources available in the event of an emergency. The commenter (1091) stated that its only alternative to utilizing small, fast-responding emergency RICE in its DR program is to continuously run larger peaking units at idle, which would result in far greater annual emissions than the DR program. Accordingly, commenter 1091 respectfully requested that emergency stationary RICE be allowed to participate in its emergency DR program for up to 300 hours.

The commenter (1091) further requested that the EPA clarify a statement the Agency made in the preamble to the proposed rule and wishes to confirm that its current emergency DR program requires emergency engines to be able to operate for 300 hrs/yr. The basis for this clarification, commenter 1091 stated, is the following statement made in the preamble to the proposed rule regarding its emergency DR program. [See 77 Fed. Reg. 3381 (June 7, 2012): According to the commenter (1091), the emergency DR program operated by the Hawaiian Electric Company requires that emergency engines be able to operate for 100 hrs/yr in the event of an emergency in order to participate in the program.] In its comments to the EPA, dated February 14, 2011, on the Reconsideration of the Limitation on Operations of Emergency RICE as Part of an Emergency DR Program, the commenter (1091) pointed out that "the requested increased limit for emergency engine operating hours [from 15 to 100] is a reduction from the 300 hours in Hawaiian Electric's current load management programs."

Two commenters (914 and 920) said that although they are supportive of the proposal, they requested that 300 hrs/yr be permitted for emergency DR, peak shaving, and maintenance and testing. These commenters (914 and 920) argued that due to extreme temperatures in their region and what history has shown the proposed 100 hrs/yr is not enough to meet demand needs. According to the commenter (914), the region served experiences very hot conditions and extreme cold and if facilities

are unable to use their emergency generators during these times, the results could be deadly. The commenters (914 and 920) offered a suggested solution to address these situations and recommended that the EPA not count the 100 hrs/yr and 50 hrs/yr during times when the ambient air temperature where the emergency engines in question are located is 95° Fahrenheit or above and -4° Fahrenheit or lower. The commenter (914) estimates that without the using of generators the commenter (914) would need to build a minimum of a 50 MW peaking station at a cost of $50 million, a cost which would be passed down to the consumers. For these reasons, the commenter (914) asked that the rule allow 300 hrs/yr for any emergency use.

One commenter (909) said that the proposed changes are in line with the states, but noted that the proposed rule is still stricter than most states regarding emergency DR use, and greater flexibility would be useful when extended use is required. According to the commenter (909), most states allow up to 300 to 500 hrs/yr for emergency engine use, which include emergency DR.

One commenter (1128) is supportive of the proposal, but said that the 100 hrs/yr is not enough and that the EPA should allow an unlimited amount of emergency DR use because these periods constitute emergencies. Commenter 1051 added that the EPA should allow the use of RICE units for greater than 100 hours annually in instances of dangerous voltage deviation as well as in NERC Energy Emergency Alert (EEA) Level 2 events. The commenter (1051) finds that many years its members do not need to run their RICE units at all, but that when they do, it is sometimes because there is an unpredictable emergency of large scale. According to the commenter (1051), in such events the units may need to be run for over 100 hours, because RICE units serve as a lifeline for remotely located Kansas communities.

Commenter 1036 said that there are other circumstances beyond the control of local communities that should be defined as emergencies and should not be counted against the 100-hour limit. For example, the commenter (0136) said, many Iowa communities are connected to the regional grid at sub-transmission voltage, often by a single, radial line. The commenter (1036) said that diesel generators must run when maintenance on those or other up-stream facilities isolates the town from the grid or when their support is critical to avoid voltage sag in an adjacent utility. According to the commenter (1036), such events on sub-transmission facilities would not likely constitute a Level 2 EEA under NERC standards, but the consequences are the same for customer in the affected area and the RICE operation should be outside the 100-hour limit. In addition, the commenter (1036) said that it is not clear that storm damage to facilities of a neighboring utility would constitute an emergency to the municipal utility that is called on to support the emergency response. The commenter (1036) said that RICE units

should also be allowed to run when damaged permanent units are repaired or replaced and that, at a minimum, a state or regional enforcement agency should be allowed to grant an exception to the 100-hour limit for such permanent repairs or replacements.

Commenter 968 added that the proposed revision eliminates the artificial operational barriers unnecessarily erected in the original rule. According to the commenter (968), 50 hours for maintenance and reliability testing, up to 15 hours for emergency DR, and the remaining time allocated to other activities was never a practical schedule. The commenter (968) understood the EPA's desire to limit the non-essential operation of the units and their concern that these units not be operated solely for financial gain without investing those proceeds in the reduction of emissions. However, the commenter (968) added that dictating the current structure is an ineffective way to use these generation sources, especially when the Federal limits allotted for emergency DR are lower than what is required by many RTO. The commenter (968) said that allowing local municipalities to more effectively manage the limited run-time theoretically could actually result in lower total run-times since there would be no questions about dual use operation (reliability testing during emergency DR operation for instance).

One commenter (1398) said that the EPA should base its final decision on the reliability of the electric grid and preventing unnecessary costs being passed to consumers. The commenter (1398) stated that DR has been extremely effective at mitigating grid emergencies and managing exceptionally high Locational Marginal Pricing (LMP) mechanisms. To balance the competing interests between electric generation companies and DR providers, the commenter (1398) recommends that the EPA should limit the total number of hours these units are allowed to run without pollution controls to the minimum number of hours (60) required by the capacity market for which they are located.

Two commenters (872 and 879) stated that emergency DR should be for periods in which the RTO or equivalent balancing authority has declared an EEA Level 2 as defined in the NERC Reliability Standard EOP-002-3, Capacity and Energy Emergency, since this is how emergency DR is called. The commenters (872 and 879) endorsed the EPA's proposed changes to the emergency DR trigger.

Two commenters (937 and 989) specifically supported the proposed revisions to allow emergency units to operate for DR purposes when the RTO or equivalent balancing authority has declared an EEA Level 2. Other commenters (966, 989, 1045, 1074 and 1445) added that they support allowing local transmission and distribution operators to call upon and operate their emergency unit for voltage support as part of the allowed 100 hours of operation. One commenter (1017) added that this flexibility is critical to small municipal systems, particularly those served by a lower-voltage or weaker transmission line.

Two commenters (1051 and 1113) agreed with the proposal to specify that a 5 percent voltage sag counts as a deviation event qualifying for the 100 hours of permitted operation, without requiring that the unit be called upon by the RTO. One commenter's (1051) RTO delegates to the individual transmission owners that own the transmission lines serving Kansas Power Pool, and sometimes to the cities themselves, the job of monitoring local system conditions to determine when the specified reliability criteria violations are likely to occur. The commenter's (1051) members, therefore, are capable of monitoring and recording when there is a 5 percent voltage deviation on an incoming transmission line that triggers operation of a RICE unit for local voltage support.

Several commenters (941, 942, 945, 951, 952, 970 and 1104) support the EPA proposing the use of voltage variance as an appropriate alternative to the EEA Level 2 trigger for allowable emergency DR, but expressed concern that a 5 percent or greater voltage variance would not be sufficient to avoid or isolate system problems, particularly for very small systems, which they believe could cascade into neighboring systems.

One commenter (1051) asked that the EPA clarify that a local system operator (or utility) does not need to wait until there is a full-blown outage before allowing the local utility to take action. The commenter (1051) said that prudent utility practice dictates that utilities react when they see emergency conditions developing and not to wait for the harm to occur. According to the commenter (1051), the transition from developing conditions to actual emergency with outages can happen in seconds or fractions of a second such that an actual 5 percent voltage drop on the local power system would constitute an emergency event triggering power outages and reliability violations. Some commenters (1051, 1113) asked the EPA to clarify that a utility or relevant authority can identify the impending threat of such a reliability event by monitoring incoming lines for 5-percent voltage deviations. Then, the commenter (1051) said, operators can create reasonably contemporaneous records explaining the emergency that was pending.

Response: The EPA agrees with commenters who note that while emergency engines are used very rarely in emergency DR, emergency engines are required to be available for more than 15 hrs/yr to qualify for emergency DR programs under ISO tariffs, and these engines are occasionally used for more than 15 hrs/yr. As discussed above, the EPA also agrees with commenters who state that most emergency engines will not sign up for such programs if they are required to meet all of the requirements for non-emergency engines under the RICE NESHAP. Thus, requiring emergency engines to be used for 15 hours or less in emergency DR programs would deprive such programs of being able to

rely on such engines in near-blackout situations. The EPA also agrees with commenters that it was appropriate to propose that a 5 percent voltage sag counts as a deviation event qualifying for the 100 hours of permitted operation, without requiring that the unit be called upon by an RTO. The EPA does not agree with the commenters who state that the engines should have a limit of 100 hours of operation per year for any purpose. The commenters did not provide any information about what the additional uses of the engines would be for those hours and whether they would appropriately be considered emergency use of the engine. The RICE NESHAP does not require emergency engines to meet emission limits that would require the use of add-on controls based on considerations including that the engine may not operate long enough for the catalyst to reach temperature to become effective, the need for these engines to be operated with little time for startup, and the impracticability of operating the engine to test emissions when the engines operate so infrequently and at unpredictable times. The commenters have not shown that these considerations would be the same for engines that could operate 100 hrs/yr for any purpose. As discussed in section 2 below, the EPA does not believe that engines can properly be considered emergency engines when they can be used for any purpose, in particular purposes that are not emergency use and for which the owner or operator receives financial compensation, for as long as 100 hrs/yr. The EPA has carefully circumscribed the uses of emergency engines such that their use is related to emergency situations or to the required testing and maintenance of the engines. If an operator wishes their engines to be generally available for non-emergency purposes, they can do so as long as they meet the requirements for non-emergency engines. The EPA has allowed emergency engines 50 hours of non-emergency use, but has limited such non-emergency use to operation that does not entail financial benefit, so as to avoid these engines being used more often than needed in non-emergency situations. This allowance was particularly intended for engines in isolated locations where rare and limited use of an emergency engine is preferable to requiring a mobile nonroad engine to be brought in for short usage. As discussed in sections 1.4 and 2 of this document, the EPA is in this final rule allowing new non-emergency use for such engines, which includes financial compensation, but the use is only for careful circumscribed situations where failure to have the engine available could lead to potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

The EPA also does not agree that there should be no limit on operation to maintain the reliability of the electric grid during energy emergencies or that there should be a limit of 300 hours. The EPA agrees with these commenters that emergency DR represents true emergency situations, but the EPA believes that the limit of 100 annual hours is an important limitation on the program. The EPA believes

that it is important to ensure that these engines, which have no aftertreatment, are not run in the future for longer hours than are necessary and appropriate. The EPA has not put limits on the amount of time engines can run when access to the grid has failed because these engines in that case may be performing service that cannot be performed by other means and that may be necessary to protect against grave consequences. Blackouts can often last longer than 100 hours, and it is not appropriate to put limits on engine use in such situations. By contrast, the limit of 100 hours for emergency DR helps address concerns about the impacts of the emissions from these engines, as discussed in response to comment (RTC) 1.2.11. The EPA has justified its allowance for emergency DR based in part on the historical knowledge that ISO and others have not relied on emergency engines for emergency DR purposes more than a few hrs/yr on average. The EPA believes that if situations arise where emergency DR is being called for greater than 100 hrs/yr, it is likely that an inordinate amount of reliance is being placed on this program to ensure grid reliability, rather than just emergency backup. Emergency engines that have not been subject to aftertreatment controls should not be relied upon for such activities. The EPA believes that 100 hrs/yr is sufficient to provide enough availability for emergency DR situations. If engines are needed to operate for more than 100 hours, they can do so as long as they meet the requirements for a non-emergency engine. The EPA notes that putting controls on emergency engines would reduce the need to have a peaking station as an alternative, but that this comment seems to belie the concern that such engines are being used not for true emergencies, but as a substitute for peaking power. The related comment by the commenters (914 and 920) regarding use during periods of high and low temperature, which events are known and can be planned for, also seems to be related to use that is not intended to be covered by emergency DR.

In response to the comment claiming that emergency engines should be allowed to run when damaged permanent units are repaired or replaced, the 50 hour allowance included in the final rule at §63.6640(f)(3) and (4) can be used in this situation. However, note that these provisions come with specific restrictions, as specified in §63.6640(f)(3) and (4) and that use for more than 50 hours in such non-emergency conditions as the commenter talks about is not appropriate for engines that are intended solely for emergency use and that do not have aftertreatment. If the engines are needed to be run for more than 50 hrs/yr in non-emergency situations, the owner or operator can apply aftertreatment and comply with the non-emergency emission standards and operate without hour restrictions.

Regarding comments questioning whether allowing operation during a 5 percent or greater voltage variance would be sufficient to avoid or isolate system problems, particularly for very small systems, which could possibly cascade into neighboring systems, American Public Power Association

(APPA) (commenter 1082) indicated that a 5 percent variation is sufficient. Also, the American National Standards Institute standard C84.1–1989 defines the maximum allowable voltage sag at below 5 percent. On the local distribution level local voltage levels are important and a 5 percent or more change in the normal voltage or frequency is an indication that additional resources are needed to ensure local distribution system reliability. This situation would be indicative of severe instability on the system. However, commenters do not provide sufficient evidence to indicate that emergency engines should be used at levels below 5 percent. Utilities that wish to take extra precautions can use emergency engines at voltage variances below 5 percent as part of the 50 hour non-emergency allowance if they believe that in a particular situation even without voltage variances of 5 percent it is prudent to turn on emergency generators. Utilities can also ensure longer availability of the engines by ensuring that these engines meet the requirements for non-emergency engines.

Regarding the comment requesting clarification that a local system operator does not need to wait until a full-blown outage before taking action, the EPA has specified in the rule the situations when the engines can be operated to prevent an outage. Regarding the request that EPA clarify that the utility can identify the impending threat of a reliability event by monitoring incoming lines for 5 percent voltage deviations, the rule specifies that an engine can run if there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency, and there is no prohibition on monitoring the incoming lines.

1.2 Opposed to Proposed Emergency DR Provisions

1.2.1 Comment: A number of commenters (954, 955, 961, 994, 998, 1011, 1047, 1076, 1088, 1067, 1077, 1090, 1094, 1101, 1102, 1107, 1122, 1123, 1124, 1134 and 1140) expressed opposition to the proposal to allow emergency engines to operate for DR purposes for up to 100 hrs/yr without emissions-reducing controls.

Response: As discussed in detail below, the EPA believes that it was justified to propose to extend the hours permitted for emergency engines to be used in emergency DR programs. The EPA is finalizing the proposed provisions.

1.2.2 Comment: One commenter (1103) asserted that peak shaving and emergency conditions occur at the same time and the commenter believes that the EPA should clarify guidelines for emergency conditions that qualify RICE units for receiving extensions in operating hours. As the EPA does not

clearly define what an "emergency condition" is on the power grid and does not define the correct measurement of the 100-hour cap for operating the RICE units, the commenter (1103) asserted that the RICE rule as proposed would allow diesel generators to sell power to the grid under the guise of "emergency" conditions when no emergency exists. Commenter 1103 added that, in the long run, RICE units used for DR should be held to the same criteria for capacity and reliability as supply-side generating units.

One commenter (1094) said that although it believes the intent of the Agency is to limit the operation of BTM-related DR to true emergencies in which transmission system operations may be threatened, as the commenter said it explained in prior written comments, expanding the exemption for BTM resources to 100 hours can be expected to result in dispatch of BTM resources before or at the same time as other types of generators.

Response: The EPA does not agree that it has not defined the emergency condition under which engines may operate for emergency DR. The EPA specified that the operation could only occur when an EEA Level 2 had been called under the NERC Reliability Standard EOP-002-3, Capacity and Energy Emergencies. The standard is available at http://www.nerc.com/files/EOP-002-3.pdf and incorporated by reference into the stationary engine rules (40 CFR part 60, subparts IIII and JJJJ, and 40 CFR part 63, subpart ZZZZ). In the standard, EEA Level 2 is clearly defined and can only be called in near blackout situations and only transmission system operators such as PJM, ERCOT, ISO-NE and utilities that maintain the grid can dispatch emergency DR under EEA Level 2. In order to declare emergency DR, a strict sequence of events is required to be followed and the entity must also report such actions to NERC. Because of stringent specific procedures described in detail in NERC's Reliability Standard EOP-002-3, it would be extremely unlikely that an engine owner or operator would attempt to operate and claim it was running for emergency purposes if there was no EEA Level 2 called. So the EPA does not agree with the commenter that it is a real concern that owners and operators will try to operate and sell power to the grid under the guise of an emergency. Also, emergency DR is only called when the entity managing the system determines that there is insufficient generation to meet the electric demand and prudent operating reserves in the case of voltage reductions and rotating blackouts. The power authority would be extremely hesitant to call these types of emergencies because it is their responsibility to maintain reliability of the system and allowing more emergencies and risking system reliability is against their mandate. Further, as indicated by commenter 1043, EEA Level 2 status is rarely declared, but in the rare case that EEA Level 2 is called, procedures are taken very seriously by RTO and

transmission operators. Again, there are strict reporting requirements that must be followed in these cases and information must be submitted to NERC about what happened, the cause, and steps taken to mitigate the situation. For these reasons, the EPA believes that concerns that EEA Level 2 emergencies will be exploited by transmission system operators are not valid.

Regarding the comment that the limitation of 100 hours for operation for emergency DR in EEA Level 2 situations would result in the dispatch of BTM resources before or at the same time as other types of resources, the EPA notes that decisions about the order of generation dispatch are the purview of the entities responsible for dispatching those units and not the EPA. With that being said, the commenter did not provide any data to show that the other types of resources would have lower emissions than stationary engines.

1.2.3 Comment: Some commenters questioned whether emergency DR operation is truly an emergency. One commenter (1076) believes that the original 15-hour limit is sufficient and that emergency diesel engines should only be operated for true emergencies. Commenter 1140 argued that these engines are used for economic use rather than "emergency" use because DR programs increase their incentives for participation and the backup units end up competing with other cleaner generating resources to earn money. According to one commenter (1134), neither a 5 percent voltage deviation nor an EEA Level 2 event, is a true emergency (i.e., blackout). The commenter (1134) said that the reference to "emergency DR" is actually a misnomer. In actuality, utilities will use generating resources and non-backup DR resources (i.e., true demand curtailment) prior to losing the electric grid independent of whether the proposed rule is finalized, commenter 1134 said. Commenter 1123 expressed similar opinions as commenter 1134 in their letter.

Response: As discussed in preamble to the proposed rule and supported by a substantial amount of comments received on the proposed rule as summarized in section 1.1 of this RTC document, the existing 15-hour limit for emergency DR operation is not sufficient to meet the needs of current emergency DR programs. For that reason, the EPA proposed to increase the allowance to 100 hrs/yr for emergency DR purposes. Various ISO and RTO across the country operate emergency DR programs that assist in stabilizing the electric grid, preventing electrical blackouts and supporting local electric system reliability. Certain stationary engines are maintained in order to respond to emergency power needs under these programs and such operation is considered an emergency activity. The permitted allowance for emergency DR operation is solely for emergency purposes only and does not depart from

and is not inconsistent with the previous meaning of emergency operation. It is the Agency's opinion that emergency DR is emergency use and it does not consider engines that can only run in near blackout conditions to be part of normal capacity.

The commenters who claim that engines used in emergency DR are being used for economic use rather than emergency use fundamentally misunderstand the limited use of these engines. Emergency DR operation is called only in response to grid emergencies. Economic DR is entirely different in that it is not for emergency purposes, but that operation is in response to high prices.

The commenters confuse the issue of whether EEA Level 2 or 5 percent voltage/frequency fluctuations is a true emergency compared to whether there may be alternatives to using emergency engines in such a situation, but that is not the appropriate question. The fact that something must be done to alleviate instability to prevent a blackout means that there is an emergency situation, as prevention of blackouts are in and of themselves sufficiently emergency operation. The fact that other types of power (or curtailment) might be implemented to prevent the blackout does not mean that the emergency is not occurring. Indeed, that argument could require the EPA to ban all sources of operation from activating in such situations, as it may always be possible to have limited curtailments rather than new sources of power. It not the job of the EPA to decide what type of power should be used in emergency situations; that is the job of the power authorities. The EPA's responsibility is to determine what types of controls are appropriate for engines operating in such situations, and as discussed elsewhere, the EPA does not believe aftertreatment is appropriate for emergency engines in such situations.

As discussed in RTC 1.2.2, there are specific conditions under which a Level 2 alert can be called and strict procedures that must be followed for the power authority under such conditions. Therefore, grid operators regulated by NERC must follow very rigid requirements in emergency situations. During an EEA Level 2, there is a real potential for blackouts due to an inadequate energy supply, and under the RICE NESHAP, these are the only situations when the emergency engine can operate for emergency DR. These types of situations, which are narrow in scope, are clearly justified uses for emergency engines. System operators do not like to be in these situations, again, whose main mission, as discussed in RTC 1.2.2, is to provide reliable, safe, and continuous supply of electricity. System operators and other power authorities have no interest or incentive in letting the electric grid reach EEA Level 2 status or 5 percent voltage/frequency fluctuations as that already indicates a system in severe instability. It is clearly better and preferred to prevent a blackout before it happens until waiting until a blackout has occurred and dealing with the consequences of the loss of power, which can be catastrophic. Also, maintaining reliability of the grid by using a small portion of available emergency

generators during an EEA Level 2 or 5 percent fluctuation in voltage or frequency is infinitely better than waiting until conditions have worsened beyond these levels and a greater number of emergency generators would have to be called to operate because of the total loss of power. Emergency DR programs are rarely called upon and are only called on during true emergencies. Therefore, given that emergency DR operation is intended to prevent blackouts, the provisions the EPA is finalizing to allow emergency DR operation for up to 100 hours per calendar year is consistent with the type of usage that is within the realm of emergency operation.

Proposed Rule Displaces Cleaner Generating Alternatives

1.2.4 Comment: In one commenter's (1140) opinion, if the proposal stands, it will encourage the use of backup generators, including uncontrolled generators, as routine suppliers of power to the electric grid, replacing the use of cleaner alternatives of energy and will according to commenter 1140 create a loophole for backup generation units that will displace cleaner, low-, and non-emitting resources. Commenter 1122 agreed and asked that the EPA withdraw the entire rule because the decision to allow for expanded use of diesel engines is ill-founded and deeply flawed. It is critical to maintain a reliable and more responsive electrical system that is powered by cleaner generating sources and adopting a rule that subsidizes dirty heavy-polluting diesel engines is contrary to this goal, the commenter (1122) said. Commenter 1123 also agreed and said that the rule will give diesel backup generators an unfair advantage and distort the nation's electricity markets. Similar statements were made by commenter 1107 who said that the rule will distort the market by essentially subsidizing one generation resource that will be able to continue to operate in an uncontrolled manner and deter the market from focusing efforts on cleaner, controlled generating resources that are more efficient and lower emitting. One commenter (1101) believes that clean reliable DR programs are important to the power grid, but that the rule as proposed threatens to lessen the benefits of DR by allowing economic incentives for diesel generators to participate in such programs without appropriate controls. Commenter 1101 said that the EPA should require diesel generators to meet the same emission standards as any other economic DR participant. Commenter 1134 asserted a similar opinion.

Commenter 1076 said that the proposal to allow additional operating hours for diesel engines to run under DR programs is particularly damaging because diesel engines typically emit more harmful air pollution, proportionally, than large generating units. In other words, the commenter (1076) said that when diesel engines are called to operate, the cost of producing electricity is a higher rate of pollution

per unit of electricity, and investing in dirty diesel engines (time and money) displaces DR programs that could pull backup energy from clean, renewable electricity generation such as solar or wind power.

Commenter 1011 also agreed with other commenters who are against uncontrolled engines participating in emergency DR operation that the proposed provision would lead to a greater use of diesel generators under DR programs for financial reasons and would deter investments in cleaner generation. The commenter (1011) said that the emissions from diesel generators are detrimental to air quality because they have substantially higher emission rates than natural gas-fired peaking or combined-cycle power plants.

One commenter (1123) said if the EPA needs to move forward with some type of exemption in the final rule, it should be narrowly tailored to minimize adverse impacts and to fulfill the Agency's requirements under the statute. The commenter (1123) did not provide a specific alternative, but urged the EPA to consider the concerns raised by the commenter in reviewing recommendations from other commenters and arriving at a final decision. The commenter (1123) asked that the EPA at a minimum prohibit backup generators from taking advantage of the exemption to obtain capacity payments since the sale of capacity occurs even in hours where no emergency has been declared. The commenter (1123) said that diesel backup generators should not be used for-profit under the guise of addressing electrical reliability.

Commenter 1134 cited the report by Analysis Group[13] submitted with its comment letter that it claims demonstrates that participation of DR resources in the PJM capacity market results in increased emissions of greenhouse gas (GHG), criteria pollutions and HAP. The report also indicates that stationary RICE resources for DR are not needed to ensure power grid reliability, the emission impacts associated with RICE operation for DR reasons are not insignificant due to the limited operation of such units, as claimed by the proposed rule and DR providers, successful participation of RICE-backed DR in capacity markets increases generation from higher-emitting resources, resulting in increased system-wide emission of GHG, criteria pollutants and HAP, and participation of RICE-backed units in DR programs may reduce overall system reliability, as the deployment of more efficient, reliable resources offering enhanced reliability services is suppressed by the capacity markets.

Commenter 1140 agreed that used properly, DR reduces energy use and may increase market efficiency and system reliability while reducing costs. In DR programs, customers can reduce

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[13] See report titled "Reliability and Emission Impacts of Stationary Engine-Backed DR in Regional Power Markets" included as an attachment to comments submitted August 9, 2012 by Calpine Corporation on the proposed rule (EPA-HQ-OAR-2008-0708-1134).

consumption or add sources to provide electricity that would otherwise be obtained from the grid, the commenter (1140) said. However, both methods of meeting insufficient electricity demand have different health and environmental impacts and frequently the units used to create more power are dirty, diesel backup generators as opposed to cleaner resources such as solar panels, the commenter (1140) said. Commenter 1076 added that using diesel engines to serve the electric grid for certain times during high demand does nothing to reduce consumption or provide an incentive to consumers to reduce electricity use. All it does, the commenter (1076) said, is substitute the source of electricity from a larger, more efficient source of generation, to dirtier diesel engines. The commenter (1140) added that because backup generators are often old and dirty diesel engines, the use of these units can lead to more emissions even if other grid sources are cleaning up. Commenter 1134 pointed out that uncontrolled BTM engines, which are often located in densely populated areas, have significantly higher emission rates than virtually all other generating resources, especially natural gas-fired power plants.

In the commenter's (1140) opinion, as proposed, this regulation will increase the nation's reliance on high-emitting, uncontrolled generators to power the larger grid. In contrast, the commenter (1140) said, the appropriate action to increase electric reliability and to minimize public health risk is to provide incentives to promote energy efficiency and decreased consumption during peak periods, as opposed to favoring highly-polluting generation.

Commenter 1077 agreed that increasing the allowed amount of limited DR operation for small generators will lead to potentially displacing legitimate DR resources and new base-load, gas-fired combined cycle operations, which are more economical due to the current low natural gas prices resulting from shale gas development. The rule would displace cleaner generation and interfere with investments in clean energy the commenter (1122) said.

One commenter (998) argued that the increased use of domestic natural gas resources reduces the country's dependency on foreign oil and benefits the nation's national security. The proposal to exempt diesel generators from installing add-on controls is a hindrance to the adoption of cleaner burning domestic natural gas, the commenter (998) said. The proposal provides unfair advantage to small, inefficient diesel generators and the EPA should level the playing field for more efficient and cleaner natural gas fired facilities to be able to compete on an equivalent basis, the commenter (998) urged. The commenter (998) believes that the EPA should justify the exemption it has proposed or allow states to implement a viable emissions trading program that will benefit the environment while providing a fair market benefit for electric power providers.

One commenter (954) noted that stationary diesel engines comprise the vast majority of emergency generators, and these engines are far more polluting than gas simple cycle turbines and other options for distributed generation as noted in the differences in nitrogen oxides (NO_x) emission factors (21.8 lbs/MW-hr for new diesel generators compared to the 0.6 lbs/MW-hr for medium simple cycle turbines), as referenced in *Emission Rates for New DG Technologies*, May 2001, Joel Bluestein. Commenter 1047 added that, while newer RICE models may be well-controlled, older uncontrolled units can emit 200 to 400 times as much NO_x per MW as a new combined-cycle power plant and 10 times more than a coal-fired power plant. One commenter (954) said that the rule should avoid disincentives for operating diesel generators preferentially while balancing their use to maintain the stability and reliability of the electric service grid. The commenter (954) suggested that there are various supplemental generators that can be used to prevent blackouts and grid failure without having a major negative impact on air quality in urban areas.

Commenter 1067 stated, as other commenters also expressed, that the proposed rule to allow stationary emergency engines to participate in emergency DR and peak shaving programs without being controlled, in situations that are not true blackout emergencies, undermines the Agency's previous efforts to decrease air emissions through cross-state air pollution rules and Mercury and Air Toxics Standards (MATS). The commenter (1067) said that it creates an unlevel playing field and will displace clean generation. Emergency engines should only be permitted to operate for true emergency situations if not controlled.

Commenter 1124 explained that, in the capacity market, RICE generators used to support Limited DR displace only conservation-based Limited DR. According to the commenter (1124), when a generation resource is offered in reliability pricing model (RPM) auctions, there must be a specific, identified generating unit that is offered, but this is not true for DR offers in the capacity markets. In the case of DR, the commenter (1124) said that the actual resources which will support the offer can be identified just prior to the actual delivery year. The commenter (1124) said that the result is that a change in incentives like that contemplated by the Agency can have a very significant impact on the actual DR resources used to support the Limited DR that has been sold through the 2015/2016 delivery year. If RICE resources are made more attractive, the commenter (1124) said, there will be a substantial incentive for curtailment service providers (CSP) to use RICE resources instead of conservation-based DR to meet their Limited DR obligations. The most important and harmful effect of the proposed increase in allowed RICE generator run hours would be the displacement of conservation-based DR in capacity markets.

Commenter 1124 said that the effective cap on Limited DR has been hit in every RPM auction since it was imposed. The commenter (1124) said that this is because Limited DR is less expensive to provide than both Annual DR and conservation-based DR. According to the commenter (1124), conservation-based DR could provide the full amount of Limited DR, but this is displaced by RICE generator-based DR. The commenter said that 3-year auction results show that DR, mostly offered by CSP, has claimed a significant and growing portion of the PJM's capacity requirements for future years and proved data illustrating this growth (page 9). The commenter (1124) believes that allowing additional run time for RICE generators provides a strong incentive for CSP to include a greater proportion of these environmentally uncontrolled and inefficient resources, but leaving the exemption at the 15-hour level would provide an incentive to CSP to meet a greater proportion of their demand side response (DSR) obligations through conservation-based DSR. The commenter (1124) said that RICE generators should participate in the wholesale power markets based on their full costs without attributing any special status to them when they are used to support participation in DSR programs. The choice of DR technologies should remain an economic choice, one that reflects all of the associated costs and benefits. RICE generators should participate in the wholesale power markets based on their full costs without attributing any special status to them when they are used to support participation in DSR programs.

One commenter (961) expressed that it generally is in support of efforts to integrate DR resources into the market if it occurs in a fair and equitable way. However, the commenter (961) indicated that because of financial incentives currently available to DR resources and due to a broad interpretation of what classifies as DR, a substantial number of BTM generators that were meant to serve as true emergency resources are at this point operating under DR programs, consequently directly competing against traditional generation resources that the EPA has required to install emission control technology, according to the commenter (961).

Commenter 1134 concurred with the opinions of commenter 961 that such a proposal incentivizes the use of unregulated diesel backup generators in DR programs. The commenter (1134) cited to a February 2012 letter[14] it submitted to the EPA on the settlement agreement, where the commenter (1134) argued that such a proposal displaces traditional supply resources that have much lower emission rates, plus, the procurement of diesel backup generation in the DR market lowers the incentive to build new efficient natural gas-fired combined cycle and renewable generating facilities.

[14] Letter from Donald Neal, Vice President, Environmental Health & Safety, Calpine Corporation to Docket ID No. EPA-HQ-OGC-2011-1030. February 2, 2012. EPA-HQ-OGC-2011-1030-0015.

Further, commenter 1134 believes the proposal magnifies the flaws of the settlement agreement, by proposing an additional 40 hrs/yr than what the DR aggregators requested in their original petition. In response to statements made by DR supplies, commenter 961 said that the EPA has no direct control over the electricity capacity markets, but that any waiver of environmental requirements for backup generations would act as a direct subsidy to some types of generation, but not others, and the EPA is unintentionally creating a market preference. As argued by other commenters opposed to allowing engines to participate in DR programs with the necessary emissions controls, commenter 961 believes the rule by allowing reliance of additional diesel-based BTM generation will discourage the development of cleaner fossil and renewable resources.

Due to the financial benefits available to participants of these economic capacity markets, in the commenter's (961) opinion, the only probable result of finalizing less stringent environmental standards for diesel generators is giving those resources and unwarranted competitive advantage over other capacity resources with superior environmental and operating characteristics, and increase the presence of these uncontrolled resources. The commenter (961) urged the EPA to provide a level playing field for all generating resources.

On the other hand, one commenter (1082) argued that the RICE exemption would not necessarily lead to a displacement of cleaner generation as asserted by others.

Response: The EPA does not agree with the commenters that the final rule will encourage the use of backup generators in lieu of cleaner alternatives of energy. Rather than providing incentives, the RICE NESHAP requirements that take effect in 2013 will for the first time limit the operation of these engines for emergency DR. The commenters assert that if diesel engines did not participate in DR, the diesel generation would automatically be replaced by "cleaner" generation, such as combined cycle natural gas turbines. However, there is no guarantee that this would be the case, and as noted by other commenters,[15] the generation could in fact come from coal fired spinning reserves. The decisions made by ISO are based on price, not emissions. There is no reason to believe that the absence of emergency generators would lead to the use of new natural gas turbines, as opposed to other types of generation like older coal plants. In addition, the commenters do not take into account the fact that emergency generators can be turned on fairly quickly and do not need to be in idle or standby mode, which can

[15] Evaluation of the Calpine Report on the Reliability and Emission Impacts of RICE-Based DR in PJM. NERA Economic Consulting. Prepared for EnerNOC. October 10, 2012.

cause emissions. Moreover, nothing in this rule will have any impact on the type of generation that would replace emergency engines if such engines were not available.

The commenters also assume that one can extrapolate results seen for PJM to the entire country, which is not the case. The commenters presume that there will always be a source of electricity that can be used in the place of emergency generators when near-blackout conditions are present. While this may or may not be the case in well organized areas like PJM, this is not the case in other areas of the country where emergency engines may be the only source of generation to stabilize electricity output in near-blackout situations.

As discussed in summary of comments under section 1.1, there are substantial environmental consequences of actual blackouts, when all emergency generators, including the vast majority that would not have been called under EEA Level 2, will operate. Operation of some emergency engines to prevent such blackouts is preferable environmentally and will also prevent many of the other problems that people endure during blackouts. For instance, as talked about under the heading Avoid Adverse Impacts of Power Outages, thousands of smaller gasoline generators were used at private residences and many generators were improperly ventilated during a power outage, leading not only to greater negative environmental impact, but jeopardized public health and safety.

The commenters also claim that the RICE NESHAP would give preference to diesel engines over natural gas fired turbines, when, in fact, natural gas fired turbines are currently not subject to any requirements under NESHAP. Moreover, contrary to some commenters' terminology, emergency engines are not exempt from national standards. Those in the source category are not required to put on aftertreatment, but are subject to generally available control technology (GACT) or other standards. Additionally, as discussed in RTC 1.2.8, the EPA is requiring emergency engines that are contracted to be available for greater than 15 hours for emergency DR to use ULSD fuel, which will reduce levels of particulate matter (PM), sulfur dioxide (SO_2), hydrocarbons (HC) and HAP from such engines. It is worth noting that new emergency diesel engines are subject to Tier 2 or Tier 3 emission standards (see 40 CFR part 60, subpart IIII). Those commenters asking for all sources to be subject to the same standards do not understand the technology-based provisions in the statute, which require EPA to look at the abilities of new and existing sources based on the particular source categories or subcategories in which they belong. Additionally, these commenters mistakenly believe that the EPA actually has more stringent NESHAP for natural gas turbines, but this is incorrect. It is hard to argue that the EPA's regulation of emergency engines distorts the market when the EPA also does not require natural gas turbines to meet emission standards under NESHAP.

Moreover, the commenters' incorrectly assume that EPA's direction in promulgating regulations under section 112 of the Clean Air Act (CAA) should be based on its effect on markets, rather than the particular technological considerations that are relevant under section 112 of the CAA. The market for energy is handled in other arenas and the EPA's source category by source category regulation of pollution sources is not an appropriate place to "level the playing field" with regard to an entire electric generation industry; nor is managing energy markets within the EPA's general area of expertise. State energy and environmental agencies are capable of promulgating requirements that would subject stationary emergency engines to more stringent standards if they engage in emergency DR, and some agencies do so. Further, commenters can turn to those agencies and entities like ISO that actually engage in regulating or commanding the electricity markets with their concerns regarding the effect on the market of emergency generators, whether emergency generators should be included in DR programs equally with conservation, or the allegedly favorable treatment of generators, or other types of DR, by the particular ISO or regulator in question.

The commenters did not provide any information to show that the growth of renewable energy would be negatively impacted by the RICE NESHAP. However, other commenters (1142) did submit information showing that emergency DR has not prevented the growth of renewable energy in PJM where DR has grown faster than anywhere else; renewable energy resources are also growing at approximately the same rate. The commenter (1142) also cited information from the Energy Information Administration (EIA) that renewable energy production increased by 56 percent between 2001 and 2010 over the same time period that DR also increased significantly. It is also not clear that emergency engines used for emergency DR could be replaced by baseline units, as such units would not be built to operate solely for the short amount of time needed for emergency DR. Other than emergency engines, generation units are not built solely for emergency use, as the cost of such units could not be justified given the very limited use during near-blackout conditions. The EPA's decision, discussed in section 2 below, not to allow emergency engines to be used for peak shaving further reduces competition from emergency engines by further restricting operation during non-emergency usage. This points to a mistake made in many of the comments opposing the EPA's proposal on emergency DR. The commenters mistake emergency DR with economic DR. In economic DR, sources compete against one-another as sources of economic capacity, without restrictions on the conditions in which they can be called by ISO. However, emergency DR can only be used in specific limited situations of near-blackout conditions under the RICE NESHAP. These are situations, as discussed in section 1.1 that are clearly consistent with operation as emergency generators.

Regarding the report submitted by the Analysis Group, the EPA notes that there is no guarantee that emergency DR would be would be replaced with new gas or wind generation, and that the rationale used in the report would treat even DR that is not based on diesel generation as undesirable. The results may be dependent upon fuel price assumptions, and are also only applicable for areas with capacity markets.

Engines (or other sources) that are so limited are not used as a method of increasing supply in peak-load situations, but as a method of preventing blackouts in emergency situations. Emergency DR is therefore much less likely to be subject to abuse or substantial increases on usage. Most commenters make no attempt to distinguish between these types of DR and make arguments more directed at economic DR, which the EPA is not permitting in its final rule. See section 2 for comments and response regarding peak shaving.

The EPA believes that it has set appropriate standards for emergency engines based on the requirements of section 112 of the CAA, which requires EPA to set standards for major sources based on the maximum achievable control technology (MACT), and standards for area sources based on generally available control technology. As discussed in more detail in RTC 1.2.7 and 1.2.8, the EPA has taken measures to limit the impact of the emissions from these engines by limiting their hours of operation for emergency DR and requiring the use of ultra low sulfur diesel (ULSD) fuel. As discussed in RTC 1.2.14, the EPA does not believe that requiring aftertreatment for emergency engines based on their limited participation in emergency DR is appropriate under the CAA. Further, section 112(d) of the CAA is focused on mandating the appropriate technology for a particular category or subcategory of source. The EPA has not used section 112(d) of the CAA to prevent a source from operating because another wholly separate type of source might be available. The question for the EPA in promulgating this regulation was whether emergency DR was within the type of usage that should be permitted for the preexisting category of emergency engine. Given the connection between emergency DR and prevention of blackouts, the EPA found that such operation was consistent with use of emergency engines. The EPA has further reiterated its previous finding that aftertreatment is not appropriate for such engines, although the EPA for the first time has required ULSD fuel for such engines. The issues related management of energy markets and competition between various forms of electric generation are far afield from EPA's responsibilities for setting standards under the CAA.

Market Capacity and Reliability of the Grid

1.2.5 Comment: A few commenters, including commenters 1011, 1077, 1099, 1107 and 1122 disagreed with the proposed rule's claim that increasing the availability of small diesel generators to operate for emergency DR would contribute to increased grid reliability, prevent grid failure or decrease the likeliness of blackouts. Instead, the commenter (1077) believes the rule may have the opposite effect. In fact, small diesel generators may not be as reliable compared to other generation sources as they may not be available throughout the year, the commenter (1077) said. A number of commenters said that diesel generators are just another resource available in a mix of generating resources available to grid operators. Commenter 1134, who cited the report by Analysis Group[16] said in its comment letter that the report also indicated that participation of RICE-backed units in DR programs may reduce overall system reliability, as the deployment of more efficient, reliable resources offering enhanced reliability services is suppressed by the capacity markets.

Two commenters (994 and 1123) believe that the EPA's proposed rule changes may have been developed with the misunderstanding that the electric generation industry may have insufficient capacity to meet the energy demand on high electric demand days (HEDD), but neither the EPA nor those entities supporting the proposed amendments to the RICE NESHAP have provided support for this position. Commenter 994 described the current system of how competitive wholesale markets are managed and how market distortions, such as an out-of-market subsidy, has the effect of providing non-market revenues to a market participant. The commenter (994) said that the EPA's proposal would subsidize uncontrolled RICE generators who participate as a capacity resource in PJM's competitive markets. According to the commenter (994), the proposed rule is equivalent to an environmental pollution subsidy, which will result in the growth of uncontrolled RICE generation to the detriment of cleaner, environmentally controlled generation units. The commenter (994) concluded that, over time, these market forces will result in the deactivation or early retirement of environmentally cleaner peak-load generation as well as preventing the entrance of cleaner, higher capacity resources in the market to replace environmentally-controlled base and immediate-load generation that is ultimately retired. The commenter (994) stated that the last several years of capacity auctions demonstrate that the DR, including limited DR that uses uncontrolled RICE units, is the fasted growing component of PJM's capacity portfolio and provided several examples. According to the commenter (994), while PJM cannot

[16] See report titled "Reliability and Emission Impacts of Stationary Engine-Backed DR in Regional Power Markets" included as an attachment to comments submitted August 9, 2012 by Calpine Corporation on the proposed rule (EPA-HQ-OAR-2008-0708-1134).

definitely indicate how much of the limited DR is load-shifting to uncontrolled RICE units and how much is actual demand reduction, it is believed that between 25 percent and 35 percent of the total participation in the limited DR program meets its obligations to the program through load shifting. The commenter (994) concluded that the last Base Residual Auction (BRA) results essentially procured a 2,300 to 3,240 MW virtual uncontrolled RICE power plant that would be allowed to operate uncontrolled for up to 100 hrs/yr for economic gain. The commenter (994) added that as the competitive scales are tipped in favor of uncontrolled RICE units, they will continue to underbid other generation sources, forcing the premature retirement of environmentally controlled generation sources and preventing higher capacity, cleaner generation from clearing the capacity market. The commenter (994) cited a Northeast States for Coordinated Air Use Management (NESCAUM) report, "Air Quality, Electricity, and Back-up Stationary Diesel Engines in the Northeast" that reached similar conclusions.

Commenter 1124 agreed that the proposed exemption for RICE generators participating in demand side programs means displacing capacity and energy from cleaner alternatives. The commenter (1124) explained that RICE generators would typically be called to operate as DR by the organized wholesale market during high load hours, generally during hot days. The commenter (1124) said that base load units, typically coal and nuclear, operate year round, on and off peak. According to the commenter (1124), RICE generators are not competitive with coal when economically dispatched, and RICE generators will not displace coal-fired generating units in energy markets. However, the commenter (1124) said, RICE generators may displace other resources that generally operate only during peak hours such as natural gas-fired combustion turbines and conservation-based DR. The commenter (1124) said that these are the resources that would likely be displaced both in the energy market and in the capacity market by an increase in RICE generator-based DR. The commenter (1124) said that affording such uses a special benefit through an exception to pollution rules would simply mean an increase in pollution compared to the alternative, with no positive benefits on markets. The commenter (1124) said that a run hour exemption is not justified on market or reliability grounds for RICE generators that participate in DR programs.

Another commenter (994) said that arguments that environmental exemptions are needed to meet the reliability needs of the bulk power system demonstrate a lack of understanding regarding how generation capacity is procured within the PJM balancing area, are not supported by PJM's publicly filed comments in a related docket to this proposed rulemaking, and does not acknowledge the inherent differences in reliability between a base-load generation source and an "emergency" stand-alone generation source. Two commenters (994 and 1124) said that PJM operates a competitive capacity

market that obtains the capacity needed to ensure resource adequacy using the 3-year forward reliability auction that ensures that PJM will always procure the necessary capacity to meet estimated demand, in addition to a reserve margin. According to the commenter (994), in the most recent BRA, PJM noted that the auction was, "…impacted by an unprecedented amount of planned generation retirements (more than 14,000 MW) driven largely by environmental regulations." The commenter (994) added that despite this, "A record number of new generation resources were procured compared to any single RPM auction." The commenter (994) concluded that if PJM can procure the necessary capacity to overcome the "unprecedented" retirements of 14,000 MW due to environmental regulations, clearly it can procure capacity to replace uncontrolled RICE units due to environmental regulations.

The commenter (994) said that in contrast to the impacts of the MATS rule on the bulk power system, as noted in comments provided by PJM on that rule, PJM has never commented that uncontrolled RICE units are necessary for reliable operation of the bulk power system, only that to be useful to PJM in emergency conditions over a year that a minimum number of 60 hours of availability is essential. The commenter (994) added that, while emergency generators may provide a valuable service when the local electric distribution system fails, their value to the bulk electric system is necessarily minimized due to their limitations, rendering them *less*, not *more* valuable to the reliable production of electricity for wholesale power markets. The commenter (994) noted that PJM will become *more* reliant, not *less* reliant on lower capacity, higher emitting "emergency" generation sources, which invariably increases the probability of power supply emergencies and the negative outcomes that accompany such emergencies, including power shortages.

One commenter (1090) agreed the electric system reliability is maintained by ongoing, long-term planning processes aimed at securing enough electricity supply (or capacity - including DR as a category of supply) to meet future projected demand, plus additional margins of excess supply in case unexpected events arise like extreme weather or a power plant unexpectedly going offline. The commenter (1090) added that even assuming that certain units could not meet the EPA's standards that require controls, and therefore could not offer emergency DR services, the data indicates that system reliability will not suffer. The commenter (1090) described an example in PJM, where 14,026 MW of capacity (including generation, energy efficiency and DR resources) did not clear the 2015-2016 BRA. The commenter (1090) said that this means that there would be plenty of resources available if the entire 9,247 MW of cleared limited DR product in the 2015-2016 auction had not been available. The commenter (1090) added that the 2015-2016 BRA cleared enough capacity resources (including DR) to create a 20.2

percent reserve margin, which is significantly greater than the 15.4 percent margin recommended through PJM's analysis.

The commenter (1090) said that the compliance obligations from the 2010 final rule that limited emergency RICE units to 15 hours of participation in DR programs will come into effect by the end of 2013. Therefore, according to the commenter (1090), the increase in DR and the limited product in the PJM market should have impacted BRA results (which are bid in to the market 3-years in advance of the time they will operate) in all three of the forward auctions in 2013-2014, 2014-2015 and 2015-2016. However, the commenter (1090) said that in spite of the 15-hour limits that some claim will harm DR resources, there was significant growth of DR and limited DR in these full compliance years, which means either DR resources are plentiful in spite of the 15-hour limits or that CSP were prepared to economically comply with the final rule.

The commenter (1090) believes the proposed exemptions will result in greater penetration of uncontrolled RICE into DR programs, and this increase in availability of dirty engines will result in higher probability of their utilization and potential concerns with the run-time limitations of these dirty resources (related to their uncontrolled, dangerous emissions). The commenter (1090) said that the EPA should not make special accommodations to facilitate participation of these resources in DR market, because the EPA is otherwise creating or exacerbating market failures by promoting the externalization of costs associated with increasing operation of dirty RICE units. The commenter (1090) said that this "dirty energy subsidy" will result in increased use of DR from uncontrolled RICE and foregone opportunities for actual curtailment, cleaner DR resources, and construction of new, cleaner generation builds of both distributed and utility scale generation. The commenter (1090) added that this subsidy eliminates the competitive advantage renewable energy generation and energy efficiency resources should receive since, as zero-pollution resources, they are not required to invest in pollution controls. Another commenter (994) said that when any market participant receives out-of-market subsidization and can use those subsidies to lower its bid into the market, the effect on the capacity market is that capacity prices are artificially and negatively suppressed. According to the commenter (994), the corresponding result is that the appropriate market price signals are distorted, and the benefits of a fully functioning capacity market to develop and maintain a reliable supply of electricity are threatened, which unfairly harms both current non-subsidized market participants as well as prospective market participants.

One commenter (994) said that the proposed amendments to RICE NESHAP represent a significant economic opportunity for owners and operators of uncontrolled RICE units in the

competitive wholesale electric markets. The commenter (994) said that the primary reasons that DR providers sued the EPA when it initially proposed a 15-hour limit was for the purposes of preserving their ability to qualify for capacity payments from PJM, which requires that resources must be available for a minimum of 60 hours per summer period in order to qualify as a capacity resource and be eligible for capacity payments. The commenter (994) cited information from PJM's July, 2012 Load Response Activity Report[17] that confirms that capacity payments are the primary revenue source for DR products and that revenues derived from PJM's other competitive markets, including the energy and ancillary services markets, were de minimis by comparison to revenues earned from the capacity market. According to the commenter (994), in the aggregate, capacity payments represent on average approximately 81 percent of the total revenues for DR providers in 2008, 98 percent in 2009, 96 percent in 2010, 95 percent in 2011, and 98 percent through July 11, 2012. The commenter (994) stated that owners and operators of uncontrolled RICE units have a clear and vested interest in materially preserving these revenues because they essentially are the entire revenue opportunity for these units. According to the commenter (994), the only method in which the full value of the revenues can be preserved is through the exemption that these market participants sought through litigation with the EPA, which has now resulted in the proposed amendments to RICE NESHAP. The commenter (994) said that according to an analysis from NESCAUM of PJM capacity auction results and clearing price results, "…in the PJM auctions for MAAC [Mid-Atlantic 19 region], from 2012-2016, a backup generator would earn over $250,000 per MW, in addition to energy payments if called to operate."

The commenter (994) stated that the profitability of participating as a capacity resource is not guaranteed and that all market participants are at times influenced by additional regulatory compliance costs which necessitate a capital outlay. The commenter (994) said that uncontrolled RICE units should be treated no differently, especially because the exemption they seek from the EPA is to allow them to earn *additional* revenue through the capacity market as a capacity resource, not simply to be operated for self-supply emergency purposes only. The commenter (994) concluded that the EPA should reject the fallacy that uncontrolled RICE units should not have to meet environmental standards *precisely* because these units have been repurposed for economic gain, and that the proposed amendments to RICE NESHAP are in support of that economic gain. The commenter (994) said that the EPA has been misinformed by the petitioners and others about emergency DR programs. The commenter (994) said that, per FERC, a DR program does not include the operation of BTM generators as this practice does

[17] http://www.pjm.com/~/media/markets-ops/dsr/2012-dsr-activity-report-20120712.ashx

not "induce lower electricity use." Instead, the commenter (994) said that a program that encourages the operation of BTM generators during "times of high wholesale market prices or when system reliability is jeopardized" is more appropriately identified as a "load management technique." The commenter (994) concluded that because neither the EPA nor the DR petitioners have provided support that the electric generation industry may have insufficient capacity to meet the energy demand on HEDD, the commenter (994) asked the EPA to eliminate the emergency DR program exemption included in its definition of emergency stationary RICE except for emergency stationary RICE units that provide power to the grid.

Commenter 1124 added that because DSR programs are usually associated with conservation and efficiency, the nature of RICE generators' participation in DSR programs can be misunderstood. In fact, the commenter (1124) said, customers participating in DR programs based on RICE generators use these BTM generators to offset the demand at their location during peak hours, so that the metered demand (load) appears to be reduced. The commenter (1124) said that customers do not actually use less power when they rely on these engines, rather, they substitute BTM diesel engines for the MW they would otherwise need to buy from the wholesale power grid. The commenter (1124) said that when customers use energy from diesel engines with no environmental controls, those customers use less efficient and more polluting sources of energy than they would if they purchased from the wholesale power grid.

Comment 961 does not believe that placing operational restrictions on uncontrolled engines will negatively impact grid reliability, particularly in competitive wholesale electricity market regions with functioning capacity markets. The commenter (961) is strongly against the proposal and the allowance currently in the rule (15 hrs/yr) should be removed. Many commenters stated that the claims made by different interest groups, including companies offering electricity DR services are questionable and that diesel emergency generators are not necessary to ensure electric reliability. There are no reliability concerns, commenter 1123 said, and the concerns the EPA has stated in the proposed rule do not justify the exemptions proposed. According to commenter 1123, diesel backup generators do not play a special role in preventing blackouts or in otherwise maintaining the reliability of the grid. The commenter (1123) emphasized that it has no issues with backup generators being used for true emergencies, in the case of hospital or blood bank that rely on their own backup unit during a power outage. However, when it comes to the electrical grid, PJM for instance may in the case of an emergency 1) call upon generation that is restricted for reasons other than cost, 2) recall sales to other systems, 3) purchase emergency engine from the region or from surrounding areas, or 4) implement load relief measures, and according

to the commenter (1123), other ISO and RTO have similar procedures in the event of an emergency. For these reasons the commenter (1123) argued, backup generators are not needed for reliability purposes.

One commenter (961) reiterated the EPA's rationale stated in the proposed rule, which was as follows: (1) the current allotment for runtime was insufficient to meet tariff requirements imposed by ISO/RTO DR programs, and therefore needs to be expanded to ensure reliability; and (2) the temporary limited allowance for peak shaving and other types of non-emergency use as part of a financial arrangement for existing stationary emergency engines at area sources of HAP would give sources an additional resource for maintaining reliability while facilities are coming into compliance with EPA's MATS. The commenter (961) stated that it disagrees that this rationale justifies the proposed amendments. In the commenter's (961) opinion, the proposed action is not sound for reliability reasons and the commenter (961) further finds fault with the policy implications associated with this proposal. Commenter 1134 concurred with this assessment indicating in its comments that the Agency's reliability concern regarding emergency DR is misplaced.

In the commenter 961's opinion, the claim that uncontrolled BTM diesel generation as a type of DR capacity resource is required as a last safeguard prior to a brownout or load shedding is a gross mischaracterization. Two commenters (961 and 1134) asserted that the ability of uncontrolled diesel backup generators to participate in competitive energy markets is not necessary for electric reliability. One commenter (961) referenced comments from the Independent Market Monitor for PJM made on the settlement agreement and in testimony on this proposed rule that demand side resources are not required for reliability. The commenter (961) said that it is not correct of the EPA to arrive at the decision to less environmental standards for BTM generation in order to ensure that regional reliability standards are maintained, especially in those areas of the country that have established organized wholesale electricity markets with distinct, market-based capacity markets. According to the commenter (961), there is data that indicate that with sufficient advance notice, market structures for capacity procurement are capable of and will respond to ensure adequate capacity while satisfying environmental requirements. Commenter 961 included a table of generation, DR and energy efficiency resources offered and cleared from 2008/2009 to 2015/2016 for PJM, which shows a surplus, or uncleared, capacity resources in all those years since the beginning of the RPM construct. Commenter 1134 specifically stated in its comments that in PJM's 2012 base residual auction for 2015-2016 close to 20,000 MW of DR was bid into auction and approximately 14,800 MW of DR cleared. The commenter (1134) noted that it is unclear how much of the cleared DR amount consisted of stationary engines and how much of it would qualify as emergency engines.

The commenter (961) also pointed to the ISO-NE market and illustrated in their comments (961) that capacity auctions have also consistently yielded surplus capacity offers. Also, the New York Independent System Operator (NYISO) projects reserve margins between 31.2 and 21.9 percent between the years 2012 and 2022, well above the target reserve margin of 16 percent, according to commenter 961. Based on the data presented by the commenter (961), economically-based capacity markets will ensure regional capacity resource adequacy in response to changing market conditions and environmental rules. Likewise, commenter 1134 stated that NERC forecasts that overall anticipated reserve margins will remain above NERC's 15 percent reference level through 2012, with only Electric Reliability Council of Texas (ERCOT) presenting a significant reserve margin deficiency during the forecasting period.

One commenter (1090) said that uncontrolled RICE units are not the only resources available to address reliability concerns; there are many cleaner, cost effective DR resources available and many markets regularly rely on these services without incident. For example, the commenter (1090) said, in the 2015-2016 BRA, PJM had plenty of excess reserve margin (20.2 percent total reserve margin) capacity above the minimum (15.4 percent) required to ensure reliability. The commenter (1090) added that PJM has enough capacity resources bid into the market that if uncontrolled RICE units (assumed to be offered through the limited DR product) were not available, the system could still clear enough resources and maintain excess reserve capacity margin. The argument to overlook the emissions caused by the increased use of dirty uncontrolled RICE units as a way to avoid even greater emissions in blackout situations is fundamentally flawed because it assumes use of dirty RICE is the only option to avoid blackouts, commenter 1090 said. The commenter (1090) said that uncontrolled RICE units are actually inferior resources to the grid because of their associated operation limitations, which are related to unit emissions. In contrast, the commenter (1090) said, with proper emission controls, they would become more valuable to operation of the grid because the limitations on run times would be eliminated.

Commenter 1094 stated that allowing a new, significant exemption for BTM units, which allegedly operate as traditional DR resources, but in actuality, directly compete with other generation resources, both existing and proposed, in the same capacity market, amounts to a preferential treatment not otherwise recognized by Federal or state rules or law. Commenter 1094 strongly disagrees with recent assertions put forward by commenter 1142 that "DR will not compete against generation in the PJM capacity markets and therefore will not be reducing the price for generation capacity." The commenter (1094) stated that to allege that DR will not compete with other generation in the PJM capacity markets shows a clear misunderstanding of how markets operate within PJM. According to

commenter (1094), although PJM currently allows limited call (60 hours per summer) resources to meet up to 4.8 percent of PJM's minimum reliability obligation for capacity resources, this amount is not a carve out as commenter 1142 implies. Rather, commenter 1094 asserted, PJM strives to meet its RPM capacity requirements at the lowest possible cost from offers by suppliers of all acceptable resource types, generating plants available all year, unlimited DR available all year, summer-only DR available any time during the months of June through September and limited (60 hours per summer) DR. Finally, according to commenter (1094), not only are these BTM resources directly competing with traditional generation resources in the organized markets, they are doing so at a distinct advantage, one created solely by the lax requirements of the proposed rule. Commenter 1094 stated that the 100-hr exemption carries with it significant policy, environmental and practical implications, including the fact that such an exemption amounts to an unjustified preference for BTM generators that is not equally available for generating units located "in front of the meter," which are obligated to meet all Federal and state air regulations.

The commenter (1094) stated that BTM-related DR is not (or should not be) an "emergency" resource in the PJM markets. The commenter (1094) stated that by loosely defining "emergency conditions," as well as exempting diesel-fired BTM units from up to 100-hours of operations, the Agency, in effect, will be encouraging diesel-fired units to more actively participate in the PJM wholesale capacity market in a discriminatory manner, under the auspices of "emergency" providers. The commenter (1094) believes that the exemption for BTM resources should be eliminated in its entirety, and that uncontrolled BTM resources could participate in this program without the need for an expanded exemption. According to the commenter, the Independent Market Monitor for PJM does not believe that these units are needed for reliability purposes.

Similar opinions were provided by commenter 1134 who indicated that in organized capacity markets, the market will just acquire other resources instead of BTM stationary engines that have not had to internalize the cost of emission controls. It is possible that this may lead to the need to obtain somewhat higher cost resources commenter 1134 said, but that is due only to the fact that the more expensive resources have not been given a free pass on emissions control requirements, in the commenter's (1134) opinion. Actually, increasing reliance upon DR resources to meet regional capacity needs, in lieu of the other electricity supply resources that would likely clear in the competitive capacity market, may, according to commenter 1134, in fact impair system reliability, as those other supply resources will operate more reliably than the existing marginal resources they would displace and provide many reliability-related services that limited DR resources do not. So again the commenter

(1134) stressed, there is no reliability-related rationale for the EPA to place such heavy thumb of the scale in favor of diesel engine DR and exempt emergency engines from meeting emission standards necessitating the use of emissions controls when other sources of electricity supply against which they are competing must install emission controls and price the associated costs into their bids.

Response: Decisions about what units to allow to be bid into the capacity market and relied on for reliability are not under the EPA's purview and should be left to the entities that are responsible for maintaining the reliability of the electric grid. The commenter complains that use of emergency DR is undercutting other types of energy appears to suggest that the EPA should in effect mandate higher prices for this electricity and regulate based on management of competition, rather than the technology-based criteria in the statute. The EPA is not making decisions about which units should be allowed to run for emergency DR or promoting or subsidizing the use of one type of generation versus another. Nor is the EPA justifying its regulation primarily on the reliability needs of the bulk power system. The EPA is simply specifying that use for emergency DR operation is a legitimate function for the subcategory of stationary emergency engines. As discussed in comment 1.2.3, the EPA believes that it has appropriately set standards for stationary emergency engines based on the requirements and legal authorities under section 112 of the CAA. The commenters have not provided convincing evidence to support the conclusion that the use of stationary RICE would supplant cleaner generation and there is evidence to the contrary in the record. As discussed above, there are several types of electricity generation that the EPA does not regulate. The commenters also did not provide any evidence that owners and operators engaged in emergency DR are not also taking other measures to curtail load, such as dimming lights, in addition to operation of their engine(s). The commenters have also provided no evidence that the final rule will lead to greater penetration of stationary RICE in DR programs. In fact, the RICE NESHAP requirements that take effect in 2013 will, for the first time, limit the operation of these engines for DR. The final rule does take measures to control emissions from these engines through the use of ULSD.

Commenters point to data regarding previous capacity auctions that occurred prior to the implementation of these regulations. To the extent emergency engines participated in economic DR, or in unlimited hours of emergency DR, they will in the future be limited, or will have to put on controls. This may have been factored into forward auctions. The commenters have not shown that use of emergency engines for the limited purpose of emergency DR for limited hours will or can supplant base load generators that are available for general use. The EPA agrees that emergency generators are quite different in use and function from base load generation and commenters do not provide any convincing

argument that this rule will displace base load, or even peak load, generation. This type of generation simply is not built to operate only when EEA Level 2 emergencies are called or voltage fluctuates 5 percent or more. While generators may only be "just another resource," it does create an additional choice for grid operators and one that may be well suited for quick low power operation during emergency conditions. In a letter to the Agency[18], EnerNOC (commenter 1142) cited to a study that showed benefits associated with having quick-start capacity such as emergency backup generators available to respond to emergency situations and that such units being readily available on quick notice is preferred. The argument that sources that emit pollution and are paid for their performance should not be allowed to operate can be applied to many types of activities, including the use of other types of power plants that are competing with emergency engines and would stand to gain financially if emergency engines were prevented from competing with them. It is not coincidental, the EPA believes, that many of the commenters are indeed market competitors of the companies that are promoting emergency DR. The fact that the ISO can use another source of power, or that a source is paid to operate, is no reason to prevent one type of power from being used in a particular situation; nor does the availability of other sources of power mean that the limited situations for which emergency engines are being permitted are not emergency situations. As discussed in RTC 1.2.2, these types of situations are emergency situations, and the fact that there may be more than one method of dealing with the situation does not make it less of an emergency. Again, that type of argument can be used against any type of generation, as long as another type of generation, or demand curtailment, is available. It is this type of comment, rather than EPA's actions, that seeks to pick winners and losers in energy markets. The commenters' argument are particularly suspect when they discuss the possibility of newer, cleaner generation, as, again, this type of argument, taken to its extreme, would require the EPA to ban the use of all types of energy generation for a particular purpose as long as the EPA can think of one type of source, even one that is not even in construction, or one type of demand curtailment, even one not currently in use, that could possibly be used instead of the source being regulated. This is not what the CAA requires of the EPA. The question for the EPA is what type of controls are appropriate under the statute for emergency engines in these restricted situations, and the availability of other options is not sufficient to require further emission controls. As discussed in RTC 1.2.14, EPA does not believe requiring aftertreatment controls is appropriate for that use.

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[18] Letter from Richard Counihan, EnerNOC to Michael Horowitz, EPA. EnerNOC et al Review of Comments Filed on Proposed Settlement Agreement. February 29, 2012. EPA-HQ-OAR-2008-0708-0839.

Moreover, in areas that do not have as many choices regarding generation, particularly in more rural areas, the choice of an emergency generator may be the only choice. As discussed in section 1.1, numerous commenters in areas outside of the PJM area have commented that allowing emergency generators to operate during near-emergency conditions may be the most reliable, or possibly the only, way to prevent blackouts in these areas.

In response to commenter 1134's comment regarding the point made in the Analysis Group report,[19] that participation of RICE-backed units in DR programs may reduce overall system reliability, as the deployment of more efficient, reliable resources offering enhanced reliability services is suppressed by the capacity markets, the questions regarding whether emergency DR are used for short periods of time in emergency situations are likely not the most significant questions relevant to whether new resources are constructed. The EPA's understanding is that these "more efficient resources" are not being called for in capacity markets because they are marginally more expensive to run, and eliminating emergency engines will tend to increase electricity costs. The EPA believes that other government and private entities are best able to determine the extent to which these "more efficient resources" are needed for the purposes of reliability.

Regarding the comment that emergency engines do not need to contract to operate for any certain amount of hours to participate in emergency DR programs, the EPA notes that other comments indicate that there is a strong preference by ISO to have a certain amount of guaranteed hours of availability to ensure that the source can be relied upon in the requisite circumstances. In any case, the EPA has allowed emergency engines up to 100 hours of possible usage for emergency DR (combined with other permitted usage like testing and maintenance) not because the EPA believes that it is required from ISO, but because the EPA believes that emergency DR is appropriate use for emergency engines and that GACT for these emergency engines involved in emergency DR, given limitations on use that the EPA has required and the other relevant factors for GACT, should not require aftertreatment.

1.2.6 Comment: One commenter (1011) said that the Agency should work with FERC, the RTO and ISO to ensure grid reliability does not depend on stationary RICE as opposed to finalizing the proposed rule. The commenter (1011) said that the Agency should work with these groups to develop long-term alternatives of energy efficiency, renewable generation and cleaner energy production.

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[19] See report titled "Reliability and Emission Impacts of Stationary Engine-Backed DR in Regional Power Markets" included as an attachment to comments submitted August 9, 2012 by Calpine Corporation on the proposed rule (EPA-HQ-OAR-2008-0708-1134).

Response: The purpose of this rulemaking is to address HAP emissions from stationary engines and to minimize such pollutants within the Agency's authority under the CAA. It is not within the scope of this rulemaking to determine which resources are used for grid reliability, nor is it the responsibility of the EPA to decide what type of power is used to address emergency situations. Deciding on what type of power should be used for grid reliability is within the hands of the power authorities and not the Agency's mission under the CAA.

Basis for Setting the 100-hour Cap

1.2.7 Comment: One commenter (1123) made the point that even in the event that the EPA was correct that the 15 hrs/yr allowance that is currently allowed is not sufficient, the Agency has failed to provide adequate justification as to why 100 hrs/yr would be appropriate on a nationwide basis. For example, the commenter (1123) said, the EPA refers to ERCOT's program supposedly requiring 24 hrs/yr for backup generator participation, but does not explain why a limit of almost five times that amount is needed in that region.

One commenter (955) said that the proposal appears to artificially set a level of allowable DR run hours for the sole purpose of allowing such engines to participate in the financial rewards of the capacity and peak shaving markets. According to the commenter (955), if the goal is to allow a certain leeway of run time to provide for true emergency, grid-threatening conditions, the allowable run hours should be set at that level. The commenter (955) cited comments by the PJM Market Monitor that conclude that the key element of DR is that the end-use customer reduces its use of electricity and does not simply transfer the same demand by going off the grid by turning on another generator, resulting in less efficiency and a less clean source of energy generation than is available in the wholesale generation market. The commenter (955) described the inverse relationship between allowable run times for on-site engines and grid reliability, because the use of on-site generators artificially suppresses wholesale capacity market prices as well as true DR from the market. The commenter (955) concluded that undermining the RPM capacity market undermines the reliability of the grid and results in the generation of air emissions due to the lack of emissions controls on the on-site generators. The commenter (955) did not support either the original 15-hour run time or the proposed 100-hour run time and stated that backup generators should be treated as generating resources instead of demand resources. The commenter (955) suggested that the EPA consult with the RTO regarding the appropriate base level of hours necessary to accommodate real emergency DR needs.

Another commenter (1124) pointed out that the assumption that an additional allowance of run time is necessary to permit participation in RTO DR programs is incorrect. The commenter (1123) said that this statement applies only to a resource attempting to participate in the market on a standalone basis and that standalone participation is not the only way to participate or even the typical way to participate. Instead, the commenter (1124) said, DR participation in RTO capacity markets usually occurs through a portfolio of assets aggregated and managed by a CSP. The commenter (1124) added that the run time specified by the EPA would affect the number of resources needed by CSP to create each unit of Limited DR, and a shorter run time would appropriately affect the cost of providing DR from RICE resources.

Commenter 1123 pointed to DR programs of several ISO and RTO, including PJM, ISO-NE, ERCOT, Hawaii, and said that the EPA has provided erroneous assumptions justifying the need for 100 hrs/yr and the participation rules for these emergency DR programs. The commenter (1123) believes the EPA has confused the requirements for backup generators to participate in emergency DR programs with the requirements related to the sale of other, non-emergency services and products. For example, the 60-hour requirement that the EPA refers to is for PJM's capacity markets, but there is no such requirement for PJM's emergency DR program. Therefore, the commenter (1123) said that there is no need to provide the 100 hrs/yr for emergency engines to provide emergency DR to PJM. Commenter 1123 said that it appears the EPA has incorrectly interpreted the emergency DR programs of other ISO and RTO also.

Response: The EPA determined that a limit of 100 hours for maintenance and testing and operation for emergency DR and voltage deviations was appropriate. In setting the limit, the EPA had to consider operation in all areas of the country, not just PJM. The EPA considered the needs of emergency DR programs, as well as other engines used to provide power to maintain reliability of the grid in emergency situations, such as those owned by municipal power systems and rural electric cooperatives. Comments from APPA concurred with the Agency proposal to increase the allowance to 100 hrs/yr, who indicated that this amount will satisfy the needs of RTO, ISO, plus time needed to respond to emergencies affecting public power utilities. APPA states that "[b]ecause these RICE units are run for local voltage support, and in response to severe weather emergencies, it is extremely challenging to accurately predict how long or when a RICE unit will be run… Not knowing whether cost recovery could ever happen will lead many small governmental agencies to decide to shut down these units—the very same units that are needed for local distribution system reliability." The National Rural Electric Cooperative Association

(NRECA) (commenter 1056 in this document) and a number of individual NRECA members who commented on the proposed amendments also indicated that 100 hrs/yr was appropriate to maximize the ability of emergency engines to support DR. Some commenters representing smaller utilities who participate in emergency load response programs, including commenters 898 and 927, also indicated that without a 100 hrs/yr allowance under the rule to be allowed to be used for emergency DR, the city would have to withdraw from the program. Therefore, the EPA believes 100 hrs/yr is an appropriate amount, backed by numerous commenters. The EPA notes that the usage allowance for emergency DR and voltage fluctuations does not increase the total number of hours previously permitted for use outside of blackout or flood conditions, but merely allows the use of engines for emergency DR and voltage protection to the pre-existing 100 hour allowance for testing and maintenance. The EPA continues to believe that the decisions made regarding GACT for emergency engines subject to such limitations are appropriate. Local regulators can have reduced requirements, but the EPA needs to regulate for the whole country under this rulemaking.

Alternative Rule Suggestions

1.2.8 Comment: Commenter (1140) urged the EPA to require the use of ULSD in emergency generators.

Response: The EPA contacted the commenter and asked for information regarding the reduction in HAP emissions from the engines that could occur from switching to ULSD. The commenter provided additional data to the EPA, which can be found in the rulemaking docket at EPA-HQ-OAR-2008-0708-1459. The data provided by the commenter showed that the use of ULSD will significantly reduce emissions of air toxics, including metallic HAP (e.g., nickel, zinc, lead) and benzene. The use of ULSD will also reduce emissions of PM and SO_2. As discussed in the memo titled "RICE NESHAP Reconsideration Final Amendments - Cost and Environmental Impacts," the EPA determined that the use of ULSD is cost effective since the minimal increased cost for ULSD is balanced out by the reduced engine maintenance that is expected from using this fuel. As a result, the final RICE NESHAP amendments include a requirement that stationary emergency engines that are used or contractually obligated to be available for more than 15 hrs/yr for emergency DR, or responding to voltage/frequency deviations, or used for local reliability needs, use ULSD if the engine is larger than 100 HP. Owners and operators must begin meeting this ULSD fuel requirement on January 1, 2015, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. The fuel requirement begins on January 1, 2015, in order to give affected sources appropriate lead time to institute these new requirements and make any physical adjustments to engines and other facilities like

tanks or containment structures, as well as any needed adjustments to contracts and other business activities, that may be necessitated by these new requirements. The EPA finds it appropriate to limit the ULSD fuel requirement to engines above 100 HP. In previous rules, the EPA has exempted engines below 100 HP from more stringent requirements than their large engine counterparts. Therefore, it is inappropriate to promulgate more stringent requirements at this time for smaller engines, and the EPA also does not believe that engines less than 100 HP would be part of emergency DR programs. Seeing that the EPA has not promulgated emission reductions for these small engines in the past, the Agency believes it would be unwarranted to do so here without notice and comment. Furthermore, regarding the cutoff at 15 hrs/yr, engines that operated for less than this amount per year, were similarly not part of this rule and the EPA does not believe an increased regulation for these engines is within the scope of this rule. See also RTC 10.5.1.

1.2.9 Comment: One commenter (1012) opposed the proposal to allow 100 hrs/yr for emergency DR operation and urged the EPA to instead allow emergency engines to participate in emergency DR programs for up to 200 hrs/yr (150 hrs/yr for DR and 50 hrs/yr for maintenance) under the following conditions:

1. The stationary emergency engines is equipped with a diesel particulate filter (DPF), and
2. The DR hours are only used during a Stage 2 or Stage 3 alert, or during a transmission emergency.

These conditions the commenter (1012) argued would ensure stability of California's power grid and alignment with state and Federal programs. Commenter 1012 suggested that if stationary engines participating in DR programs do not meet the above conditions that the engines would be restricted to 100 hrs/yr. The commenter (1012) further suggested that this provision could be contingent upon a state or local rule requiring the strict requirements listed in the above two conditions in a similar manner that is being proposed for Tier 1 and Tier 2 engines at area sources that must be replaced by June 1, 2018.

The commenter (1012) talked about how the California Airborne Toxic Control Measure (ATCM) for stationary diesel engines first implemented in 2004 ensures continued protection of the environment and meets the goal of the ATCM while allowing emergency engines to be used in interruptible programs. According to the commenter (1012), the ATCM allows emergency engines to participate in interruptible service contracts (ISC) for up to 150 hrs/yr given that the engines meet stringent emission standards. Under the ATCM, the commenter (1012) said, an ISC is defined as a contractual agreement where a utility distribution company provides lower energy costs to a non-

residential customer in exchange for the ability to reduce or interrupt the customer's electric supply during Stage 2 and Stage 3 alerts, or during a transmission emergency. The commenter (1012) pointed out that under the ATCM, emergency engines cannot be used for load shedding under non-emergency conditions for instance in response to price fluctuations. Commenter 1012 concluded by stating that in California, to address the health risk associated with emergency diesel engines participating in DR programs, the ATCM requires that emergency engines comply with a limit of 0.01 grams per brake HP-hour (g/HP-hr) or 0.02 grams per kilowatt-hr (g/KW-hr), which is achieved by using a DPF. The use of DPF represents the best available control technology on these engines and minimizes the health risks, according commenter 1012.

Response: The commenter did not provide any information to show that the requirements it recommended were appropriate as GACT for stationary emergency engines. The commenter did not provide any information to show that a DPF that is not catalyzed would reduce emissions of HAP. The EPA evaluated the cost of DPF on emergency diesel engines during the rulemaking for new stationary diesel engines. The costs were determined to be excessive, for example, the cost per ton of PM reduced from engines between 300 and 600 HP was close to $260,000 and more than $700,000 for engines above 750 HP.[20] These estimates were based on applying controls at the time of manufacturing of new diesel engines and although as indicated large, would be much larger for existing engines that would need to be retrofitted. In fact, the EPA obtained information in 2009 and estimated the costs to retrofit catalyzed DPF (CDPF) would be about $5,000 annually, with a capital investment of close to $25,000 for a 300 HP engine.[21] Compared to the annual and capital costs associated with CDPF on a new CI engine, these costs are several orders of magnitude higher.[22] The cost per ton of using CDPF on existing emergency engines is further increased by the limited usage of emergency engines. In addition to the very high costs of CDPF on existing engines, the EPA is also concerned about technical issues with applying particulate filters to existing diesel engines. Several existing stationary diesel engines are not electronically controlled and PM emissions from older engines are often too high for efficient operation of the CDPF. Another issue is that in some cases engine exhaust temperatures are not high enough for

[20] Memorandum from Tanya Parise, Alpha-Gamma Technologies to Jaime Pagán, EPA. Cost per Ton for NSPS for Stationary CI ICE. EPA-HQ-OAR-2005-0029-0276. May 12, 2006.
[21] Memorandum from Bradley Nelson, EC/R to Melanie King, EPA. Control Costs for Existing Stationary CI RICE. January 29, 2010. EPA-HQ-OAR-2008-0708-0328.
[22] Memorandum from Tanya Parise, Alpha-Gamma Technologies to Sims Roy, EPA. Control Costs for NOx Adsorbers and CDPF for CI Engines EPA-HQ-OAR-2005-0029-0008. May 31, 2005.

filter substrate regeneration. Therefore, EPA does not agree with the commenter that the final rule should require the use of DPF.

1.2.10 Comment: One commenter (1011) urged the EPA to adopt emergency engine definition similar to that in the Ozone Transport Commission (OTC) Model Rule and thought that the EPA should specify that testing of emergency engines for maintenance purposes is restricted when air quality is predicted to be unhealthy. One commenter (1033) also said that the testing and maintenance of uncontrolled emergency diesel backup generators should be limited to days predicted to be good air quality days, and prohibited on bad air quality days.

Response: The EPA does not believe it would be appropriate to accept the commenter's suggestions, because the commenter did not provide information to show that the maintenance and testing of emergency engines contributes to bad air quality days. The EPA also believes that this type of localized measure is best implemented at the state level, rather than through national technology-based regulations, particularly given the HAP-centered purpose of section 112 of the CAA.

1.2.11 Comment: One commenter (1090) said that the EPA's 2009 proposed rule for the RICE NESHAP did not provide for hours of operation of uncontrolled RICE in DR programs, and it was not until the rule was released in final in 2010 did the 15-hour waiver for emergency stationary RICE to participate in DR programs appear. The commenter (1090) said that lack of advance notice about this specific provision prevented meaningful involvement of the public. The commenter (1090) added that the EPA is now being pressured to increase the number of hours these uncontrolled engines can participate in DR programs in order to allow the units to meet the operable hours qualifying criteria required to participate in organized DR programs. The commenter (1090) said that PJM has already acknowledged that multiple RICE units with 15 hour limits could be grouped together by CSP in order to qualify for the 60 hour minimum needed to participate in the DR programs. According to the commenter (1090), it appears that the EPA was able to establish the original 15-hour criterion without inclusive public debate and it now seeks to multiply the size of the exemption when it is not even required for its intended purpose.

Response: The EPA granted petitions for reconsideration of the 15-hour limitation on operation for emergency DR that was finalized in the 2010 RICE NESHAP rulemaking. The EPA published a notice

on December 7, 2010, (75 FR 75937) announcing the reconsideration and requesting public comment on the 15-hour limitation for emergency DR. The EPA subsequently held a public meeting on January 24, 2011, following the reconsideration notice and request for public comment. The RICE NESHAP amendments proposed on June 7, 2012, (77 FR 33812) were based on the information provided in the public comments on the December 7, 2010, notice. The EPA also held a public hearing on this issue on July 10, 2012. Therefore, the EPA does not agree with the commenter that there was no opportunity for meaningful public involvement.

Revised Impact Analysis Needed

1.2.12 Comment: One commenter (1122) urged the Agency to perform an analysis looking at the true impacts of these engines and re-propose a rule that thoroughly considers the concerns of the environmental groups, state regulators and other stakeholders.

One commenter (1140) reemphasized the lack of data available on several aspects of stationary engines used for DR purposes, including the number and type of engines and the emissions from these units. Commenter 1134 agreed that there is a lack of information and transparency on the number of engines operating under DR programs, however, according to the commenter (1134) based on available information it is estimated that at least 15 percent and as much as 80 percent of the DR in PJM consists of BTM generation.[23] In the commenter's (1134) opinion, it would not be surprising if the actual amount falls towards the higher end of the range. According to commenter 1134, in the current DR market, uncontrolled emergency RICE is the low-hanging fruit. These units can be bid into the capacity markets at a lower price than true DR, in the commenter's (1134) opinion because there is no capital cost, as opposed to true DR that would include investment in technology and/or inconvenience to the customer in the form of curtailment of actual load, or other generating resources that have to internalize the cost of controls and build that into the cost in their bids. The commenter (1134) also said that MISO (a regional transmission operator) estimates that up to 60 percent of its capability in 2010 was from BTM generation. Even though the commenter (1134) indicated that there is a lack of detailed information about DR operation, it is clear than a not-insignificant portion of the DR that is entering the PJM market consists of emergency RICE.

Due to the substantial span of health risks related to diesel exhaust, commenter 1140 finds it particularly concerning that the EPA has not sufficiently looked at the public health impacts of softening

[23] See pages 15-16 See report titled "Reliability and Emission Impacts of Stationary Engine-Backed DR in Regional Power Markets" included as an attachment to comments submitted August 9, 2012 by Calpine Corporation on the proposed rule (EPA-HQ-OAR-2008-0708-1134).

HAP standards for stationary engines participating in DR programs. Commenter 1101 said that the Agency has acknowledged the serious risks of unregulated diesel exhausts and underwent measures to lower these risks when the RICE NESHAP was amended in 2010. The commenter (1140) strongly recommended that the EPA conduct a thorough analysis of all stationary engines to obtain basis data, including emissions and emission controls, to properly estimate the impacts of this proposal. In addition to the unclear picture of how the proposal would impact emissions, the commenter (1140) noted that the EPA has not considered that additional uncontrolled generation would be built or drawn into DR programs in the future if the proposal goes final. Commenter 1101 said that the EPA does not even have a clear picture of how many engines would be affected and the Agency claims that the amendments would have minimal impacts because emergency DR is rare. The commenter (1101) believes that it clear that the proposal would lead to an increase in emergency DR participation and consequently also an increase in harmful diesel emissions. Also, the Agency has not properly demonstrated that it is properly estimated the HAP emission impacts from the proposed emergency DR allowance, the commenter said (961), and again asserted that the Agency cannot simply exclude certain source categories or subcategories from regulations without evidence that such exclusion would still satisfy section 112 of the CAA.

Commenter 1134 agreed that exempt engines are more likely to clear in capacity auctions and be deployed in the future, and expressed that the EPA should be concerned about the impacts associated with increased use of diesel engines because of their significant harmful emissions. The commenter (1134) claimed that emission rates from diesel engines are many times higher than emission rates from gas-fired facilities, for instance, NO_x per MW-hr of electricity generated by pre-2006 diesel engines are up to 800 times higher than a natural gas-fired turbine operating as baseload. The commenter (1134) cited to information from the State of Delaware, the State of Connecticut and NESCAUM in its comment letter. In the commenter's (1134) opinion, the Agency should be particularly worried by the increase of uncontrolled diesel engine use because of where these units are located. Diesel generators supply backup power for true emergency situations in places like hospitals, school and other larger institutions, and are frequently located in dense urban areas where there are more of these facilities, the commenter (1134) said. However, the commenter (1134) highlighted the fact that the EPA concluded that: "it is not feasible to determine whether there would be disproportionately high and adverse human health or environmental effects on minority, low income or indigenous populations from the reconsideration of this final rule, as the EPA does not have specific information about the location of the stationary RICE affected by this rule." It is the commenter's (1134) view that since the EPA does not

have this information, the Agency should not expand on the DR provision and allow additional uncontrolled engines to participate in DR programs. Instead, the EPA should first conduct a comprehensive analysis to determine where these units are located and not finalize the proposed rule as it stands until the conclusion of such an analysis. In commenter 1134's opinion, unless it can be demonstrated that the cumulative impacts will not interfere with maintenance or attainment of the National Ambient Air Quality Standards (NAAQS), the proposed rule should not be finalized.

One commenter (1140) said that little is known about the extent of use of backup generators in DR programs and this lack of knowledge makes it hard to assess the actual air quality and health impacts associated with the proposed rule. The lack of knowledge about emergency generators operating under DR programs was noted in a 2012 report by NESCAUM.[24]

One commenter (955) noted that the participants in the DR program are not subject to any transport emissions allowance program requirements and stated that these "Virtual Power Plants" should be required to play by the same rules as all other power plants. According to the commenter (955), market-based solutions such as the Electric Power Generation Association (EPGA) proposed solution to address emissions accountability as part of a HEDD program should be considered if the EPA ultimately decides to allow these generating resources to operate for 100 hours annually. The commenter (955) enclosed a copy of the EPGA proposal in the comment letter. According to commenter (955), the EPA admitted to not assessing the costs and revenues associated with participation in emergency DR or peak shaving programs. Therefore, the commenter (955) concluded that the EPA has not adequately considered the cost effectiveness of the installation of emission control equipment, i.e., oxidation catalyst and selective catalytic reduction (SCR), on these distributed revenue generating resources. The commenter (955) said that this situation should be re-assessed using additional emissions costs and capacity market and peak shaving revenues information. For instance, commenter 961 noted that the EPA did not try to accurately estimate the potential aggregate increase in emissions from allowing emergency DR operation for up to 100 hrs/yr. The commenter (961) also said that the potential emissions could be even higher because often multiple units at different facilities could sever a single electricity grid and many of those units may simultaneously operate in an emergency DR situation. Even if the commenter (961) assumed that every single emergency DR unit would likely only operate for a few number of hours, the collective emissions from the simultaneous operation could be significant. Also, the commenter (961) added, most significant demand for electricity generation happens during the

[24] See report titled "Air Quality, Electricity, and Back-up Stationary Diesel Engines in the Northeast" starting on page 17 of comments submitted August 9, 2012 by NESCAUM on the proposed rule (EPA-HQ-OAR-2008-0708-1033).

warmest months (i.e., ozone season), it is likely, according to commenter 961, that these units would operate disproportionately during the ozone season, when the adverse effect of such emissions is most severe. For these reason, the commenter (961) believes the proposal is inconsistent with section 112 of the CAA.

Response: The commenters did not provide any information to show that the final rule would lead to an increase in participation in emergency DR. The EPA does not think the final rule will lead to an increase in the estimated use of emergency engines in the original impacts analysis (where the Agency used 50 hrs/yr) given the low average annual need for these engines for emergency DR. For example, according to ISO-NE and PJM territories backup generation was dispatched for less than 30 hours during the summers of 2008, 2009 and 2010.[25] Also, there is no evidence that most emergency engines are even engaged in emergency DR, therefore there is no need to change the estimate. The commenters have not provided evidence that participation in emergency DR will increase average annual use of such engines above 50 hours. The RICE NESHAP requirements that take effect in 2013 would for the first time limit operation of these engines for emergency DR, so it is unclear to EPA how the RICE NESHAP will lead to an increase in participation. Commenters recommended that the EPA gather information on the impacts of the emissions from emergency engines during emergency DR situations. The EPA agrees that a reporting requirement will increase the EPA's ability to ensure that these engines are operating in compliance with the regulations and that it will provide further information regarding the impacts of these engines on emissions. In response to these comments, the EPA is establishing a requirement to annually report to EPA the engine location and duration of operation for emergency DR. This information will be used by the EPA, as well as state and local air pollution control agencies, to assess the health impacts of the emissions from these engines and to aid the EPA in ensuring that these engines comply with the regulations. The final amendments require owners and operators of emergency stationary RICE larger than 100 HP that operate or are contractually obligated to be available for more than 15 hrs/yr (up to a maximum of 100 hrs/yr) for emergency DR to submit an annual report to the EPA documenting the dates and times that the emergency stationary RICE operated for emergency DR, beginning with the 2015 calendar year. The EPA is adding this requirement beginning in January, 2015, rather than upon initial implementation of the NESHAP for existing engines in May or October of 2013, to provide sources with appropriate lead time to institute this new requirement.

[25] Memorandum from Stacy Angel, Synapse Energy Economics, Inc. to Doug Hurley, Synapse Energy Economics. Sample Revenue for a 1 MW Backup Generation Unit. June 27, 2011.

Air Quality and Health Impacts

1.2.13 Comment: One commenter (1134) said that the Agency also failed to conduct any air quality modeling of the impacts associated with the proposed rule and believes again that the EPA does not meet the goals to protect public health in regulating HAP under the CAA. The commenter (1134) cited section 112(d)(2) of the CAA for RICE located at major sources of HAP, EPA *must* ensure that its regulation "provide[s] an *ample* margin of safety to protect public health" and section 112(k)(3)(B) that indicates that the EPA must ensure a 75 percent reduction in cancer incidence attributable to HAP emitted from specific categories of area sources, including area RICE. For these reasons, the Agency must ensure, at a minimum, that the air quality impacts will no exacerbate impacts on public health. Nonetheless, the commenter (1134) believes the rule as it currently reads would more than likely cause greater adverse air quality and public health impacts than the 2010 rule.

Commenter 1101 believes the rule as proposed undermines the important public health benefits of the whole RICE NESHAP. Commenter 1134 added that the environmental impacts of the rule are not limited to only those times during which the engine DR resource is being dispatched and use. The commenter (1134) included a report[26] in its comments that according to the commenter demonstrates the significant system-wide emissions impacts due to participation of diesel engines emergency DR in the PJM market. Commenter 1134 argued that this further disproves the EPA's conclusion that the proposed changes will not result in any greater emissions than previously estimated under the 2010 rule.

One commenter (1140) believes that the increased use will likely increase ozone and PM levels and making it harder for communities to meet national air quality standards. In addition, the commenter (1140) said that the use of these generators threatens communities that are already disproportionately burdened by air pollution. Commenter 1076 added that the proposed rule will exacerbate air pollution on the worst days and that the EPA makes no mention of this.

Commenters 1076, 1101 and 1140 discussed the health effects of diesel exhaust extensively, importantly stating that in June 2012 the International Agency for Research on Cancer concluded that diesel exhaust causes lung cancer and was associated with an increased risk of bladder cancer. Exposure to diesel exhaust has been associated with a number of health issues, including cardiovascular disease, ischemic heart disease and heart attack, as well as premature death, all from acute exposure. Worsened

[26] See report titled "Reliability and Emission Impacts of Stationary Engine-Backed DR in Regional Power Markets" included as an attachment to comments submitted August 9, 2012 by Calpine Corporation on the proposed rule (EPA-HQ-OAR-2008-0708-1134).

asthma and chronic obstructive pulmonary disease, as well as increased risk for development of asthma, are all associated with acute and chronic exposure to diesel exhaust. According to the commenter (1140), there is also evidence that shows that damage to the lungs from diesel exhaust increases the risk of developing bacterial and viral bronchitis and pneumonia. According to other studies, diesel emissions have been linked to hypertension, neurotoxicity and perinatal health and infertility, the commenter (1140) said.

Further, commenter 1140 highlighted that many population groups face higher risk from air pollution, especially children, seniors and people who suffer from respiratory or cardiovascular diseases or diabetics, as well as low income populations and people who work or exercise outdoors. The commenter (1140) talked about the differences children face in terms of risks from air pollutants versus adults and pointed out that children are much more vulnerable and can therefore be at higher risk than adults from toxic substances. Commenter 1140 urged the EPA to look at the latest research and use the findings from recent studies to prevent the increased use of backup generators.

The commenter 1140 stated that communities of color and poorer people also appear to face higher risks and studies show that minorities live in greater concentrations both in areas that do not meet Federal air quality standards and in areas with above average numbers of air-polluting facilities. In the commenter's (1140) letter, it pointed to several studies showing that areas of minority populations face higher health risks.

One commenter (1090) expressed concerns that emissions from diesel RICE are significant and harmful (citing the EPA's 2009 Regulatory Impact Analysis (RIA)), and stated that uncontrolled diesel RICE units are dirtier than other energy sources, citing information from a recent NESCAUM analysis that showed that only Tier 4 diesel engines have emissions rates comparable to the electric generating units (EGU) operating in New Jersey. The commenter (1090) said that a Tier 3 diesel engine has NO_x emissions 5 times dirtier than New Jersey's coal plants, and many back-up diesel engines in the region are likely pre-Tier, making them 20 times dirtier than coal and more than twice as dirty as oil peaking plants in New Jersey. The commenter (1090) said that the NESCAUM study mentioned that a monitor near an emergency diesel generator in Boston measured 1-minute spike in black carbon PM readings exceeding 100 micrograms per cubic meter (ug/m^3), which illustrates the potential public health threat of multiple diesel generation sets if called upon to meet demand within densely populated areas.

One commenter (1090) said that the use of stationary diesel engines can result in significantly higher exposures relative to larger, centrally located facilities because stationary diesel technologies generally emit pollutants closer to the ground, often in more densely populated areas, resulting in

exposures to higher concentrations compared to emissions from tall smoke stacks. The commenter (1090) cited the findings of one modeling study suggest that the use of stationary diesel engines for energy generation could result in an approximately 20 times increase in the fraction of conserved primary emissions inhaled by the exposed population within 100 kilometers (km) as compared to central station electricity generation, which translates to elevated health risks for people who spend more time outdoors, such as children, adult exercisers, and outdoor workers. The commenter (1090) said that diesel engines are often used in densely populated areas, putting public health at an increased risk if the use of emergency engines is allowed to rise. The commenter (1090) cited a 2002 Environmental Defense Fund[27] assessment of emergency diesel backup generators in California that showed that people in close proximity to emergency or back-up generators (BUGs) are exposed to more harmful diesel emissions than those living and working further away. According to the commenter (1090), that assessment showed that even if BUGs are operated as little as 100 hrs/yr, the surrounding risk zone ranges from 63 to 118 acres or 10 to 20 average city blocks, and the more BUGs are used, the larger the risk zone. The commenter (1090) said that since many BUGs are concentrated in densely populated areas, expanding the risk zone means increasing the number of people exposed to unacceptably high levels of pollution. The commenter (1090) added that the report found the population within the BUG risk zone is more likely to be low income, elderly, and of a racial minority. The commenter (1090) was concerned that the emergency generators would result in emissions increases on the worst air quality days of the year, such as HEDD on hot summer days. The commenter (1090) cited a NESCAUM study that found a generally positive relationship between daily maximum temperatures and NO_x emissions from EGUs, consistent with higher air conditioning use on the hottest days. The commenter (1090) said that the study also found that the days with the highest temperatures and the highest EGU NO_x emissions were also days with the highest use of diesel EGUs. The commenter (1090) added that on July 22, when the temperature in Newark reached 108 degrees Fahrenheit (°F), the NO_x emissions from diesel EGUs was 52.5 tons, more than the total NO_x emissions from all EGUs on more than half of the days the entire summer. The commenter (1090) said that the report showed that DR resources were dispatched by all three ISO in the NESCAUM region on July 21 and 22, 2011, which coincided with the highest ozone readings that month. The commenter (1090) added that the report stated that on July 22, it is estimated that emergency diesel generators contributed up to 109 tons of NO_x and 3.2 tons of PM, much of it concentrated within metropolitan areas, some of which are non-attainment areas.

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[27] See, Environmental Defense Fund, *Smaller, Closer, Dirtier: Diesel Backup Generators in California* accessible at http://www.environmentaldefense.org/documents/2272_BUGsreport.pdf

Commenter 1124 added that states in the PJM region have raised concerns about the effects of units that operate on HEDD, regardless of annual run time and noted that New Jersey has enacted strict regulations for generators that operate on HEDD.

One commenter (1102) objected to any use of uncontrolled engines in DR because of they have a significant impact on ozone non-attainment in Delaware. The commenter (1102) provided an extensive analysis (see pages 8 through 13 of comment letter) including the growth in DR resources, which the commenter (1102) believes the EPA has underestimated. The commenter (1102) compared maps of non-attainment areas with DR and concluded that the EPA's proposal would increase the participation of uncontrolled engines in DR in the entire PJM region, which would exacerbate the unhealthy levels of ground-level ozone already around these non-attaining monitors from both local and upwind areas of DR.

Commenter 994 added that because there is not a complete accurate inventory of uncontrolled RICE units, it is contrary to the public interest to expand, rather than restrict, the hours these units can operate during non-emergency periods. The commenter (994) cited similar concerns voiced in NESCAUM's most recent report on back-up stationary diesel engines in the Northeast.

One commenter (994) discussed the pollutants emitted by these engines (HAP, NO_x, CO, volatile organic compounds (VOC), diesel soot), which pose health impacts. The commenter (994) said that if the proposed rule changes are promulgated, then the EPA will *de facto* promote the creation and development of a new class of HEDD generating units, the emissions from which will displace the emissions from cleaner generating peaking units that are part of the electric generation industry. The commenter (994) provided a table that compares pollution emissions between a simple-cycle turbine with water or steam injection and an emergency stationary diesel-fired RICE unit and illustrates the significantly higher emissions of NO_x, HC, CO and PM from the diesel-fired RICE unit. The commenter (994) described the concerns cited by NESCAUM and the State of Connecticut about the pollution impacts on HEDD from operating these higher polluting units. Commenter 1107 similarly expressed that the proposed rule will lead to an increase in air pollution that will be magnified because of relatively short stacks on diesel generators and the likelihood that diesel generators will be called upon to generate power on the hottest, most stagnant days of the year, during a time when the potential ozone and fine particulates impacts of their elevated NO_x emissions are the worst. This commenter (1107) also pointed

to NESCAUM's report[28] that indicated that uncontrolled engines participating in DR programs will create a spike in air emissions. Commenter 1140 recommended that the EPA work with states to come up with a reasonable timeframe for phasing out the oldest and dirtiest diesel backup generators. This is an important step as the states have to meet new PM and NO_x national air quality standards, the commenter (1140) said.

Commenter 994 stated that the EPA must distinguish societal benefits of operating emergency generators during a true emergency (e.g., interruption in normal electrical service from the local utility, provide electrical service to power water pumps during fires or floods, etc.) and operating them as part of a DR program, given that these later units are compensated and other cleaner resources could have been procured. The commenter (994) went on to question the report submitted by the petitioners to the EPA called "Modeling DR and Air Emissions in New England" (revised September 4, 2003) as prepared by Synapse Energy Economics, Inc. ("Synapse"). The commenter (994) said that the report itself admits that "While the net emissions impacts of DR operation (assuming it is not used to meet reserves) are small compared to total system emissions, in specific locations these impacts could exacerbate non-attainment problems and pose significant health risks. More work needs to be done to understand the health risks of operating generators in New England." The commenter (994) described the results of a NESCAUM analysis of a 2-day HEDD event in 2011, which definitively demonstrated the negative environmental consequences of using uncontrolled RICE units as part of a DR program:

- Based on our (NESCAUM) analysis, backup diesel generator participation during the NYISO events are estimated to have emitted approximately 11 tons of NO_x and one-third of a ton of PM over the duration of the 4-hour event on July 21 and over 15 tons of NO_x and nearly half a ton of PM over the duration of the 5-hour event on July 22.
- Backup diesel generator participation in the PJM event is estimated to have emitted between 33 and 109 tons of NO_x and between one and three tons of PM during the 7-hour event on July 22.

The commenter (994) concluded that there is no basis to the claim that "…in short, emergency DR provides significant environmental benefits."

Commenter 994 sent a formal request in February 2012 to PJM to begin to publicly report the types of DR compliance and, more specifically, the amount of DR based on BTM generation. The commenter (994) said that PJM acknowledged that while it knows that 14.2 percent of the participants in its emergency DR program are utilizing BTM generation, nearly two-thirds, or 59 percent are

[28] Northeast States for Coordinated Air Use Management (NESCAUM) report. Air Quality, Electricity, and Back-up Stationary Diesel Engines in the Northeast. August 1, 2012.

categorized as "other." The commenter (994) said that it is not clear what is included in the "other" category; however, it is certain that this category also includes DR participants that use uncontrolled RICE units to meet their capacity obligations to PJM, which is why the total estimates range from 25 to 35 percent, or higher. The commenter (944) said all of the negative environmental and human health impacts of uncontrolled diesel RICE will be *compounded* not *mitigated*, by the proposed amendments to RICE NESHAP. The commenter (994) concluded that, given that uncontrolled RICE units emit at much higher levels than environmentally regulated generation units in front of the meter, it strains reason to believe that emissions would remain unchanged or decrease, (i.e., not increase) if uncontrolled RICE units (i) displace existing and future cleaner generation sources from the competitive market; (ii) become a larger part of PJM's generation portfolio; and (iii) are given additional hours of uncontrolled run-time through this rulemaking. The commenter (994) said that the NESCAUM report noted this concern about higher potential emissions from older diesel generators.

One commenter (1094) stated that DR programs, implemented through operation of BTM units, harm the environment and impact human health, yet the proposed rule significantly expands the exempted hours of operation without the requisite data or modeling to justify this exemption. The commenter (1094) noted concerns expressed by the American Lung Association, which stated, in part, that "(b)ecause they are powered by diesel fuel, BTMs contribute to fine particle pollution levels and attendant health effects. The health impacts of short-term exposure (over hours to days) of particulate matter have been found to include: death from respiratory and cardiovascular causes, and strokes" (among other health issues) . . . (W)e believe that a quadrupling of the allowable hours that a BTM could operate is unacceptable, presenting a risk to those who live, work or play nearby."

The commenter (1094) stated that the World Health Organization (WHO) has found that diesel fumes do in fact cause lung cancer and are even more carcinogenic than secondhand cigarette smoke. The commenter (1094) asserted that the EPA lacks data on the total number and location of affected RICE units, nor has the Agency performed any specific modeling or analytics to substantiate the substantial increase in exempted hours of operation.

Commenter 1076 said that if the current proposed rule goes final it will lead to further harmful emissions from diesel engines and worsen health risks. Commenter 1123 stated similar concerns and is strongly against adopting the proposed rule. In commenter 1123's letter, the commenter included a comparison table that indicated that diesel backup generators are comparatively dirtier than other available resources (see page 5 of EPA-HQ-OAR-2008-0708-1123). For instance, the commenter (1123)

showed PM emissions from a Tier 3 nonroad diesel engine of 0.22 g/KW-hr versus the PM emissions from a water or steam injected simple-cycle turbine operating on No. 2 fuel oil of 0.08 g/KW-hr. Commenter 1134 asserted that the EPA needs to make sure that any exemption that is provided for emergency engines does not come at the cost of air quality and public health, and in the commenter's (1134) opinion, the proposed rule would worsen air quality and interfere with attainment and maintenance of the NAAQS. Commenter 1101 also said that increased emissions from diesel generators participating in emergency DR programs might make it difficult for states to comply with ozone NAAQS. For instance, the commenter (1101) said that the New Jersey Department of Environmental Protection has indicated to the EPA "to expand the allowable operating hours of uncontrolled emergency stationary RICE operating in a DR mode from 15 hours to 60 hours would result in significant NO_x emissions from upwind states on high ozone days and would impair New Jersey's efforts to attain and maintain the ozone [NAAQS].[29]" Also, commenter 1101 said that the State of Delaware expressed similar concerns about emissions impacts from upwind states.[30]

Response: The EPA does not agree with the commenter that it should have conducted air quality modeling to determine the impacts on public health, or that it should base the standards on the health risk from diesel exhaust. Since this is a MACT/GACT standard, the standards are based on technology, availability, and cost; the EPA does not consider health risk in this phase, except for threshold pollutants as discussed in CAA section 112(d)(4), which are not a factor here. Commenter 1134 mistakes section 112(d) with section 112(f) of the CAA, which is not applicable to this rule. The 75 percent reduction number is a total for all stationary sources in a strategy document submitted to Congress, and the commenter does not connect this action to that document.

Regarding the report submitted by commenter 1101, the EPA notes that it assumes the DR capacity would be replaced with new gas and wind generation, which is not guaranteed to occur. Also, in the NESCAUM report cited by commenter 994 and in the report cited by commenter 1134, there was no distinction between emergency and non-emergency DR, and do not take into account the reduced hours of use, and thus reduced emissions, attributable to emergency DR. To the extent the commenter

[29] New Jersey Department of Environmental Protection, Comments to U.S. EPA re: Proposed Settlement Agreement on RICE NESHAP, EPA Docket No. EPA-HQ-OGC-2011-1030 (Feb. 3, 2012).

[30] *See* Petition of Reconsideration of Delaware Department of Natural Resources and Environmental Control, EPA Docket No. EPA-HQ-OAR-2008-0708-0400 (Apr. 30, 2010).

claims that DR will grow, there appears to be nothing in the record to indicate emergency DR, which is restricted to specific circumstances, will have the same change in the market as economic DR.

Another commenter (1142) in its comments on the proposed rule referred to the EPA's Synapse study, which indicated that there would be a net benefit in air quality in having quick start resources such as emergency generators for emergency DR available, reducing reliance on spinning reserves. Information from commenter 1142 also indicates that increased use of emergency engines in emergency DR could reduce emissions. In terms of the NESCAUM report that commenter 994 refers to that talks about the effects of backup generators on HEDD events, again, the EPA finds that analysis to be limited based on a very brief analysis period (2 days) and may not be representative and justified in supporting a conclusion that emergency generators clearly contribute to HEDD events and the EPA does not know what those estimates are based on from that study. The EPA does not believe NESCAUM can conclude without a doubt that emergency DR correlates with high ozone days. Again, the analysis was only over 2 days. Also, in the alternative, the EPA does not know what those backup engines would have been replaced with. The results of the analysis conducted for the report are only applicable for areas with capacity market and may be dependent upon fuel price assumptions. Further, other studies spanning for a longer time looking at many events over many years in different areas of the United States shows a different result (see attachment to EPA-HQ-OAR-2008-0708-1142.) This more robust and comprehensive study, concluded that there is no correlation between emergency DR and high ozone concentration.

Commenters were concerned that these engines would be called to operate for DR on high ozone days, further contributing to non-attainment with ozone standards. However, other commenters noted that emergency DR events do not predominantly occur on ozone exceedance days, as discussed in comment 1.1.1. For example, commenter 1142 provided an analysis that showed that the data do not show that the use of emergency engines during the DR events causes high ozone, particularly since in many instances the ozone concentrations are as high or higher on the days preceding a DR event. The commenters who expressed concern about the impact of the emissions from these engines did not provide any information linking the emissions to exceedances of the ozone standard. Emergency conditions leading to blackouts or near-blackout instability can be caused more by extreme weather events or malfunctions, and emergency DR is different from economic DR in that there is less likelihood of a connection between peak load conditions and the need for emergency DR. Commenters who supported EPA's proposal also noted that some of the commenters opposing use of emergency engines during emergency DR would benefit by such a limitation because other emission sources may be used

instead of the emergency engines, including sources that some of these commenters may operate, and that the effect on total emissions of using these alternative emission sources is not clear. Concerns about contribution to ozone non-attainment by stationary engines can be addressed through area-specific requirements such as state-based State Implementation Plans that would be directed towards ozone non-attainment areas. The EPA notes that rather than leading to an increase in the operation of these engines for emergency DR, the RICE NESHAP requirements that take effect in 2013 will for the first time limit the operation of the engines for emergency DR. The EPA also notes that the add-on controls that would be installed on existing engines if they were treated as non-emergency engines would not reduce emissions of NO_x, so even if the EPA required such controls this rule would not reduce those emissions.

However, in response to the concerns about the air quality impact of emissions from emergency engines operating in emergency DR programs, the EPA is finalizing a requirement for owners and operators of existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder (l/cyl) that use diesel fuel and operate or are contractually obligated to be available for more than 15 hrs/yr (up to a maximum of 100 hrs/yr) for emergency DR to use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. This fuel requirement also applies to owners and operators of new emergency CI stationary RICE with a site rating of more than 500 brake HP with a displacement of less than 30 l/cyl located at a major source of HAP that use diesel fuel and operate or are contractually obligated to be available for more than 15 hrs/yr (up to a maximum of 100 hrs/yr) for emergency DR. Owners and operators must begin meeting this ULSD fuel requirement on January 1, 2015, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. As noted by commenters on the proposed amendments, requiring the use of diesel fuel meeting the requirements of 40 CFR 80.510(b) is expected to substantially reduce emissions of SO_2 and direct and indirect PM. In addition, use of ULSD will reduce HAP emissions significantly from the engines compared to emissions resulting from use of unregulated diesel fuel. Although the EPA does not have information specifying the percentage of existing stationary emergency CI engines currently using residual fuel oil or non-ULSD distillate fuel, the most recent EIA data available for sales of distillate and residual fuel oil to end users show that significant amounts of non-ULSD are still being purchased by end users that typically operate stationary combustion sources, including stationary emergency CI engines. For example, in the category of Commercial End Use, sales data for the year 2010 show that only 45 percent of the total distillate and residual fuel oil sold was ULSD. The data provided for Electric Power End Use show that 68 percent of total fuel sold was residual fuel oil. For Industrial End Use, the percentage of total fuel that

was residual fuel oil was 20 percent. The fuel requirement begins on January 1, 2015, in order to give affected sources appropriate lead time to institute these new requirements and make any physical adjustments to engines and other facilities like tanks or containment structures, as well as any needed adjustments to contracts and other business activities, that may be necessitated by these new requirements.

The EPA does not agree that emissions of diesel exhaust are likely to go up significantly compared to the estimates used in the original rule, given the very limited usage of such engines in emergency DR. It is also worth noting that the circumstances during which these engines will be permitted to run under the rule are in circumstances that would prevent blackouts, which, if not prevented, would mean the use of all emergency engines in the affected area, which would create substantially greater emissions from diesel emergency engines than if these limited emergency DR engines are used for a short period of time. Further, in the event of blackouts, people's health and safety are jeopardized. During a blackout, there are human health effects that can result from extreme weather temperatures, hot or cold, that become uncontrollable during the loss of electricity. Commenter 1082 provided in their comments an analysis conducted by Blue Sky Environmental that looked at the health effects resulting from a blackout in 2012. The study indicated heat-related deaths were not above average because of the availability of emergency backup generators. However, the commenter noted that there were several heat-related deaths during the extreme heat. Also, commenter 1143 referred to the incident where during the 2003 blackout in New York City, where millions of gallons of untreated sewage ended up in the rivers of the city. Various states have acknowledged the health and safety damage that can be the result of losing the electric grid and have in their regulations permitted the use of emergency engines in emergency DR programs. Further, in a study published by NIH[31], it was found that during the blackout of 2003 in New York City put people in greater health peril. Specifically, the results and conclusion of the study were the following:

"We found that mortality and respiratory hospital admissions in NYC increased significantly (two- to eightfold) during the blackout, but cardiovascular and renal hospitalizations did not. The most striking increases occurred among elderly, female, and chronic bronchitis admissions. We identified stronger effects during the blackout than on comparably hot days. In contrast to the pattern observed for comparably hot days, higher socioeconomic status groups were more likely to be hospitalized during the blackout.

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[31] "Health Impact in New York City During the Northeastern Blackout of 2003", Public Health Rep. 2011 May-Jun; 126(3): 384–393; http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3072860/

"This study suggests that power outages may have important health impacts, even stronger than the effects of heat alone. The findings provide some direction for future emergency planning and public health preparedness."[26]

The final amendments also require owners and operators of emergency stationary RICE larger than 100 HP that operate or are contractually obligated to be available for more than 15 hrs/yr (up to a maximum of 100 hrs/yr) for emergency DR to submit an annual report to the EPA documenting the dates and times that the emergency stationary RICE operated for emergency DR, beginning with the 2015 calendar year. Commenters on the proposed amendments recommended that the EPA gather information on the impacts of the emissions from emergency engines during emergency DR situations. The EPA agrees that a reporting requirement will increase the EPA's ability to ensure that these engines are operating in compliance with the regulations and that it will provide further information regarding the impacts of these engines on emissions. In response to these comments, the EPA is establishing a requirement to annually report to the EPA the engine location and duration of operation for emergency DR. This information will be used by the EPA, as well as state and local air pollution control agencies, to assess the health impacts of the emissions from these engines and to aid the EPA in ensuring that these engines comply with the regulations.

Cost Effective Controls are Available

1.2.14 Comment: One commenter (1140) stressed that many of the uncontrolled diesel engines that the proposal affects can be fitted with controls to comply with the current standards or replaced with modern and controlled units. Commenter 1134 urged the EPA to require any engine participating as a DR resource in a competitive wholesale energy or capacity market administered by an ISO or RTO that is an economic, for-profit activity, to use the resulting revenue towards the cost of installing emissions controls and these engines should be provided no exemption. Commenter 1134 said that the engines could operate for more than 15 hrs/yr under a DR program by simply implementing the necessary NESHAP controls to meet the non-emergency standards under the rule and building the cost of controls into the price at which the DR resource is bid in the market. Similarly, commenter 994 said that it is evident that the revenues derived from participating in an economic activity for financial gain are sufficient to provide uncontrolled RICE units with the necessary resources to invest in pollution control technology, which would *enhance*, not *impede*, Federal and state environmental goals. Similarly, commenter 961 expressed that it seems that uncontrolled diesel-fired BTM generators could be retrofitted to meet the current emission standards if the EPA limits the run hours. The commenter 961

pointed to statements and information published by the Manufacturers of Emission Controls Association (MECA) that indicate that there are emission controls that can significantly reduce PM, NO_x, CO, HC and other toxic emissions emitted from diesel engines, and concurred with MECA's statement during the July 10, 2012, public hearing that any revenue generated from participation in a DR program should be put towards reinvestments in controls to reduce emissions. Commenter 1123 also similarly said that backup generators should not simply be allowed to pocket the money earned from capacity payments, but should put that extra income towards appropriate controls. Commenter 982 (MECA) restated in written comments on the proposed rulemaking that any engine that is operating for financial gain should use a portion of the compensation towards pollution controls. There are demonstrated ways to reduce HAP emissions from stationary diesel engines and oxidation catalysts are the most cost effective way of doing so, according to commenter 982. Participation in emergency DR programs that provide financial benefits is a huge incentive for owners of stationary backup generators to invest in the proper controls for their engines, the commenter (982) said. Also, the commenter 961 pointed to a 2003 report[32] by NESCAUM stating that applicable control technologies such as particulate filters and oxidation catalysts may be relatively inexpensive to retrofit compared to NO_x controls such as SCR. The commenter (961) cited to an additional report by Carnegie Mellon University that found that on a full cost basis: "properly controlled diesel generators are cost-effective for meeting peak electricity demand," and therefore recommends implementation of NO_x and $PM_{2.5}$ controls for such sources."[33]

One commenter (1122) said that emergency engines should only be used for emergency situations, unless they are properly controlled. Another commenter (1140) asserted that it opposed the proposal to allow more operating hours for stationary emergency engines to participate in DR programs and anything other than true emergencies. The commenter (1140) clarified that it wants hospitals to operate their generators when the power goes out and industrial facilities to run water pumps when there is a fire. On the other hand, commenter 1140 stated that high emitting diesel engines are not required to reach those goals and the commenter (1140) said that those engines should not be used when no real emergency exists. In particular, the commenter (1140) said, hospitals and other emergency sources can and should take advantage of technology to retrofit and install aftertreatment on their existing generators to reduce the well-documented acute impacts diesel exhaust emissions and PM.

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[32] http://www.nescaum.org/documents/rpt030612dieselgenerators.pdf/.

[33] Elisabeth A. Gilmore, Peter J. Adams, Lester B. Lave, "Using Backup Generators for Meeting Peak Electricity Demand: A Sensitivity Analysis on Emission Controls, Location, and Health Endpoints," J. Air & Waste Manage. Assoc. 60:523–531 (2010).

One commenter (1090) said that requiring pollution controls for RICE units as a condition of participating in DR programs will not jeopardize system reliability because emissions controls are technically and economically feasible in all instances.

Response: The EPA does not agree with the commenters that add-on controls such as oxidation catalyst would be appropriate for stationary emergency engines. As discussed in the memorandum titled "MACT Floor Determination for Existing Stationary Non-Emergency CI RICE Less Than 100 HP and Existing Stationary Emergency CI RICE Located at Major Sources and GACT for Existing Stationary CI RICE Located at Area Sources" (Document number EPA-HQ-OAR-2008-0708-0327), the EPA determined that work practices were the MACT floor for existing stationary emergency engines because the application of measurement methodology is not practicable due to technological and economic limitations. It is impracticable to test emissions from stationary emergency engines during periods of routine testing and maintenance using the test procedures specified in the rule because it would increase the required number of hours of operation of the engine beyond the routinely scheduled reliability testing and maintenance operation, thereby increasing emissions. It is also impracticable to apply the testing methodologies required in this rule to test the stationary engines during periods of emergency operation because emergencies are unplanned events and implementation of the procedures specified in 40 CFR part 63, subpart ZZZZ require advance planning before tests are conducted. The EPA evaluated the cost effectiveness of add-on controls for emergency engines that are used a very limited number of hrs/yr for emergency situations and required maintenance and testing. Because these engines are typically used only a few hrs/yr, the costs of add-on emission control are not warranted when compared to the emission reductions that would be achieved. The few hrs/yr historically required for emergency DR does not change this analysis, which indicate very high costs per ton of emissions reduced. The cost per ton estimates for stationary emergency CI engines can be found in the memorandum entitled "Cost per Ton of HAP Reduced for Existing Stationary CI RICE" in the rulemaking docket (EPA-HQ-OAR-2008-0708-0290). The cost per ton of HAP reduced would be even higher if CDPF were to be used. The EPA estimated the cost of CDPF in a memorandum[34] and based on those costs the cost per ton of HAP removed with CDPF, would be even higher than with oxidation catalyst. The EPA also estimated the

[34] Memorandum from Bradley Nelson, EC/R to Melanie King, EPA. Control Costs for Existing Stationary CI RICE. January 29, 2010. EPA-HQ-OAR-2008-0708-0328.

cost of CDPF on new emergency engines for the CI NSPS and those cost were excessive as well, even with the lower cost of CDPF that is expected with new engines.[35]

The EPA does not agree that the revenue generated from the operation of the source should be subtracted from the cost of add-on controls and other compliance requirements when evaluating the cost-effectiveness of the control. The EPA determined that it was appropriate to set GACT to be the same requirements as those required for emergency engines at major sources because the same issues that were discussed above for stationary emergency engines at major sources apply to emergency engines at area sources. Moreover, the payments that units get for being available for emergency DR are separate from the question of the cost of the controls per ton of pollutant reduced. The EPA does not subtract the money an owner or operator may make from the use of a source, either directly or indirectly, from its calculation of costs per ton of pollution reduced, as both the regulated and unregulated scenarios presume that the source does operate and earns the funds resulting from such operation. (Obviously, no pollution source would ever operate were there not some benefit to such operation for the owner or operator.) Inclusion of such funds in this calculation, aside from introducing an element that is not directly relevant to the question of cost-effectiveness of the emission control, would subject these owners and operators to cost effectiveness tests never required for other sources, including those sources that are competitors with these sources. The commenters did not provide information to show that add-on controls are generally available and widely used for stationary emergency engines, or that they would be effective given the limited operation of the engines.

EPA's Authority/Obligation to Regulate

1.2.15 Comment: One commenter (1123) also discussed how the EPA has failed to comply with specific section of the CAA. Specifically, section 112(d) of the CAA requires the Agency to promulgate emissions standards for sources in listed source categories. The commenter (1123) referred to the EPA's flexibility to use GACT or management practices for area sources, but that the Agency has not evaluated the scope of control technologies or management practices that would be "generally available" for the engines in question. On the contrary, the EPA has simply assumed that it would not be economically feasible for backup generators to put on controls, the commenter (1123) said, without considering additional revenues earned through capacity markets.

[35] Memorandum from Tanya Parise, Alpha-Gamma Technologies to Jaime Pagán, EPA. Cost per Ton for NSPS for Stationary CI ICE. EPA-HQ-OAR-2005-0029-0276. May 12, 2006.

Commenter 1134 said that it found the EPA's settlement agreement with DR aggregators, which committed the EPA to propose under the rule to allow emergency engines to operate for 60 hrs/yr for DR purposes without emissions control, very troublesome. Commenter 961 emphasized that the proposal is not in the public interest and is inconsistent with the policy and legal requirements of the CAA. Commenter 1076 similarly said that the EPA should substantially revise the proposed rule in order to uphold its duty to protect the environment and public health.

In commenter 961's opinion, the EPA has no justification to avoid the statute to reduce harmful emissions and protect the environment in order to address, according to the commenter (961), a perceived problem that in the commenter's (961) opinion is entirely within the jurisdiction of the FERC. The commenter (961) also argued that the proposed rule does not meet the requirements of the CAA and is not in compliance with other Federal regulations. Likewise, commenter 1134 said that the EPA runs afoul of its duty to protect public health. Commenter 1123 asserted similar statements and added that the contemplated exemptions under the proposed rule are unwarranted and represent a departure from the Agency's historical treatment of backup generators. Commenter 1076 also said that the EPA is not meeting the requirements under the CAA with this rule and has not provided justification for proposing a rule that would increase air pollution and health risks. Commenter 1076 asserted that if the settlement adopts the proposed rule, it would be a violation of the CAA because the CAA requires the EPA to consider the public interest before adopting a settlement agreement (commenter 1076 cited to 42 U.S.C. 7413(g) (stating the Administrator may withhold support of a settlement that is "inappropriate, improper, inadequate, or inconsistent with the requirements of this chapter.")).

In commenter 1076's opinion, the proposed rule also violates the Administrative Procedure Act because it lacks sufficient information to make a reasoned decision.

Since the proposed rule is based on erroneous assumptions that the provisions proposed will not lead to additional emissions impacts, the commenter (1134) stated that it would be arbitrary and capricious for the EPA to finalize the proposed rule as it currently reads. Commenter 1123 said the proposed rule is arbitrary and capricious and does not comply with the CAA. Commenter 961 also stated that the EPA has not proposed a rule that is consistent with the requirements of section 112 of the CAA, which directs the EPA to regulate HAP emissions from each category or subcategory that emits HAP. The United States Court of Appeals for the D.C. Circuit has further directed that the Agency cannot deviate from this statutory requirement and choose to exempt certain categories or subcategories of sources from regulation, in the absence of demonstrating that such exemption nevertheless comports with section 112 of the CAA. Two commenters (961 and 1123) do not believe that the EPA has

provided adequate cause for exempting emergency engines participating in DR programs to meet emission standards necessitating aftertreatment. Commenter 1076 disagrees that the rule has to be adjusted to accommodate requirements of various ISO and said that such a move has no basis in law and is an unnecessary capitulation to private interests. The commenter (1076) cited to the proposal where the Agency said that many commenters were concerned than 15 hrs/yr would be inadequate for participation in certain DR programs. The commenter (1076) said that the EPA's reasoning is inadequate and that the Agency's regulatory power is not limited by the requirements of ISO. According to commenter 1076, ISO minimum hour requirements were not developed under any obligation to meet the CAA and are not related to protecting the environment. The EPA should focus on its obligation to project the public and if a rule conflicts with ISO requirements, ISO should change their requirements, not the EPA, the commenter (1076) said. The commenter (1076) further said that the settlement clearly indicates that the ISO tariff compliance is not a requirement of the settlement and said that the settlement states that Petitioners will withdraw their lawsuit against the EPA is the Agency adopts a rule that is "substantially the same" as a rule that allows emergency DR for 60 hrs/yr of the minimum required by ISO tariff, whichever is less. The commenter (1076) argued that the EPA left out the key phrase "whichever is less" from the proposal, which actually indicates that the Petitioners were not primarily concerned with a particular ISO tariff. The commenter (1076) indicated that it does not understand why the EPA has imposed a prerequisite in the rule when the Petitioners made it clear that meeting ISO requirements is not a prerequisite for signing the settlement agreement. The commenter (1076) added that the original rule did not prohibit emergency diesel engines from participating in DR programs, only that these engines would have to install controls if they exceed 15 hrs/yr of operation. So, the commenter (1076) said, the only thing commenters can argue is that it makes it less lucrative to run dirty diesel engines.

As a policy matter, commenter 1134 viewed the settlement to be flawed, and commenter 961 asserted that the settlement agreement basically precludes the EPA from satisfying its obligations under the Administrative Procedures Act (APA) to provide full and complete opportunity for public participation in the regulatory process because the EPA has already essentially indicated that it has reached a decision prior to taking public comment by agreeing to specific terms in the settlement agreement. In the commenter's (961) opinion, the EPA has violated the obligations of the APA. The commenter (961) acknowledged that it understands that the EPA commonly will enter into settlement agreements to resolve various issues, however, historically these settlement agreements require the Agency to issue requirements consistent with general goals and the Agency has flexibility to propose language that meets the general goal; settlement agreements typically do not contain specific terms.

Therefore, the proposal departs from the precedent and the fundamental distinction in approach cannot be sanctioned under the public policy objectives embodied in the APA, the commenter (961) stated.

Commenter 1090 said that the EPA, unlike PJM and other RTO/ISO and FERC, has the authority and the responsibility to establish rigorous clean air rules to protect the public from harmful air pollution. The commenter (1090) said that it is the EPA's duty to develop a rule that can be feasibly implemented, is effective in protecting public health and avoids making arbitrary and capricious decisions. The commenter (1090) believes that the proposed rule fails to achieve these basic goals and requirements.

Response: The EPA does not agree that it has failed to comply with the requirements of the CAA. The EPA conducted a GACT analysis for emergency engines as part of the 2010 rulemaking and determined that add-on controls were not appropriate or cost effective for emergency engines. As discussed in the RTC 1.2.12, the few additional hours of use that may result from the additional permissible hours for emergency DR availability will not change that analysis, and the EPA does not generally consider the revenue generated from the operation of a source in determining whether an add-on control is cost effective.

The commenters did not provide information to support their contention that the EPA is not meeting the legal requirements of the CAA. On the contrary, the EPA has appropriately set MACT and GACT standards for these engines based on the requirements of the CAA, as discussed in the RTC 1.2.12. The EPA is not exempting any sources in the source category from regulation and has established work or management practice standards for emergency engines, and in addition, is requiring the use of ULSD for engines contracting to be available for emergency DR beyond the preexisting 15 hrs/yr.

Regarding the comments that EPA should not base its rule on ISO tariff requirements, though the EPA does believe that its rules should not prevent the use of emergency engines as part of emergency DR programs run by ISO, those requirements were not the only consideration. This is a nationwide rule that must account for the different scenarios under which these engines are operated, which includes emergency DR as well as local system issues such as when the voltage changes by 5 percent or more. As discussed in the RTC 1.2.4., the decision to allow 100 hrs/yr for such use was as much or more related to the needs of small and isolated local systems as it was to the requirements of any ISO tariffs.

The EPA does not agree with the comment that EPA did not provide full and complete opportunity for public comment, or that it lacks sufficient information to make a reasoned decision. As

discussed in the RTC 1.2.9, the EPA published a Federal Register notice in December 2010 soliciting comment on the limitation for emergency DR, and also held a public meeting in January 2011 to seek input on this issue. Moreover, the EPA published a proposed rule for this action containing the reasoning for the proposed revision (77 FR 33812) and had a public hearing on July 10, 2012. The EPA also has included numerous supporting documents for that proposal in the docket, and has added to the docket with comments and further supporting information as they have become available. The settlement agreement is consistent with numerous other settlement agreements the EPA has entered into in the past that provided specific provisions for proposal, it does not oblige the EPA to take final action promulgating the regulatory revisions as proposed, and only allows the litigants to reinstitute their litigation if the EPA decides not to final those changes. The EPA provided its reasons for proposing these changes as they apply to meeting its legal authority, and the EPA remained fully able to not finalize those changes, or to finalize them in a manner different from the manner proposed, if the public comments or other information led the EPA to that result. The EPA would not sign a settlement agreement that did not allow us the full ability to take final action different from that proposed. Indeed, the EPA has promulgated obligations for use of ULSD and reporting on engines using emergency DR that were not included in the proposal. Additionally, as discussed in section 2, the EPA has not finalized the provisions applicable to the "peak shaving" provisions that were proposed, based on the public comments it received.

1.3 Recommendations on Specific Regulatory Language

1.3.1 Comment: Two commenters (1082 and 1126) supported the proposed inclusion of local distribution system voltage support as a justification for running emergency RICE. The commenter (1082) noted that many industry standards compel utilities to maintain distribution system reliability, including providing a supply of electricity at a steady state, or nominal expected voltage. The commenter (1082) asserted that RICE units are one utility solution that can be used to correct local system voltage disturbances during emergencies that occur outside of the local utility's control. The commenter (1082) stated a utility can act by engaging its RICE unit(s) as needed to return distribution voltage to required levels and, thus, ensure essential public services are available during severe weather events.

The commenter (1082) added that the EPA was correct to include voltage support as an acceptable definition and criteria for local distribution system emergencies. The commenter (1082) asserted that low voltage levels can damage customer equipment and violate rules and standards. The

commenter (1082) believes that the EPA's proposed changes will provide utilities with the necessary ability to respond to emergencies by not limiting the use of all RICE units to periods when an EEA Level 2, as defined in the NERC Reliability Standard EOP-002-3, Capacity and Energy Emergency, has been declared by the ISO.

The commenter (1082) further asserted that there are system conditions under which imports from remote generation sources may not be either timely or sufficient to address emergencies. The commenter (1082) added that where there is an inability of the local distribution system to import generation from external sources, operation should not be limited to a set number of hrs/yr. The commenter (1082) argued that these operating emergencies are most likely to occur under severe system conditions that amount to force majeure or acts of God.

The commenter (1082) stated that emergencies may arise due to the loss of equipment on local distribution circuits, creating highly localized voltage limits that can only be addressed in the short term through either local generation or the shedding of retail customer load. The commenter (1082) suggested that these situations could be cited in a log kept as a record of emergency events. The commenter (1082) stated these circumstances are highly infrequent, but extremely difficult to prevent altogether, making an extended RICE operating exception reasonable under the circumstances. As a majority of its members are not NERC registered entities, according to the commenter (1082), under the EPA's current regulations, they could not run their RICE units for distribution voltage support when their third party transmission provider cannot provide an adequate voltage level. The commenter (1082) suggested that the EPA's frequency related trigger for emergencies should be made more applicable to real world situations. The commenter (1082) asserted that while the EPA's establishment of emergency triggering conditions at 5 percent for system voltage is correct, rather than using 5 percent as the triggering event for frequency related emergencies it would be more appropriate to use the following language:

"If a utility is required to respond to underfrequency or overfrequency conditions, or to shed load during an underfrequency load shedding event, the utility should be allowed to run their RICE units to bring back service to their customers while the interconnection is being rebuilt, or as needed to maintain proper frequency."

The commenter (1082) concluded that underfrequency situations are extremely rare and situational and that more flexibility is required in triggering criteria.

Regarding the 5 percent voltage or frequency deviation that the proposed rule specifies, one commenter (1073) is of the opinion that this criteria is not beneficial and the commenter (1073) believes that DR generation needs to be accessed prior to the bulk electric systems being jeopardized. According

to the commenter (1073), current under-frequency load-shedding programs used by electric utilities being to shed loads at a frequency of 59.5 Hertz. The commenter (1073) recommended that the EPA change the criteria in the final rule to a deviation of 5 percent to a deviation of 0.5 Hertz.

Regarding the proposed language in §63.6640(f)(2)(iii) concerning voltage or frequency changes, commenter 1043 deferred to and endorsed commenter 1082's comments. Commenters 976, 985, 986, 999, 1104, and 1018 indicated that they support the use of a voltage trigger in addition to the EEA level trigger, but are concerned that the 5 percent deviation would not always be sufficient in order to avoid or isolate system problems, especially for very small systems. In such cases, the commenter (1104) asserted, a lower percentage of voltage variance (perhaps 2 percent, as determined by the local distribution system operator or similar operational authority) might be needed to contain system disruptions and stop them from spreading to neighboring systems. The commenter (1104) stated that the proposed amendments appear to make no distinction between voltage and frequency and that frequency variations are extremely rare and situational, and therefore more flexibility is needed for any triggering criteria. If a utility is required to respond to underfrequency or overfrequency conditions, or to shed load during an underfrequency load-shedding event, commenter (1104) stated the utility should be allowed to run its RICE units to bring back service to its customers while the interconnection is being rebuilt, or as needed to maintain proper frequency.

One commenter (1091) supported the EPA's proposed revisions to the emergency condition language in §63.6640(f) that specifies the circumstance during which stationary emergency engines are allowed to operate for emergency DR purposes. The commenter (1091) stated that its activities are governed by a set of rules and rate schedules set forth by the Public Utilities Commission of the State of Hawaii known as the Hawaiian Electric Tariff ("Tariff"), which specifies that primary voltages will normally be no more than 5 percent above or below the nominal voltage. The commenter (1091) believes the proposed revisions related to voltage variation are consistent with the Tariff and would allow them to dispatch emergency stationary engines participating in its emergency DR program during periods where there is a deviation of voltage or frequency of 5 percent or more below standard voltage or frequency.

One commenter (1102) supports the proposal to incorporate periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency as a valid emergency condition.

Response: The EPA does not agree with the commenter that there should be no limitation on operation if there is an inability of the local distribution system to import generation from external sources. The commenter did not provide sufficient information or detail to show that these should be considered emergency situations. The EPA believes the allowance for deviations of voltage or frequency needs to be limited to verifiable emergency situations justifying the use of emergency generators. Limiting the hours for these types of events, where power has not been interrupted, to the preexisting 100 hours of use prevents these units from being used too frequently than their intended use and prevents power suppliers from relying too heavily on these engines intended for emergency use. Generators intended for extended use to supplement uninterrupted power can continue operation with the required controls. This is also true of engines that operators desire to be operated prior to emergency conditions. The commenter's suggested language related to the frequency trigger is not sufficiently specific or enforceable to be used as a standard in the rule. Similarly, the standard cannot be based on what each local distribution system operator determines is the appropriate trigger. The commenter who recommended a deviation of 0.5 Hertz did not provide information showing that this criterion could be applied broadly in a nationwide rule. The EPA notes that the preexisting allowance of 50 hours of non-emergency use continues and has been expanded slightly in this rule, which may allow for limited use of these engines prior to full emergency conditions.

1.3.2 Comment: In order to prevent uncontrolled emergency engines to operate under DR programs and receive payment by the ISO or RTO, but allowing operation of legitimate, reliability-driven DR and peak shaving, one commenter (1134) suggested that the EPA include the following to the end of proposed paragraphs §63.6640(f)(2)(ii) and (iii) and §63.6640(f)(4)(i):

"provided, however, that no operation shall be authorized pursuant to this paragraph (f)(_)(_) if any electricity generated by, or the capacity associated with, the emergency stationary RICE has been procured as a result of participation in an organized competitive market administered by an independent system operator or regional transmission organization and the owner or operator of the stationary RICE receives any payment or revenue as a result of such procurement, either directly from the relevant independent system operator or regional transmission organization or through a third party."

The commenter (1134) acknowledged that there could be unique situations associated with transmission constraints, load pockets and other conditions on the grid that would necessitate the

operation of certain backup generators to operate solely to address legitimate reliability concerns unrelated to the economic dynamics associated with competitive power markets. Therefore, the commenter (1132) said that the exemption provided by the rule should only be available for stationary emergency engines that serve exclusively for reliability and do not participate in ISO- or RTO-organized competitive wholesale market and receive revenue as a result of procurement of their resource in such market. The commenter (1134) does not believe that the above proposed recommendations are excessively burdensome because exempt engines would still have the 100 hour allowance for emergency DR participation if the DR program is not operated as a competitive market resource. Further, diesel engines could still participate in DR programs by meeting the non-emergency emission standards in the rule and the commenter (1134) disagrees with the EPA's statement that preventing stationary emergency engines from participating in these programs without installing aftertreatment could force owners/operators to leave their engines out of these programs. The EPA estimates that to install and operate controls on a 500 HP engines to meet the requirements of the rule would cost $14,000 as a one-time cost and $3,000 per year, the commenter (1134) said, however, under PJM, the clearing price for limited DR was $304.62 per MW-day. This means that a 500 HP (373 KW) engine could earn about $42,000 through participation in PJM's limited DR program for the 2015/2016 delivery year. According to the commenter (1134), this means that complying with the rule could involve a payback of less than 1 year, which in the commenter's (1134) opinion is obviously feasible and affordable for most engine owners.

In addition to the above recommendation, the commenter (1134) also proposed that the EPA include a self-certification requirement in the rule in order to ensure that engine owners and operators comply with the commenter's (1134) suggested limitation on the DR participation exemption. The commenter (1134) proposed specific rule language changes in the comment letter.

One commenter (994) that opposes the DR program said that proposed rule sections 40 CFR 63.6640(f)(2)(iii) and (f)(4), 40 CFR 60.4211(f) and 60.4243(d) should all be revised to limit emergency stationary RICE to those that are owned or operated by a cooperative electric utility or municipal electric utility. The commenter (994) added that previous comments submitted to the EPA by representatives of various cooperative electric utilities and municipal electric utilities defended the use of stationary RICE generators "as **a choice of last resort** (*emphasis added*) before either buying power on the spot market at potentially exorbitant prices, or needing to build additional capacity" (i) to respond to localized grid stability issues that are not easily recognized by the grid operator or (ii) as part of DR program to help maintain electricity rates as affordable as possible for their cooperative customers. Although the

commenter (994) believes that ambient air quality would ultimately benefit if cooperative and municipal electric utilities (i) purchased as-needed power from generators who operate in the spot market or (ii) constructed new generating capacity within their cooperative, the commenter understands that these entities operate primarily in rural areas of the country for which new generation is difficult to justify to the local electric utility regulators. Consequently, the commenter (994) would agree to support the proposed 40 CFR 63.6640(f)(2) and (4) with the changes outlined above.

Response: The commenter did not provide any information to support its suggestion that operation for DR or peak shaving was acceptable as long as the operation was not part of an organized competitive market administered by the ISO or RTO. The commenter did not show that engines participating in ISO/RTO emergency DR programs were not serving to maintain the reliability of the electric grid and that operation for that purpose could not fairly be considered an acceptable use for emergency engines.

1.3.3 Comment: One commenter (1001) stated that if the EPA finalizes the rule as proposed or with slight modifications, the EPA should clarify the definition of "emergency" in the rule to remove any uncertainty regarding the conditions under which RTO could call upon DR resources supported by RICE. The commenter (1001) supports the EPA's use of EEA Level 2 plus frequency or voltage deviations to define what should be considered as emergency DR for purposes of allowing RICE to participate in emergency DR programs for up to 100 hrs/yr; however, the commenter (1001) believes the following definition would provide greater clarity:

"owners and operators of stationary emergency engines can operate for emergency DR during periods in which the regional transmission authority or equivalent balancing authority and transmission operator has declared an EEA Level 2 as defined in the North American Electric Reliability Corporation Reliability Standard EOP–002–3, Capacity and Energy Emergency (and emergency DR is required) and during periods when the regional transmission authority or equivalent balancing authority and transmission operator have determined there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency (and emergency DR is required)."

The commenter (1001) believes the additional language will ensure the appropriate entity responsible for maintaining reliability is determining when there is an emergency, as well as limiting the operation of stationary emergency engines during emergency DR to only those times the resource is called in response to emergency conditions. The commenter (1001) further believes that the additional language it proposes would ensure the conditions coincide with the manner in which emergency

procedures are implemented in real-time operation, and provide certainty to RICE resources that they would be operating in compliance with the proposed rule if finalized.

Response: The EPA specified in the rule that emergency engines can operate for emergency DR when the Reliability Coordinator has declared an EEA Level 2 as defined in the NERC Reliability Standard EOP-002-3. This addresses the comment that the conditions under which the RTO could call upon DR resources supported by RICE should be clarified. The EPA does not believe it is necessary to add the phrase "and emergency DR is required" because the first part of the referenced sentence already specifies that the engine must be operating for emergency DR.

1.3.4 Comment: Two commenters (1054 and 1073) said that the EEA Level 2 alert that was proposed as one of the triggers for when emergency engines can be used for DR is unnecessarily stringent and may lead to reliability problems in some areas. The commenter (1073) said that this threshold is too late and that load management measures have already begun before EEA Level 2 has been reached and the system is still in Level 1 alert status. Waiting until Level 2 is declared jeopardizes system reliability, according to the commenter (1073) and can result in problems on the local level. The commenter (1073) asserted that "The occasional, temporary use of standby generation capacity is a key reliability tool that should not be restricted unnecessarily." The commenter (1073) strongly urged the Agency to not define a specific alert condition for the allowed use of emergency generators for DR conditions. The local system operator is the best entity to determine whether or not standby emergency generation is needed during an emergency DR situation, the commenter (1073) said. If the EPA must set a level, then the commenter (1073) recommended that the Agency use EEA Level 1 and actions take during that alert level will help prevent EEA Level 2 from being triggered. Commenter 1054 said that it was supportive of the voltage/frequency trigger, but also requested that EEA Level 1 be used instead of EEA Level 2. Two commenters (918 and 1043) specifically endorse the language that allow emergency engines to operate for DR purposes when an EEA Level 2 has been called. According to the commenter (1043), EEA Level 2 status is rarely declared, however, in these rare instances that EEA Level 2 is called, procedures are taken very seriously by RTO and transmission operators. There are strict reporting requirements that must be followed in these cases and information must be submitted to NERC about what happened, the cause and steps taken to mitigate the situation.

Response: The EPA does not agree that EEA Level 1 is the appropriate trigger for operation of these engines for emergency DR. The intent of the rule is that the engines should be operated for emergency DR when a blackout is imminent, and the commenters did not provide information to show that an EEA Level 1 alert corresponded with an imminent blackout. The EPA also does not agree that the rule should not define a specific alert condition; a lack of a specific condition would make the regulation very difficult to enforce and more susceptible to abuse.

1.4 Allow Local Balancing Authority to Determine Emergencies

1.4.1 Comment: Several commenters (975, 977, 979, 996, 997, 1003, 1007, 1008, 1015, 1019, 1022, 1024, 1029, 1034, 1035, 1049, 1052, 1056, 1060, 1061, 1078, 1079, 1083, 1097, 1110, and 1111, 1119, 1127, 1150, 1169, 1317, 1318 and 1319) requested that the EPA allow the local balancing authority to determine when stationary emergency engines should be operated. Commenters expressed that many systems do not operate under the ISO/RTO governance and that jurisdiction rarely extends to local small transmission lines and never extends to distribution lines. Therefore, commenters made the recommendation that the local balancing authority, transmission operator, or local distribution system in these cases should determine when the electric service is in jeopardy in order to prevent local system failures and maintaining system reliability.

One commenter (1056) was concerned with some of the specific language in the proposed rule, and although the commenter (1056) was generally supportive of the proposed changes and rationale, the commenter (1056) nevertheless recommended that the EPA include situations where the local balancing authority or transmission operator within the electric system determines that the electric reliability including power quality is in jeopardy. This is necessary to add the commenter (1056) said because many of its members do not operate under ISO/RTO governance and instead follow state or local regulatory requirements. In addition, ISO and RTO alerts are triggered based on regional problems with the grid and ISO and RTO jurisdiction rarely if ever covers smaller transmission lines and never extends to distribution lines, the commenter (1056) said. Regional grid reliability is essential, however, about 42 percent of the nation's distribution lines are owned by electric cooperatives that serve rural consumers and is managed by the local authority, the commenter (1056) said. Therefore, the commenter (1056) believes the changes recommended are appropriate. Also, the commenter (1056) is of the opinion that the proposed 5 percent voltage or frequency deviation is not sufficient to address rural distribution system operation. Specifically, waiting until a 5 percent voltage drop has occurred is too late for many rural electric systems, in the commenter's (1056) opinion. For instance, at the point where there is a 5

percent drop at the substation, there could possibly be more significant effects along other segments of long distribution lines, the commenter (1056) said. There is not one location or even several locations where voltage readings are indicative of overall line stability and in commenter 1056's opinion, the local/regional balancing authority needs to be able to quickly address these situations in order to prevent the 5 percent voltage sag to occur as opposed to waiting for it to happen at a point on the line. Therefore, the commenter (1056) reemphasized the need to allow the local balancing authority, transmission operator or local distribution systems to activate emergency engines as necessary in order to maintain system reliability and power quality. In the commenter's (1056) opinion, any such activation should follow a developed emergency operating plan and be according to the expert judgment of the relevant balancing authority or local authority. The commenter (1056) said that this is consistent with how NERC manages the actions of the local balancing authorities. The commenter (1056) agrees that it is appropriate to include EEA Level 2 alerts as one of the criteria, but this only addresses half the problem. The EPA must allow local balancing authorities reasonable discretion to use engines to address emergency situations, DR and load management issues at the local level.

Response: The EPA agrees with the commenters that it is appropriate to include additional situations where the local transmission and distribution system operator has determined that there are conditions that could lead to a blackout for the local area. However, the conditions and language provided by the commenters are not sufficiently specific or narrow such that the EPA can be assured that these engines will only be used in emergency situations. For instance, some situations may be the result of known lack of capacity or transmission to the local system that can be planned for rather than using emergency engines. The EPA does, however, believe that emergency engines can be appropriately used in such situations, if limited to the pre-existing 50 hour allowance for non-emergency use and if operation is limited to specified conditions and reporting and recordkeeping requirements are included to prevent abuse. The EPA is also requiring that beginning on January 1, 2015, engines engaging in this newly promulgated flexibility only acquire ULSD for use in these engines, given the clear emission benefits and cost-effectiveness of such fuel. Therefore, in recognition of the unique challenges faced by the local transmission and distribution system operators in rural areas, the EPA is specifying in the final rule that existing emergency stationary RICE at area sources can be used for 50 hrs/yr as part of a financial arrangement with another entity if all of the following conditions are met:

- The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

- The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- The power is provided only to the facility itself or to support the local transmission and distribution system.
- The owner or operator identifies and records the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

Engines operating in systems that do not meet these conditions will not be considered emergency engines if they operate for these purposes as part of a financial arrangement with another entity. In order to mitigate the impacts of the emissions from these engines, the final rule specifies that stationary emergency CI RICE with a site rating of more than 100 brake HP and a displacement of less than 30 l/cyl located at area sources that operate for this purpose are also required to use diesel fuel meeting the specifications of 40 CFR 80.510(b) beginning January 1, 2015, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. Owners and operators of these engines are also required to report the dates and times the engines operated for this purpose annually to the EPA, beginning with operation during the 2015 calendar year. The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. This information will be used by the EPA, as well as state and local air pollution control agencies, to assess the health impacts of the emissions from these engines and to aid the EPA in ensuring that these engines comply with the regulations.

1.5 Clarifications/Other

1.5.1 Comment: One commenter (1104) stated the EPA should increase the amount of non-emergency hours in consideration of system maintenance and improved reliability. The commenter (1104) is concerned that the rule does not adequately allow for the use of RICE units for system maintenance under the "emergency" designation. Under the new rules, according to commenter (1104), they would not be able use "emergency" RICE units when radial lines and transformers periodically have to be taken out of service for routine maintenance, because those functions (i.e., maintenance actions taken to

prevent a complete outage) do not meet the rule's "emergency" definition. When such maintenance occurs, the commenter (1104) argued, the local generation is the only means of providing power to customers. The commenter (1104) stated that a utility with a RICE unit can keep power flowing even when disconnected from the larger electric system, and also allow essential public services to continue to serve the community during planned outages and maintenance conditions, and asserted that this is another reason why the EPA should increase the number of hours allowed for non-emergency use of RICE units beyond the 50 hours currently allowable.

Two commenters (1040 and 1041) said they are unsure what situations would be considered emergency under the current definition and ask that the EPA clarify which situations would be considered emergency and non-emergency under the rule. The commenters (1040 and 1041) asked for flexibility to use 100 hrs/yr for any reason and this would resolve the issue.

Response: The commenter did not provide any information to show that an increase of the limit of operation for non-emergency situations is justified. The requirements for emergency engines are generally less stringent than those for non-emergency engines, based on the limited operation of emergency engines, and it would not be appropriate to include a provision for increased use of emergency engines in non-emergency situations in the final rule. Operation of these engines resulting from routine maintenance of other units is not emergency operation, but instead is operation that can be planned for ahead of schedule and that can and should be met using power sources that are not reserved for emergency use. While the EPA has allowed a very limited allowance of 50 hrs/yr for non-emergency use, further use of these engines in non-emergency situations that can be planned for is not appropriate. Local utilities that wish to use such engines as backup in non-emergency situations should meet the requirements for non-emergency engines.

1.5.2 Comment: One commenter (1104) stated that while the proposed amendments would permit revenue generation in context of the allowance for peak shaving and other non-emergency use, the current rule's underlying limitation on the operation of emergency RICE units to 50 hours for non-emergency purposes that do not generate revenue is problematic as it fails to make a distinction between activities that are undertaken for reliability purposes, but which also generate revenue, and activities that are undertaken for purely economic purposes. Additionally the commenter (1104) believes that the current rule's concept of "receiving revenue" is vague. The commenter (1104) asserted that if a municipal utility "sells" its BTM generation as capacity to the RTO under the emergency DR program,

it receives credit for the capacity, but that credit simply offsets the capacity payment that the municipal utility is charged for its load. The commenter (1104) urged the EPA to permit such capacity payments to units that are participating in such RTO programs.

Response: The commenter did not provide any information about the type of use the engine is operated for when receiving the capacity payment, or any justification that it would fairly be considered appropriate emergency use of the engine.

1.5.3 Comment: One commenter (1104) stated that because of the relatively narrow definition of "emergency" under the rule, many RICE units that perform critical functions to local municipalities appear to be captured by the rule, perhaps inadvertently. For example, commenter (1104) noted that RICE units are often used at local water plants and wastewater treatment plants, and as aids to start up larger EGUs following maintenance outages or to start intermediate or peak load combustion turbines, and are essential to the continued safe operation of the facilities they support, which in turn are essential to the health, safety, and public welfare of local citizens. The commenter (1104) asked that the EPA consider the following options: (1) include such critical health and safety functions under the "emergency" definition of the rule, (2) create a new classification for these critical units to allow them to operate without modification, or (3) increase the hours of operation for units that are currently classified as "non-emergency" under the rule.

Response: The commenter did not provide any detail about the usage of the engines at local water and wastewater treatment plants and whether or not the use was limited to emergency situations. The rule specifies that emergency engines can be used for up to 50 hrs/yr for non-emergency situations, so to the extent that the engines are needed for non-emergency purposes, there is already an allowance for that in the rule, as well as for engines used to start up combustion turbines. The EPA needs to assure that it does not allow emergency engines (subject to less stringent requirements) to be used for general non-emergency purposes. General use engines need to meet the requirements for general use engines.

1.5.4 Comment: One commenter (1104) stated that the EPA has not adequately understood the circumstances leading up to or following various electrical system emergencies that tend to involve RICE units. For example, commenter (1104) stated that an "emergency" should not be limited to a network outage, but should also include actions taken by RTOs or local operators to prevent outages,

even if local operators get compensated for this service. The commenter (1104) believes that an expansion of the conditions or circumstances of emergency would better enable compliance with the new rule by allowing the municipal utilities (and other electric utilities) to run their units to address critical local and regional electric system stability issues.

Response: The commenter did not provide any detail regarding the actions taken by system operators to prevent outages. The final rule provides for situations where the RTO has taken measures to prevent an outage through the use of emergency DR in EEA Level 2 situations.

1.5.5 Comment: One commenter (1002) asked the EPA to consider a provision for use during extreme temperature conditions because these are critical times when limitations on emergency generator use could endanger human health and welfare and should not be considered when counting hours against the 50/100 hours allowance. Two commenters (1023 and 1025) also requested flexibility in defining "non-emergency activities" such as weather-related emergencies, downed power poles or frayed transmission lines. Commenter 1023 and 1025 said that it is unclear whether such situations would be considered emergency or non-emergency and said it was not clear on what type of non-emergency operation would fall under the permitted 50 hrs/yr.

Response: The EPA is unclear how the commenters' concerns are related to emergencies. Emergencies are based on the ability to access other power and whether the system is in severe distress. Extreme temperature conditions may or may not coincide with such power emergencies and the EPA cannot allow a catch-all provision for weather that has no specific relation with the emergency conditions requiring emergency engine use. The commenters did not argue that they are unable to put on aftertreatment on their engines and unless there are feasibility issues related to the concerns the commenters bring up that were not mentioned, these engines could be equipped with aftertreatment and meet the non-emergency standards in the rule and operate without hour limitations. So regardless of the situation, again, use of these engines outside of clear emergency parameters can be accomplished by meeting the requirements for non-emergency engines.

The EPA has fairly specific definitions for what is an emergency situation and what non-emergency situations meet the restrictions for the 50 hour allowance. The final rule includes a clear definition of stationary emergency RICE in §63.6675 and the specific criteria emergency engines must meet in order to remain being considered an emergency engine are in §63.6640(f) of the RICE

NESHAP, and in §§60.4211(f) and 60.4243(d) of the CI NSPS and SI NSPS, respectively. While the EPA cannot have provisions that specify every potential situation, it is possible for operators to contact permitting authorities in unclear cases.

1.5.6 Comment: One commenter (1102) said that the rule should ensure that the definition of emergency is precise and limited to true emergency events, such as power outages and voltage or frequency deviations. The commenter (1102) explained that in a true emergency, add-on controls using a catalyst take time for the engine exhaust to reach optimal temperatures for pollution abatement to occur, and emergency engines intended to be operated unexpectedly and rarely should not be forced to install add-on controls. However, the commenter (1102) concluded, the same considerations do not apply during times that are not true emergencies.

Response: The EPA agrees with the commenter and has made the definition as precise as possible and is limited to emergency events.

1.5.7 Comment: One commenter (1004) did not indicate that it was in favor of or against the proposal to allow 100 hrs/yr for emergency DR and is neutral on the specific number of hours emergency engines should be allowed to operate for DR or peak shaving. However, the commenter (1004) is strongly against increasing the number of hours in the final rule allowed for non-emergency purposes.

Response: The final rule does not increase the number of hours allowed for non-emergency purposes.

1.5.8 Comment: One commenter (1043) indicated that it is very supportive of the language proposed by the EPA in §63.6640(f)(2)(i), specifically the language that allows emergency stationary RICE to be operated for maintenance checks and readiness testing, provided that the tests are recommended by a number of different entities including the "regional transmission authority or equivalent balancing authority of transmission operator." In the commenter's (1043) opinion, the latter quoted part of the language will make it clear that the audits required for DR programs are approved under this section of the rule (and in the NSPS) and are allowed under the 100 hrs/yr limit.

Response: No response necessary.

1.5.9 Comment: One commenter (969) said that the states that assume primacy over the program be allowed, through rulemaking, to permit the use of emergency generators, at a minimum, a full 100 hours to include DR, peak shaving as well as testing and maintenance. The commenter (969) is concerned that the extreme air temperatures in their region can cause energy generators to be used more frequently. The commenter said that the proposed 50-hour limit is not compatible with past experience that has shown that more hours may be needed during extreme weather conditions.

Response: The EPA does not agree with the commenter that it would be appropriate to delegate the authority to set the standards to entities besides the EPA. It is the EPA's authority to set emission standards under the CAA and all those who implement enforcement authority must be bound by the standards the EPA promulgates.

2.0 Peak Shaving Allowance of 50 hrs/yr

2.1 General Support or Opposition to Proposed Peak Shaving Allowance

2.1.1 Comment: Several commenters (872, 873, 876, 879, 902, 909, 914, 915, 916, 918, 941, 942, 945, 947, 950, 951, 952, 956, 960, 967, 969, 970, 971, 975, 976, 985, 986, 988, 989, 995, 997, 999, 1003, 1007, 1008, 1014, 1015, 1017, 1018, 1019, 1021, 1022, 1023, 1024, 1029, 1034, 1035, 1039, 1040, 1041, 1043, 1048, 1049, 1052, 1053, 1056, 1059, 1060, 1061, 1064, 1073, 1079, 1082, 1091, 1110, 1111, 1113, 1118, 1119, 1128, 1143, 1146, 1196, 1326, and 1457) indicated that they are supportive of the temporary allowance to permit emergency engines located at area sources to spend 50 hrs/yr towards non-emergency operation, including peak shaving. One commenter (1128) asked that the allowance be extended to major sources as well.

With respect to work practices for peak shaving at area sources, one commenter (1082) asserted that the EPA is authorized to prescribe GACT rather than MACT for such sources. Work practices, the commenter (1082) stated, clearly constitute GACT for area source engines used for a limited amount of peak shaving in any given year. One commenter (1082) supported the proposed new provisions authorizing affected engines to operate up to 100 hrs/yr for emergency DR purposes without triggering a requirement to install aftertreatment on the affected units; and authorizing operation for up to 50 hrs/yr for peak shaving without triggering a requirement to install aftertreatment on the affected units if done as part of a peak shaving or load management program with the local distribution system operator. The commenter (1082) stated it is appropriate for the EPA, when setting MACT standards, to anticipate the potential effects of the standards on grid reliability. The commenter (1082) agreed that a requirement to install aftertreatment likely would cause many affected sources to decide to opt out of DR programs or even to shut down their affected engines given the high cost of installing and operating such systems and the relatively low utilization of the engines that would be covered by the proposed provisions. The commenter (1082) stated this could have a detrimental impact on grid reliability, especially in systems served by its members, where local generating assets tend to be much more limited as compared to the larger systems typically supported by investor owned utilities. Also, according to the commenter (1082), the proposed allowances for emergency DR and peak shaving are narrowly tailored such that these engines will continue to be available to support grid reliability, yet should not be expected to have any significant impact on health or the environment given the very low operating hour caps. The commenter (1082) added that the EPA has ample authority to adopt the proposed provisions. The commenter (1082) stated that the language proposing to allow utilities to apply the 50 hrs/yr currently allowed under

§63.6640(f) for non-emergency operation towards any type of non-emergency operation, including peak shaving and non-emergency DR, is necessary relief for certain situations that will inevitably occur as a result of the new EPA steam electric generating units rule set. The commenter (1082) asserted that due to their high cost of operation, many utilities have little financial incentive to run their RICE units unless absolutely necessary. The commenter (1082) believes that in the next 5 years peak shaving will be needed to alleviate the volatile pricing and energy scarcity situations that are likely going to occur in certain parts of the United States. The commenter (1082) further believes that the proposed runtimes allotted under the proposed rule will now meet the minimum standards set forth by various RTO and the emergency needs faced on-the-ground by public power utilities. The commenter (1082) stated the EPA is justified in increasing non-emergency hours in consideration for distribution system maintenance and local system reliability. The commenter (1082) asserted that public power systems also use RICE units for support during critical transmission and subtransmission (distribution system) system outages. As such, the commenter (1082) is concerned that the new rules will preclude the use of emergency RICE units for line maintenance and believes the EPA's proposed language alleviates some of these concerns. The commenter (1082) believes the current rule limiting emergency RICE units to 50 hours of operation for non-emergency purposes that do not generate revenue is too problematic to be implemented without high additional cost to normal operations. The commenter (1082) argued that without the EPA's proposed changes, they might not be able to use emergency RICE units when radial lines and transformers periodically have to be taken out of service for routine maintenance. When such maintenance occurs, the commenter (1082) explained, the local generation is the only means of providing power to customers; otherwise, the local distribution system would go dark. The commenter (1082) stated that using RICE for planned maintenance is a key reason it supports the increase in the number of hours allowed for RICE engine non-emergency use.

Commenters 872, 873, and 879 agreed with the EPA's conclusion that by not allowing engines to also participate in non-emergency or peak shaving would lead to larger environmental and public health impacts due to an increase in central power station capacity and possibly more transmission and distribution line capacity to accommodate the increase in demand resulting from eliminating small emergency engines from being used. Commenter 1064 said that peak shaving and emergency DR are both valid emergency use. Commenter 1143 agreed that the allowance will have significant environmental and reliability benefits by providing important grid support while sources are coming into MATS compliance. The commenter (1143) also believes the 50 hrs/yr allowance will cause no environmental impact since it is contained with the 100 hrs/yr allowance.

One commenter (1043) said that as investments are made to reduce peak electricity demand, this will lead to less constraints on the electric grid and therefore lowering the need for emergency DR. Therefore, commenter 1043 stated, as future investments are made, the amount of time emergency engines are needed in the future to address electricity peak shaving and grid stability should decrease.

One commenter (876) stated they participated in a Burlington Electric Department (BED) initiative to reduce electrical demand associated with peak-load times. When notified by BED, the commenter (876) eliminates all non-essential electrical usage (such as redundant hallway lighting and air conditioning in non-patient care areas) and goes onto emergency generator power. The commenter (876) stated that the financial impact of this program is significant, because they are able to avoid thousands of dollars worth of peak surcharges, and also get reimbursed by EnerNOC for their load curtailment and DR actions at nearly $80,000 last year. The commenter (876) also stated that this program also reduces the need for Vermont utilities to purchase very expensive power at peak times from the already taxed and primarily non-renewably-generated regional grid.

One commenter (947) said that backup diesel generators are an important component in communities' response to power supply emergencies such as storms. Several of the commenter's (947) members that use these generators under the peak shaving program are schools or key community centers, which serve as emergency shelters during such events. The commenter (947) added that the peak shaving program has made it possible to afford these expensive emergency backup systems, but the financial feasibility is very limited and cannot withstand more cost. According to the commenter (947), the cost benefit ratio realized when requiring the retrofit of expensive emission control systems on systems that operate only a few hundred hrs/yr is poor investment of members' limited financial resources. The commenter (947) asked if the EPA calculations were based on these limited operating hours. The commenter (947) concluded that mandating rules that cause members to exit peak shaving programs will not only disadvantage co-op members, but will also curtail their ability to use renewable resources.

One commenter (1113) described concerns that reliability issues may be disproportionally experienced in their region, where the vast majority of generation capacity is coal-fired and that efforts to provide additional generation resource options is appreciated.

In contrast, several commenters (961, 1067, 1072, 1076, 1077, 1099, 1101, 1102, 1122, 1123, 1125, and 1134) are strongly against the allowance to permit emergency engines located at area sources to spend 50 hrs/yr toward economic DR activities. Commenter 1076 said that this inclusion is inexplicable, arbitrary and capricious. Commenter 1134 added that this is a new exemption, which

allows emergency engines to participate in economic DR for 50 hrs/yr, a provision that was not even contemplated in the 2010 rule or in the DR aggregators' petition for reconsideration of the rule. Commenter 1101 asserted similar statements and said that these amendments would lead to increased HAP emissions, harm public health, and discourage investments in clean energy. The commenter (1101) also argued that these amendments are indefensible because the EPA has not justified the rule because there is no quantitative data on the amount of engines that would be affected, where these engines are located, and how often the engines are operated. Commenter 1067 said that peak shaving and similar programs do not address emergency conditions and only result in economic benefit for the participant and the rule should not allow these engines to operate without controls.

Two commenters (1076 and 1123) said that this allowance is not needed and commenter 1076 added and that the EPA provides no evidence to the contrary, and the commenter (1076) does not agree with the Agency's logic that if the 50-hour allowance is not appropriate in the future, i.e., past 2017, it would not be needed or appropriate now either. The alternative methods to peak shaving that the EPA refer to are readily available and should be take advantage of, the commenter (1076) said. Commenter 1099 said that the EPA has not provided an adequate basis supporting that the allowance would lead to increased system reliability, a complete analysis of the harmful environmental impacts, and support that the proposal would lead to a decrease in the total costs to consumers. The proposed allowance, would, according to commenter 1099, result in an increase in emissions because it will displace cleaner energy resources and would discourage the use of DR resources that actually curtail load rather than plainly shifting from grid-source power to BTM generation. The allowance is not necessary for electric reliability, as stated by the Agency, who has also otherwise indicated that MATS would not create reliability problems, the commenter (1134) stated. The commenter (1134) cited to a fact sheet[36] published by the EPA that indicated that 4.7 gigawatt (GW) (less than one half of one percent) would retire out of more than 1,000 GW of the nation's generating capacity as a result of MATS. Also, the commenter (1134) noted that the EPA has recognized that there are sufficient other currently available options to replace the generating capacity that would retire due to MATS. Commenter 1101 agreed that the only justification the Agency has offered, i.e., that electric reliability could be compromised, is contradicted by the record. Commenter 1123 argued that even though the EPA could argue that the 50

[36] EPA, Fact Sheet: Mercury and Air Toxics Standards, Clean Air and Reliable Electricity, at 1 (2012), available at: http://www.epa.gov/airquality/powerplanttoxics/pdfs/20111221MATScleanairreliableelectricity.pdf; see also 77 Fed. Reg. 9407.

hrs/yr exemption is appropriate and needed for rural areas, the Agency has not explained why such an exemption is necessary on a nationwide basis and the broad exemption has not been justified.

One commenter (1102) said that it is inappropriate to facilitate the operation of engines for peak shaving operations without appropriate controls for any period of time when it is possible that those uncontrolled engines may displace generation that has incurred the cost of appropriate emissions controls. According to the commenter (1102), this "rewards" the owner or operator of uncontrolled engines, results in increased emissions on poor air quality days and delays installation of emission controls or the construction of new generation meeting more restrictive emissions limitations. The commenter (1102) said that the EPA's statement that facilitating peak shaving is needed to add flexibility to the electric generation industry's ability to meet the deadline to comply with the EPA's NESHAP from Coal and Oil-Electric Utility Steam Generating Units. However, the commenter (1102) noted that the preamble to that NESHAP stated that the EPA believes that the impact on reliability of the coal and oil electric utility NESHAP will be very small or nonexistent. According to the commenter (1102), the EPA appears to be less sure that other promulgated EPA regulations will not impact electric grid reliability and is willing to expand the operation of engines with relatively uncontrolled emissions to help address the uncertainty.

The commenter (1125) said that the excess emissions resulting from this peak shaving allowance would be problematic for Connecticut and other states with marginal ozone non-attainment areas. According to the commenter (1125), these areas face a 2015 attainment deadline and should not be subject to an additional emission burden as they strive to reach timely attainment.

One commenter (1125) said that a broad use of emergency engines for non-emergency purposes is evidence of poor energy planning policies by a regional system operator and should be discouraged. The commenter (1125) added that DR can be met successfully with highly cost effective energy programs, even on HEDD.

Response: The EPA received some comments supporting the proposed limited temporary provision for peak shaving, while other commenters opposed the provision. The EPA has considered all of the comments, and agrees with the commenters who indicated that it would not be appropriate to include a limited temporary provision for peak shaving. As noted by the commenters, operation for peak shaving does not fairly come under the definition of emergency use as it is designed to increase capacity in the system, rather than responding to an emergency situation such as a blackout or imminent brownout. The EPA believes that peak shaving activity and other activities designed to increase capacity should be

treated as part of long term capacity planning, not as use akin to emergencies. The EPA agrees with commenters who state that allowance for emergency engines to be used for peak shaving could well lead to increased use of these engines, particularly in situations that are not emergency situations. The EPA also agrees that use of internal combustion engines for peak shaving is not based on emergency use, but instead is generally based on the economic benefit gained by operating the engine rather than another power source. The EPA agrees with the commenters that there is not sufficient information on the record to show that these engines are needed to maintain reliability while facilities are coming into compliance with MATS, and the commenters who supported the limited temporary provision did not provide information to show that MATS would cause reliability issues that necessitate the operation of these engines. The EPA believes that given this information, it is appropriate to treat use of internal combustion engines as peak power units, not as emergency use, but as normal power generation, and thus believes it is appropriate to require emissions aftertreatment requirements (or similar controls) for engines engaging in these activities for compensation. Regarding the commenters who indicated that the operation of the engines should be allowed during planned maintenance of lines or transformers, the EPA notes that the engines could be used for this purpose under the 50 hours already specified in the rule for non-emergency use.

2.1.2 Comment: One commenter (943) noted that emergency engines located at major sources have been excluded from the 50 hour allowance for peak shaving and DR. Commenter 943 believes that the EPA should not exclude RICE at major sources from this allowance. One commenter (991) said that the EPA should not eliminate the provision allowing *new* emergency RICE located on area sources of HAP to be used up to 50 hours in non-emergency situations. The commenter (991) said that this is a significant change and is inconsistent with the fact that the proposed rule allows both *new and existing* emergency RICE on *major HAP sources to use the limit,* but only by *existing* emergency RICE on *area sources.* The commenter (991) recommended that instead of addressing major sources of HAP in §63.6640(f)(3) and area sources in §63.6640 (f)(4), paragraph (f)(3) should provide the 50-hour allowance to all new and existing units at both major and area sources of HAP and paragraph (f)(4) can provide the new temporary peak shaving allowance to existing stationary RICE located on area sources. The commenter (991) added that the EPA should correct a related cross reference in the definition of emergency stationary RICE in §63.6675. The commenter (991) provided suggested regulatory text for these changes.

Response: The EPA is not finalizing the proposed allowance for peak shaving and is not allowing peak shaving at all anymore. Therefore, there is no inconsistency. However, note that engines at major sources and new engines are subject to more stringent requirements under the law than existing engines at area sources, and there are flexibilities one can allow for existing engines at area sources that cannot be justified for new engines or engines at major sources. Also, to clarify, the EPA did not allow new or existing engines at major sources to peak shave at proposal. The June 7, 2012, proposal only proposed a temporary provision for existing stationary emergency engines located at area sources to operate for 50 hrs/yr for non-emergency operation towards any non-emergency operation, including peak shaving. The proposed provision in §63.6640(f)(3) for major sources did not allow peak shaving and the proposed allowance in §63.6640(f)(4) was only for existing area sources. Neither proposed allowance allowed any new engines to peak shave.

2.2 Revisions Needed to Peak Shaving Operational Period

2.2.1 Comment: Although commenters 872, 879, 902, 937, 939, 943, 947, 967, 971, 975, 997, 1003, 1007, 1008, 1014, 1015, 1019, 1021, 1022, 1024, 1025, 1034, 1035, 1037, 1038, 1039, 1040, 1041, 1045, 1049, 1052, 1059, 1060, 1061, 1063, 1065, 1072, 1079, 1078, 1083, 1097, 1110, 1111, 1118, 1128, 1129, 1138, 1196, 1315, 1326, and 1445 were generally supportive of the proposed peak shaving allowance, they asked that 100 hrs/yr be provided for emergency engines be allowed to be used for any purpose. Others (967, 969, 971, 988, 995, 1023 and 1025) said that there was no reason for the EPA to limit load management operation to 50 hours. Some commenters (969, 1023, 1025, 1037 and 1072) said there is no difference in HAP emissions from the various uses and that the EPA indicates no adverse health or environmental impacts from operating up to 100 hours. According to one commenter (1063), emergency RICE operated for peak shaving do not have materially different emission rates than emergency RICE operated for DR or some other non-emergency operation, and any difference in emissions, assuming it exists, has not been incorporated into the EPA's analysis of the rule's costs and benefits.

One commenter (1072) added that the distinction between area sources and major sources in allowing peak shaving for emergency engines is confusing because an emergency engine can exist at either source type and both source types already have the allowance of 100 hours of non-emergency operation in the current rule. One commenter (1037) said that allowing flexibility under the 100-hour cap would address gaps in the definition of emergency use faced by operators. One commenter (1063)

added that the additional complexity of the proposed approach is significant, and these specific limitations create an unnecessary risk of non-compliance because the individual requirements for maintenance, DR, peak shaving, and other non-emergency operation do not change the basic fact that the EPA allows emergency RICE up to 100 hrs/yr for non-emergency operation, and unlimited operation during emergency situations, and the emissions associated with this level operation.

Commenter 960 requested that the proposed allowance for peak shaving or non-emergency DR in §63.6640(f)(4)(i) instead be included within the allowable types of operation in §63.6640(f)(2). The commenter (960) recommended that those two types of operation would count toward the 100-hour total limit for emergency engines (until April 16, 2017), but would not have a 50-hour limit on its own. In the commenter's (960) opinion, this would be particularly useful for sources in New England to provide operational flexibility and contractual compliance during the 2012-2017 transitional period. The commenter (960) explained that engine electric contribution to the grid is conducted under various agreements, which may require the engine to act to stabilize the grid, serve load in an outage, serve load in a capacity deficiency, or serve non-emergency load during periods of high demand. Therefore, a current financial agreement with ISO-NE may require the engine to serve for different purposes such as either EEA Level 2 emergencies, 5 percent voltage drops or for non-emergency peak shaving or load management. For that reason, it would be helpful to be allowed all such operation within a 100-hour total limit, until the proposed allowance expires in 2017, according to the commenter (960).

Although commenter 988 expressed support for the proposed peak shaving allowance, it does not believe the 50 hrs/yr is sufficient for load management activities and believes that the EPA can and should do more for load management activities that provide an economic benefit to the poultry industry. Particularly the commenter (988) felt this is justified because EPA's analysis has shown no adverse human health and environmental impacts based on operation for up to 100 hrs/yr.

Commenter 914 is in favor of the peak shaving allowance, but requested that the EPA provide a total of 300 hrs/yr for all emergency use. Commenter 916 said that in its experience participation in peak shaving programs can require the engines operating for more than 50 hrs/yr and therefore asked that the peak shaving allowance be set at 200 hrs/yr. The commenter (916) argued that 50 hrs/yr will increase the burden for operators and expose owners to the risk of accidental non-compliance and speculated that some owners might abandon their load management programs and give up the compensation they could have received in exchange for ease of operation and peace of mind. However, the commenter (916) said that rural electric cooperatives rely on these engines to reduce demand during high usage times.

Commenter 909 said that it operates several engines for non-emergency DR and that this change is needed. However, according to the commenter (909), most non-emergency DR programs require that engines be available for 1 percent of the total possible operating time, or 88 hrs/yr. Therefore, the commenter (909) asked that the EPA either include non-emergency DR within the current 100 hrs/yr allowance and permit engines to be run for any reason or alternatively increase the 50 hrs/yr to 88 hrs/yr. One commenter (1146) said that the peak shaving allowance should be increased to 250 hrs/yr, which it believes reflects the realities of peak shaving operations because of high summer temperatures and drought conditions. Commenter 918 asked that the 50 hrs/yr for peak shaving be made part of the total 100 hrs/yr that could be used for other purposes. Commenter 1118 stated this would add flexibility to help minimize electricity costs and increase reliability without adversely impacting the environment or health. Commenters said that the EPA has provided no justification why this provision is limited to 50 hrs/yr, as opposed to allowing 100 hrs/yr.

One commenter (950) requested that, if it is not possible for the EPA to allow for 100 hours of emergency use per year, with no sunset date, that the EPA allow engines involved in non-emergency DR be added to listed exemptions if 1) compensation is limited to reimbursement of operating, maintenance and repair cost, 2) standby and/or emergency generation is otherwise required by a recognized national safety code or governmental statute, rule, regulation, or policy, based on facility use or occupancy; and 3) actual dispatching under the non-emergency program is not likely to result in greater than 50 hours of run-time solely for non-emergency purposes. This commenter (950) stated that, if the EPA does not change the regulation in a manner similar to what it recommends, several of the commenter's (950) engines would no longer be able to participate in the Xcel Demand Side Management Program that these engines are enrolled in due to their contract terms and conditions. Under contract terms and conditions, where their generators need to be available up to 88 hrs/yr, the owner and operator would be required to do engine upgrades of the NESHAP to meet contract commitments.

Response: As discussed in the RTC 2.1.1, based on public comments, the EPA determined that it would not be appropriate to finalize the limited temporary provision for peak shaving. As discussed in the RTC 2.1.1, operation for peak shaving and load management does not fairly come under the definition of emergency use. Peak shaving and load management are not limited to emergency situations and can be used to increase load during peak periods of power use. Engines used for peak shaving are part of general power management and should not qualify for treatment as emergency engines. While engine emissions do not change based on how they are used, an increase in the types of situations where use is

permitted will logically lead to increased use of these engines, and the comments indicate that many engines are used specifically for peak shaving. Given that the EPA has promulgated less stringent requirements for emergency engines, for reasons specifically related to the emergency use of such engines, the EPA must ensure that the uses of these engines fairly comports with emergency use, and that uses of these engines do not migrate into general uses, particularly uses to increase non-emergency generating capacity. The EPA is allowing use of emergency engines for more limited non-emergency use designed for local transmission or distribution limitations, subject to specific reliability, emergency or similar protocols, and promulgating requirements for reporting and use of ULSD in such circumstances. See RTC 1.4.1. Therefore, the EPA does not agree with the commenters that the provision for peak shaving operation should be expanded, for example to 100 hours or more or to engines at area sources. Sources that wish to engage in peak shaving or other non-emergency capacity uses may do so by meeting the requirements for non-emergency engines.

2.3 Relation to MATS Rule

2.3.1 Comment: One commenter (1072) said that it is not appropriate for the EPA to modify the NESHAP for stationary CI engines to address the reliability issues resulting from the MATS rule. The commenter (1072) added that the EPA's proposed temporary allowance for peak shaving is not likely to have the benefit that the EPA claims. Instead, the commenter (1072) said, the EPA should grant the petition for reconsideration on the MATS rule submitted by the Texas Attorney General's Office on behalf of the Texas Commission on Environmental Quality, the Public Utility Commission of Texas, and the Texas Railroad Commission. The commenter (1072) added that stationary emergency engines in Texas are authorized by 30 TAC section 106.511, which would require sources to obtain a separate permit to operate under the proposed peak shaving provisions. The commenter (1072) does not expect that many companies would pursue a new permit authorization for an operation that would only be allowed for emergency engines for a short time under the EPA's rules. The commenter (1072) concludes that the allowance for peak shaving under the rule will not provide any significant relief for strain on electric reliability that may be caused by retirements and outages in the coal and oil-fired EGU fleet resulting from the MATS rule.

Commenter 961 also believed that the temporary limited allowance the EPA has proposed for stationary emergency engines for peak shaving purposes is unnecessary in order to reach MATS compliance. The commenter (961) argued that the 3-year window for MATS compliance is reasonable

for large coal and oil-fired power plants considering the complexity of installing multi-million dollar control equipment at those facilities. However, for small stationary diesel-fired engines covered by the RICE NESHAP, commenter 961 said that the steps involved are a lot less complex and do not require years to implement. The commenter (961) further pointed out that as opposed to the MATS compliance schedule, the 2013 deadline under the RICE NESHAP would not force owners and operators of stationary engines to comply or shutdown since the engines would continue to operate these BTM engines for true emergency situations until it is decided to install environmental controls.

Response: The EPA agrees with the commenters that a limited temporary allowance for peak shaving does not appear to be necessary for MATS compliance, based on public comments. However, the EPA does not agree with commenter 1072 that it would not be appropriate to consider the impact of MATS on the operation of stationary engines. Comments related to petitions for reconsideration of the MATS rule are outside the scope of this rulemaking.

2.4 April 2017 Expiration Date

2.4.1 Comment: Several commenters (872, 873, 879, 902, 909, 916, 918, 937, 939, 943, 947, 950, 956, 967, 971, 975, 977, 978, 979, 981, 984, 988, 995, 996, 997, 1003, 1007, 1008, 1014, 1015, 1017, 1019, 1021, 1022, 1024, 1027, 1034, 1038, 1039, 1041, 1052, 1053, 1055, 1056, 1059, 1060, 1061, 1072, 1073, 1078, 1079, 1082, 1083, 1097, 1104, 1110, 1111, 1118, 1119, 1127, 1128, 1138, 1148, 1149, 1150, 1169, 1315, 1317, 1318, 1319 and 1326) said that the sunset provision should not be included in the final rule. One commenter (1082) stated that the EPA should extend the final compliance deadline for the RICE rule to provide sufficient time to retrofit RICE units, especially those located in rural and isolated locations, as the rule is not likely to be finalized until a few months prior to the original May 2013 compliance deadline. The commenter (1082) asserted that due to the ongoing modification and refinement of the rule, particularly the guidelines for the operation of those engines designated as emergency units, it is nearly impossible for utilities to make decisions on how to comply with the rule in less than five months. The commenter (1082) suggested that the EPA should provide a 17-month extension to the RICE rule compliance deadline to help bypass the winter and summer peak times, give small utilities adequate time to comply with the new requirements, and give utilities adequate time to follow their city budgeting process.

Commenter 916 stated that terminating the allowance in 2017 does not account for investments made in stand-by generation, which is expected to have a useful life of 20 or more years and the participation in a peak shaving programs may be factored into the business plan during that initial investment. The commenter (916) believes that eliminating this allowance will burden many owners that have 10 or more years remaining of useful life on their engines and not useful options. The alternative of installing add-on controls and associated compliance measures needed are cost prohibitive, the commenter (916) said, consequently penalizing owners of engines that are about 10 years old more so than owners of older, worn-out engines that can be traded in for new certified engines to be compliant. The commenter (916) said the peak shaving allowance should be extended until April 16, 2027 allowing for greater fairness in bringing peak shaving engines into compliance.

Several of these commenters (1110, 1111, 1150, 1169, 1317, 1318, 1319 and 1447) stated that a 100-hour allowance should be made permanent. One commenter (1149) stated that these programs benefit the electric utility and the participating units, and also benefit electric customers (particularly industrial and commercial customers) by providing predictability that electric generation is available during peak demand. One commenter (1149) stated it is crucial for businesses to have assurance that their electricity supply will not be disrupted even during peak demand times. With the EPA's expectation that the allowance for this provision will not increase emissions, the commenter (1149) believes there is no justification for the EPA to sunset this practice given the benefits to all parties. One commenter (1118) stated that if these peak shaving programs were eliminated, cooperatives would be required to invest in additional generation resources to meet peak demand and possibly transmission and distribution resources. The commenter (1118) asserted that this increase in costs would be passed along to the end consumer.

Similar to several other commenters, commenter 1056 thought that the 100 hrs/yr should be able to be used for all DR, load management or non-emergency use without the 50 hour limitation and without any sunset. The commenter (1056) indicated that it could not find any rationale supporting limiting this provision to 50 hrs/yr and having the provision expire in 2017. The problems will still remain beyond 2017 and the commenter (1056) felt the sunset provision is arbitrary. Based on information available in the docket, commenter 1056 does not believe there is any support for treating load management differently than emergency units operations that justifiable receive up to 100 hrs/yr without the need for add-on controls or to sunset economic DR after 2017. The commenter (1056) feels that the EPA overly emphasizes the financial connection between the engine consumer owner and the local utility as a justification to only temporarily allow peak shaving. The commenter (1056) argued that

there is little if any financial gain available for owners of engines limited to 100 hrs/yr of non-emergency operation, and actually these units typically operate well below the hour limits, just as the EPA discussed was the case for DR engines, often as little as 1 to 2 hours per month. According to the commenter (1056), the financial benefit to the owner of the engine is highest when the engine is not operating. The commenter (1056) indicated that two of its members had stated that their break point where the customer begins to outright lose any financial benefit gained from the reduce rate is around 45 to 55 annual hours, mostly dependent on the cost of diesel fuel. So according to commenter 1056, consumers and the cooperatives have disincentives to use engines for increased annual operation and may in fact lose money the more they run their engines, not the other way around. Most cooperative customer-owned RICE are infrequently used, but they are critical assets to ensure electrical reliability in rural areas and the only economic benefit is related to the ability to offset the cost of their emergency generators through reduced utility bills, commenter 1056 said, and emphasized that it is not advocating for load management use beyond what would be needed to address local power needs.

As an alternative, commenter 1056 suggested that the proposed allowance for emergency engines to be used for 50 hrs/yr for non-emergency use after the 2017 sunset be revised to 100 hours for non-emergency to include load management except where the engine generation is distributed to the electric grid. The commenter (1056) argued that there is a difference between engines used to supply power to the grid as opposed to engines providing power to the entity itself, and that it is likely that engines supplying power to the grid are generally larger than engines providing power at a single facility and therefore engines providing power to the grid could potentially have higher emissions. For these reasons, the commenter (1056) believes that this alternative to limit operation to off-grid operation would ensure that financial gain associated with non-emergency engines under the 100 hour cap would be significantly limited.

One commenter (1148) stated that some larger utilities with coal plants might be making significant changes and have many baseload coal units offline or converting to gas, leading to more RICE units being called upon during the transition time of 2015-2017. With so much regulatory compliance having to take place in this timeframe, the commenter (1148) requested that the Agency eliminate the sunset in the proposed rule that would end the use of RICE units for peak shaving in 2016.

One commenter (1082) stated that the EPA should eliminate the proposed April 17, 2017, sunset date on the provision allowing up to 50 hours of use of emergency units for peak shaving, as a 17-month extension in compliance time for the final RICE regulation is consistent with the original final rule's time provided for actual installation of the new equipment.

One commenter (956) asked the EPA to allow additional time for utilities and their customers to implement the proposed rules related to DR programs, particularly the April 2017 temporary provision. The commenter (956) stated that utility customers will require adequate time to determine a course of action related to the new regulations based on the economic and technical feasibility of their options. The commenter (956) stated that if additional costs and operational burdens are imposed on emergency generators, a significant portion of emergency generators might discontinue participating in the DR program, which would limit the commenter's (956) capability to use this resource to maintain system reliability. The commenter (956) concluded that any near-term loss of existing participants would create an immediate resource "gap" that cannot be quickly and cost-effectively filled by new utility generation resources, further creating system reliability issues. The commenter (956) requested that the EPA extend the temporary provision from April 2017 to April 2019 to provide time for customers and utilities to adapt without risking electric system reliability. Another commenter (909) recommended that there be no sunset date to the provision allowing both emergency and non-emergency engines to be used for up to 100 hrs/yr after April 2017.

One commenter (1017) understood that the April 17, 2017 deadline for peak shaving hours are in conjunction with the compliance timeframe for the NESHAP from Coal and Oil-Fired Electric Utility Steam Generating Units (77 FR 9304) rule. However, the commenter (1017) said that there would be little change in the local need for these RICE units after that rule goes into effect. The commenter (1017) encouraged the EPA to continue to allow the 50-hour allowance after that time. One commenter (1143) urged the EPA to retain the temporary allowance through the final compliance date of the MATS rule.

Commenter 969 said that the EPA's assumption that the role of emergency RICE units can be replaced with changes in the MACT rule and/or renewable energy resources is not realistic any time in the near future, and certainly not in 5 years. The commenter (969) said that if their company discontinues using these units for load management purposes after April 16, 2017, the result will be higher system peak loads for their utility requiring additional base load generation. The commenter (969) concluded that this is a very inefficient use of base load generation and will result in even more emission problems than what the proposed changes in the EPA rule proposes to address. According to the commenter (969), they would have to invest approximately $50,000 on unnecessary emissions control equipment. The commenter's (969) analysis comparing plotted investment cost of a diesel generator compared to electric rates savings for load management showed them that running a unit more than 80 hours a year will not make financial sense, which is consistent with most units across the country. The commenter (969) asked the EPA to remove the restrictions placed on load management

operations (2017 sunset and 50-hour limit). Commenter 989 also agreed that they would support extending or eliminating the sunset date. Other commenters (937, 943, 947, 950, 1025, 1037, 1038, 1045, 1065, 1074 and 1445) agreed that the April 16, 2017, cutoff date should be eliminated. One commenter (1036) said that the sunset provision should eliminated for small, rural municipal and other not-for-profit entities to mitigate economic impacts on them.

One commenter (1072) said that section 112 of the CAA does not allow the EPA to temporarily allow a particular operation for engines under the RICE NESHAP based on negative consequences from the MATS rule on EGUs and electric reliability. The commenter (1072) particularly objected to the premise that the EPA has the discretion to consider a management practice to be temporarily GACT as the result of a separate EPA regulation on a separate source category. According to the commenter (1072), the proposed allowance for peak shaving under the RICE NESHAP is either an acceptable operation representing GACT for the purposes of CAA section 112 or it is not. In other words, the commenter (1072) stated that if the EPA has determined that a limited amount of peak shaving is an acceptable operation for emergency engines for the purposes of GACT under the rule, then the EPA does not have justification for revoking the peak shaving provision on April 16, 2017.

One commenter (1072) said that the only justification the EPA has provided for revoking the peak shaving provision is that generators receive compensation from peak shaving programs and that "...the EPA believes that it is not appropriate to allow these engines to continue receiving compensation for this non-emergency use beyond 2017 without having to reduce their emissions" (77 FR 33819). However, the commenter (1072) said that the EPA's justification is not valid because operators are still allowed the same 100 hrs/yr of non-emergency use after April 16, 2017. The commenter (1072) concluded that peak shaving should be allowed for all sources without an expiration date as part of the 100 hours of non-emergency use because no environmental benefit is being shown by limiting it to area sources for a limited number of years.

Response: As discussed in RTC 2.1.1 and 2.2.1, the EPA has determined that it would not be appropriate to finalize a limited temporary provision for peak shaving, for the reasons stated in those responses. As noted by the commenters, operation for peak shaving does not fairly come under the definition of emergency use. Furthermore, several commenters indicated that there would be sufficient capacity to maintain reliability during the period of MATS compliance. The EPA believes that the other provisions allowing operation of emergency engines prior to loss of grid power provide considerable protection against power interruption and that concerns about general capacity restraints causing reliability

problems do not justify failure to meet reasonable emission controls requirements for engines used to increase capacity. Consequently, the EPA does not agree with the commenters that it would be appropriate to extend the proposed provision indefinitely. Regarding the comments about investments for stand-by engines, the EPA notes that in its previous rulemakings for existing engines, which were proposed and finalized several years ago, the EPA did not allow any use for peak shaving and stand-by service, so that such decisions should have been part of financial planning for such units for several years. The EPA acknowledges that owners and operators of certain middle aged units may need to make financial choices regarding the use of the units and whether to put emissions aftertreatment on such units. The EPA notes that this type of decision-making is inherently a part of regulation of existing units, and that the cost-effectiveness of controls for general-use RICE is justified. Further, the cost of emission controls can be included as one of the elements taken into account in the financial arrangements for peak supply. Regarding the suggestion that the requirements for engines engaged in stand-by and peak shaving not be implemented until April 2027, the CAA contains deadlines and limitations regarding what technologies are generally available and, while these provisions are not inflexible, such a very long delay in implementation has not been justified by the commenter, given these provisions. The EPA also does not agree that it would be appropriate to extend the timeframe for compliance for several years, and the commenters did not provide specific information to show that compliance could not be achieved for several years. However, in consideration of the short time between the final rule and the May 3, 2013, or October 19, 2013, compliance dates for affected sources, the final rule permits the use of existing stationary emergency engines located at area sources for 50 hrs/yr through May 3, 2014, for peak shaving or non-emergency DR to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engines are operated as part of a peak shaving (load management) program with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system. Owners and operators of these engines, which have heretofore not been regulated, may have taken actions based on the June 7, 2012, proposal that would now leave them in danger of being in non-compliance with the applicable requirements for the engine in the RICE NESHAP.

The EPA does not agree with the commenter who claimed that section 112 of the CAA does not allow the EPA to provide temporary relief to allow engines engaged in peak loading to meet less stringent standards for a short time. The CAA has provisions to allow lead time for existing engines to meet emission requirements, and while there are limitations on the amount of lead time the EPA can provide prior to requiring compliance with its requirements, the EPA believes section 112 of the CAA is

flexible enough to allow the EPA to phase in requirements for sources, if justified, without requiring full compliance in 3 years. In any case, as the EPA has indicated, it is not promulgating the allowance for peak shaving units in the final rule. The comment states that "the proposed allowance for peak shaving under 40 CFR part 63, subpart ZZZZ is either an acceptable operation representing GACT for the purposes of CAA section 112 or it is not," and the EPA has determined that it is not. The EPA also noted that while the compensation for peak shaving use is a factor in the EPA's deliberations, the controls being required for general use CI engines are justified as emission controls even in the absence of such payments. As numerous commenters have noted, the regulations put in place provide considerable emission reductions from uncontrolled diesel engines through existing and reasonable controls.

2.5 Requested Clarifications

2.5.1 Comment: One commenter (1104) noted that the proposed limitation on the use of peak shaving as part of a program with the local system operator does not seem to include any peak shaving that might be coordinated through an energy control center that operates over more than one local distribution system. The commenter (1104) believes that RICE units participating in such "regional" control systems should be permitted to engage in peak shaving as part of the allowance included in the proposed rule, and requests clarification from the EPA on this point.

Response: As discussed in RTC 2.1.1 and 2.2.1, the EPA determined based on public comment that it would not be appropriate to finalize the proposed limited temporary provision for the use of peak shaving. Consequently, the EPA is not making the clarification requested by the commenter.

2.5.2 Comment: One commenter (1104) noted several specific references to "remote" facilities in the preamble's discussion of the temporary peak-shaving provision, where the EPA cites in particular the use of RICE by rural cooperative utilities. The commenter (1104) stated that the term "remote" does not appear in the proposed amendments themselves relative to this section. Commenter 1104 generally endorses EPA's rationale that the peak-shaving allowance, but is concerned that the use of the term "remote" in the preamble may be misconstrued to imply that there is a geographical restriction on the ability of existing stationary emergency RICE units at area sources to engage in the proposed amendments' allowance of up to 50 hours annually for peak shaving and other non-emergency use. The commenter (1104) asserted that the term "remote" as used elsewhere in the preamble has a very

restrictive meaning. The commenter (1104) does not believe that it is the EPA's intent to geographically limit the peak shaving provisions and strongly encourages the Agency to remove the term "remote" from the preamble in this context.

Commenter (1104) further noted that the language in the proposed amendments also appears to require that peak-shaving or non-emergency DR programs must be used to "generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity." The commenter (1104) does not believe that the EPA intends this to be a requirement, but instead to permit the generation of income or participation in other financial arrangements and feels the EPA should clarify this language.

The commenter (1104) also requested clarification of the Agency's use of the term "local" as it applies in this section of the proposed amendments. The commenter (1104) argued that in both emergency situations and for system repairs and outages, electric power may need to be exported from a local distribution system (e.g., beyond the borders of a municipal electric utility) in order to support the adjoining and interconnected system of a larger investor-owned utility. Thus, commenter (1104) asserted, one can "support the local distribution system" (emphasis added; language of the amendments) without limiting the use of power to that used by the facility itself or "towards the local system" (language in the preamble). The commenter (1104) recommended the EPA clarify this section so as not to limit essential system balancing functions.

One commenter (960) requested clarification on the proposed provisions in cases where the operator of the engine is the same entity as the local electric distribution operator, yet also enters into an agreement for re-sale of the electric power commitment to a third party (e.g., as part of a forward capacity commitment). The commenter (960) asked the EPA to clarify if this situation would be permitted under the allowance in §63.6640(f)(4)(i). Commenter 960 also asked that the EPA clarify that a financial agreement under ISO-NE's Forward Capacity Market or similar programs in other areas would qualify as peak shaving or a load management program for purposes of §63.6640(f)(4)(i).

Response: As discussed in RTC 2.1.1 and 2.2.1, the EPA is not finalizing the proposed limited temporary provision for the use of peak shaving. As a result, the clarifications requested by the commenters are not needed in the final rule.

3.0 Impacts of Standards

3.1 Air Quality Impacts

Air Quality Impacts Analysis

3.1.1 Comment:

Air Quality Impacts Analysis Flawed

A few commenters (961, 1033 and 1101) asserted that they do not believe the EPA has properly estimated the environmental impacts of the rule. One commenter (961) provided that, in the absence of information on stationary diesel generators and DR resources, as admitted by the EPA in relationship to the proposed rule, the commenter (961) suggested that the EPA conduct a complete assessment of the environmental impacts of permitting diesel generators to operate without air pollution control devices, plus the impact of possible new diesel generators that would be manufactured and appear in these programs if the EPA finalizes this allowance.

Likewise, commenter 1101 expressed that it does not believe that the EPA should finalize the proposed amendments before it has a clear understanding of how many engines will be affected by the rule and how often these engines are operated. The commenter (1101) argued that the EPA must conduct an in-depth assessment of the environmental impacts of the final amendments.

One commenter (1090) said that the EPA did not model emissions increases from DR programs based on a false assumption that the previous hours-of-use estimates are still valid despite program changes that allow increased allowable participation in DR programs, when the original modeling only accounted for 50 hours of operation for CI and SI emergency stationary RICE. The commenter (1090) added that, for typical electric generators, the EPA processes air quality permits based on the full capacity of the unit, regardless of whether the unit runs below full capacity. For purposes of this proposed rule, in order to be consistent with the provisions therein and with the EPA's standard practices for assessing air quality impacts, the commenter (1090) said that the EPA should assume 100 hours of operation for all emergency stationary RICE and perform corresponding emissions modeling.

Some commenters (961, 1123, 1134 and 1140) were particularly concerned that the EPA did not update the runtime in its emissions impacts estimate for the proposed rule and use 100 hrs/yr consistent with the rule proposal to calculate emissions. Similarly, commenter 1134 said that the EPA has underestimated the emissions impacts of the proposed rule and that most certainly engines would

operate more often under the proposed rule than before. Commenter 1090 added that the EPA should also account for the proposed expansion of engines that can qualify to participate in DR programs.

Concurred with the EPA's Air Quality Analysis

Some commenters (941, 942, 945, 951, 952, 968, 970, 1017, 1023, 1025, 1036, 1065 and 1113) concurred with the EPA that this modification to the rule can be made without an increase to air pollution levels in affected areas. One commenter (968) said that in Missouri's case these units are located in rural areas 75 or more miles from non-attainment areas for ozone, and in small communities.

Two commenters (1017 and 1051) said that the vast majority of RICE units in Kansas are "dual-fuel" engines operated primarily on cleaner burning natural gas. According to the commenters (1017 and 1051), dual-fuel engines may be run on diesel fuel if necessary, but far more commonly are only started up on diesel fuel and then operated using natural gas. The two commenters (1017 and 1051) said that the result is that roughly 90 to 95 percent of the fuel used by dual fuel engines is cleaner burning natural gas. Commenter 1051 added that operators of dual fuel units prefer to run them on natural gas because that is the most efficient and cost-effective way to do so.

One commenter (873) claimed that emergency DR has a net positive impact on the environment. The commenter (873) explained that the proposed rule only applies to existing emergency backup generators; therefore, there is no pollution from construction, no land or water use issues, and no new transmission needed because nothing new is being built.

One commenter (1142) stated that emergency engines can have environmental benefits compared to central station generation. The commenter (1142) referred to an EPA sponsored study entitled "Modeling Demand Response and Air Emissions in New England" prepared by Synapse Energy Economics, Inc. (the "EPA DR Study"), in which the authors found that by having available quick-start capacity to handle emergency conditions on the electric grid, there would be less reliance on old, high-GHG-emitting power plants that have to run at 50 percent load or higher all the time so that they can be available when needed (called spinning reserves in New England). According to the commenter (1142) the EPA DR study found that even if one assumes that all DR is from diesel-fired generators, there is a net benefit in air quality from having quick start resources available, such as emergency DR, whether or not those resources are ever called, because of reduced reliance on spinning reserves. The commenter (1142) asserted that emergency engines have other environmental and economic benefits that are not available to central station power plants and already exist and so have no environmental impacts associated with construction.

Response: The commenters that believe that the EPA's environmental impacts analysis is flawed bring up a number of different points that they believe to be true; however, the commenters did not provide any substantial useable information that the EPA could use to improve the estimate of environmental impacts. Some of the commenters said that they do not agree with the EPA using 50 hrs/yr to estimate the emissions from emergency engines and that the maximum allowable runtime of 100 hrs/yr should be used instead. Not enough specific information was provided in the reports submitted to the EPA in relationship to these comments. As noted previously, the EPA has justified its allowance for emergency DR based in part on the historical knowledge that ISO and others have not relied on emergency engines for emergency DR purposes more than a few hrs/yr on average and to base the environmental impacts analysis on the maximum allowable runtime of 100 hrs/yr to estimate emissions from emergency engines would overestimate emissions. The EPA believes that if situations arise where emergency DR is being called for greater than 100 hrs/yr, it is likely that an inordinate amount of reliance is being placed on this program to ensure grid reliability, rather than just emergency backup. Also, other commenters provided support for the EPA's environmental impacts (see above) and use of 50 hours versus 100 hours. One commenter (1142) asserted that emergency DR has been rarely dispatched and references a comment letter submitted by PJM to the EPA in February 2011 (EPA-HQ-OAR-2008-0708-0813) (see Attachment 1). Other commenters (1017, 1045, 1051, 1074, and 1129) agree that there is little or no financial incentive to operate other than when absolutely necessary to maintain the local distribution grid and described the higher costs of operating such units or that the marketplace will limit the operation of the emergency units.

In any event, the EPA disagrees because evidence shows that emergency engines typically operate far less than 50 hrs/yr so in fact, even 50 hrs/yr could be an overestimate in terms of expected emissions from emergency engines. Emergency engines operate infrequently under emergency DR programs and the EPA showed different examples of that in the impacts assessed for the proposed rule,[37] where as few as 3.75 to 16.5 hours were spent for emergency DR operation in the mid-2000's in New England. (The EPA notes that the Agency did not finalize the temporary allowance for peak shaving that had been proposed and thus did not need to account for any such hours.) Accounting for annual maintenance and testing, which normally is 1 to 2 hours per month, plus other emergency operation,

[37] Memorandum from Tanya Parise, EC/R to Melanie King, USEPA, regarding RICE NESHAP Reconsideration Amendments - Cost and Environmental Impacts Memo. May 10, 2012. EPA-HQ-OAR-2008-0708-0857.

total emergency operation is on average less than or equal to 50 hrs/yr.[38] In addition, the estimated emissions from emergency engines use the total number of emergency engines in the United States; however, not all emergency engines participate in emergency DR programs. Consequently, for those emergency engines not in emergency DR programs, or for those that are signed up, but do not end up being called upon, the actual emissions emitted from these engines could be substantially less than that estimated by the EPA. Therefore, the EPA disagrees with the commenters and continues to believe that it is appropriate to use 50 hrs/yr to assess average emissions from emergency engines. The EPA believes the estimate of emissions from emergency engines as a whole is reasonable, representative of nationwide operation, and may very well be a conservative, overestimate of actual emissions from the combined operation of emergency DR activities, maintenance and testing, and other emergency operation.

Additionally, the EPA received updates to data submitted by EnerNOC that included draft updates to PJM's DR resources. Based on these updates, the current percentage of backup generators used was 23 percent, compared to data from May 2012 where PJM reported 14 percent from backup generators.[39] EnerNOC projects based on currently available information pending a final analysis that the percentage of diesel generators participating in DR programs will be in the high 20s for PJM and nowhere close to the much higher percentage claimed by other sources.

In response to the comment that said that if the EPA allows additional uncontrolled operation, new uncontrolled diesel generators will enter the market and so on, the EPA disagrees. Prior to the 2013 compliance date, there were no limits on operation for existing emergency engines. The existing RICE NESHAP promulgated in 2010, as amended by these final amendments, will for the first time establish requirements for these engines, limiting their hours of operation in certain situations such as emergency DR. Commenters do not provide significant evidence that the hours of use for engines used for emergency DR will expand by large multiples at the same time the EPA is beginning to regulate such hours of use. Again, commenters are also incorrect in presuming that any such increased hours for emergency DR will affect the average use of all emergency engines, when there is no evidence that a large percentage of emergency engines even participate in such programs.

The EPA also disagrees with the commenters' statement that any new emergency engines used for emergency DR will be uncontrolled. New emergency engines are subject to substantial emission

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[38] Hours of Operation for Stationary Compression Ignition Internal Combustion Engines. Memorandum from Tanya Parise, Alpha-Gamma Technologies to Jaime Pagán, EPA. June 20, 2005. EPA-HQ-OAR-2005-0029-0011.
[39] Email from Don DiCristifaro, EnerNOC to Melanie King, EPA. Revised PJM Load Activity Report for Demand Response. December 21, 2012.

controls via either Tier 2 or Tier 3 controls, depending on the size of the engine. These controls usually would not require aftertreatment, but are the strongest "in-cylinder" controls available for diesel engines. Indeed, these standards require greater PM and NO_x emission reductions from uncontrolled levels than are required for existing non-emergency engines. See 40 CFR part 60, subpart IIII and 71 FR 39154 and Response to Public Comments on Proposed Standards of Performance for Stationary Compression Ignition Internal Combustion Engines document for additional information related to new emergency engine requirements.[40,41]Nor does the commenter provide significant evidence that the EPA's regulations, which, again, control the hours of use of emergency engines, will lead to installation of a greater number of new emergency engines, particularly since these rules forbid the use of emergency engines for peak shaving and economic DR and limit the use of these engines for emergency DR, which historically accounts for very few hours of use annually.

The final amendments also require owners and operators of existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 l/cyl that use diesel fuel and operate or are contractually obligated to be available for more than 15 hrs/yr for emergency DR to use ULSD fuel. This fuel requirement also applies to owners and operators of new emergency CI stationary RICE above 500 HP with a displacement of less than 30 l/cyl that are at major sources. The ULSD will reduce HAP emissions from these engines. However, the EPA is unable to assess the quantity of HAP emissions reductions that will be realized through this fuel requirement. An estimate of the impact of the ULSD is not possible because the number of engines that would be affected by this requirement is unknown. The EPA does not know the number of engines that will be operated for emergency DR and the EPA does not know how many of those engines would operate for more than 15 hrs/yr. Nonetheless, the ULSD requirement will offset and contribute to lower the emissions estimated from stationary emergency engines, but the quantity is unknown.

The EPA is also finalizing reporting requirements for engines contracted for greater than 15 hours of use for emergency DR and voltage/frequency deviations, and where engines are used for 50 hrs/yr for non-emergency situations for supplying power as part of a financial arrangement with another entity. This information will provide considerable information regarding the use of such engines.

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[40] Memorandum from Jamie Pagan, SPPD – Energy Strategies Group to EPA Docket EPA-HQ-OAR-2005-0029. Response to Public Comments on Proposed Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

[41] Standards of Performance for Stationary Compression Ignition Internal Combustion Engines; Final Rule. July 11, 2006. 71 FR 39154.

Formaldehyde Modeling – Definition of Remote Stationary SI RICE

3.1.2 Comment: One commenter (1090) said that HAP have significant transport potential that the remote stationary SI RICE definition does not account for. The commenter (1090) referred to a study of formaldehyde transport that reported detected levels at 48 parts per billion 50 km away from the sources of formaldehyde emissions. The commenter (1090) said that this is significantly farther away from a source than the distances from higher housing density areas contained in the remote stationary RICE definition, and the EPA must account for the transport potential of HAP under different circumstances. The commenter (1090) said that the existing distance limits of 220 yards and 0.25 miles relating to housing density are scientifically irrelevant as related to the transportation of pollutants, and the EPA's definition of remote stationary RICE is not based on actual pollutant data.

Response: The EPA does not disagree with the commenter that it is possible for formaldehyde emissions from an engine to travel farther than 220 yards or 0.25 miles. The distance criteria of 220 yards or 0.25 miles is not intended to be a distance outside of which there would be no air pollution impact from the stationary engine. The differentiation based on the number of buildings intended for human occupancy within the area around the engine is only intended to be a measure of the remoteness of the engine, which is a factor in determining GACT for the engine. The EPA notes that the commenter's brief discussion provides no information on whether formaldehyde emissions from engines would travel as far as from other sources, given the low emission point of engines. On the other hand, the EPA received modeling information from other commenters to assess pollutant concentrations, which was conducted using the EPA's ISC3 and two model natural gas-fired 4-stroke lean burn (4SLB) and 4-stroke rich burn (4SRB) engines above 500 HP.[42] The results of the dispersion modeling indicated that there is rapid decrease in the concentration within short distances where the maximum concentration for all stack heights from the 4SLB engine occurred at less than 50 meters and from the modeled 4SRB engine at less than 130 meters. Both distances are well below the distance criterion of ¼ mile for non-pipeline engines. The EPA notes that this modeling information was provided only for 4S SI engines and would need to be further reviewed, but it is relevant in responding to the comment.

[42] Memorandum from Jim McCarthy and Jeff Panek, IES to Lisa Beal, INGAA. Concentration versus distance profiles from reciprocating internal combustion engines – Dispersion modeling results for two example engines from previous INGAA modeling. July 27, 2011EPA-HQ-OAR-2008-0708-0849.

Correlation Between High Ozone Days and Emergency DR

3.1.3 Comment:

Emergency DR and Ozone Exceedance Correlation

One commenter (1140) believes that the increased use of emergency DR will likely increase ozone and PM levels, therefore making it harder for communities to meet national air quality standards. In addition, the commenter (1140) said that the use of these generators threatens communities that are already disproportionately burdened by air pollution. Commenter 1076 added that the proposed rule will exacerbate air pollution on the worst days and that the EPA makes no mention of this.

Commenters 954, 1047 and 1088 were concerned that emergency engines would be operated on HEDD, which tend to correspond to high ozone and fine particulate levels on these challenging days, in their opinion

Commenter 961 added that the most significant demand for electricity generation happens during the warmest months (i.e., ozone season), and that it is likely, according to commenter 961, that these units would operate disproportionately during the ozone season, when the adverse effect of such emissions is most severe. The commenter (961) asserted that the environmental impacts associated with allowing uncontrolled diesel emergency to operate more under DR programs had not been estimated. According to the commenter, the EPA does not have information on the number of BTM resources and did not consider the additional hours BTM engines would run, nor the possibility that additional BTM generation resources for DR purposes could be built in the future if the proposed allowance is finalized. The commenter (961) expressed this as a concern because PJM has indicated that when the level of DR as a share of total capacity resources increases, the number of times that DR is deployed will also increase. The commenter (961) stressed that any claims of the opposite are based on obsolete and narrow studies and should not be relied upon. Additionally, commenter 961 disagreed with the EPA's emissions impacts analysis stating that a maximum runtime of 100 hrs/yr was not used in the analysis. The commenter (961) also disagreed with the EPA's assumption that emergency engines are a small portion of the DR resource mix and would rarely be deployed. The commenter argued that this is not consistent with reality, and added that if the EPA allows additional uncontrolled operation then the EPA should also expect that more, new uncontrolled diesel generators will enter the market to take advantage of this competitive advantage in economic capacity markets.

One commenter (1090) was concerned that emergency generators would result in emissions increases on the worst air quality days of the year, such as HEDD on hot summer days. The commenter (1090) cited a NESCAUM study that found a generally positive relationship between daily maximum

temperatures and NO_x emissions from EGUs, consistent with higher air conditioning use on the hottest days. The commenter (1090) said that the study also found that the days with the highest temperatures and the highest EGU NO_x emissions were also days with the highest use of diesel EGUs. The commenter (1090) added that on July 22, when the temperature in Newark reached 108 °F, the NO_x emissions from diesel EGUs was 52.5 tons, more than the total NO_x emissions from all EGUs on more than half of the days the entire summer. The commenter (1090) said that the report showed that DR resources were dispatched by all three ISO in the NESCAUM region on July 21 and 22, 2011, which coincided with the highest ozone readings that month. The commenter (1090) added that the report stated that on July 22, it is estimated that emergency diesel generators contributed up to 109 tons of NO_x and 3.2 tons of PM, much of it concentrated within metropolitan areas, some of which are non-attainment areas.

Commenter 1124 added that states in the PJM region have raised concerns about the effects of units that operate on HEDD, regardless of annual run time and noted that New Jersey has enacted strict regulations for generators that operate on HEDD.

One commenter (1102) objected to any use of uncontrolled engines in DR because, according to the commenter, they have a significant impact on ozone non-attainment in Delaware. The commenter (1102) provided an extensive analysis (see pages 8 through 13 of comment letter) including the growth in DR resources, which the commenter (1102) believes the EPA has underestimated. The commenter (1102) compared maps of non-attainment areas with DR and concluded that the EPA's proposal would increase the participation of uncontrolled engines in DR in the entire PJM region, which would exacerbate the unhealthy levels of ground-level ozone already around these non-attaining monitors from both local and upwind areas of DR.

No Evidence of Emergency DR and Ozone Exceedances

Two commenters (1043 and 1142) asserted that there is no correlation between emergency DR and ozone exceedances. One commenter (1043) cited comments submitted to the EPA in February 2011 by EnerNOC et al. (EPA-HQ-OAR-2008-0708-0748) and in February 2012 (EPA-HQ-OAR-2008-0708-0839), which included a detailed analysis demonstrating that there is no correlation between emergency DR and ozone exceedances days. The commenter (1043) did say that there are some emergency DR events that are called during high ozone days, but that there are many DR events on non-ozone exceedances days also and several more days have ozone alerts, but no DR events. Based on the data commenter 1043 presented, the commenter (1043) concluded that the use of emergency engines during

DR events does not cause high ozone, particularly because in many situations the ozone concentrations are as high or higher on the days before an event. According to the commenter (1043), no data have been introduced into the record that refute this analysis.

Commenter 1043 also discussed another report, one issued by NESCAUM from August 1, 2012, where air quality was analyzed for July 21 and July 22, 2011, when emergency DR events were called by NY ISO and PJM. According to the report by NESCAUM, the 2 days studied "coincided with the highest ozone readings that month." However, in the commenter's (1043) opinion, the report consisting of this 2-day analysis is not robust enough to conclude that the use of emergency engines in emergency DR programs cause high levels of ozone. Conversely, the commenter's (1043) report cited above studied all events called by ISO NE from 2002 through 2012, all emergency DR events called by NY ISO from 2001 through 2010 and the one emergency DR event that was called in the ERCOT region since that program started through February 2011. The commenter's (1043) analysis of 34 separate DR events reached the conclusion that there is no correlation between emergency DR and high ozone concentration levels. Commenter 1142 also referred to the NESCAUM entitled "Air Quality, Electricity, and Back-up Stationary Diesel Engines in the Northeast" dated August 1, 2012, which alleges that the use of DR correlates with high ozone days. Similarly, the commenter (1142) also noted that the NESCAUM report only looks at emergency DR events on 2 days while the analysis submitted by this commenter (1142) reviews 34 events spread over many years in many different parts of the country. For a fuller critique of the NESCAUM methodology please see the comments by Blue Sky Environmental LLC. These comments can be accessed in the docket for this rulemaking (EPA-HQ-OAR-2008-0708).

Commenter 1043 pointed to the emergency DR event discussed in NESCAUM's report which occurred on July 22, 2011 and was the largest emergency DR event for 2011 for PJM. Included in commenter's (1043) letter was a summary of preliminary ozone data obtained from the Maryland Department of the Environment. According to this data, there were no high ozone measurements that day, the commenter (1043) said. The commenter (1043) compared July 2, where a reading of 0.107 parts per million (ppm) was observed, which was higher than the maximum reading of 0.097 ppm observed on July 22. July 2 was not an emergency DR event day, the commenter (1043) said. Further, according to the commenter (1043), 12 of the monitors on July 2 recorded higher readings than on July 22 for the same monitors. Therefore, the commenter (1043) asserted that based on this analysis, one cannot say that the use of generators on July 22 during the Emergency Load Reduction Program caused the high ozone that day.

Commenter 1043 again reemphasized that there is no correlation between emergency DR and high ozone concentrations. More support for the EPA's proposal was provided by the commenter (1043) who conducted an air quality and health analysis for APPA for the 2012 derecho blackout in Washington, D.C. and vicinity. According to the commenter (1043), the blackout could not have been prevented by the use of engines in emergency DR, however; the event does in the commenter's (1043) opinion provide an excellent opportunity to look at the worst-case scenario of operating thousands of backup generators for days and how such operation affects air quality and health. Some commenters, commenter 1043 said, are claiming that using a subset of generators for a short period of time to save the electric grid will cause serious harm to air quality and health. However, according to commenter 1043, the analysis conducted indicates that:

- Thousands of emergency generators were operating from June 30 through July 5, 2012 (most operating June 30 through July 2, 2012); however, maximum ozone concentrations were less than both pre- and post-blackout conditions.
- Despite thousands of emergency engines being in operating during the blackout, this did not cause exceedances of PM ($PM_{2.5}$ or PM_{10}) NAAQS.
- Heat-related deaths were not above average during the derecho-caused blackout in Washington, D.C. and surrounding areas because so many facilities have emergency backup generators and were able to keep air conditioners running during the extreme heat.
- The air quality concentrations were less than those observed prior to and after the blackout (when no emergency engines were operating) even with every available generator running for days in the Washington, D.C. area.

Another commenter (1142) stated that use of emergency engines in emergency DR programs does not harm the environment and that there is no correlation between high ozone days and emergency DR. The commenter (1142) argued that while opponents of the use of emergency engines in emergency DR programs have alleged that emergency DR is dispatched by the ISO on days of high ozone, implying that the use of emergency engines will increase the number of ozone exceedance days. These same opponents have demonstrated in their own analysis (entitled "Analysis of Emergency DR and Ozone Concentrations," and submitted to the EPA in February 2011) demonstrating that there is no correlation between emergency DR and ozone exceedance days. The commenter (1142) further argued that Delaware in previous comments referenced a technical paper entitled "Using Backup Generators for Meeting Peak Electricity Demand: A Sensitivity Analysis for Emission Controls, Location and Health Endpoints" (Gilmore, Adams & Lave, 2010) to support its position that DR is correlated with high

ozone days did not differentiate between emergency and non-emergency DR. The commenter (1142) asserted that the referenced paper analyzes the use of generators for non-emergency (e.g., price-responsive) DR.

Response: As indicated in the summary of comments, there are different beliefs regarding the correlation between emergency DR and high ozone. The EPA disagrees with commenters who asserted that there is a correlation between high ozone days and emergency DR use because of lacking or incomplete evidence that this is the case. For instance, as indicated by commenter 1142, the technical paper entitled "Using Backup Generators for Meeting Peak Electricity Demand: A Sensitivity Analysis for Emission Controls, Location and Health Endpoints" (Gilmore, Adams & Lave, 2010) (which is cited as support for a correlation between high ozone days and emergency DR) did not differentiate between emergency and non-emergency DR. The 100 hrs/yr provision in the final rule at §63.6640(f)(2) is strictly for the purposes specified in (i) through (iii) of that section, which is limited to maintenance checks and readiness testing, emergency DR operation under declared EEA Level 2 alerts, and periods of voltage and frequency deviations of more than 5 percent below standard conditions.

Also, as noted by commenters 1043 and 1142, the NESCAUM report was limited and consisted only of a 2-day analysis, and the EPA agrees that the NESCAUM report did not provide enough data to establish a firm conclusion about emergency DR operation and ozone exceedances. In general, the commenters who expressed concern about the impact of the emissions from these engines did not provide any information linking the emissions to exceedances of the ozone standard. The Agency agrees with the commenters that state that there is insufficient information to suggest a correlation between high ozone days and emergency DR (see comments provided by 1043 and 1142) and believes sufficient evidence exists supporting the conclusion that emergency DR and high ozone days are not well correlated. For example, in the eastern PJM region between 2006 and 2010 there were nine emergency DR events lasting from 3 to 6 hours in duration.[39] Only during six of the events was ozone recorded as being high and only in some states of PJM; therefore, there is not a clear correlation between high ozone and these limited emergency DR events. While the EPA acknowledges that emergency DR may be called during HEDD in the summer when days are especially warm and ozone is problematic, the use of emergency DR at such times cannot be directly correlated as causing or contributing to the ozone exceedances. Also, the fact is that many DR events occur on days when ozone standards were not

exceeded and in many cases ozone levels are high or higher on days before a DR event, according to available data.[43]

NAAQS Standard Compliance

3.1.4 Comment: Two commenters (1033 and 1102) said that addressing HAP, ozone, $PM_{2.5}$, and nitrogen dioxide (NO_2) pollution will require air quality managers to pursue emission reductions from additional air pollution sources, especially when there are generating sources operating mainly on high demand days and under expanded usage conditions permitted by the proposed rule. One commenter (1033) described the impacts on "bump ups" in non-attainment status. The commenter (1033) said that the 2017 expiration of the 50-hour exemption for non-emergency programs such as peak shaving will be small consolation to areas that have failed to attain a NAAQS. Commenter 1102 added that the EPA's proposal burdens state air quality agencies who will now need to perform extensive inventory improvements to properly account for the emission increases from generators in their State Implementation Plans (SIP). The commenter (1102) said that the EPA needs to develop a thorough inventory of engines that are used in emergency DR or peak shaving in order to assess the impacts from such units prior to promulgating any proposal that affect stationary RICE.

Another commenter (1088) believes that the proposed 50-hour allowance for peak shaving goes beyond the careful balance contemplated in the emergency allowance provisions and could cause or significantly contribute to non-attainment of the NAAQS for ozone, NO_2, PM and possibly SO_2. The commenter (1088) urged the EPA not to finalize this provision until it has completed a more detailed analysis of the potential air quality impacts, particularly in large populated areas and areas that currently have challenges in meeting the NAAQS.

Commenter 1102 said that meeting current and future ozone NAAQS will require additional NO_x emission reductions, and the EPA's proposal is counter to this because it increases rather than decreases NO_x emissions.

One commenter (1011) said that the EPA has failed to properly estimate the adverse impacts of the increased emissions of NO_x that would result especially on HEDD, if this rule goes final. Specifically, the commenter (1011) referred to the significant increase in NO_x emissions that would result from exempting certain 4SRB engines from emission standards. The EPA estimates that there will

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[43] See Attachment 6 of Letter from Richard H. Counihan, EnerNOC to Michael Horowitz, et al., EPA. February 29, 2012.Entitled "Addendum to Analysis of Emergency DR and Ozone Concentrations." Prepared for EnerNOC by Blue Sky Environmental. February 2012. EPA-HQ-OAR-2008-0708-0839.

be an increase of close to 108,000 tons per year (tpy) of NO_x and VOC as compared to the 2010 rule, if this proposed rule goes final. The commenter (1011) argued that this loss is substantial and could adversely impact ozone attainment within downwind areas such as the ozone transport region. The commenter (1011) said that the estimated NO_x emissions associated with this measure are two and a half time more than the State of Delaware's total NO_x inventory and the commenter (1011) urged the EPA to reconsider this exemption of engines until a study can be conducted to evaluate the impact on downwind areas.

One commenter (1088) said that part of the solution to meeting NAAQS is to reverse the growing trend of RTO that are relying more heavily on emergency generators to maintain grid stability. The commenter (1088) urged the EPA to work closely with these RTO (and other agencies as appropriate) to develop a path forward that relies less on these emergency generators, which will help states reduce emissions of air toxics and achieve attainment with the NAAQS.

One commenter (1033) said that the proposed rule would further impair the ability of states in the Northeast from meeting and maintaining the ozone health standard. The commenter (1033) summarized information on the health impacts of ozone and the impact that increased NO_x emissions from EGUs have on air quality. The commenter (1033) provided an example from July 2011, that illustrates the severity of the ozone problem in the Northeast. The commenter noted that the EPA projects that the NESCAUM region is on track to be in attainment with proposed revised $PM_{2.5}$ NAAQS. The commenter (1033) added that the proposed RICE NESHAP lacks information on how increases in uncontrolled diesel $PM_{2.5}$ emissions can affect emission trends, as well as localized impacts.

The commenter (1033) added that, if uncontrolled RICE operate on high sulfur content diesel, secondary formation of sulfate $PM_{2.5}$ will increase. The commenter (1033) said that because the proposed RICE NESHAP contains no restrictions on sulfur content in diesel used by RICE, use of high sulfur fuels will further compound the increases in $PM_{2.5}$ that will occur from greater utilization of RICE in DR programs.

Response: The commenters indicated that there will be expanded use conditions under the proposed rule; however, the EPA would like to point out that contrary to what the commenters express, prior to the 2013 compliance dates for existing engines, there are no limitations on the hours of operation for these engines. The standards that go into effect in 2013 will for the first time establish requirements for these engines, including limitations on their hours of operation in certain situations such as emergency DR, and ULSD fuel requirements which will reduce HAP and criteria emissions from the engines. The

final rule also includes reporting requirements for owners and operators that participate in emergency DR programs for more than 15 hrs/yr, which will make vital information regarding emergency DR operation available and hold owner and operators more accountable to documenting what emergency engines are used for. In addition, the EPA is not finalizing the proposed 50 hrs/yr peak shaving allowance that was to expire in 2017. This should help mitigate some of the issues the commenters refer to and resolves the comment that the proposed allowance should not be finalized. As discussed in section 3.1.1., the EPA does not believe that the revisions to emergency engine use in this rule will result in a significant change in the use of these engines projected in the 2010 rule, particularly given the conservative estimates used in that rule. There is no evidence that the result of this rule will be an increase of usage compared to historical levels when these engines were not regulated.

In terms of comments about lacking a thorough inventory of engines that are used in emergency DR and peak shaving programs, the EPA agrees and acknowledges that there is little known about the number of and location of these engines. With that said, the final rule requires owners and operators of emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hrs/yr for emergency DR to submit an annual report to the EPA documenting the dates and times that the emergency stationary RICE operated for emergency DR, beginning with the 2015 calendar year. This reporting requirement will provide information to the EPA about the location of these engines and how much these engines are operated for emergency DR. These reports will be helpful to state and local agencies, for SIP purposes, and will assist in developing more complete inventories of engines that can then subsequently be used to account for the emissions from these engines.

In response to concerns about the ability of states to meet NAAQS, the EPA notes that it has done an analysis of the appropriateness and cost-effectiveness of placing aftertreatment on emergency engines, and has found that it is inappropriate for such engines. The EPA has determined that controls for emergency engines are not cost effective and in an analysis conducted in 2010, the EPA showed that the cost per ton of reducing HAP from emergency CI engines with diesel oxidation catalyst (DOC) and open crankcase ventilation (OCV) ranged from nearly $3 million per ton of HAP reduced from the largest engine modeled to as high as almost $18 million per ton of HAP reduced for the smallest engine modeled.[44] The EPA looked at the cost effectiveness of putting DPF on new diesel engines in 2006. The cost per ton PM reduced from the smallest emergency CI engine modeled was close to $100,000 and

[44] Memorandum from Bradley Nelson and Tanya Parise, EC/R, Inc. to Melanie King, EPA. Cost per Ton of HAP Reduced for Existing Stationary CI RICE. February 11, 2010. EPA-HQ-OAR-2008-0708-0290.

more than $700,000 for largest emergency CI engine modeled at that time.[45] The EPA also looked at the cost of NO_x adsorbers in 2006 on new CI engines and estimated the costs for such controls on new engines also. The cost per ton of NO_x reduced from a small new emergency CI engine was about $13,000 and for a large emergency engine about $10,000.[36] The EPA also looked at the cost effectiveness of installing SCR on new CI emergency engines during the developed of the CI NSPS. The EPA estimated the cost per ton of NO_x reduced with SCR on emergency engines would range from about $240,000 for the smallest engine modeled (less than 100 HP) to close to $180,000 for the largest engine modeled (5,000 HP). As the numbers indicate, these cost per ton estimates are excessive and in no way would justify controls for emergency engines. In addition to the cost being prohibitive in the case of aftertreatment on emergency engines, there are also feasibility issues primarily in terms of the effectiveness of aftertreatment. Emergency engines need to be ready to start up immediately in response to an emergency, but typically do not operate for a long period of time. At most, perhaps only for a few hours at a time to address emergency needs. In order for catalytic controls to become effective, the catalyst needs a warm-up period. Considering how emergency engines are designed to operate, it is also doubtful that the controls would even be effective on emergency engines operating infrequently and necessitating time to start up. According to a survey conducted by the California Air Resources Board (CA ARB), on a yearly basis, emergency engines operate on average for 31 hours, which includes all types of operation (emergencies, required maintenance and testing, and interruptible service contracts) (EPA-HQ-OAR-2005-0029-0011).

Regarding ozone non-attainment in particular, a nationwide rule may require reductions in areas of the country where there is no ozone non-attainment, or where ozone issues may be pollutant specific. Modeling and studies have shown that large portions of the eastern United States are generally NO_x-limited, which means that reducing NO_x would be more effective in reducing peak ozone levels as opposed to minimizing the emissions of VOC. That is not to say that limiting VOC emissions will have an insignificant effect on ozone levels, however, reducing NO_x would generally be the most beneficial pollutant to reduce to lower ozone levels in the eastern part of the country, although this can vary by location. While there could be some benefit from additional reducing VOC in some areas, these areas tend to be site-specific and therefore would be more amenable to state-based SIP activities as opposed to a broad national regulation of engines. The EPA notes that its regulations on existing diesel engines would not result in NO_x reductions in any case, so the proposed revisions to the emergency engine

[45] Memorandum from Tanya Parise, Alpha-Gamma Technologies to Jaime Pagán, EPA. Cost per Ton for NSPS for Stationary CI ICE. May 16, 2006. EPA-HQ-OAR-2005-0029-0276.

provisions (which are mostly diesel engines) would have little effect on NO_x emissions. The EPA believes this a reasonable argument because in some areas of the country, placing additional control requirements on engines would likely have very small benefits, but in other areas, the benefits of such requirements would be larger. Also, it would be most fitting to target VOC reductions in the areas that would have the largest impact or benefit from such controls on engines.

Given the EPA's position on a Federal rule's ability and effectiveness of addressing ozone issues across the country and in response to commenter 1011's concerns about an increase in NO_x emissions resulting from requiring management practices for existing non-emergency 4SRB engines above 500 HP in sparsely populated areas, those concerns would be better addressed in an area-specific rule targeting NO_x reductions from these engines where ozone is a problem in NO_x limited areas.

The commenter is correct that based on the previous estimates of potential NO_x reductions associated with the 2010 rule for existing non-emergency 4SRB engines above 500 HP at area sources and what the Agency is finalizing in this action, there is a significant drop in possible NO_x reductions. However, as discussed in RTC 4.1.3, the estimated NO_x reduction for the 2010 rule may have been overestimated. For the 2010 rule, a NO_x destruction efficiency of 97 percent was used to estimate reductions from 4SRB engines. Industry has argued that that this level of control is too high and that it is not realistic to expect NO_x reduction when the rule does not set a NO_x emission standard. In typical circumstances where there is no NO_x requirement stipulated outside of the RICE NESHAP, the engine and control equipment (non-selective catalytic reduction (NSCR) and air-to-fuel ratio controller) would be optimized for CO and VOC reductions.

In response to concerns from commenter 1011 regarding to an increase in NO_x emissions that would result from the final rule due to the provisions for remote existing non-emergency 4SRB engines at area sources that are above 500 HP, as discussed in 4.1.3, the Agency may have, in 2010, assumed a NO_x reduction from the application of NSCR to these engines that was not necessarily attainable. Consequently, the benefits from NOx emissions reductions in 2010 may have been overestimated. The issue with the NO_x reduction assumed that would be achieved with NSCR on rich burn engines was that the engine and control device would not necessarily be tuned for a maximum reduction for NO_x because the rule does not establish a NO_x limit therefore the 97 percent reduction efficiency for NO_x that the Agency used is not guaranteed. Likely, affected sources would operate their engine and control device for maximum efficiency in CO and HAP reductions, to comply with the emission standards of the rule for these engines.

The EPA also notes that the RICE NESHAP is a HAP-rule, where the Agency is required by section 112 of the CAA to establish a regulation to reduce HAP emissions from stationary engines through MACT or GACT for HAP. With that said, in response to commenter 1033's concern regarding stationary engines operating on high sulfur fuel and the development of secondary $PM_{2.5}$, the EPA is finalizing provisions that place restrictions on the type of fuel that can be used for many existing stationary diesel engines. Starting January 1, 2015, the EPA will be requiring that existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 l/cyl that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hrs/yr for emergency DR to use ULSD fuel. This requirement also extends to new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 l/cyl located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hrs/yr for emergency DR. These requirements are specified in §63.6604(b) and (c) of the final rule. The ULSD requirements will reduce emissions of HAP and other pollutants. In particular, the requirements will reduce emissions of sulfur dioxide and sulfate particulate, both primary and secondary, more than the preexisting requirements for existing engines.

Emissions Trading Programs and Net Emissions Increases

3.1.5 Comment: When considering the impact on criteria air pollution like NO_x and SO_2, one commenter (1090) said that it is important to factor in the impact on emissions trading programs and net emissions. The commenter (1090) said that uncontrolled RICE operating in DR programs may displace other resources participating in cap and trade programs with the net impact being an increase in emissions since avoided operation from units in the cap and trade program will create excess tradable units, plus emissions from the RICE units.

Response: Based on information available at the time of the rulemaking, the EPA believes that what it has factored in to the analysis is reasonable and that the impacts assessed for the final rule for stationary emergency DR engines are appropriate. The possible effect of this rule on other programs is speculative.

Simulation of NAAQS Exceedances Based on Conservative Assumptions

3.1.6 Comment: One commenter (1033) said that the EPA should use available tools to analyze the potential RICE NESHAP impact. The commenter (1033) described a screening analysis that the Delaware Department of Natural Resources and Environmental Conservation undertook to assess

potential impacts from increased utilization of emergency diesel RICE using AERSCREEN, which is the EPA's recommended screening model based on AERMOD. According to the commenter (1033), results suggest that a single uncontrolled diesel RICE can exceed the new 1-hour NO_2 NAAQS and the 24-hour $PM_{2.5}$ NAAQS under varying conditions. The commenter also described other studies that indicate the potential for adverse air quality and health impacts form increased use of uncontrolled diesel backup generators are well-documented in peer-reviewed scientific literature.[46, 47]

Response: The EPA acknowledges that, using conservative assumptions (as the commenter indicates were used in their screening analysis), a model may simulate air quality impacts equal to NAAQS exceedances under certain conditions. As noted previously, such analyses are speculative regarding actual operation, particularly if they are used to simulate emissions under circumstances not modeled. Based on information available at the time of the rulemaking, the EPA believes that what it has factored in to the analysis is reasonable and that the impacts assessed for the final rule for stationary emergency DR engines are appropriate.

Increased HAP Emissions

3.1.7 Comment: One commenter (1090) cited a 2003 study from Synapse that indicated that increased use of uncontrolled RICE in DR programs could result in increased emissions of HAP, the exact category of pollutants the NESHAP program is required to reduce.

Response: The EPA notes that the report the commenter refers to very clearly indicates that the findings of the study are specific to New England and should not be extrapolated to other areas. Also, the study conducted was for that particular point in time and not for current conditions. The study also does not take into account the effect of ULSD on this analysis, or the hours limitation and limitation to emergency situations required in this rule.

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[46] Gilmore, E.A., P.J. Adams, and L.B. Lave, "Using Backup Generators for Meeting Peak Electricity Demand: A Sensitivity Analysis on Emission Controls, Location, and Health Endpoints," *J. Air & Waste Manage. Assoc.* **60,** 523-531, doi:10.3155/1047-3289.60.5.523 (2010); *see also* Gilmore, E.A., L.B. Lave, and P.J. Adams, "The Costs, Air Quality, and Human Health Effects of Meeting Peak Electricity Demand with Installed Backup Generators," *Environ. Sci. Technol.* **40**, 6887-6893, doi:10.1021/es061151q (2006).

[47] Synapse Energy Economics, Inc., *Modeling Demand Response and Air Emissions in New England*, prepared for U.S. EPA by Synapse Energy Economics, Cambridge, MA (revised September 4, 2003).

3.2 Economic Impacts

RIA Analysis

3.2.1 Comment: One commenter (1102) expressed that it had identified several flaws in the RIA. The commenter (1102) stated that the EPA had only estimated emission reductions, costs and health impacts from SI RICE, but had omitted any analysis of the proposal to allow uncontrolled engines to participate in emergency DR for up to 100 hrs/yr, which according to the commenter will increase emissions from both CI and SI engines. The commenter (1102) and commenters 1011 and 1101 also objected to the EPA's methodology to assess benefits because they believed it failed to take into consideration the health benefits (or detriments) related to the proposed emergency DR and peak shaving programs since the EPA failed to estimate emissions reductions (or increases) from the resulting operation of uncontrolled engines. The commenter (1102) noted that the net benefits of the SI engine rule (considering compliance costs) are $-53 million to $35 million (3 percent discount rate) to $-60 million to $25 million (7 percent discount rate). The commenter (1102) concluded that the net benefits are more than likely negative, it implies that the human health benefits to do outweigh the cost of compliance, which calls into question the value of the entire proposal.

The commenter (1102) asserted that it is the EPA's obligation under Executive Order 12866 to provide an assessment of the costs and benefits of this "significant regulatory action," but the EPA should not develop an RIA for proposed amendments based only upon certain portions which they deem relevant. The commenter (1102) added that the EPA should not include an assessment of the impact of other portions of a proposal just because it "does not know." According to the commenter (1102), it is imperative that the EPA provide an assessment of the costs and benefits related to the proposed allowance for uncontrolled engines to participate in emergency DR and peak shaving programs. The commenter (1102) concluded that because the proposal does not include such an assessment, the EPA must withdraw the proposed amendments.

Commenter 1011 similarly expressed that the EPA has not fulfilled its requirements under Executive Order 12866 to sufficiently estimate the costs and benefits of this significant regulatory action. Specifically, the EPA has not estimated the impact of allowing emergency engines to operate for peak shaving and the EPA incorrectly assumes that there will be no increase in emissions even though 50 hrs/yr is being proposed as an allowance for peak shaving, the commenter (1011) said. The commenter (1011) added that the EPA does not have an inventory of stationary emergency engines and

can therefore not assess the level and location of emissions increases associated with the peak shaving allowance.

The commenter (1011) pointed out that the EPA only assessed costs for stationary SI engines admitting that it did not assess the costs and revenue of stationary diesel engines participating in emergency DR programs and operating for peak shaving. The commenter (1011) quoted the following from the RIA to the proposed rule:

"The EPA expects there will be savings and/or income generated through participation in emergency DR programs and peak shaving operation, but the EPA has not accounted for any potential revenue in estimating the costs and benefits of the proposed amendments. It is uncertain how frequently stationary emergency engines would operate if they are called upon. Other factors, such as the annual revenue from DR programs (which varies), are also uncertain making it problematic to estimate the economic benefit of such programs. As such, the EPA has not estimated any costs associated with the emergency engine amendments." The commenter (1011) agrees that it is not possible to predict when engines will be called to operate for emergency DR and peak shaving, but the EPA does know when these engines have operated in the past plus the revenue earned during such operation. For example, the commenter (1011) stated that information submitted by Energy Connect, EnerNOC, and Innovative Power includes data on when different ISO called upon their resources. The commenter also reported that there is information provided on example revenue.

Response: The EPA notes the commenter's concerns, but as discussed in RTC 3.1 and in supporting material to the proposed rule, there is no specific information about emergency DR operation available that can be used to more accurately assess the impact of emergency DR operation. The EPA cannot speculate on the impacts when the number of engines participating in these programs is unknown and the EPA does not know how often the engines will be run. Operation will likely also vary by engine, location, conditions, and other factors. No one has shown that emergency engines operating for emergency DR purposes run more than 50 hrs/yr. In fact, as previously discussed, history shows that these engines are in fact operated well below 50 hrs/yr. The EPA does not have any indication that emergency DR operation is going to significantly increase as a result of this final rule either, and predicting annual emergency DR operation would be pure speculation. Payments for emergency DR operation can also vary and determining the annual average payment per engine would be difficult.

In terms of the commenter's concerns about peak shaving, the EPA is not finalizing the proposed peak shaving allowance, beyond allowing one year of lead time. In response to the commenter's issue

with an increase in diesel $PM_{2.5}$ emissions, the EPA is requiring in the final rule starting on January 1, 2015, that owners and operators of existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 l/cyl that use diesel fuel and operate or are contractually obligated to be available for more than 15 hrs/yr for emergency DR to use ULSD fuel. This fuel requirement also applies to owners and operators of new emergency CI stationary RICE with a site rating of more than 500 brake HP with a displacement of less than 30 l/cyl located at a major source of HAP that use diesel fuel and operate or are contractually obligated to be available for more than 15 hrs/yr emergency DR. This requirement will go far in reducing PM emissions from stationary emergency DR engines used or planned to be used for emergency DR operation, and will help minimize the air quality impact of emissions from emergency engines operating in emergency DR programs. Requiring the use of ULSD fuel is expected to reduce the HAP emissions significantly from the engines compared to emissions resulting from use of unregulated diesel fuel.

The EPA disagrees that the net benefits of this rule are likely to be negative. First, the commenter ignores the fact that the EPA's higher estimate of net benefits is positive, indicating a likelihood that the benefits could exceed the costs of this rulemaking. Second, as noted in the RIA, the EPA was unable to quantify the health benefits associated with exposure to HAP, ozone, and NO_2 or the benefits associated with reduced ecosystem and visibility impairment. If the EPA was able to quantify these benefits, it is likely that even the lower estimate of benefits would be positive. Third, as noted in the RIA, the benefit-per-ton estimates rely on national averages, which assume that the national distribution of the affected engines matches the modeled emissions scenario. To the extent that the modeled emissions scenario included remote engines located in areas with lower population density that would not be subject to the rulemaking, the benefit-per-ton estimates may be underestimated.

Local Government/Community Impacts

3.2.2 Comment: One commenter (1017) said that the low-income demographics and declining populations experienced by the majority of Kansas municipal RICE operators (median rate of population decline for Kansas Municipal Utilities members with RICE units was 8.7 percent between the years 2000 and 2009, with some communities declining over 20 percent during that time) makes it more difficult for them to use diminishing municipal resources to make large capital investments in communities with declining populations for units operated only a few dozen hrs/yr runs counter to common sense. The commenter (1017) stated that such funds could be used in a manner far more healthful and beneficial manner to the citizens of these various small communities.

One commenter (1036) estimated the cost impacts to rural Iowa communities and concluded that the costs to retrofit RICE would be significant for local governments, already struggling with budgets that have been stretched by losses in property values and declining state and Federal financial support. The commenter (1036) challenged the EPA's findings "that there is no significant economic impact on a substantial number of small entities (SISNOSE) for this rule." (page 9672) and "that there will [not] be any disproportionate budgetary effects of the final rule on any particular areas of the country, State or local governments, types of communities (e.g., urban, rural), or particular industry segments." (page 9673). The commenter (1036) said that the EPA has authority and responsibility to ensure regulatory flexibility, reduce the impact of unfunded mandates, and ensure that regulation imposes the least cost burden on society (Executive Order 13563). The commenter (1036) urged the EPA to recognize small, rural municipal and other not-for-profit entities as a distinct class of operators. The commenter (1036) suggested that the EPA could mitigate the economic impact on these entities by eliminating the April 17, 2017 sunset of authority to run 50 hrs/yr for peak shaving. Alternatively, or in addition, the commenter (1036) said that the EPA could grant to state regulatory or regional bodies administering the rule the authority to tailor the rule so as to balance costs and benefits. For example, the commenter (1036) said, the state agency charged with enforcement of the rule could be authorized to grant an additional one year extension for compliance or determine whether a specific operation meets the definition of emergency.

Response: The EPA is finalizing additional flexibilities for the operation of emergency engines. The final rule specifies that emergency engines can be operated for up to 100 hrs/yr for emergency DR and when there is a 5 percent or greater deviation in voltage or frequency. In addition, up to 50 of the 100 hours can be used to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. The EPA believes these additional flexibilities mitigate the commenters' concerns about the economic impact of the rule.

Decrease Need for Diesel Generators to Meet Peak Demand in Some States

3.2.3 Comment: One commenter (1125) asserted that the EPA should carefully evaluate the overall need for diesel generators to meet peak demand in light of the states' continued investment in energy efficiency resources and the corresponding impact these investments have had in reducing demand and

associated load growth. The commenter (1125) described Connecticut's energy efficiency commitments and investments.

Response: The EPA notes that to the extent diesel generators are not needed for peak demand, then the operations of those programs will reduce their use in such programs. The EPA notes that under this final rule, emergency engines cannot be used for peak demand after the one year lead time allowance has ended. The EPA notes that Connecticut has considerable authority to restrict the use of stationary diesel generators within its state.

Electric Coop Impacts

3.2.4 Comment: One commenter (1090) expressed that the EPA has not demonstrated how economic and public health costs and benefits are being balanced with respect to electric coops. The commenter (1090) suggested that the EPA consider whether cooperatives have engaged in available alternative strategies as a cost-effective means to keeping electricity rates low, as opposed to promoting dirty RICE generation. According to the commenter (1090), there are many other strategies cooperatives can engage in to augment supply or decrease demand, all which are cleaner than allowing uncontrolled RICE units to supplement the system. The commenter (1090) provided the following examples that electric coops can: (1) enter into long-term contracts for bulk power (where the longer time frames helps secure lower rates as compared to the spot market); (2) invest in energy efficiency and conservation to reduce energy demand and avoid higher prices; (3) invest in transmission and distribution upgrades to facilitate bulk power transfers and to enhance system and local reliability; (4) develop innovative, clean DR, peak shaving, and energy storage options for members to choose from; and (5) invest in new, cleaner generation. The commenter (1090) stated that cost savings and returns on investments captured by the coop members through these system enhancements, will be realized by the all of the coop members, since cooperative members are cooperative owners, by definition. The commenter (1090) added that, unlike pollution control waivers for RICE units, these alternative strategies do not create disparate harms and benefits to cooperative members.

Response: The EPA acknowledges the commenter's concerns. The EPA agrees that there are other options available to electric cooperatives and encourages alternative strategies to change the supply and decrease electricity demand. This does not change the current reality that emergency engines are now an important tool to ensure system reliability for electric cooperatives.

Capacity Payments or Credits

3.2.5 Comment: Two commenters (994 and 1123) opposed the ability of public power utilities to receive financial compensation in the form of capacity payments or credits while allowing an exemption from control for their RICE units.

One commenter (994) said that the proposed amendments to RICE NESHAP represent a significant economic opportunity for owners and operators of uncontrolled RICE units in the competitive wholesale electric markets. The commenter (994) said that the primary reasons that DR providers sued the EPA when it initially proposed a 15-hour limit was for the purposes of preserving their ability to qualify for capacity payments from PJM, which requires that resources must be available for a minimum of 60 hours per summer period in order to qualify as a capacity resource and be eligible for capacity payments. The commenter (994) cited information from PJM's July, 2012 *Load Response Activity Report* that confirms that capacity payments are the primary revenue source for DR products and that revenues derived from PJM's other competitive markets, including the energy and ancillary services markets, were de minimis by comparison to revenues earned from the capacity market. According to the commenter (994), in the aggregate, capacity payments represent on average approximately 81 percent of the total revenues for DR providers in 2008, 98 percent in 2009, 96 percent in 2010, 95 percent in 2011, and 98 percent through July 11, 2012. The commenter (994) stated that owners and operators of uncontrolled RICE units have a clear and vested interest in materially preserving these revenues because they essentially are the entire revenue opportunity for these units. According to the commenter (994), the only method in which the full value of the revenues can be preserved is through the exemption that these market participants sought through litigation with the EPA, which has now resulted in the proposed amendments to RICE NESHAP. The commenter (994) said that according to an analysis from NESCAUM of PJM capacity auction results and clearing price results, "…in the PJM auctions for MAAC [Mid-Atlantic 19 region], from 2012-2016, a backup generator would earn over $250,000 per MW, in addition to energy payments if called to operate."

The commenter (994) stated that the profitability of participating as a capacity resource is not guaranteed and that all market participants are at times influenced by additional regulatory compliance costs which necessitate a capital outlay. The commenter (994) said that uncontrolled RICE units should be treated no differently, especially because the exemption they seek from the EPA is to allow them to earn *additional* revenue through the capacity market as a capacity resource, not simply to be operated for self-supply emergency purposes only. The commenter (994) concluded that the EPA should reject

the fallacy that uncontrolled RICE units should not have to meet environmental standards *precisely* because these units have been repurposed for economic gain, and that the proposed amendments to RICE NESHAP are in support of that economic gain. The commenter (994) said that the EPA has been misinformed by the petitioners and others about emergency DR programs. The commenter (994) said that, per FERC, a DR program does not include the operation of BTM generators as this practice does not "induce lower electricity use." Instead, the commenter (994) said that a program that encourages the operation of BTM generators during "times of high wholesale market prices or when system reliability is jeopardized" is more appropriately identified as a "load management technique." The commenter (994) concluded that because neither the EPA nor the DR petitioners have provided support that the electric generation industry may have insufficient capacity to meet the energy demand on high electric demand days, the commenter (994) asked the EPA to eliminate the emergency DR program exemption included in its definition of emergency stationary RICE except for emergency stationary RICE units that provide power to the grid.

Two commenters (1082 and 1126) supported the ability of public power utilities to receive financial compensation in the form of capacity payments or credits while allowing an exemption from control for their RICE units. These two commenters (1082 and 1126) expressed concern regarding any attempt to remove the ability of public power utilities to receive financial compensation in the form of capacity payments or credits. One commenter (1126) asserted that these payments and credits from wholesale power providers to its members with emergency generating capacity do not constitute a financial windfall to the distribution utilities, but rather they are necessary cost recovery payments that keep the generating units available for emergency operations. Commenter 1082 stated that the EPA should not view cost recovery the same as profit as all public power systems are not-for-profit and function to maximize affordable power for the communities they serve over the long term—not profit economically. Further, since its members are usually units of local or county government, the commenter (1082) added they are not-for-profit and charge their customers cost-of-service based rates. The commenter (1082) asserted that the EPA's proposed rule implies that the EPA can set limitations on financial arrangements for existing RICE units (77 Fed. Reg. 33818, 33820 and 33832; June 7, 2012). The commenter (1082) does not believe the CAA provides any authority to the EPA to alter any business contracts. Under the CAA, the commenter (1082) asserts the EPA's authority is to regulate pollutants not contractual obligations and financial agreements.

The commenter (1082) said that it is likely that newer units will need to make higher offers to sell capacity to recover their fixed costs, and are therefore likely to be on the margin and more easily

displaced. However, the commenter (1082) also stated that a coal unit requiring extensive environmental retrofits may also submit a high offer price and could be displaced by DR.

Commenter 1082 asserted that the extent to which DR could potentially displace a cleaner unit represents a flaw in the RTO-operated capacity markets, and not the RICE unit exemption. The commenter (1082) stated that the capacity markets operated by the RTO are generation-technology neutral, meaning that a MW of capacity from an older, largely depreciated power plant receives the same payment as a megawatt from a new, efficient combined cycle unit or wind turbine, despite the differentials in costs. Therefore, the commenter (1082) claimed, there is no mechanism for the capacity market to express a preference for a cleaner source of capacity or to place a value on fuel diversity. Because of the myriad problems with the RTO-operated capacity markets, the commenter (1082) recommended that the capacity markets be phased out and replaced with state-run bilateral contracting programs, with public power given the option to procure or construct capacity on their own or opt-in to state programs. The commenter (1082) believes such procurements could be designed to promote policy preferences for cleaner and more efficient generation, and would prevent scenarios where DR or energy efficiency was a substitute for these lower emission units.

Response: The EPA agrees with the commenters that provided support for the ability of public power utilities to receive financial compensation in the form of capacity payments or credits while allowing an exemption from control for their RICE units. While the EPA understands the commenters' concerns that do not support the ability of public power utilities to receive financial compensation in the form of capacity payments or credits while allowing an exemption from control for their RICE units, the EPA is not limiting the ability of public power utilities to receive financial compensation and believes that the final rule accomplishes what the commenters are requesting. The final rule at §63.6640(f)(2)(ii) and (iii) permits owners and operators of stationary emergency RICE to operate their engines for a period of up to 100 hrs/yr for emergency DR purposes or when there are deviations in voltage or frequency of 5 percent or more below standard levels. The final rule does not prevent any form of financial compensation from being received according to operation under §63.6640(f)(2)(ii) and (iii).

However, the final rule does place restrictions on the financial compensation for emergency stationary RICE located at major sources of HAP and existing emergency stationary RICE located at area sources of HAP after May 3, 2014, which may be operated for up to 50 hrs/yr in non-emergency situations. The 50 hrs/yr for non-emergency situations cannot be used for peak shaving or non-emergency DR, or to generate income for a facility to supply power to an electric grid or otherwise

supply power as part of a financial arrangement with another entity. However, this provision is being finalized because the EPA believes, consistent with comments from numerous commenters, that operation for peak shaving and economic DR is not consistent with emergency operation and is separate and distinct from emergency DR operation and emergency use to maintain voltage and frequency under §63.6640(f)(2)(ii) and (iii) of the rule. The EPA believes the provisions of the final rule satisfy the commenters' concerns and that their issues are resolved.

Additionally, as the EPA notes elsewhere, there are other institutions more closely connected to capacity markets and state environmental issues that may be in a better position than the EPA to meet the concerns of commenters on this issue. The EPA notes that to the extent there is a significant economic opportunity to owners of stationary engines to receive payment for the energy they receive, such payments can be received by any power generator according to the programs created by such institutions. Many of the commenters opposing emergency engine participation in such programs are similarly capable of receiving such payments and are likely influenced by the same motives in preserving their ability to receive such payments. The EPA does not prevent sources from operating, or require aftertreatment emission controls, solely based on compensation. On the contrary, as discussed elsewhere, and as requested by the commenter, the EPA is treating emergency engines no differently than other power generators, some of which are subject to less regulation than emergency engines. It has not required that other power generators put on further controls simply because they are paid to operate, and it would not do so for emergency engines. The EPA makes decisions based on all of the relevant factors and has determined that, based on these factors, which include the cost and effectiveness of controls, the limited circumstances and the limited time for which use is permitted, and the use of ULSD, emergency engines should not have to meet the same requirements as non-emergency engines.

Pollution Control Costs Can be Offset by DR Revenues

3.2.6 Comment: Some commenters (1033, 1090 and 1022) said that the exemptions for emergency RICE are not necessary for economic reasons because pollution control costs can be more than offset by DR revenues. One commenter (1090) cited a recent Environmental Defense Fund (EDF) economic analysis that evaluated the costs of installing emissions controls on existing RICE engines compared with the estimated annual capacity market revenue and emergency energy price payments available to emergency RICE engines in NYISO and PJM. According to the commenter (1090), these evaluations found that in both ISO/RTO the payback period to RICE owners who install emissions controls was approximately one year. According to the commenter (1090), based on costs in the 2010 EPA RIA, the

capital cost for DOC and OCV for a 500 HP engine is approximately $14,000, including the costs of equipment and installation. The commenter (1090) stated that in the PJM RTO, annual capacity market revenue available for a 500 HP engine from the 3-year period of 2013-2015 would likely total over $60,000 in the PJM Mid-Atlantic region and $30,000 in lower priced areas of the PJM RTO. The commenter (1090) added that in the NYISO, the capacity revenue available for a 500 HP engine would be in the range of $20,000 per year in the New York City area.

Commenter 1090 also provided other examples from the EDF economic analysis based on an assumption that the all-in dispatch cost (fuel costs, engine maintenance and emission control maintenance) for a 500 HP engine ($0.28/KW-hr ($280/MW-hr)) and emergency energy prices ranging from $500 to $1,000/MW-hr would result in an engine operating for 15 hours annually earning approximately $1,000 to $3,600 in net energy revenue, and an engine operating for the maximum 100 hours annually earning from more than $7,000 to $24,000 in net energy revenue. The commenter (1090) concluded that in both ISO/RTO, the capacity and energy revenues would pay for the costs of emission controls in approximately 1 year, even if they only run for 15 hours. The commenter (1090) assumed that all of the capacity and energy revenue would accrue to the owner of the engine enrolled in the DR program, recognizing that in some cases, CSP that aggregate these engines may receive a significant portion of these revenues, which would prolong the return on investment for the owner that installed the emissions controls.

Another commenter (1033) provided additional examples of favorable DR revenue streams within PJM and from a CARB report.[48, 49] The commenter (1090) added that CSP that aggregate DR resources can and have provided compliance as a service in order to facilitate pollution control installation, monitoring and maintenance to keep RICE units operating in DR programs. The commenter (1090) described a "Clean Gen" program established by EnerNOC in the San Diego Gas and Electric (SDGE) service territory. The commenter (1090) said that this program upgrades backup generators in order to use them as DR resources, and in 2007, EnerNOC sought to expand the Clean Gen Program where, at the company's own expense, pollution controls would be installed and testing and maintenance performed for certain SDGE customers, presumably because the company found it to be economically beneficial to provide these services. The commenter (1090) said that based on EnerNOC's Clean Gen

[48] Memorandum from Doug Hurley, Synapse, to Stacy Angel, EPA Project Manager, *Sample Revenue for a 1 MW Backup Generation Unit*, Synapse Energy Economics, Inc., Cambridge, MA (July 27, 2011).
[49] California Air Resources Board, *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Airborne Toxic Control Measure for Stationary Compression Ignition Engines* (Appendix B), CARB Stationary Source Division, Emissions Assessment Branch (September 2010). Available at http://www.arb.ca.gov/regact/2010/atcm2010/atcm2010.htm (accessed June 27, 2012).

program, the Arizona Public Service Company (APS) performed a benefit-cost analysis on a proposed program to install pollution controls on standby generators in order to use the existing customer owned units in the downtown Phoenix area, without contributing to poor air quality. According to the commenter (1090), the results indicated total benefits of the program (measured in avoided capacity costs $46.1M and avoided energy costs $5.8M) would be $51.9M and total costs (technology, program and incentives) would be $41.6 M for the low diesel price scenario and $45.3 M for the high price scenario, indicating a net benefit for the program in either fuel cost scenarios. The commenter (1090) added that the benefit to cost ratio was 1.25 for the lower fuel price and 1.15 for the higher fuel price. Commenter 1033 also noted that Celerity Energy Partners San Diego, LLC, a subsidiary of EnerNOC, Inc., has a contractual arrangement with SDGE under which it has installed and maintained pollution control equipment on existing backup diesel generators that allows the units to be used as DR resources and for other ancillary purposes.

Commenter 1102 cited the EnerNOC and Synapse revenue studies and concluded that Delaware's experience is similar. According to the commenter, in Delaware, twelve non-emergency generators are permitted and all are either diesel-fired and employ SCR or are landfill gas-fired and use optimized engine controls and they all meet stringent emission standards. The commenter (1102) said that without the state requirements, and under the EPA proposal, these units would be allowed to emit 5 to 14 times more NO_X as uncontrolled units.

Conversely, one commenter (978) provided that revenue received from participating DR programs is often used to maintain the engines they have and to stay in operation and there are often not additional funds to make the necessary changes to meet the non-emergency requirements of the NESHAP.

Response: The EPA does not disagree that in some cases revenue earned from emergency DR participation could be used towards pollution controls and possibly offset those costs. However, as the EPA has previously discussed at length, there are many reasons why aftertreatment controls are inappropriate for emergency engines. There could be feasibility issues with applying aftertreatment such as DOC, which the commenters mention to emergency engines. Aftertreatment is generally unsuitable for backup use because of the short and sporadic operation of emergency engines, and the need to start up immediately. Catalysts may not be sufficiently warmed up to become effective at reducing HAP emissions prior to the engine being shut down again, either because the emergency situation is over or the required maintenance and testing has been completed. Also, because these engines are typically used

only a few number of hours per year, the costs of emission control are not warranted when compared to the emission reductions that would be achieved. For example, the EPA estimated in 2010 that the cost per ton of HAP reduced from an emergency engine that is operated 50 hrs/yr would be around $3 million for an engine 500 HP or more and $4 to $5 million per ton of HAP reduced for an engine between 175 and 300 HP. Clearly these costs are excessive and do not justify aftertreatment on emergency engines that do not frequently operate. Even assuming that the engines operate for the maximum allowable hours under the final rule of 100 hrs/yr, the cost per ton of HAP removed is still substantial at more than $162,000 for engines 500 HP and more and as high as $265,000 per ton of HAP removed for engines between 100 and 175 HP, and obviously also unwarranted. The cost per ton of HAP removed are not justified regardless of the amount of DR revenue received.

As noted by commenter 978 and other commenters, revenue received from participating DR programs is often used to maintain the engines they have and to stay in operation and there are often not additional funds to make the necessary changes to meet the non-emergency requirements of the NESHAP. Commenter 1056 noted that the economic benefit offsets the costs of emergency generators for its customers, and the loss of this benefit would cause the customers to pull out of their contracts. One commenter (1036) also made the statement that the cost of retrofitting engines with catalytic converters is high, and many engines cannot be retrofitted, because of their age, design, or inadequate physical space for the conversion equipment.

Further, the final rule requires that owners and operators who operate their engines for more than 15 hours per calendar year for emergency DR, or who are contractually obligated to be available for more than 15 hrs/yr for emergency DR, use ULSD fuel if their engines are above 100 HP. The cost of ULSD has a higher per gallon cost compared to other, higher sulfur fuels, and the EPA expects that any DR revenue will be used to pay for the extra fuel costs. Lastly, a requirement to put on aftertreatment would also require periodic emissions testing that entails significant costs and burden which needs to be considered when requiring aftertreatment.

RICE Settlement Agreement Objection

3.2.7 Comment: One commenter (1082) stated that EPSA opposition to the RICE settlement is based on financial and not environmental concerns. In contrast to alleged concerns about the displacement of cleaner generation, the commenter (1082) argued that EPSA fought to impede the entry of new, cleaner sources of generation (including natural gas) and renewable energy out of concern that such new entry would lower capacity market prices.

The commenter (1082) claimed that, despite the environmental benefits of these new plants, EPSA members have gone to great lengths to block their entry into the market and succeeded in obtaining Federal Energy Regulatory Commission (FERC) approval for rule changes that would create barriers to the entry of new, cleaner natural gas-fired power plants. Moreover, the commenter (1082) added, in their complaint to FERC, P3 stated that they plan to request in a future filing that these same entry barriers apply to DR and new renewable resources. The commenter (1082) argued that these changes significantly tightened what the Minimum Offer Price Rule ("MOPR") which imposes a price floor on offers to sell capacity from new natural gas units. The outcome of the MOPR change, according to commenter (1082) is to increase the difficulty for such new generation to clear the capacity market auctions, and creates an uncertain environment for obtaining financing for these plants. The commenter (1082) argued that because natural gas is a frequent source of backup power for variable renewable power, barriers to building these plants will also indirectly hamper renewable energy development; whereas existing power plants, such as 50-year old coal generation facilities, would not be subject to the MOPR and could continue to easily clear the capacity market.

The commenter (1082) concluded that EPSA's concerns about RICE rules are not based on a sudden adoption of a pro-environment agenda but instead are rooted in pure financial motivation. The commenter (1082) stated that the merchant generators' position on RICE units is one facet of an ongoing effort to constrain the capacity markets and raise prices, along with the previously described efforts to block the entry of new units in PJM and ISO New England.

The commenter (1082) asserted that there is already unequal footing in the capacity market because the coexistence of excess earnings flowing to the older generators, and impediments to new generation entry into the market. The commenter (1082) claimed that given recently drops in energy prices, EPSA members are becoming increasingly reliant on the capacity market to boost future earnings and stated that given these strong financial motivations, one can easily conclude that EPSA's concerns lie not with the de minimis environmental impacts of the RICE exemption, but with the potential impacts on their profitability.

Response: It has not been lost on the EPA that among the loudest objectors to using emergency engines for emergency DR are competitors that would stand to gain considerable advantage financially if competitor generation is eliminated from the market. Such competitors would bid their generation at higher prices than the emergency engines, thus increasing the cost of energy for consumers. For such

competitors, the issue of whether other generation is more or less environmentally protective may be of little interest, except as an argument to be used for market advantage.

Competitive Electricity Markets and Recommendations to Avoid Adverse Impacts

3.2.8 Comment: One commenter (1033) recently reviewed competitive electricity markets in the NESCAUM region and current regulations of emergency and non-emergency RICE, which the commenter (1033) said is essential to understanding these engines' increasing prominence. The commenter (1033) attached the report to their comments and summarized the major recommendations needed to avoid adverse impacts from emergency generator units as follows:

- In light of the potential long-term impacts with regard to future resource mixes in the electricity markets, an economic dispatch model to simulate the operations of the current grid mix versus a scenario where backup generators were limited in the market and/or required to install pollution control equipment would aid air quality planners to understand the potential for broader impacts and emission trends over time.
- Electric system operators (ISO, RTO) should have the authority to collect information on the source of DR resources from aggregators and other market participants. To improve transparency, system operators should provide a breakdown of the resources in their DR programs by zone similar to the approach of the New York ISO. In addition to being necessary to accurately determine their impact, it would be important for the system operator to know what comprises system resources in order to ensure a reliable system.
- The ISO and RTO should consider separating backup generation resources into a standalone DR program category similar to ISO-New England to better track their utilization for peak shaving and emergency DR.
- The EPA should require the use of ultra-low sulfur diesel for all backup diesel engines that participate in DR programs, similar to the existing requirements in most NESCAUM states.
- States and EPA should identify a reasonable timeframe for phasing out the participation of the oldest, dirtiest diesel engines in DR programs.
- Operators and aggregators of engines seeking to participate in economic or price responsive DR programs while remaining classified as emergency engines and thereby avoiding air pollution emissions standards should register and enroll engines directly with the relevant system operator and air quality agency; other indirect operation should be considered peak shaving and subject to air pollution emissions standards.

- Owners of backup diesel generators earning capacity revenue as electric generators in non-emergency DR programs should be required to install appropriate pollution controls, taking into account population exposure, revenues received, control costs, and any other relevant factors.

The commenter (1033) concluded that the EPA, in collaboration with electric system operators and relevant Federal, state, and local partners, should encourage the use of clean generation, appropriate demand-side management measures, and greater energy efficiency to achieve system reliability needs as better environmental and energy policy than increasingly relying on uncontrolled diesel engines.

Response: The EPA acknowledges the commenter's remarks regarding competitive electricity markets and how to, in the commenter's opinion prevent adverse impacts. Regarding the comments about how an economic dispatch model could be helpful to air quality planners, this is outside the scope of this regulation. The EPA does not disagree that it would be beneficial that electric system operators know the source of DR resources, but again, this is not within the scope of the rule. The EPA understands that PJM is in the process of obtaining this type of information from their operators. During a recent meeting between PJM and the EPA, PJM indicated that it would be requiring enhanced identification of their DR resources for the next delivery year. The next delivery year begins June 1, 2013, which means the information would be likely be available close to that date.

Gathering information on the resource mix is something the EPA supports and will assist in more accurately determining the impact and emissions contribution from stationary engines participating in emergency DR. In the final rule, the EPA is requiring reporting for owners and operators of emergency engines used for emergency DR or contractually obligated to be available for more than 15 hrs/yr. The information collected from this requirement will also assist in gaining a better picture of how many stationary engines are used for emergency DR purposes, how frequently these engines are operated, and where these engines are located. The EPA is also requiring starting January 1, 2015, that existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 l/cyl that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hrs/yr for emergency DR use ULSD fuel. This requirement also extends to new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 l/cyl located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hrs/yr for emergency DR. These requirements are specified in §63.6604(b) and (c) of the final rule, and the EPA believes this addresses the commenter's request that ULSD be required for backup generators participating in DR programs.

3.3 Health and Overall Environmental Impacts

Proposed Rule Lacks Supporting Technical Information on Air Quality and Health Impacts

3.3.1 Comment: Several commenters (1011, 1033, 1047, 1088, 1090) were concerned that the EPA has proposed this rule without adequate information to evaluate the impact of the rule on public health, considering that in the proposal the Agency clearly states that it does not have specific information about the location of the affected sources.

One commenter (1033) said that the EPA's proposed rule lacks supporting technical information on the RICE that would be subject to the rule and the air quality and health impacts of the proposed rule. According to the commenter, these critical omissions include: the number of RICE that may take advantage of the proposed rule's pollution control exemptions, the locations of these source, the times at which these sources may operate, the public's exposure to increased levels of diesel exhaust and fine particulate matter from these sources, the resulting public health harms from the increased exposure to diesel emissions, the resulting impact on communities that may bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies, the resulting impact on the ability of states to attain and maintain the ozone and other air quality health standards; the impacts on future resource mixes in the electricity markets from allowing uncontrolled RICE into economic DR programs. Without this information, the commenter (1033), as well as the EPA, is unable to evaluate the proposed rule's prospective impacts. Therefore, the commenter (1033) requested that the EPA withdraw the proposed temporary allowance for uncontrolled emergency RICE to participate in non-emergency DR.

Another commenter (1090) noted that in the January 24, 2008 ANPR, the EPA used 2005 sales data to make an approximation that 80 percent of the estimated 900,000 existing diesel RICE units are considered emergency units. The commenter (1090) said at the time, the EPA asserted that 10 percent of PM and NO_x emissions from all stationary RICE units came from emergency engines and therefore only a small percentage of HAP was being emitted from these units. However, the commenter (1090) added, the definition of emergency stationary RICE used by the EPA at the time clearly excluded engines participating in DR and peak shaving programs. Because previous assumptions about emissions from emergency stationary RICE failed to account for these activities, the commenter (1090) was concerned that the EPA has made no changes to its assumptions for this proposal.

The commenter (1047) said that the EPA's conclusion that these units will not be used often, and presumably that their effects will then be minimal, is not certain. In contrast, the commenter (1047) is

concerned that the market for their services may expand, along with the resulting emission increases. On the other hand, if they are unlikely to be used often, the commenter (1047) suggested that perhaps there is not a need for such an expansion in the hours during which they can operate without meeting emission limits.

Commenter 1090 added that ISO and RTO also lack information on DR activity. Citing the PJM's May 2012 load activity report, the commenter (1090) said that 64.4 percent of the DR resources were unidentified, since curtailment service providers (CSP) simply opted out of providing more detailed information by choosing the 'other' category. In another example, the commenter (1090) said that the Midwest ISO identified a total of 7,376 MW of DR resource in 2011 with over 40 percent (3,001 MW) identified as BTM generation and 930 MW as emergency DR. The commenter (1090) stated that the percentage of capacity from RICE units, specifically, is not known.

One commenter (1033) said that there has been little change in available information since NESCAUM first attempted to identify the locations of stationary diesel backup generators in 2003, which estimated the possible existence at that time of over 30,000 units in the NESCAUM region with a combined capacity exceeding 10 GW. The commenter (1033) said that available national estimates suggested as many as 350,000 installed units with a capacity totaling more than 127 GW. According to the commenter, the order of magnitude difference in emissions from uncontrolled diesel engines (particularly during the ozone season) makes even a small fraction of the total diesel engines used for DR programs problematic for air quality, and the lack of information on their locations and potential utilization as a result of the RICE NESHAP proposed rule can pose significant problems for informed air quality planning.

One commenter (1033) said that it has been stated (EnerNOC Review of Comments) that backup RICE have been rarely called upon by electric system operators to address emergency needs, and that this is likely to remain the case in the future. The commenter (1033) noted that emergency RICE have not previously been allowed to participate in non-emergency programs, and there is no historical experience from peak shaving or other non-emergency programs to inform air quality planners on the potential future impacts of expanded emergency RICE utilization. The commenter (1033) described capacity commitments within the PJM control area, concluding that it appears that a significant portion of the commitments is coming from entities deploying backup generators, either feeding directly to the grid or behind the meter generation.

The commenter (1047) said that the EPA has not made a sufficient case for the need for such a significant expansion in the number of hours exempt from emission limits for DR and peak shaving

(from 15 to 100), especially in light of the serious adverse public health impacts that these emissions can cause. The commenter (1047) recommended that the EPA collect additional information about the number and location of the affected units and conduct additional modeling and analysis of the consequences of the rule before concluding that the expanded hours would not be problematic.

Commenter 1011 added that the EPA also only estimated the health benefits associated with the proposed changes for stationary SI engines. The commenter (1011) said that the EPA claimed that analytical limitations prevented it from providing a comprehensive estimate of $PM_{2.5}$-related benefits and subsequently uses a benefit-per-ton approach based on the amount of NO_x emissions that are expected to be reduced, as a surrogate for $PM_{2.5}$. But, according to the commenter (1011), this method fails to consider the health benefits (or detriments) related to the proposed allowance for emergency DR and peak shaving because the EPA has not assessed the reduction (or increase) in emissions from such use. Commenter 1011 strongly objected to the lack of analysis because of unknown information and argued that it is imperative that the Agency provide a complete analysis of the impact of allowing uncontrolled engines to run for emergency DR and peak shaving purposes. Until a thorough analysis is completed, the commenter (1011) said that the proposal should be withdrawn.

One commenter (1090) stated that the EPA lacked data to conclude that uncontrolled stationary RICE located in remote areas will not be negatively impact public health. The commenter (1090) said that in establishing the definition of 'remote stationary RICE', the EPA used distance limits of 220 yards and 0.25 miles relating to housing density to qualify certain engine locations for pollution control exemptions. According to the commenter (1090), the EPA has not provided scientific data or evidence to support the conclusion that public health will not be harmed if pollution control exemptions are granted to RICE units located in areas that meet these distance and housing density thresholds. Without this type of information, commenter 1047 did not believe the EPA cannot reasonably determine that the expansion of uncontrolled emissions will not have a deleterious effect on public health.

Response: The EPA is not finalizing the proposed temporary 50-hour allowance for existing stationary emergency engines located at area sources engaged in peak shaving and other non-emergency use as part of a financial arrangement with another entity, which was proposed to expire in April 2017. Instead,the final rule allows the use of existing stationary emergency engines located at area sources for 50 hrs/yr prior to May 3, 2014, for peak shaving or non-emergency DR solely to provide leadtime before the allowance is eliminated. In consideration of the short compliance window between the final rule and the compliance dates of May 3, 2013 and October 19, 2013, the EPA finds it appropriate to provide

some lead-time for sources to come into compliance with the requirements that apply to non-emergency engines.

The purpose of the proposed amendments was to address issues raised by various stakeholders through several petitions for reconsideration of the 2010 RICE NESHAP amendments and other communications. The EPA has acknowledged that it has limited information about the whereabouts of engines used for emergency DR purposes and how many engines are used for this purpose. However, as a result of this final rule, the EPA will be obtaining information on engines used for emergency DR purposes where these engines are either used for more than 15 hrs/yr or that are contractually obligated to be able to operate for more than 15 hrs/yr. Owners and operators of these engines must submit annual reports to the EPA, as specified in §63.6650(h) of the final regulations. The Agency will obtain information about the location of the engines, the type of engines being used for emergency DR, how frequently and when the engine operated for emergency DR, and which entity dispatched the engine, among other things. This provision is also required for owners and operators of existing emergency engines at area sources of HAP that operate for non-emergency situations up to 50 hrs/yr under §63.6640(f)(4)(ii) of the final rule.

Additionally, we have received updates to draft data submitted from EnerNOC that included draft updates to PJM's draft data collection results for Business Segments, Load Reduction Methods and On-Site Generators' Fuel Type. Based on these updates (as of October 19, 2012), several changes to the PJM initial draft data submitted have been made (e.g., diesel fuel type usage was reduced from 82 percent to 63 percent, manufacturing load reduction for manufacturing has increased from 10 percent to 31 percent). [50]

The EPA believes that the number of hours of operation (50 hrs/yr) for emergency engines that it has used to model emissions from emergency engines is still appropriate. The commenter has not shown that emergency engines would operate more than this, particularly given that the revisions finalized in this rule allow operation beyond 50 hours only in carefully circumscribed emergency conditions. As the EPA has discussed in the impacts memorandum to the final rule[51] and elsewhere in this RTC document, the appropriateness of using 50 hrs/yr for purposes of estimating impacts because the EPA does not believe that the provisions finalized in this rule will lead to use of emergency engines beyond the 50

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[50] Email from Don DiCristifaro, EnerNOC to Melanie King, EPA. Revised PJM Load Activity Report for Demand Response Summary. Draft Data Collection Results for Business Segments, Load Reduction Methods and On-Site Generators' Fuel Type. EnerNOC. December 21, 2012.

[51] Memorandum from Tanya Parise, EC/R to Melanie King, USEPA, regarding RICE NESHAP Reconsideration Final Amendments - Cost and Environmental Impacts Memo. January 14, 2013.

hour average use per year estimated in the 2010 rule. The 50 hour estimate is still appropriate because the engines are not expected to be used on average more than that. The EPA discussed this more in a memorandum for the final rule.[47] Further, based on available information from a study conducted by the CA ARB, previously used to estimate the hours of operation of emergency engines (EPA-HQ-OAR-2005-0029-0011) and also discussed in the 2010 final rule for existing CI engines (75 FR 9661), showed that emergency engines operate for a total of 31 hrs/yr on average for all purposes. Of that, maintenance and testing accounted for the largest portion at 22 hrs/yr. There is no reason to believe that maintenance and testing hours would increase substantially in the future and the EPA believes 22 hrs/yr or less than 2 hours per month will sufficiently cover maintenance and readiness testing requirements. This means that a remaining 28 hrs/yr are left for other emergency use prior to reaching the Agency's modeled estimate of 50 hrs/yr for total emergency usage. Again, as the record shows, for example in a summary of emergency DR events in Eastern PJM,[52] emergency DR events are typically brief, rare in occurrence, and normally last less than 6 hours. Emergency engines may not even be called upon to operate at all in a year. An emergency engine could hypothetically operate for emergency DR response for 28 hrs/yr and still be within the Agency's modeled hours of operation. It is possible that emergency engines could be called upon and respond for more than 28 hrs/yr, but it is unlikely based on historical data. With that said, there are many emergency engines, as stated that may not operate at all in a year for emergency DR and some that operate for very few hours. Therefore, for purposes of estimating impacts from emergency engines, as a national average that is representative of all emergency DR operation, the EPA believes that 50 hrs/yr is justified. Anything beyond 50 hrs/yr would not be supported by the facts in the record and the EPA does not have any information to support a particular number or how many engines would be operated more frequently than 50 hrs/yr.

The EPA disagrees that it did not properly estimate the benefits of this rulemaking. The EPA's approach for estimating $PM_{2.5}$-related benefits has been extensively peer-reviewed and this approach is consistent with many previous EPA analyses. Specifically, the benefit-per-ton approach provides estimates of $PM_{2.5}$-related health benefits that reflect premature mortality as well as 11 morbidity endpoints. While there are uncertainties inherent in using benefit-per-ton estimates, the resulting $PM_{2.5}$-related benefits are just as comprehensive as those estimated using scenario-specific modeling. A key

[52] See Attachment 6 of Letter from Richard H. Counihan, EnerNOC to Michael Horowitz, et al., EPA. February 29, 2012.Entitled "Addendum to Analysis of Emergency DR and Ozone Concentrations." Prepared for EnerNOC by Blue Sky Environmental. February 2012. EPA-HQ-OAR-2008-0708-0839.

limitation of this approach is that it does not provide an estimate of the associated ozone co-benefits, for which the EPA provides a qualitative assessment of these benefits.

Formaldehyde Regulation

3.3.2 Comment: One commenter (1082) does not dispute that formaldehyde should be regulated. However, the commenter (1082) acknowledges that there are still ongoing discussions at the National Research Council (NRC) and National Academies of Engineering regarding the manner in which formaldehyde should be regulated. In light of the NRC's expression that formaldehyde is subject to overly stringent regulatory actions resulting from flawed determinations of risk by the Integrated Risk Information System (IRIS) data, the commenter (1082) said that allowing RICE units to be used in anticipation of, or during, emergency situations remains consistent with the EPA's charge to protect human health under the CAA. The commenter (1082) asserted that reduction in formaldehyde emissions can still be achieved if the EPA adopts the commenter's (1082) suggested hours of operation in the final rule. The commenter (1082) also argued that this overall reduction would not be harmed by removing the proposed rule's "sunset" after August 16, 2017. The commenter (1082) stated that, as any engines used more than 1.1 percent of the hours in a year would be required to meet the EPA requirements, the suggested improvements would retain overall effectiveness and significantly reduce formaldehyde emissions.

Response: The RICE NESHAP has been promulgated under section 112(d) of the CAA. It is not a risk-based rule, but based on available control technology for listed HAP (including formaldehyde). Therefore, the NRC's report has no bearing on this CAA section 112(d) rulemaking. Although there are ongoing IRIS discussions with the NRC, there is no dispute that there is the potential for adverse health risks associated with exposure to formaldehyde. The National Academy of Sciences panel convened by the NRC's report also found that the Agency sufficiently supported its conclusions that formaldehyde can irritate eyes, noses and throats and cause respiratory lesions. It also backed the EPA's conclusion that formaldehyde exposure causes cancer in the nose and upper throat.[53] With that said, the EPA will review the health and risk concerns for formaldehyde in the future under regulations covered under section 112(f) of the CAA.

[53] Review of the Environmental Protection Agency's Draft IRIS Assessment of Formaldehyde. 2011. Committee to Review EPA's Draft IRIS Assessment of Formaldehyde; NRC.

In terms of the permitted use of emergency engines, the EPA agrees with the commenter that engines should be allowed to be used during emergency situations, as defined in the final rule at §63.6675. The EPA does not agree, however, that emergency engines should be allowed to be used in anticipation of emergency situations. The EPA is not finalizing the proposed temporary peak shaving allowance set to expire in 2017 because the allowance is not consistent with use of these engines as emergency engines, given that peak shaving is clearly a manner to ensure capacity in high-demand situations, rather than reliability in emergency situations. The allowance is not needed to maintain electric reliability and alternative methods for meeting peak demand are available.

Adverse Health and Environmental Impacts

3.3.3 Comment: Some commenters (1033, 1090 and 1102) provided an extensive summary of why they believe that diesel exhaust and its components cause or contribute to significant health and environmental impacts. Two commenters (1033 and 1090) described how the complex mixture of fine particles and chemicals contributes to cancer risk, non-cancer health effects, respiratory conditions and heart conditions, acid rain, harmful ozone and smog levels and visibility is impaired. The commenters (1033, 1090, 1102) noted that diesel exhaust has been classified as a known carcinogen by the WHO and State of California and as a probably or likely human carcinogen by the EPA. One commenter (1090) said that the Agency's failure to quantify a unit cancer risk for diesel exhaust is inconsistent with the extensive body of science that is in fact demonstrating such risk. According to the commenter (1090), the fact there is uncertainty involved in quantifying the dose-response relationship does not in any way mean that rigorous and quantified cancer risk analyses cannot be produced. The commenter (1090) said that there are multiple approaches available to describe and even quantify uncertainty, and the EPA should move forward and quantify the number of cancer cases associated with exposure to diesel exhaust, as this is imperative to better assess the full health effects of diesel emissions, as well as the benefits of reducing these emissions. The commenter (1090) concluded that once the EPA has quantified the number of cancer cases associated with diesel exhaust, the full assessment of health effects and benefits will be able to more completely account for the advances in diesel engines and the impact of advanced technologies in reducing or altering cancer risk.

The commenter (1090) then provided a more extensive discussion of the data supporting conclusions that diesel exhaust is associated with a wide variety of non-cancer health effects (pages 8 to 10), health impacts of fine PM ("soot") (pages 10 to12), health impacts of ground level ozone exposure (pages 12 to 13), health impacts of the more than 600 toxic chemicals contained in diesel exhaust (pages

13 to 14) and health impacts of exposure to NO_x, CO and non-methane hydrocarbons (NMHC) emitted by uncontrolled SI RICE (pages 14 to 15). Commenter 1033 added that the RICE NESHAP exemptions will result an increase in the utilization of uncontrolled RICE in non-emergency DR and peak shaving programs will lead to increased diesel exhaust during the 5 years of the allowance. The commenter (1033) said that compounding the increase in diesel exhaust is the accompanying attribute that these relatively small and widely distributed sources are often located in heavily populated areas and have low stacks with poor dispersion. The commenter (1033) concluded that this leads to a higher likelihood that large segments of the general population living and working near stationary diesel engines will be exposed to increasing levels of HAP from diesel exhaust.

One commenter (1047) said that the EPA recognizes that diesel-fired RICE emit a substantial number of air pollutants that are harmful to human health including diesel exhaust, criteria pollutants, volatile HAP and metallic HAP, including some that are classified as carcinogens. The commenter (1047) stated that these emissions and the resulting air pollution (e.g., ozone) are linked to a variety of adverse health impacts, including such serious problems as respiratory and cardiovascular ailments, cancer and premature mortality. The commenter (1047) concluded that the EPA should ensure that its final regulations adequately address emissions from RICE and their impacts on public health. In particular, the commenter (1047) is concerned that the EPA's proposal to expand the hours for DR and provide an allowance of 50 hours until April 2017 for peak shaving may significantly increase diesel and other emissions, often in highly populated areas where many RICE are located, and adversely affect public health.

Commenter 1102 said that the EPA's proposal to allow uncontrolled engines to participate in emergency DR and peak shaving will expose the public to high concentrations of a now confirmed carcinogen, exacerbating the air quality and health impact to a public already exposed to high ground level ozone and PM. Commenter 1102 said that the EPA should withdraw its proposed amendments until it can develop a full assessment of the impact to human health and the environment.

Response: The EPA does not disagree that the pollutants in diesel exhaust are harmful to humans and the environment. In EPA's 2002 Diesel Health Assessment Document (Diesel HAD), exposure to diesel exhaust was classified as likely to be carcinogenic to humans by inhalation from environmental exposures, in accordance with the revised draft 1996/1999 EPA cancer guidelines. The EPA also concluded in the 2002 Diesel HAD that it was not possible to calculate a cancer unit risk for diesel exhaust due limitations in the exposure data for the occupational groups or the absence of a dose-

response relationship. Since 2002, several new studies have been published which continue to report increased lung cancer with occupational exposure to older engine diesel exhaust. The newer studies add to the evidence the EPA evaluated in the 2002 Health Assessment Document and further reinforce the lung cancer hazard concern. However, a systematic review of the new data would be needed before the EPA could determine whether these new studies support the development of a dose-response relationship for diesel exhaust.

As the rule is technology-based and not risk-based, determining a dose response relationship is not required as part of rule development. The RICE rule under section 112(d) of the CAA is not a risk-based rule, and is based on available control technology for emergency engines. The EPA will review risk in the next set of regulations under section 112(f) of the CAA. Under section 112(d), the EPA is currently requiring all existing and new non-emergency diesel engines above 300 HP, which includes engines at major sources as well as engines at area sources, to reduce their HAP emissions significantly by using DOC, or other control measures to achieve pollutant levels commensurate with those achieved through DOC. Controls used to reduce HAP from diesel engines will also reduce PM and CO emissions, though the magnitude of reductions depends on the control device. Also, through the CI NSPS (40 CFR part 60, subpart IIII), all new non-emergency diesel engines are subject to the most stringent emission levels, via manufacturer certification and compliance with nonroad Tier 4 emission standards, in most cases. New emergency diesel engines are also regulated in the CI NSPS to stringent levels (as stringent as, or more stringent than, the most stringent standards that were in operation at the time of the final CI NSPS rule). Owners and operators of existing small diesel engines (less than 300 HP) and existing emergency diesel engines, must follow specified maintenance intervals to ensure their engines are operating properly and at peak efficiency. It was determined in 2010 that checking and replacing the oil and oil filter, air cleaner, hoses, and belts are the most important components to maintain in order to ensure proper operation for minimizing HAP emissions. Therefore, the RICE NESHAP requires these parameters to be maintained or checked and replaced on a regular basis. For the first time, the EPA is establishing requirements for existing emergency diesel engines less than or equal to 500 HP and existing emergency diesel engines at area sources. Prior to the 2010 regulations, there were no regulations in place for these stationary engines. Therefore, the EPA is addressing a substantial number of diesel engines through different subparts and stages of rulemakings and is subsequently limiting diesel exhaust emissions through aftertreatment were that was determined feasible or through maintenance practices. The EPA notes that the rules promulgated under section 112(d) of the CAA are

technology-based, and any future regulations under section 112(f) of the CAA will take into account appropriate health and risk-based issues.

As discussed elsewhere, the revisions allowing further use of emergency engines in this rule limit use of emergency diesel engines to conditions directly related to emergency use and critical reliability issues. The EPA does not believe that the provisions finalized in this rule will lead to use of emergency engines beyond the 50 hour average use per year estimated in the 2010 rule.

Also, in this final rule, in addition to specifying very specific conditions during which emergency engines can be operated for emergency DR operation and non-emergency operation, the EPA is requiring that any emergency engine above 100 HP that operates more than 15 hrs/yr for emergency DR purposes or that is contractually obligated to operate for more than 15 hrs/yr must use ULSD fuel. The ULSD requirement will lead to HAP and other pollutant reductions. Finally, the EPA is requiring that owners and operators of these engines be held further accountable for their operations by requiring them to submit annual reports to the EPA documenting their engine usage for emergency DR operation. This new information will be helpful to the EPA in future reviews of these engines.

Adverse NO_2 Health Impacts

3.3.4 Comment: The commenter (1033) discussed the health impacts of NO_2 and noted that the localized nature of NO_2 may not be readily-observed with the current national air monitoring network. The commenter (1033) said that uncontrolled older diesel RICE that predate Tier 1 emission standards have very high NO_x emission rates, of which NO_2 is a primary component. The commenter compared NO_x rates of uncontrolled pre-Tier stationary diesel engines with NO_x rates of newer higher Tier-level diesel engines subject to emission limits. The commenter said that as another point of reference, a baseload coal-fired power plant equipped with SCR can have a NO_x emission rate around 1.0 lb per MW-hr. This is over an order of magnitude less than an uncontrolled diesel RICE, and even lower than most of the newer Tier limits. The NO_x difference is much higher (over two orders of magnitude) when diesel is compared to new combined cycle or simple cycle turbines that emit at about 0.1 and 0.2 lb per MW-hr, respectively.

Response: The EPA appreciates the commenters' concerns. The RICE rule under section 112(d) of the CAA is not a risk-based rule, and is based on available control technology for emergency engines for listed HAP. Nitrogen dioxide is not a listed hazardous air pollutant. The EPA will review risk regarding listed HAP in the next set of regulations under section 112(f) of the CAA.

Adverse $PM_{2.5}$ Health Impacts

3.3.5 Comment: Commenter 1033 expressed concern regarding the health impacts associated with $PM_{2.5}$. The commenter (1033) expressed particular concern that increases in black carbon emissions from diesel exhaust suggest that potential public health problems can arise when multiple uncontrolled backup diesel RICE are collectively operating over longer time periods to generate electricity in a localized densely populated urban area. The commenter (1033) stated that their concern is borne out in the air quality modeling studies cited elsewhere in their comments on identified information gaps.

Response: The EPA appreciates the commenters' concerns. The RICE rule under section 112(d) of the CAA is not a risk-based rule, and is based on available control technology for emergency engines for listed HAP. Also, $PM_{2.5}$ and black carbon are not listed HAP. The EPA will review risk in the next set of regulations under section 112(f) of the CAA. The EPA notes that several of the provisions in the NESHAP will reduce emissions of $PM_{2.5}$, and that the provisions adding requirements for use of ULSD for emergency engines in certain circumstances will reduce $PM_{2.5}$ emissions from such engines.

Amendments Will Have No Adverse Health or Environmental Impacts

3.3.6 Comment: Two commenters (1082 and 1314) support the EPA's conclusion that its proposed amendments will result in negligible additional pollution and have no adverse health or environmental impacts. One commenter (1082) stated that it asked Blue Sky Environmental (Commenter 1043 in this document) to review the use of RICE to respond to questions or assertions made during the EPA public hearing (conducted on July 10, 2012) on the RICE rule reconsideration wherein some witnesses stated that human health consequences were a certainty as a result of running RICE units under the number of hours that the Agency is considering under the re-proposed rule. The commenter (1082) asserted that the results included in Appendix A of its comments should give assurance to the EPA and state agencies that the running of these RICE units do not cause exceedances of air regulations and may well mitigate against far worse human health effects resulting from extreme weather events (heat or cold). Thus, the commenter (1082) believes that the EPA's proposed language will, at most, result in a negligible increase in air pollution.

The commenter (1082) added that it is important to note that many RICE units are considered "dual-fuel" engines, and as such are operated primarily on natural gas. According to the commenter (1082), roughly 90 to 95 percent of the fuel used by dual fuel engines is cleaner burning natural gas,

resulting in lower emissions from utility RICE units than may have been suggested by others during the public hearing. The commenter (1082) stated that DR does not necessarily represent a reduction in energy consumption and is therefore not inherently environmentally beneficial. The commenter (1082) further stated that, although it is correct that some DR measures may involve a reduction in total electricity use, such as direct-load control of lighting or air-conditioning, this is not necessarily part of DR. The commenter (1082) explained that other types of DR may simply involve the shifting of energy use from one time period to another without a total reduction in use. The commenter (1082) explained that, for example, a factory could shut down a production line during a peak period load curtailment request, only to increase production overnight. In such a case, the commenter (1082) asserted, the extent to which there is any environmental benefit would depend upon the mix of generation that is displaced or increased during on and off-peak time periods. The commenter (1082) added that this uncertainty regarding the environmental benefit from DR is summarized by the Regulatory Assistance Project in a study (May 2010) of the role of capacity markets in reducing carbon emissions.

One commenter (940) noted that their 8 to 10 HP natural gas "WITTE" engines are several miles from the nearest receptors and the health risk associated with their emissions is minimal. They asserted that, since the standard is based on toxics and health risk impacts, exclusion from the standard should not be considered a roll back.

Response: No response is needed.

Electric Grid Stability Impact Considerations

3.3.7 Comment: The commenter (1142) believes that many states support the use of engines for emergency DR primarily because occasional use of emergency DR is superior to having all emergency engines run in the event of a blackout. The commenter (1142) added that while Delaware and its supporters claim that emergency DR is bad for the environment; numerous states disagree with this assertion. These states, according to the commenter (1142), understand the importance of having a subset of emergency engines available to grid operators and utilities for a short time to avoid losing the electric grid rather than waiting for the electric grid to be lost, thereby causing enormous economic, environmental and health and safety damage.

Response: The EPA agrees.

Environmental Impact and Equity Issues

3.3.8 Comment: One commenter (1001) stated it takes no position on the environmental impact of the proposed rule nor the equity issues associated with whether the latitude provided to RICE resources is inconsistent with the level of environmental regulation of larger generation resources. The commenter (1001) asserted that these environmental and equity issues raise larger policy questions associated with the scope of environmental regulation as between large generation units and small RICE units that are uniquely within the province of the EPA to address.

Response: No response is needed.

3.4 Environmental Justice Impacts

Environmental Justice Analysis

3.4.1 Comment: One commenter (1090) asserted that the EPA failed to perform an environmental justice analysis of this rule in spite of the plentiful evidence that suggests one should have been completed. The commenter (1090) stated that the proposed rule provides special treatment for RICE units located in remote areas and RICE units located in rural electric cooperatives and that the proposal is also likely to contribute to increased pollution in urban areas. According to the commenter (1090), these special provisions and disparate impacts likely result in the Agency failing to meet its own environmental justice criteria for "fair treatment" and/or "meaningful involvement."

With respect to rural electric cooperatives, the commenter (1090) expressed that the EPA justifies its proposal to expand the use of uncontrolled RICE units for DR and peak shaving as strategies to "maintain the cost of power as low as possible" in some of the "most economically depressed areas of the country." The commenter (1090) said that establishing pollution control waivers aimed at reducing costs to specific entities (cooperatives), while not considering public health impacts or trans-boundary pollution transport, could constitute unfair treatment. The commenter (1090) added that failure to perform an environmental justice analysis also seems inconsistent with the recently signed interagency "Memorandum of Understanding on Environmental Justice and Executive Order 12898," which reaffirmed the commitment of covered Federal agencies in identifying and addressing "disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The commenter (1090) further stated that the EPA is potentially creating inequities between cooperative members and RICE unit owners. The commenter (1090) reported that a cooperative member

that is the owner of a RICE unit receives payments for participating in peak shaving and DR programs, but does not share those benefits with other cooperative members. The commenter (1090) stated that while other cooperative members will receive benefits in the form of potentially significant reductions in electricity costs, the costs of increased pollution to these local members are not taken into account. According to the commenter (1090), by waiving the pollution control requirements, the owner of the RICE unit is externalizing 100 percent of the pollution costs to other local members (realized through negative health impacts) while, potentially, capturing the majority of the benefits.

The commenter (1090) believes that the EPA's waiver for pollution control requirements for SI RICE in remote areas could have significant public health impacts. The commenter (1090) expressed concern that potentially affected communities may not be aware that this rule could impact them because they do not have information about the existence or location of nearby RICE units, and therefore, may not have been meaningfully involved in the process. The commenter (1090) added that this exemption seems inconsistent with the EPA's recent actions to reduce toxic and criteria emissions at oil and natural gas operations, especially statements in the April 17, 2012, final rule that acknowledged the powerful impact that RICE units have on facility-wide risk assessment for oil and natural gas operations where the EPA said that he risk is primarily "driven by emissions from reciprocating internal combustion engines".

According to the commenter (1090), the EPA is creating a second-class of rural citizens within their remote areas definition by creating an incentive to locate uncontrolled RICE in areas that meet the "not located near a pipeline" portion of the remote areas definition. The commenter (1090) stated that the proposed rule changes may cause fewer people to be impacted because engines will be placed in remote areas, but the impacted people will be exposed to much more air pollution because of the elimination of basic controls and the higher number of engines near them. The commenter (1090) expressed that this portion of the rule is directly at odds with the Agency's commitment to environmental justice, which aims to avoid disparate impacts through fair treatment of all groups of people.

Response: Executive Order 12898 directs the EPA to the greatest extent practicable and permitted by law, to make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations in the United States. Consistent with Executive Order 12898 and the Presidential Memorandum that accompanies it, the EPA's environmental

justice policies promote environmental justice by focusing attention and Agency efforts on addressing the types of environmental harms and risks that are prevalent among minority, low-income and indigenous populations. Executive Order 12898 and the Agency's environmental justice policies do not mandate particular outcomes from an action, but they demand that decisions involving the action be informed by a consideration of environmental justice issues. Additionally, Executive Order 12898 does not require that a demographic analysis be conducted. Due to data limitations as outlined in the preamble to the proposed rule, the Agency was not able to conduct a demographic analysis. The EPA discussed environmental justice in the preamble of this rule and asked for public comment on the proposed rule. As noted in the proposal preamble, with regards to SI RICE, the EPA did not have and has not received sufficient information on the location of the stationary RICE affected by this rule to conduct a public health impacts analysis of stationary RICE in remote areas. Given that the Agency did not receive additional information required to conduct a demographic analysis for this rule, the proposal was informed by the data available.

With regards to the EPA's recent actions to reduce toxic and criteria emissions at oil and natural gas operations, the subject facility-wide risk assessment referred to by the commenter (of which RICE unit emissions were included) was conducted for oil and natural gas operations because the rulemaking included a risk component under section 112(f) of the CAA. The RICE NESHAP is developed under section 112(d) of the CAA and is not a risk-based rule, but is based on available control technology for listed HAP. The EPA does not agree that the rule will create an incentive to locate stationary RICE in uncontrolled areas. The distinction for remote SI engines only applies to existing engines, so it would not be applicable for the placement of new engines. In addition, an engine must be located in a remote area as of the October 19, 2013, initial compliance date in order to be considered a remote stationary RICE. Thus, engines that are moved to remote areas after that date would not be able to qualify as remote.

In addition, in taking steps to understand the impacts of the rule, the EPA considered impacts on the cost of electricity which has the potential to impose adverse economic impacts on a community. While the EPA takes no position on any potential inequities between cooperative members and RICE owners, this assertion does not raise an environmental justice issue. Additionally, after this rule was proposed the Agency conducted activities to promote meaningful public involvement by coordinating conference calls for environmental justice communities and for tribes. Additionally, EPA Region 10 has conducted various forms of outreach around this rule in Alaska. The EPA did not receive any additional data to inform the decision making for this rule, and therefore the EPA was unable to develop additional

requirements for rural units. Similarly, the EPA also does not have any information to understand the impacts on these communities.

Insufficient Docket Support for No Environmental Justice Impacts Conclusion

3.4.2 Comment: One commenter (1102) stated that the EPA has not included sufficient information in the docket to justify a no impact conclusion. The commenter (1102) noted that the EPA has not identified the locations of emergency generators that could participate in the program, especially on HEDD when ozone concentration is high. The commenter (1102) said that these generators, with typically short stacks and emissions released close to the ground, can have a significant impact on densely populated areas which tend to classified as environmental justice areas. Also, according to the commenter (1102), data show that the vast majority of emergency generators are older, diesel generators. The commenter (1102), said that the EPA has underestimated the air quality impacts due to assumptions about the amount of time emergency engines would run, how many engines are in existence, the emissions characteristics of the engines, and that these engines are often co-located at hospitals and schools in densely populated areas. The commenter (1102) said that these potential environmental justice issues need to be analyzed further, consistent with Executive Order 12898.

Another commenter (1076) stated the EPA does not know the environmental justice implications associated with the proposed rule, because as the Agency has acknowledged, the Agency is not aware of the location of diesel engines. In the commenter's (1076) opinion, it is possible that many diesel engines will be located in urban areas with a high proportion of minority residents. Also, it is possible that diesel engines exist in low-income rural communities, the commenter (1076) said. The emissions from such diesel engines are particularly dangerous given the engines' ground-level emissions. In the absence of more information about the location of the diesel engines in questions, it is impossible to state with any certainty whether the rule will disproportionately affect low-income and minority communities. The Agency must conduct a thorough analysis of the environmental justice implications of the rule in order to comply with its own guidelines under Title VI of the CAA. Without such a review, the EPA would be arbitrary and capricious.

Response: As mentioned above because the Agency was not provided with the additional information required to conduct a demographic analysis for this rule the EPA used what was available to inform the development of this proposal. Furthermore, the EPA has no data available that indicates that the locations of these engines are disproportionately in areas that are "classified as EJ areas." In order to

minimize the impact of the emissions from these sources, the EPA has limited the allowable non emergency operation to emergency situations when there are grid stability concerns, and testing and maintenance necessary to ensure that the engine will operate properly. Available information shows that these engines have historically rarely operated for DR purposes.[54] As mentioned above the EPA conducted as thorough an analysis of the EJ implications of this rule as was possible given the data made available to the Agency.

In response to the remarks from commenter 1076, again, the EPA conducted as thorough an analysis of the environmental justice implications of this rule as was possible given the data made available to the Agency. The commenter stated, but provided no documentation, that it is possible that many diesel engines exist in low-income communities, and the commenter provided no information to support a claim that such communities are disproportionately affected by emissions from such engines. Furthermore, there is no evidence showing that people living in sparsely-populated remote areas would be at a disadvantage as a result of this rule.

3.5 Executive Order 13211

Energy Impact Analysis

3.5.1 Comment: One commenter (1011) stated that the EPA must provide a sufficient energy impact analysis to verify and confirm that the nation's electrical grid is in fact in jeopardy and that emergency engines are absolutely necessary to ensure reliability and stability. Such an analysis, according to the commenter (1011), must be coordinated with FERC and the different ISO and RTO. In the commenter's (1011), the EPA cannot arrive at the conclusion in good conscience that the energy needs outweigh the environmental and health impact without such an assessment.

Another commenter (1102) said that the EPA has not complied with Executive Order 13211 concerning regulations that significantly affect energy supply, distribution or use. The commenter (1102) disagrees with the EPA's view that not allowing uncontrolled stationary emergency engines to operate for longer periods of time in emergency DR programs jeopardizes electrical reliability. The commenter stated that there is no documentation in the rulemaking docket of any actual situation when stationary emergency engines have been the most critical aspect in stabilizing or saving the electric grid in a time of emergency. Instead, the commenter (1102) said that the data show that when large amounts

[54] Letter from Craig Glazer, PJM to Melanie King, EPA. Supplement Comments. February 14, 2011. EPA-HQ-OAR-2008-0708-0813.

of emergency generation is started the additional generation results in the backing down of a near equal value of the traditional (cleaner) generation.

Commenter (1102) expressed that uncontrolled emergency engines subject to the proposal would participate in an emergency DR program only when there is financial incentive to do so. The commenter (1102) further stated that, by facilitating the use of uncontrolled stationary sources in emergency DR programs, the EPA is creating a market for the services of these uncontrolled engines. The commenter suggested that, if the EPA is concerned about the reliability of the electric grid, it must provide in consultation with the FERC, RTO and ISO, a sufficient energy impact analysis to verify and confirm that the nation's electrical grid is in jeopardy and the use of these uncontrolled engines is absolutely necessary to protect the reliability and stability of the grid.

Response: The EPA has not claimed that stationary emergency engines are the only resource, or most critical component in stabilizing or saving the electric grid in a time of emergency. Stationary backup generators are part of a mixture of resources serving the electrical grid, and the EPA understands that the electric grid receives DR and stability with and without stationary engines. These units are an important and useful resource to RTO and ISO as they are small, quick-starting and reliable and can be used to assist in ensuring reliability of the electric grid.

Additionally, the EPA believes that limiting the ability of owners and operators of stationary emergency engines to use during periods in which the regional transmission authority or equivalent balancing authority has declared an EEA Level 2 as defined in the North American Electric Reliability Standard EOP-002-3, Capacity and Energy Emergency and during periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency ensures that these engines are only used when necessary for stabilizing the electric grid in a time of emergency.

4.0 Existing Non-Emergency Stationary SI RICE >500 HP Located at Area Sources

4.1 Sparsely Populated/Remote Areas (Class 1)

4.1.1 Comment: Several commenters (882, 1002, 1047, 1056, 1004, 1069, 1070, 1071, 1084, 1089, 1095, 1096, 1098, 1105, 1119, 1128, 1133, 1145, and 1457) are supportive of the proposal to require maintenance-based management practices for existing non-emergency 4-stroke SI engines greater than 500 HP that are located at area sources that are remote. One commenter (1105) also noted that it is supportive of retaining the requirements as proposed, otherwise significant compliance issues will need to be addressed. The commenter (1105) said that companies are waiting to comply with the RICE NESHAP for their area source engines, pending the final rule. If the remote engine and alternative monitoring provisions are not finalized in a way that is substantially similar to the proposed provisions, companies will require additional time to install equipment, according to the commenter (1105).

Response: The EPA is finalizing maintenance practices for existing non-emergency 4SRB and 4SLB engines greater than 500 HP at area sources that are remote, as proposed.

4.1.2 Comment: One commenter (1105) and commenters representing the State of Alaska or with interests in Alaska (922, 924, 947, 974, 990, 1006, 1020, 1031, 1062, 1063, 1130, 1135, 1136, 1139, 1141, 1145, 1444) asked that the EPA make changes in order to simplify the ongoing annual remote status assessment to allow remote engines located on a pipeline segment to be able to use the ¼-mile radius approach in the §63.6675 definition item (3) when annually re-evaluating status and use the Department of Transportation (DOT)-based method (item 2) to determine initial remote status. Commenter 1105 suggested the following revised language for §63.6603(e) in order to allow flexibility for the annual evaluation and to improve the language in this section:

(e) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart.

(1) Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that **do not** meet the definition of remote

stationary RICE in §63.6675 of this subpart as of October 19, 2013 ~~must evaluate the status of their stationary RICE every 12 months~~ **are not remote engines and must comply with the management practice equipment standard in Table 2d of this subpart.**

(2) Owners and operators ~~must keep records of the initial and annual evaluation of the status of the engine~~ **of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must:**

(i) Comply with the management practice maintenance procedures in Table 2d of this subpart;

(ii) Evaluate the status of their stationary RICE every 12 months.

(A) Keep records of the initial and annual evaluation of the status of the engine.

(B) For remote engines located on pipeline segments, the annual evaluation can be completed using the criteria in either (2) or (3) of the remote stationary RICE definition.

(C) If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within one year of the evaluation.

Response: The EPA does not think the changes the commenters have suggested for revising the language of the proposed section §63.6603(e) are necessary or appropriate and the EPA does not agree with the commenter's request to be able to use the criteria in (3) of the remote stationary RICE definition.

The proposed language in §63.6603(e) is straightforward and clearly indicates the requirements that apply for existing non-emergency SI 4SLB and 4SRB engines above 500 HP located at area sources that are remote. The EPA has therefore retained this language in the final rule, but notes that this section is now §63.6603(f) in the final RICE NESHAP. In addition, Table 2d of the final RICE NESHAP also clearly indicates the requirements that apply to these engines that are remote, i.e., in items 8 and 11. Table 2d of the final rule also clearly indicates the requirements that apply to existing non-emergency SI 4SLB and 4SRB engines above 500 HP at area sources that are not remote in items 9 and 12, respectively, if the engines operate for more than 24 hours per calendar year, or in item 5 if existing non-

emergency SI 4SLB and 4SRB engines above 500 HP at area sources are operated for 24 hours or less per calendar year.

The EPA proposed that sources that are remote evaluate their status every 12 months using the applicable criteria for being classified a remote stationary RICE in §63.6675 based on whether the engine is located on a pipeline segment or not. Owners and operators of engines in sparsely populated areas would have to conduct a review of the surrounding area annually to determine if the nearby population has changed. If the engine no longer meets the criteria for a sparsely populated area, the owner and operator would have to comply within 1 year with the emission standards specified for engines located in populated areas. The criteria for defining a remote stationary RICE depends on whether the engine is located on a pipeline or not. If the engine is located on a pipeline, the remote definition is according to the DOT pipeline classification system. If the engine is not on a pipeline, the rule restricts the definition to within ¼ mile radius around the engine. The EPA justified the development of the pipeline and non-pipeline criteria in the preamble to the proposed rule. One of the reasons for using the DOT classification is because it is an existing, well-established system that according to industry would cover many engines subject to the RICE NESHAP. The EPA is for the most part finalizing the definition of remote stationary RICE as proposed, at least as it pertains to the engines discussed in this comment and response. The EPA sees no reason to alter the proposed provisions for remote stationary RICE that would affect existing non-emergency 4SLB and 4SRB engines at area sources. Accordingly, owners and operators of engines on pipelines must use criteria (2) and non-pipeline engines must use criteria (3) of the remote stationary RICE definition in §63.6675 of the final rule. The alternative option for non-pipeline engines to use the ¼ mile radius criteria was developed specifically for those engines not on pipelines where the existing DOT classification system could not be used. The EPA does not see any reason why pipeline engines should use different criteria for their annual assessment of remote status versus what they use for the initial evaluation, as the commenter requests. Owners and operators of pipeline engines must use the DOT approach specified in (2) of the definition of remote stationary RICE in §63.6675 and cannot deviate from the criteria followed during the initial designation assessment. Subsequent reviews must be conducted the same way for consistency. Therefore, the EPA is not including the changes the commenter requested in the final rule.

4.1.3 Comment: Some commenters (1011, 1026, 1076, 1090, 1102, 1132, 1144, and 1193) are strongly opposed to the changes the EPA has proposed for existing 4-stroke engines greater than 500 HP at area sources that are in sparsely populated areas.

One commenter (982) noted that large SI engines in sparsely populated areas represent the major portion of the engines use in the production of natural gas, complementing the diesel engines used in drilling rig operations, electric generators, hydraulic fracturing pumps and recovery pumps. Commenters 982 and 1011 said that they do not agree with the proposed exemption for existing 4SRB engines above 500 HP in remote areas. The technology that would apply to these engines (NSCR) is a readily available, proven, and cost-effective way to reduce HAP emissions, the commenters (982 and 1011) said. There are tens of thousands of these catalyst installations on stationary 4SRB engines where most are in remote, unpopulated areas, according to the commenters (982 and 1011), who therefore dismissed arguments they believe are weak that claim that engines many be difficult to access, lack electricity or may be unmanned. The technology is passive, durable and has been successfully operating in remote locations for decades, without being manned, both commenters (982 and 1011) asserted. Air/fuel ratio controllers may need periodic calibration and the catalyst requires occasional cleaning, this is being done on thousands of existing NSCR installs today in remote locations, commenter 982 said. Commenter 982 also added that these engines have been permitted by states with NSCR and air/fuel ratio controllers for years. According to the commenter (982), its members have installed tens of thousands of NSCR catalyst on 4SRB engines in remote unpopulated areas, and the commenter (982) added that often times these engines are clustered in close proximity to facilitate inspection and maintenance of several engines during a single site visit.

The engines are in remote areas; however, the pollutants such as NO_x, VOC and HAP are transported from region to region and ultimately cause higher ozone levels far from their origin, the commenters (982 and 1011) said. The Agency should not go back on measures originally adopted and justified under the 2010 rule, commenter 1011 said.

One commenter (1090) argued against the proposed waiver of pollution control requirements for SI RICE located in remote areas because of the toxic and criteria pollutant impacts in remote areas. The commenter (1090) said that the EPA's new standards for RICE NESHAP under the definition of remote stationary RICE will replace proven and effective control technology requirements with management practice standards that involve replacing oil and oil filters, checking and replacing spark plugs, and checking and replacing hoses and belts. The commenter (1090) said that aside from viewing easily falsified logged maintenance schedules, the EPA has no way of verifying compliance with this standard.

One commenter (1090) said that the EPA's finding that this change to remote area provisions is acceptable ignores the impact of the definition of remote areas not associated with pipelines. Despite remote stationary RICE that are not on gas pipelines (engines located in areas with five or fewer

buildings meant for human occupancy in a ¼ mile radius) still being subject to the far less strict management practice standard, the commenter (1090) said that there is not a similar, parallel accounting procedure in place for these engines as there is for class 1 pipeline areas. The commenter (1090) said that the EPA's justification for reduced technology standards for engines in class 1 pipeline areas relies on DOT pre-existing knowledge and oversight of these areas, but the EPA's "less burdensome" justification for waiving pollution controls and instead issuing management practice standards for remote stationary RICE not on gas pipelines is not reasonable since there is no comparable system of accounting or oversight in place. The commenter (1090) said that impacted residents in class 1 pipeline areas would likely enjoy better air quality because even the minimal management practice standards are more likely to be adhered to because of the pre-existing oversight for the DOT's pipeline classification system. In contrast, the commenter (1090) said, impacted residents not in class 1 pipeline areas are likely to suffer greater harms because lack of oversight is likely to result in lack of compliance with the management practices.

The commenter (1090) added that the EPA's decision to create a class of remote stationary RICE should be abandoned because it definition is based on non-relevant factors. By using pipeline 1 area classifications, the commenter (1090) said that the EPA is claiming its factual or scientific analysis overlaps perfectly with a regulatory mechanism bearing no relationship to air quality and air quality's impact on human health. The commenter (1090) said that a pipeline classification system meant to guard against immediate, catastrophic, and dire events like pipeline explosions is irrelevant to a system of emission standards and pollution control technology requirements. In contrast, the commenter (1090) said that the RICE NESHAP is part of a statutory scheme meant to protect the public against health impacts from air pollution. The commenter (1090) concluded that the types of systems needed to guard against these competing harms are incommensurate and do not inform one another.

One commenter (1090) said that this provision creates unbalanced incentives. The commenter (1090) said that the intent of this rule seems to be based on concerns for industry cost-savings during incidental placement of engines in remote areas. However, the commenter (1090) said, this intent is not served by this rule because remote area designations will likely be factors in future placement of engines. The commenter (1090) said that as industry factors in reduced costs from not needing oxidation catalysts or NSCR technologies into the calculus of where and when it places engines, people living in these remote areas are much more likely to be exposed to more pollution. The commenter (1090) stated that this rule change may cause fewer people to be impacted because engines will be placed in remote

areas, but the impacted people will be exposed to much more air pollution because of the elimination of basic controls and the higher number of engines near them.

One commenter (1102) said that the impact of formaldehyde emissions, which may remain in the atmosphere for up to a day after being emitted and contribute to the formation of photochemical smog well downwind of the action emissions point, is being overlooked in the proposal to provide exemption from controls in remote areas. The commenter (1102) added that modern, effective controls are available that are suitable for unmanned operation, can be effectively operated and monitored remotely and can be integrated into RICE operations that do not have access to offsite power. According to the commenter (1102), the EPA should consider possible limited exemptions for site-specific reasons (such as inability to provide or acquire adequate electric resources or remote site communication) rather than provide a broad exemption for RICE in remote areas. The commenter (1102) described examples of NSCR control technology and said that it is a passive, durable technology that has been used in successful operation in many remote, unmanned facilities for years. This conclusion is consistent with the EPA's own impact analysis of the 2010 SI RICE NESHAP according to the commenter (1102). The commenter (1102) concluded that the public in less populated areas are no less entitled to the benefits of pollution controls and healthy air than the public located in more densely populated areas.

Some commenters (1076, 1132 and 1144) requested that the EPA abandon a rule that creates separate classes of protection for residents based on population density or location units. One commenter (1132) said that residents in rural areas require and deserve the same level of protection as other people. The commenter (1132) believes that rural residents will be negatively impacted by the proposal and commenter 1076 added that a significant portion of the United States population may be living in areas where the engines in those areas will not be required to use aftertreatment. This will cause increased exposure and health risks from engine emissions for this specific group of people, the commenter (1076) said.

Commenters 1132 and 1144 objected the class distinction established by the EPA in the proposed rule, which follows the DOT classification system. In the commenter's (1132) opinion, the DOT system regulates a categorically different aspect of natural gas operations and is therefore ill-equipped to address concentrations of stationary engines. Commenter 1144 said that the DOT system has nothing to do with air pollution. The commenter (1132) argued that the DOT regulations affect the safe transport of natural gas through gathering and distribution lines, and have no bearing on engines that are covered by the proposed changes. It is the commenter's (1132) belief that the Agency is considering adopting a standard that is convenient for industry, as opposed to serving the interest and

safety of the public. The DOT system that includes the class location standard is in place to safeguard against pipeline failures and not transient air pollutants, the commenter (1132) said. The potential impact radius, which is the "radius of a circle within which the potential failure of a pipeline could have significant impact on people of property," the commenter (1132), and the radius was not developed to address transient air pollutants that travel miles in the lower atmosphere. The commenter (1132) further discussed the inappropriateness of using the DOT criteria in the rule and argued that the EPA has established criteria that are entirely arbitrary. Commenter 1076 agreed that it is wrong of the EPA to base an air pollution regulation on criteria established by the DOT regulation that deals with pipeline safety. The criteria under the DOT classification system are not relevant, the commenter (1076) said.

Commenter 1144 argued that emissions from stationary engines are not confined to the pipeline corridor and that some of the HAP emitted from engines above 500 HP that burn natural gas from the pipeline are dense gases including radon that will settle into low lying areas near the compressor stations powered by the engines in question. So although there may not be any people living within the Class 1 area they might live in a low lying area near the compressor station where the emitted radon will collect, the commenter (1144) said. The commenter (1144) said that radon is radioactive, and is according to the EPA the leading cause of lung cancer among non-smokers, accounting for 21,000 deaths yearly, the commenter (1144) added.

One commenter (1076) urged the EPA to remove the remote stationary engine definition from the rule provisions. Commenter 1144 cited to section 112(h)(4) of the CAA that states that:

"(4) NUMERICAL STANDARD REQUIRED – Any standard promulgated under paragraph (1) shall be promulgated in terms of an emission standard whenever it is feasible to promulgate and enforce a standard in such terms."

One commenter (1144) noted that the EPA established a numerical standard for non-remote 4-stroke engines above 500 HP at area sources based on oxidation catalyst and NSCR. The engines used at compressor stations in remote and non-remote areas are exactly the same and therefore a numerical standard is feasible for remote engines also, and the commenter (1144) said that if a numerical standard can be promulgated for a type of engine, section 112 of the CAA does not allow a work practice or management practice standard to be applied to this same engine if it is located somewhere else. For that reason, the commenter (1144) said that the proposed rule conflicts with the CAA and cannot be finalized.

One commenter (1132) also expressed how the proposed rule would lead to an increase in pollution in areas with less than 10 houses in a 220-yard radius and said that this would further increase

the air pollution in rural areas of southwestern Pennsylvania, which is an area that already suffers from poor air quality. The commenter (1132) stated that low population density does not correlate to outstanding air quality and mentioned areas with low population density having non-attainment issues. The commenter (1132) also noted that some specific areas have increased rates of diseases associated with air pollution. The commenter (1132) added that residents of southwestern Pennsylvania already experience significant health problems and that the proposed rule will only exacerbate these problems. The commenter (1132) concluded with stating that the EPA should finalize a regulation that offers the same level of protection for everyone, regardless of where the engine is located. The commenter (1132) is opposed to using population density as the sole factor for determining air pollution regulation and urged the Agency at a minimum to keep the existing regulation as is. Commenter 1076 also said that it is wrong for the EPA to effectively create a group of second-class citizens in rural areas, who seemingly are not deserving of the same level of protection as citizens in populated areas. Commenter 1076 additionally said the rule will undermine state and tribal air permitting programs because it will weaken the best available control technology (BACT) and best available technology (BAT) standards. Lastly, in the commenter's (1076) opinion, the EPA ignores the effects of the transportation of pollutants that may impact the NAAQS in different areas.

One commenter (1090) said that if the EPA finalizes the remote areas portion of this rule, many state-run air permitting programs may be severely weakened. According to the commenter (1090), finalizing a rule that does not require oxidation catalysts or NSCR on may signal to states that BAT/BACT should be contemplated differently in these remote areas despite well-worn regulatory precedent. The commenter (1090) said that because BAT/BACT is an ever-tightening standard resulting from increasing market penetration of pollution control technology, this rule could negatively impact that standard, delaying or rolling back reasonable advances in air quality. Commenter 1090 said that the 17 states with laws that prevent environmental standards from being no more stringent than the Federal standards, have to rely on the EPA rules to protect public health and the environment. The commenter (1090) said that it is imperative that the Agency put in place, and keep in place, rigorous air pollution standards for stationary RICE that equally protect public health in all states.

Response: The EPA does not necessarily disagree with many of the commenters' (982 and 1011) remarks regarding NSCR. The Agency has in the past made similar conclusions regarding the technology's demonstrated capabilities and cost. However, the EPA proposed management practices for large existing non-emergency 4SRB engines at area sources remote from human activity to address valid

concerns from industry about accessibility, infrastructure, and staffing that relate to the remoteness of these engines. Also, compliance costs with the original 2010 requirements were a concern because the requirements would have likely required NSCR. The EPA discussed the reasons for its proposed changes in the preamble to the proposed rule (77 FR 33820).

One of the things that those opposed to the 2010 rule argued in terms of the requirements for engines in remote areas was that the Agency did not consider population density and the difference in health impacts in remote areas versus more populated areas, and reasoned that the EPA has flexibility to require less stringent standards for engines in remote areas. As discussed in the preamble to the proposed rule, the EPA does not agree with everything petitioners argued, but the Agency does believe that there is reason to distinguish between remote and non-remote areas for this group of engines. While NSCR and oxidation catalysts are feasible and available for rich burn and lean burn engines, the costs of the emission controls, including installation, operation and maintenance, testing, and monitoring requirements may be unreasonable when compared to the HAP emission reductions that would be achieved, particularly at these remote sites where other costs and limitations come into play. While it is not impossible to install add-on controls on engines at remote locations, there are significant downsides to such installation and continued maintenance and upkeep of the engine, control equipment and other associated monitoring and test apparatus. Because of the remoteness of these sites and because it is not practical to visit these engines (which are located at sites that are often unmanned), costs to travel to these locations can be higher than other more centrally located engine facilities. In addition, according to industry, remote sites often only have one engine and sites are spread out and located far away from town. Getting equipment to these remote sites, e.g., testing and monitoring equipment is a big issue, and according to engine operators of engines at remote sites, access to their engines can be difficult due to extreme weather conditions in certain areas. In some cases, engines can also be hard to get to because of Bureau of Land Management land restrictions.

Further, some commenters claimed that the Agency over-estimated the NO_x reductions for the 2010 rule (75 FR 51570). There are no NO_x reductions associated with adding oxidation catalyst controls to 4SLB engines and the NO_x impacts estimated from the 2010 rule were only related to the requirements for rich burn engines above 500 HP at area sources. However, the commenters claim that because the NESHAP is intended to maximize reductions of HAP like formaldehyde, NO_x reductions from rich burn engines are not necessarily guaranteed at the 97 percent control level, claiming that calibration to maximize HAP reductions are different than calibrations to maximize NO_x reductions and there is a very specific operating window to control all parameters to optimize NO_x reductions from an

NSCR. States that are concerned with criteria pollutants from large engines at area sources that are remotely located can require further emission controls from these engines to achieve the reductions needed for these pollutants. State control of criteria pollutants through SIP measures, particularly in non-attainment areas, is the method most directly applicable in the CAA, particularly as it relates to existing sources, to dealing with areas that are in non-attainment for criteria pollutants. In the context of a national rule directed at regulating HAP emissions from existing SI engines at area sources in remote locations, the EPA believes it is not appropriate to require aftertreatment-forcing numerical emission standards.

The EPA is finalizing management practices for existing non-emergency 4SRB engines above 500 HP at area sources that are in sparsely populated areas. Regularly scheduled intervals for checking, inspecting, and replacing the oil and oil filter, spark plugs, hoses and belts will ensure that the engine is operated and maintained properly. The engine owner and operator will know the status of the engine's components and can make sure they remain in proper condition and continue to perform the necessary functions to support proper engine operation, reduce HAP, and minimize emissions. These are the type of management practices that are generally in use to protect the engine.

In response to criticism about using the pipeline classification system to define remote engines, as discussed in the preamble to the proposed rule and in RTC 4.1.2, the DOT system is a well-established, already implemented system that is currently in use in the field. According to industry, the DOT system would overlap well with existing large SI engines affected by the rule. While the DOT system was not created for the same purpose as the EPA's current regulation, its intent in delineating engines that are close to populations from engines that are remote is similar to the EPA's intent and its provisions are transferable to this rule for the purpose of delineating remoteness. Given the advantages of an existing system and in the absence of a better way to define remote engines, the EPA retains the decision that following the DOT system is the best approach for this rule.

Regarding the lack of DOT oversight that would be associated with those engines not on pipelines, which are instead subject to the ¼ mile radius criteria for determining remote status, the EPA notes that owners and operators of these engines are subject to recordkeeping requirements. As specified in the final rule at §63.6603(f), owners and operators must evaluate the remote engine status every 12 month and records of the initial and ongoing annual remote status evaluations must be kept. In addition, owners and operators of these engines (as well as engines on pipelines) must keep records of the maintenance conducted on the engines, as required by §63.6655(e)(3). Records of maintenance conducted have to be readily accessible for expeditious review by the enforcement authority, as

specified in §63.6660(a) of the final rule and according to §63.10(b)(1) of the General Provisions to 40 CFR part 63. Failure to meet these requirements would be a deviation.

The EPA also believes that there is little chance of this rule causing significant future movement of engines to remote locations. This subcategory affects only existing engines and once this rule becomes effective, there will be little incentive for a source that has already put on controls to be moved to an area where no controls are required.

In response to comments about how pollutants are transported, the commenters did not provide specific data showing that the HAP of interest travel very far, given the low emission point of these sources. On the other hand, the EPA received modeling information from other commenters to assess pollutant concentrations, which was conducted using the EPA's ISC3 and two model natural gas-fired 4SLB and 4SRB engines above 500 HP.[55] The results of the dispersion modeling indicated that there is rapid decrease in the concentration within short distances where the maximum concentration for all stack heights from the 4SLB engine occurred at less than 50 meters and from the modeled 4SRB engine at less than 130 meters. Both distances are well below the distance criterion of ¼ mile for non-pipeline engines. The EPA notes that this modeling information was provided only for 4-stroke SI engines and would need to be further reviewed, but it is relevant in responding to the comment.

While other pollutants such as CO, VOC, and NO_x may be reduced by this rule, the focus on the Agency's review is on HAP. In terms of concerns associated with radon being emitted, which commenter 1144 mentions, the EPA does not have any tests showing radon emissions from engines. Radon is radioactive, hazardous, and a carcinogen existing all across the United States, but the commenter did not refer to any tests and since the EPA does not have any data showing radon being emitted from engines and does not have any information from catalyst vendors that would indicate that radon is reduced through catalytic converters, which converts hydrocarbons to CO, water vapor and carbon dioxide (CO_2), the EPA would not expect radon to be reduced by the controls required by the regulation. Radon is typically mitigated via other measures.

While people in rural areas are entitled to protection from air pollution, the remoteness of engines from sizable human populations and infrastructure is a reasonable criterion to review in determining subcategories. It is worth noting that the EPA's legal impetus for this rule is a provision of the CAA dealing with urban air toxics.

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[55] Memorandum from Jim McCarthy and Jeff Panek, IES to Lisa Beal, INGAA. Concentration versus distance profiles from reciprocating internal combustion engines – Dispersion modeling results for two example engines from previous INGAA modeling. July 27, 2011EPA-HQ-OAR-2008-0708-0849.

Regarding the comment that the CAA does not allow work practice standards for these engines, the engines being regulated are at area sources, and the provisions for area sources, at CAA section 112(d)(5) allow for requirements which provide for GACT, including management practices. The provisions for remote engines are management practices designed to ensure proper maintenance and operation of the engines, which will protect against emissions caused by poor maintenance or operation.

In response to concerns regarding BAT/BACT, this provision should not necessarily undermine BAT or BACT in general since those programs most often include direct examination of criteria pollutant emissions and this regulation is directed towards HAP. The choices are not necessarily the same under BAT/BACT and the decision-makers for such determinations will make their own choices. Further, the EPA believes that it is appropriate to examine issues of cost effectiveness and the particular effects regulations have on sources, and that the analysis provided in this rule should not be seen as inappropriate simply because it results in regulatory relief. Regarding the States that have laws that prevent standards from being more stringent than the EPA standards, this is a choice made by the elected representatives of those states. The EPA cannot make national rulemaking decisions based on the choice of certain states to make the policy choice not to promulgate more stringent standards than the EPA. In addition, to the extent such states have issues concerning non-attainment of NAAQS, they are required to meet the provisions of section 110 of the CAA despite any such laws.

4.1.4 Comment: One commenter (1136) added that if the remote versus non-remote subcategories are not retained in the final rule, the equipment standard and alternative monitoring provisions should still retained for any area source that requires a catalyst.

Response: No response is needed.

4.2 Populated Areas (Class 2-4)

4.2.1 Comment: Some commenters (1004, 1070, 1089, and 1323) are supportive of the proposed changes for existing 4-stroke SI engines above 500 HP that are at area sources in populated areas. One commenter (1004) believes that requiring an equipment standard and reducing the testing and monitoring burden will yield emission reductions while lowering the administrative and financial burden on affected sources. Specifically, some commenters, including commenters 1070 and 1323 said that they support shorter duration portable analyzer CO tests and high temperature shutdown in lieu of having to continuously monitor parameters in order to demonstrate compliance. Commenter 1070 also believes the proposal for these engines adds flexibility, while reducing testing and monitoring costs. Commenter

1089 also supports simplified compliance, specifically the less rigorous testing and monitoring requirements in the form of allowing portable analyzers to measure CO and relying on high temperature shutdown devices as opposed to continuous monitoring.

Although supportive of the proposal to allow high temperature shutdown devices as opposed to continuous parametric monitoring system (CPMS), one commenter (1323) noted that because of the timing of when this proposed requirement came out, it has already gone through a contractor bid to retrofit its engines with controls and CPMS in order to meet the October 2013 compliance deadline. Therefore, because of the late proposal of this alternative requirement, the commenter (1323) said that additional compliance time is needed in order to reverse planned monitoring methods based on the final rule.

Response: No response is needed. Regarding the need for more time, the commenter may be able to receive more time through a request for extension with its appropriate permitting authority, although given that this revision was intended to reduce burden, the commenter may be able to meet the requirements within the time provided in the regulations.

4.2.2 Comment: One commenter (1038) said that the final RICE rule established emission limits for non-emergency 4-stroke engines based on the MACT floor, but now the EPA proposed that these same units be required to install controls without regard to whether they can meet the limits without controls. The commenter (1038) added that the EPA has not provided a rationale for this change or for the additional requirement to test these required controls annually and to automatically shut down the engines if certain temperatures are exceeded. The commenter (1038) said that if the proposal is adopted, these engines already meeting the emission limits would have to undergo the cost of installing and testing controls, resulting in no environmental benefit.

Response: For certain other categories of engines subject to the RICE NESHAP, emission limits can be met either with a concentration option or a percent reduction requirement, without a specific requirement for added emission controls. However, the requirement that was proposed and that is being finalized for existing non-emergency 4-stroke engines above 500 HP at area sources that are in populated areas is not the same as those standards. The requirement being finalized in this action for these engines is an equipment standard, which is what was determined to be suitable for existing large

non-emergency 4SLB and 4SRB engines at area sources of HAP emissions remote from human activity. The concentration levels specified in items 13 and 14 of Table 5 of the final RICE NESHAP are not numerical emission limitations, but are compliance demonstration levels to verify that the catalyst is functioning correctly.

When the EPA promulgated the 47 ppm by volume, dry basis (ppmvd) standard in 2010, it did not have any evidence of, nor did it believe there to be, any engines that could achieve an engine-out level of 47 ppmvd without the use of aftertreatment. The commenter did not provide data or information showing that this is possible. The EPA contacted the commenter for additional information to clarify the claim made. Commenter 1038 indicated that at the time the comment was submitted, the commenter had information suggesting that there was a unit (or units) that could meet the limits without controls. However, since that time, the commenter (1038) determined that it was not certain this was the case and is in the process of installing controls on the engines. The CO level of 47 ppmvd is based on test results available from four 586 HP Caterpillar 3412LE engines at Thunder Creek Compressor Station. All four engines were equipped with oxidation catalyst. The CO was reduced by more than 80 percent for each engine. The EPA has numerous test reports for stationary 4SLB engines without add-on controls and the engine-out CO levels are much higher than 47 ppmvd, clearly demonstrating that aftertreatment is needed to meet an engine-out level of 47 ppmvd. Therefore, the EPA remains convinced that the CO level of 47 ppmvd for 4SLB engines is only attainable with aftertreatment, and has no information indicating otherwise. Therefore, the EPA disagrees with the commenter's statement that this revision of the regulations for these engines creates any new requirement that would not have been necessary under the preexisting regulations.

The EPA disagrees with the commenter that it has not provided a rationale for the requirement to test the required controls annually and to automatically shut down the engines if certain temperatures are exceeded. The EPA discussed the rationale for both requirements in the preamble to the proposed rule. The annual catalyst check is required to ensure catalyst activity and the temperature requirement is intended to protect the catalyst. By monitoring the catalyst input temperature, the owner and operator is alerted in cases where the engine temperature becomes too high and could negatively affect catalyst performance. A high temperature shutdown device automatically tracks the engine temperature and based on the temperature set point will turn off the engine if that critical temperature is reached. The high temperature shutdown device was added as an alternative option to monitoring the catalyst inlet temperature continuously. The EPA believes the requirements are appropriate as proposed and the EPA

does not see a compelling season to finalize requirements that are different than what was proposed based on the comments received.

4.3 Definition of Remote

4.3.1 Comment: Several commenters (1063, 1092, 1098, 1105, 1106, and 1133) recommended that the EPA clarify what constitutes a remote engine or revise the proposed definition. Commenters 1098 and 1133 said that the concept of the DOT classification system is not familiar to contract compression providers or other operators not directly involved in pipeline transportation. One commenter (1133) asked that the EPA clarify what is meant by a pipeline segment. The commenter (1133) also requested that engines provided by operators who do not operate or control the pipeline (i.e., contract compression companies) be allowed to use the 0.25 mile radius around the engine in place of the 1-mile pipeline segment criteria. Two commenters (1136 and 1145) said that the EPA should revise §63.6603(e) that allows remote engines located on a pipeline segment to be able to use the ¼-mile radius approach in the §63.6675 definition item (3) when annually re-evaluating status and use the DOT-based method (item 2) to determine initial remote status. The commenter (1136) said that this revision would still address the EPA's intention to prohibit operators with engines on pipelines to select the most favorable option in item (2) or (3) of the definition when determining whether an engine is remote. The commenter (1136) provided suggested regulatory language. Many operators do not know their DOT classification and may not be able to determine their DOT classification because they do not have ownership or responsibility of the pipeline(s) in question, the commenters (1098 and 1133) said. For that reason, the commenter (1133) suggested as an alternative that operators who do not operate or control the pipeline (i.e., contract compression companies) be allowed to use the 0.25 mile radius around the engine, which would be much more attainable than the DOT pipeline-based approach. Commenter 1098 similarly said that the EPA should allow sources to use the non-pipeline criteria even if the engine is located on a pipeline because it would be easier to apply.

The first change the commenter (1105) suggested was that in keeping with the definition of "ambient air" in the CAA, which does not include on-site areas that are access limited, the proposed definition should be modified to exclude buildings owned or leased by the owner/operator of the engine. The commenter (1105) believes that the proposed definition could be read to include buildings that are part of the RICE MACT affected facility, but inclusion of onsite buildings and structures in determining if an engine is remote would be inconsistent with the basic premise that the purpose of the RICE NESHAP is to protect ambient air. In the commenter's (1105) opinion, remote status should be based on

off-site buildings and structures. Commenter 1106 agreed with this assertion. The commenter (1105) did not think that it would be appropriate to include onsite buildings such as for example office, lab, compressor house, auxiliary/emergency equipment house, garage, maintenance shop, storage shed, etc. in determining applicability of a remote engine in a sparsely populated area. The commenter (1105) requested that the Agency explain in the preamble to the proposed rule that the owner's onsite buildings and structures are excluded in determining whether an engine is remote. Commenter 1096 also recommended that buildings within the facility boundary be excluded from the remote definition and commenter 1063 similarly said that the EPA should revise the definition of remote stationary RICE such that owner-operator buildings are not included when conducting the building count that determines rule applicability. Commenter (1136) added that because the CAA definition of "ambient air" does not include on-site areas that are access limited, the remote engine definition should be revised to exclude these types of buildings. The commenter (1136) added that multiple rooms within a single owner/operator facility structure should not be considered as separate dwelling units. The commenter (1136) provided suggested regulatory text. One commenter (1145) said that the definition of remote engine should be clarified to specifically address owner-operator onsite buildings. Commenter 1105 recommended the following specific additions to 63.6675, items 2 and 3, represented in **bold** underlined text:

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 km) length of pipeline. **Buildings or structures located within the facility property or fenceline are precluded from the building count for the purpose of this definition.** Each separate **offsite** dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either ***an offsite*** building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery

stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 m) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. **Buildings or structures located within the facility property or fenceline are precluded from the building count for the purpose of this definition.** A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy within a 0.25 mile radius around the engine. **Buildings or structures located within the facility property or fenceline are precluded from the building count for the purpose of this definition.** A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Commenter 1106 made similar recommendations to the language in the rule.

Response: The EPA is finalizing the definition of a remote stationary RICE as proposed with the added criteria in (2)(i) and (3) of §63.6675 that buildings with four or more stories are not included as remote engines. The term is defined in §63.6675 of the final rule. The term pipeline segment is explained within the definition at (2)(iii) of §63.6675. The EPA believes that the definition in the regulation is sufficient. The EPA does not believe that it is appropriate to allow owners and operators of any engines on pipelines to meet the alternative, ¼ mile radius criteria provided in (3) of §63.6675, including owners or operators who do not operate or control the pipeline. Entities such as contract compression companies that the commenters mention must use the remote stationary RICE criteria specified in (2) of §63.6675 for pipeline engines. The EPA specifically adopted the DOT pipeline classification system and followed the DOT approach in the stationary RICE NESHAP for consistency with the DOT and to take advantage of a well-established classification system with considerable overlap with engines affected by the RICE NESHAP. The alternative, ¼ mile radius approach in (3) of §63.6675 is reserved for owners and operators of engines not on pipelines who cannot use the DOT classification and was included in the rule for the sole purpose of having an available method for determining remote engine status for non-pipeline engines.

The EPA disagrees with the commenters that on-site buildings should not be included in the definition of remote stationary RICE. The number of buildings and amount of human activity that may take place in any buildings or structures, on- or offsite, is a reasonable indicator of remoteness, as the number of on-site buildings is reasonably related to infrastructure, access, availability of personnel, and

effects of the pollution. The definition was intended to include onsite buildings and structures, and such structures are included in DOT's approach. The EPA has therefore retained this inclusion in the final rule and is not adopting the language recommended by commenters.

4.3.2 Comment: One commenter (1092) requested that EPA clarify the proposed definition of "remote stationary RICE" when finalizing the rule changes, as there appears to be some ambiguity in the proposed language which could have an impact on which RICE can be classified as remote. For example, according to the commenter (1092), the preamble and proposed rule language both clearly indicate that all existing DOT Class 1 locations would meet the definition of "remote" under RICE MACT by default. The commenter (1092) stated they are unclear how to evaluate existing engines at non-DOT regulated locations and asked if the EPA is proposing a requirement to conduct the DOT classification process for every pipeline segment associated with those locations. If this is the case, commenter (1092) asserted this will be an extensive effort for natural gas production and gathering stations with several pipeline segments entering and exiting the facility as production lines are exempt from DOT regulation and are rarely analyzed for class location making this definition of "remote" difficult to apply since the data is just not available like it would be for a DOT-regulated facility.

Response: Any engine that is located on a pipeline segment as that term is defined in paragraph (2)(iii) of the definition of "remote stationary RICE" in §63.6675 of the final rule must use the criteria in paragraph (2) of the definition of "remote stationary RICE" to determine whether the engine is classified as remote under the rule, regardless of whether the pipeline segment is DOT-regulated or not. Regarding the comment that it would be difficult to apply the criteria for non-DOT regulated pipeline, the commenter has the option of not classifying its engines as remote and meeting the requirements for engines that are not in remote areas.

4.3.3 Comment: Two commenters (929 and 1092) noted concern about possible inconsistencies resulting from inserting the DOT pipeline classification criteria directly into the §63.6675 definition of a remote stationary RICE. Instead, the commenter (929) recommended that the EPA should incorporate by reference the classification criteria of 49 CFR part 192 into the definition of remote stationary RICE. The commenter (929) stated that the definition of pipeline segment included in §63.6675 is inconsistent with the DOT definition included in 49 CFR 192.1. The commenters (929 and 1092) added that the definition criteria does not account for the provisions of 49 CFR 192.5(c) that allow an operator to

"cluster" or reduce the amount of pipe that is effected by a higher class location. The commenter (1092) believes that as DOT rules have provisions for evaluating clusters of buildings when classifying locations (see 49 CFR 192.5 and 192.8), it seems possible that existing sites could meet the definition of remote under DOT rules, but not under RICE MACT as proposed if the clustering provisions are not also clarified in the final RICE MACT rule. Commenter (1092) stated the preamble and recent EPA webinars suggest that the EPA intended to be "consistent" with DOT in the proposed RICE MACT rule and, thus, believes that any existing location that is DOT regulated would use the classification already determined for DOT as the same basis/criteria for evaluating its remote status under RICE MACT. Similarly, commenter (1092) added, for sites that are not currently regulated by DOT, it would stand to reason that the same criteria used under DOT for determining the remote status (including clustering provisions) would be applied under RICE MACT.

The commenter (1092) believes that it is the EPA's intent for critical terms used in RICE MACT to have the same definition/meaning as the historical DOT interpretation of these terms (rather than proposing a unique/different definition for the purposes of the RICE MACT rule) and suggests that the EPA consider adding this specificity to the definition of "remote" in the final version of these proposed revisions.

The commenter (929) stated that, while the DOT classifications are made periodically in accordance with 49 CFR 192.609, there may be a discrepancy between the DOT classifications and the determinations made in accordance with the requirements of the proposed rule. According to the commenter (929), this would add burden to operators to make such determinations given the different criteria and does not meet the intent of the reducing operator burden as indicated in the preamble of the rule. The commenter (929) added that, by incorporating the classification criteria directly into the rule instead of by reference, there is potential for discrepancies due to regulatory changes to the DOT regulatory criteria.

According to commenter 929, given the DOT requirement to classify pipelines and the EPA's intent to use this alignment to reduce the burden on operators, the commenter (929) recommended that the provisions of §63.6603(e) in the proposed rule be modified to allow operators to use a determination conducted in accordance with 49 CFR 192.609 that was conducted in the past 12 months to determine applicability and pipeline classifications.

One commenter (929) asked the EPA to clarify how an engine that provides power to the pipeline segment equipment is classified under section (2)(iii) of the definition of remote stationary RICE in §63.6675 of the proposed rule. The commenter (929) suggested that it is the EPA's intent to

determine the classification of the engine based on the perpendicular distance to the pipeline and classification of the pipeline at such point and seeks verification of the same.

Response: It is unclear why the commenter believes the definitions are inconsistent as written. Therefore, the EPA contacted the commenter to clarify why the commenter thought that the definition of pipeline segment included in §63.6675 is inconsistent with the DOT definition included in §192.1 of 49 CFR. In response to this question the commenter indicated that the nomenclature used in the proposed rule was not consistent with that of DOT regulations, for example, the commenter said that the DOT regulations define a pipeline and not a pipeline segment, which the proposed rule uses, and a class location unit and not a pipeline segment, which the proposed rule also uses. The commenter said that (2)(ii) of the definition at §63.6675 does not account for the criteria of a class location unit (an onshore area that extends 220 yards (200 meters) on either side of the centerline of any continuous 1- mile (1.6 km) length of pipeline). For these reasons, the commenter felt the language creates confusion and initially recommended the following language:
"A remote stationary RICE is a RICE that is either 1) Part of a pipeline (as defined in §192.3) that has a location unit classification of 1, as determined by the criteria set forth in §192.5 or 2) A RICE that is located within 50 yards of a class 1 pipeline and that provide power to equipment that is part of that pipeline."

However, the EPA does not wish to directly incorporate the DOT regulations in the RICE NESHAP, given that such regulations can change over time, which is why the class location criteria was included directly in the proposed changes to the rule. Directly referring to the DOT regulations would leave the Agency with no control over this portion of the definition of remote stationary RICE should the DOT make any revisions to 49 CFR part 192 leading to unintended consequences within the RICE NESHAP. Therefore, the EPA does not think it is appropriate to incorporate the suggested language. Subsequently, the EPA asked the commenter for specific revised text that would fit within the language that was proposed, as opposed to merely referring to 49 CFR part 192, while still addressing the commenter's concerns. In the end, the commenter determined that any alternative language not referring to the actual DOT classification would be too confusing and therefore offered no alternative revised language.

The EPA thinks it is reasonable to allow owners and operators to use a determination conducted in accordance with 49 CFR 192.609 that was conducted within the past 12 months in order to determine applicability to satisfy the requirements in the proposed §63.6603(e), which is now §63.6603(f) in the

final rule. This will minimize the compliance burden and take advantage of already existing available information.

In terms of classifying engines that are not located on the pipeline, but that are within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment, which are part of the pipeline segment as specified in the definition of remote stationary RICE in (2)(iii) of §63.6675, to determine this, the owner or operator should draw a perpendicular line to the pipeline and evaluate that distance. The EPA believes this answer the commenter's question.

The EPA also contacted the commenter and asked for clarification on the commenter's remarks regarding clustering and why not including the provisions of 49 CFR 192.5(c) would cause a discrepancy. The commenter responded as follows:

"The clustering provisions of the rule allow the operator to reclassify certain sections of pipeline by shortening the length of the segment subject to the higher classification criteria. This is a standard practice within industry and in accordance with DOT requirements. As such, if operators rely on previous DOT pipeline classification for NESHAP applicability determinations they run a risk that the classification criteria of the pipeline would differ from that required by the NESHAP as written (without such clustering provisions). This would mean that a new DOT classification may have to be made for each engine based on the NESHAP criteria and differing from the existing DOT classification dataset, contrary to EPA's intent to reduce operator burden by utilizing existing classification criteria."

In response to this issue, where things are not clear in the RICE NESHAP EPA intends that, as long as the DOT regulations are not inconsistent with the EPA rule, interpretations should generally follow DOT practice. The EPA does not believe the clustering provisions, if it is as indicated by commenters, is inconsistent with the language in the final rule regarding the definition of a pipeline segment.

4.3.4 Comment: One commenter (1095) said that it supports the definition of remote in §63.6675 of the proposed rule. Commenter 1457 supports using the DOT pipeline classification system and said that it is reasonable and well-established and will improve implementation and reduce compliance burden.

Response: No response is needed.

4.4 Management Practices

4.4.1 Comment: Two commenters (1098 and 1133) expressed general support of the management practices for existing 4-stroke engines greater than 500 HP at area sources that are remote, but had some

concerns regarding the intervals for performing maintenance. The commenters (1098 and 1133) believe that the intervals should be longer for larger engines because they have increased capabilities compared to smaller size engines. This capability allows engines to extend the maintenance interval, the commenters (1098 and 1133) said. In the commenters' (1098 and 1133) opinion, extended maintenance intervals are clearly less costly for the owner and operator, but longer intervals also reduces the environmental impacts that is associated with disposing waste oils and traveling to remote locations. Therefore, commenters 1098 and 1133 recommended that the EPA specify that the maintenance be conducted every 2,160 operating hours (90 days). The commenters (1098 and 1133) in its comments discussed the specifics of maintaining engines as it relates to oil changes, spark plugs, and inspecting belts and hoses. The reasons that allow larger engines to extend their oil change intervals include increased oil capacities, improved oil grades/synthetics, and the use of oil sweetening systems, the commenters (1098 and1133) said. In terms of spark plugs, the commenters (1098 and 1133) said that larger engines use better quality, more expensive spark plugs that last much longer than 1,440 hours. The commenters (1098 and 1133) asserted that if owners and required to change the spark plugs every 1,440 hours of operation, the higher quality more expensive spark plugs might not be able to be used because of the cost. The commenters (1098 and 1133) said that in the natural gas industry, it is standard operating procedures to change belts and hoses annually, and these components are checked at an interval consistent with established maintenance intervals which can exceed both 1,440 and 2,160 operating hours.

Response: The EPA agrees with the commenters that it is appropriate to extend the intervals for conducting maintenance for existing large 4-stroke engines at area sources. Conducting maintenance too frequently when not needed is not beneficial and can be a waste of resources and have negative environmental impact. Because larger engines have increased capabilities compared to smaller size engines, maintenance intervals can be extended to less frequent intervals of every 2,160 hours for changing the oil and filter, and inspecting and replacing as necessary, the spark plugs, hoses, and belts. Therefore, the EPA has specified in items 8 and 11 of Table 2d of the final RICE NESHAP that maintenance should be conducted every 2,160 hours of operation or annually, whichever comes first.

4.4.2 Comment: Three commenters (1105, 1136 and 1145) commented on the oil analysis program. Two commenters (1105 and 1136) asked that the EPA allow owners who use an oil analysis program up to 5 days to complete an oil change in order to prevent issues related to weather, weekends/holidays,

accessibility to distant sites, etc. that could cause the owner to be unable to address oil change issue. One commenter (1145) said that at least 7 days should be allowed for an oil change.

Response: The EPA agrees that the 2 days that were provided in the proposed rule at §63.6625(i) and (j) for completing the oil change where the oil analysis indicated that the condemning limits were exceeded was not an adequate amount of time because it did not consider weekends and holidays. However, the EPA does not think that 5 or 7 days are needed in order to change the oil, even with potential weather, accessibility, and scheduling issues. The EPA believes that 2 business days is a sufficient amount of time, and has therefore specified at §63.6625(i) and (j) of the final rule that the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later.

4.4.3 Comment: One commenter (1092) requested consideration of alternative monitoring parameters under the optional oil analysis program to which existing engines in remote areas are now proposed to be subject and that the EPA add a footnote to Table 2d of the RICE NESHAP that specifically allows a facility to petition the EPA for the use of alternative work practices, such as alternative monitoring parameters, under this General Provision.

Response: Sources already have the option to petition the Administrator for alternative work practices under 40 CFR 63.6(g) as specified in Table 8 of the RICE NESHAP.

4.5 Performance Testing/Catalyst Check

4.5.1 Comment: A number of commenters (1075, 1089, 1095, 1105, 1136, 1323, and Alaska commenters (922, 924, 947, 974, 990, 1006, 1020, 1031, 1062, 1063, 1130, 1135, 1136, 1139, 1141, 1145, and 1444)) believe that it is not necessary to require simultaneous pre- and post-catalyst measurements for area source engines that require catalytic control and that it should be optional to do so. In the commenter's (1105) opinion, if the EPA does not allow sequential testing for pre- and post-catalyst measurements, then only the initial testing requirement in 63.6630 should be required to be simultaneous. According to the commenter (1105), the short duration of portable analyzer tests do not justify the use of multiple analyzers as long as proper quality control (e.g., calibration) is used and operating conditions do not change. Also, the commenter (1105) does not believe the costs and complexity associated with duplicate test equipment is justified either, something that is further

exacerbated for engines with multiple stacks. Commenter 1075 submitted similar comments and is of the opinion that measurement accuracy would not be materially affected by allowing sequential measurements where the measurements are close in time. Commenter 1095 agreed with these statements. One commenter (1089) indicated that it would accept simultaneous testing for the initial test, but for the subsequent annual testing, sequential testing should be permitted. One commenter (1136) said that the EPA should make the requirement to conduct simultaneous pre- and post-catalyst tests for area sources optional. The commenter (1136) said that the EPA should either allow sequential testing or only require the pre-test to be simultaneous. According to the commenter (1136), the short duration portable analyzer tests required in §63.6640(c) do not warrant the use of multiple analyzers as long as proper quality control (e.g., calibration) is used and operating conditions do not change. The commenter (1136) also noted that the added cost and complexity introduced by requiring duplicate test equipment and sample lines is not justified, particularly for engines with multiple stacks. Another commenter (1145) said that the EPA should eliminate the requirement to conduct simultaneous pre- and post-catalyst tests.

Response: The EPA disagrees with the commenters and simultaneous pre- and post-catalyst measurements will remain for performance testing. The portable analyzers are not expensive and even with multiple stacks, no more than two analyzers are necessary since they can be moved from one stack to the next. These devices are easy to use and hence training someone to use these devices is straightforward. In cases where an affected source does not have two staff members available to conduct the test, the work can be contracted out. Moreover, the test does not necessarily require two people to run. A single person can set up each analyzer separately and set them to begin sampling; then you may use the data gathered while each analyzer was running. Or if the space permits, a single person could start each analyzer at the same time. Further, given that portable analyzers give immediate results, it would be easy for someone to manipulate the circumstances of the test to alter the results, if the rule allowed sequential testing. Also, CO is a product of combustion and combustion parameters are easily changed on RICE. In addition, simultaneous testing is the only way to truly test the capture efficiency of the catalyst even though engines typically operate at steady state. In addition, the EPA is already allowing a portable analyzer versus a continuous emission monitoring system, which is a significant reduction in cost. For these reasons, the EPA is retaining the simultaneous testing requirement for pre- and post-catalyst testing in the final rule. Lastly, the EPA is providing an alternative option to meet a concentration level instead of a percent reduction standard. This would eliminate the need for two

analyzers since only the engine outlet would be measured if owners and operators opted for this alternative under the rule.

4.5.2 Comment: One commenter (1052) asked that sources be allowed to demonstrate compliance by testing one engine only where a group of units are the same make, model and model year.

Response: The EPA disagrees with the commenter that owners and operators should be allowed to demonstrate compliance with the rule by testing only one engine if the facility has several engines of the same make, model and model year. There is no guarantee that simply because the engines are of the same make and model and manufactured at the same time that the engines would perform similarly in the field. The engines are no longer equivalent after operation has begun because of operational differences, deterioration, and the types of malfunctions the engines have had. Emissions are affected by these activities and therefore the EPA cannot be certain that emissions would be equivalent for all the engines. Consequently, the EPA has not included the commenter's request in the final rule.

4.5.3 Comment: One commenter (1080) said that the use of CO and total hydrocarbons (THC) for formaldehyde is not necessary because published EPA methodologies and protocol gasses already exist to measure engine formaldehyde emissions directly. According to the commenter (1080), these methods are presently being used in the field for the measurement of formaldehyde compliance, and are widely accepted by the EPA and other international standards testing organizations, including the American Society for Testing and Materials (ASTM). The commenter (1080) said the methods are EPA Method 320 - Vapor Phase Organic & Inorganic Emissions by Extractive FTIR and ASTM D6348 - 12 Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy. One commenter (965) stated that the focus of the RICE MACT should be on controlling HAP emissions from existing and newly constructed RICE and not to impose limit on CO emissions without the intent to reduce CO emissions. Commenter 965 asserted that, since CO is used as a surrogate for HAP, enforcing management practices, rather than a numerical limit for CO, for existing non-emergency CI engines located at remote areas is more appropriate. Commenter (1080) raised several other issues related to the proposed change in testing procedure (the commenter also provided supporting data for these conclusions):

- **Dataset – Dresser - Waukesha:** The use of only one dataset to base the acceptable use of surrogates for the actual air toxic measurement itself is not acceptable. Data collected from

hundreds of test facilities demonstrate that there are not good correlations between CO and formaldehyde, THC and formaldehyde, and CO and THC on rich burn engines greater than 500 HP.

- **Compliance Testing Guidelines:** The use of arbitrarily set 15-minute time intervals for compliance testing and the use of Portable Emissions Monitors for published the EPA compliance reference methods is not technically supportable.
- **Private Sector Business Losses:** Many small-sized companies will lose income by eliminating the compliance revenue for direct formaldehyde testing. Many companies geared up and had purchased capital equipment specifically accepted by the EPA for formaldehyde testing on RICE engines.
- **Test Cost:** The cost of the use of a Portable Emissions Monitor (PEM) unit for CO and THC is significantly lower than published EPA methodologies, but does not define the true emissions of a rich burn engine. The proposed alternatives to the EPA and ASTM methods 320 and D6348, respectively, do not follow published EPA guidelines for a 15-minute sampling period instead of three 1-hour runs. Fifteen minutes of testing on a rich burn engine does not represent actual emissions. When factoring in the widely accepted practice of compliance measurement intervals of three 1-hour runs with additional QA/QC requirements, the cost of an Instrumental EPA Method 25A for THC or EPA Method 10 - Instrumental method for CO are equivalent in manpower and required time. Only the initial capital cost for an instrument to measure formaldehyde directly makes costs higher.
- **Accuracy and Public Health:** The acceptance of a less accurate measurement from a PEM to measure a surrogate with a poor correlation with the listed hazardous air pollutant, formaldehyde, undermines the intention of the section 112 of the CAA which may be summed up as using the best available measurement practices to ensure compliance of emissions in area sources to protect public health and welfare.

The commenter (1080) said that the only way to properly follow the CAA guidelines is to determine emissions and violations of emissions by properly measuring the target compound of interest, formaldehyde. According to the commenter (1038), if the technology exists and there is a direct way to measure the target compound of interest accurately, with published EPA methodologies, and does not put any undue burden on industry, the EPA should act in the interest of the public health and welfare and not deviate or reduce the accuracy of those measured emissions by the use of poorly understood surrogates and less accurate emissions measuring technologies.

Response: The EPA agrees there are published and available EPA methods for measuring formaldehyde emissions. These methods are still included in the final rule if owners and operators should choose to demonstrate compliance with the standards in terms of formaldehyde. However, the EPA is including an option in the final rule for owners and operators of 4SRB engines to demonstrate compliance with the 76 percent formaldehyde reduction emission standard by testing emissions of THC and showing that the engine is achieving at least a 30 percent reduction of THC emissions. Existing 4SRB engines at populated area sources also have the choice of either meeting a 75 percent CO reduction level or a 30 percent THC reduction. The purpose of these alternative compliance options is to provide for less expensive and less complex, but equally effective, method for demonstrating compliance than testing for formaldehyde, where this has been determined to be appropriate. Not all stationary 4SRB engines will be able to use the alternative compliance options, i.e., where a formaldehyde concentration standard is required, owners and operators must test using existing measurement methods available for formaldehyde such as Method 320 (FTIR) or 323 of 40 CFR part 63, appendix A, or ASTM D6348-03, that the commenter cites. As discussed in RTC 5.2, data reviewed by the Agency shows a strong relationship between the reduction of THC and the reduction of formaldehyde and therefore it is suitable to allow sources to demonstrate compliance with a THC percent reduction requirement. The use of appropriate surrogates is commonplace in the regulation by the EPA and has been upheld. In the case where the rule allows compliance to be demonstrated via testing for CO or THC for existing 4SRB engines above 500 HP at area sources that are in populated areas, the EPA notes that this requirement is designed to merely ensure that the catalyst is working so there is not a need for an extremely accurate test. To maintain a reduced testing burden, the EPA is allowing this option for these sources as formaldehyde tests remain more expensive and require more expertise. The EPA believes that testing for CO or THC emissions is an appropriate alternative to testing for formaldehyde to ensure the catalyst is working properly and the EPA also believes that the testing of CO and THC does fairly track the emission reduction percentages for formaldehyde. The EPA does not agree with the comment that management practices, rather than a numerical level for CO, are more appropriate since CO is used as a surrogate. The commenter did not provide any information to show how the use of a surrogate pollutant justifies a requirement for management practices rather than a numeric level.

Regarding the commenter that submitted data that it believes demonstrated there is not a good correlation between CO and formaldehyde for 4SRB engines, the EPA notes that it has not stated that there is a direct correlation between emissions of CO and emissions of formaldehyde on a concentration

basis for 4SRB engines at area sources of HAP. Rather, the option to measure CO is only to show that the catalyst is functioning correctly and is reducing emissions. The commenter also did not provide any detail whatsoever about the data, such as the conditions under which the engines were tested or the methods that were used. The EPA cannot really evaluate the data without also having the underlying information about the testing. This is also true of the data submitted with the comment that 15 minute test runs were not sufficient. The commenter did not submit any information to show that the actual costs of testing using EPA Method 320 or ASTM Method D6348 are comparable to testing using EPA Methods 25A or EPA Method 10. Information that EPA has gathered in the past[56,57,58] showed that testing for formaldehyde is considerably more expensive than testing for CO or THC, and the EPA has the discretion to consider the cost and feasibility of testing when establishing the emission standards.

4.5.4 Comment: One commenter (1449) requested flexibility in the load range requirements when testing for formaldehyde. The commenter (1449) asserted that, establishing a load range may be necessary for NO_x, but for formaldehyde, concentrations are lower at high load due to higher combustion temperature which creates less formaldehyde and also increases catalyst reactivity. The commenter (1449) offered to provide test results illustrating this. The commenter (1449) reported that it typically conducts generator testing at 60 to 80 percent load ranges. The commenter (1449) asserted that another issue with testing generators at 90+ percent load range is that load transients at such high loads can cause the electrical systems to trip off line and shut down.

Response: There is already flexibility in the test load range for engines at area sources and engines less than or equal to 500 HP. The EPA does not specify that performance testing must be conducted at a specific load for these engines. These engines must be tested according to normal operating conditions. For more information, see response to question 31 in the EPA's Questions and Answers document http://www.epa.gov/ttn/atw/rice/20120717riceqaupdate.pdf. The EPA has specified in the final rule that

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[56] See Attachment C and L of Letter to Melanie King, ESG/SPPD/OAQPS from Matthew Todd, American Petroleum Institute (API) Reciprocating Internal Combustion Engine National Emission (RICE) Regarding National Emission Standards for Hazardous Air Pollutants (NESHAP) Proposed Revisions – Emission Control Cost Analysis Background for "Above the Floor" Emission Controls for Natural Gas-Fire RICE (November 2, 2009). EPA-HQ-OAR-2008-0708-0279.

[57] Memorandum from Bradley Nelson, EC/R to Jaime Pagán, EPA. Summary of Portable Analyzer Testing Costs for Stationary Internal Combustion Engines. December 8, 2008. EPA-HQ-OAR-2008-0708-0024.

[58] Memorandum from Bradley Nelson, Alpha-Gamma Technologies, Inc. to Sims Roy, EPA/OAQPS/ESD/Combustion Group, Portable Emissions Analyzer Cost Information, August 31, 2005. EPA-HQ-OAR-2005-0030-0057.

the only engines that must be tested within plus or minus 10 percent of 100 percent load are the stationary RICE listed in §63.6620(b)(1) through (4) of the final rule.

4.5.5 Comment: One commenter (1095) asked that the EPA clarify the language in §63.6603 and §63.6620(d) of the proposed rule to prevent confusion about the required test duration and recommended the following revision: "Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three **1-hour** runs using the testing requirements and procedures in 63.6620 and Table 4 to this subpart. **Each test run must last at least 1 hour unless otherwise specified in this subpart.**"

63.6620(d) "You must conduct three separate test runs for each performance test required in this section, as specified in 63.7(e)(3). Each test run must last at least 1 hour **unless otherwise specified in this subpart**."

Response: The only engines that are not subject to determining compliance based on the results of testing the average of three 1-hour runs are the engines in §63.6630(e) of the final rule. The EPA agrees that it would be appropriate to clarify in §63.6620(d) that a run duration of less than one hour may be specified in subpart ZZZZ for certain engines.

4.5.6 Comment: One commenter (1038) objects to the requirement to perform testing on an annual basis irrespective of whether THC or formaldehyde is to be tested. The commenter (1038) noted that the current rule only requires testing every 5 years or 8,760 hours of operation, and changing to an annual test eliminates the cost savings that allowing the alternative could achieve. The commenter (1038) said that the EPA has not justified the increased testing frequency and believes that it is an unnecessary and burdensome requirement.

Response: It appears the commenter may have interpreted Table 3 of the proposed rule incorrectly because the requirement in item 4 is to test every 8,760 hours of operation or 3 years for engines that are operated for more than 24 hours per calendar year and that are not limited use. Limited use engines would have to test every 8,760 hours of operation or 5 years, per item 5 in Table 3. Regardless, the testing frequency the EPA proposed and is finalizing for existing remote greater than 500 HP area source 4-stroke engines is more frequently than under the 2010 rule for these engines. More frequent

testing is reasonable considering that the EPA is allowing portable devices and requiring lower test duration, which lowers the testing cost and burden substantially. The cost of testing is also further reduced because the EPA is permitting sources to testing for THC and CO, which are pollutants that are less expensive to test for versus formaldehyde. Also, the EPA is not requiring as much monitoring on these engines and consequently there is a reduction in monitoring costs as well. Lastly, requiring more frequent testing is justified because on a cumulative basis the testing cost is substantially less because fewer engines are subject to this requirement.

4.5.7 Comment: One commenter (1063) said that the final rule for CI RICE should eliminate the requirement to conduct a performance test each time the catalyst is changed, because this is contrary to the intent of the rule language in Tables 3 and 5 that indicate that no subsequent performance tests are required for CI RICE greater than 300 HP and less than or equal to 500 HP located at an area source. Alternatively, the commenter (1063) suggests, the EPA should clarify that the source test required to reestablish the values of the operating parameters when you "change" the catalyst reveres to a change in catalyst type or vendor, not when there is only like-kind replacement of the catalyst.

Response: The EPA disagrees. The requirement to conduct a performance test after the catalyst is changed is necessary to ensure that the engine is still in compliance with the applicable standards. The replacement catalyst needs to be verified just as if it was being placed in a different engine. This requirement is different from the subsequent testing requirements and does not conflict with the language in Tables 3 and 5 of the final rule related to subsequent testing. The language in §63.6640(b) has been retained in the final rule and upon a catalyst change the owner/operator must conduct a performance test to demonstrate compliance with the requirement emission limitation.

4.5.8 Comment: One commenter (1323) supports extending the frequency of compliance testing to annually after demonstration of compliance.

Response: No response needed.

4.6 Test Methods

4.6.1 Comment: One commenter (1131) requested that the EPA allow additional test methods to comply with the THC reduction requirement. Specifically, the commenter (1131) asked that the EPA allow the use of EPA Method 25 and its associated low level modification referred to as conditional test method (CTM)-035 and South Coast Air Quality Management District (SCAQMD) 25.3. The commenter (1131) said that CTM-035 is the SCAQMD standard test method for measuring low level VOC emissions for over 10 years and is compatible with measuring exhaust emissions from clean combustion sources. The commenter (1131) attached the method itself to the comment letter.

Response: The EPA maintains that EPA Method 25A is the preferred method to demonstrate compliance with the THC reduction requirement. However, sources may request approval of the use of an alternative method, as provided in 40 CFR 63.7.

4.6.2 Comment: One commenter (1449) said that although it appreciates the inclusion of testing requirements that allow the use of a portable analyzer, and the referencing of the simpler CTM-034 procedure, instead of ASTM D6522, the commenter (1449) believes that there are still provisions in CTM-034 that are more complex than necessary. The commenter (1449) claimed that portable analyzers have improved since CTM-034 was written. The commenter (1449) indicated that prescribed three-phased measurement and calibration cycles described in Appendix A of the method are no longer needed to assure the electrochemical cells are fresh. The CO concentrations required by the rule are generally lower than measurements made when CTM-034 was developed so there is less concern, according to commenter 1449. Moreover, cell degradation is better understood, the commenter (1449) added. Analyzer manufacturers now provide specific guidance on preserving cell health during the test by noting concentration and test duration, or employing dilution techniques. For example, Testo specifies that a hydrogen compensated CO cell can measure for 15 minutes straight at 250 ppm, and follow with a 10 minute fresh air rinse. A single 15 minute measurement would satisfy the requirements in §63.6640(c) of the rule without performing complicated three-phased sampling runs. The same is true of calibration. Therefore, the commenter (1449) requested that the Appendix A of CTM-034 include a provision that would allow single or alternative number of "pre-sampling calibrations", and "post-sampling calibrations" when manufacturer's instructions for assuring cell health are followed. The "Measurement Data Phase Performance Check" of section 31.1 (Note: the EPA assumes commenter 1449 means section 13.1 since there is no section 31.1) would not be required for tests with a single "measurement data phase" because cell performance would not be compromised. However, Appendix A

would still require periodic cell performance checks as required in section 13.3, "Repeatability Check," even if single measurements are used.

Response: The commenter appears to have incorrectly commented on the requirements of CTM-034, which is not required by subpart ZZZZ. The EPA developed a test procedure that is based on CTM-034 and is codifying that procedure ("Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations from Certain Engines") in appendix A to subpart ZZZZ. The provisions of CTM-034 that the commenter was concerned with are different than the procedures in appendix A to subpart ZZZZ.

4.6.3 Comment: One commenter (1323) expressed support for the proposal to allow shorter duration emission testing using a portable analyzer.

Response: No response is needed.

5.0 THC/CO Compliance Demonstration Option

5.1 Comment: Many commenters (1002, 1038, 1098, 1004, 1070, 1084, 1089, 1095, 1104, 1105, 1112, 1145, and 1457) said that they are supportive of providing an alternative compliance demonstration option for 4-stroke SI engines greater than 500 HP at area sources. The commenter (1105) also said it supports using THC as an alternative to formaldehyde measurements for compliance verification for 4SRB engines that meet a percent reduction. Two commenters (1004 and 1089) noted that measuring formaldehyde is difficult and expensive to do in the field. The commenter (1004) is supportive of the alternative THC option as it provides a more effective, simpler and less expensive method to comply with the rule. Commenter 1070 said that THC is a good indicator of catalyst performance for gas-fired engines. Commenter 1089 also said that THC reduction from natural gas-fired engines is a good indicatory of catalyst performance on engines. One commenter (1104) supported the EPA's proposed compliance demonstration option for those engines that are currently subject to 76-percent or greater formaldehyde reductions. The commenter (1104) stated that this is an excellent example of a lower-cost option that will achieve the same or greater emission reductions and just the type of regulatory improvement that the EPA should pursue on a regular basis.

Response: No response is needed.

5.2 Comment: Three commenters (953, 982 and 1095) said that they are supportive of using CO as a surrogate for formaldehyde for 4SRB engines. Commenter 1095 also supports the use of portable analyzers and the option to use a high temperature shutdown device. Two commenters (953 and 982) said that CO is easy to measure due to the similarities of CO and formaldehyde molecules in diffusivity rates and reaction kinetics properties and requested that the EPA require a 93 percent CO reduction. The commenter (953) indicated that it did not find any support in the docket for the claim that 75 percent CO efficiency correlates to 76 percent formaldehyde efficiency for 4SRB engines. The commenter (953) said that previous studies have indicated that a 93 percent CO efficiency is needed to obtain a 76 percent formaldehyde reduction for 4SLB engines, and the commenter (953) believes the same CO efficiency should be adopted for 4SRB engines. The commenter (953) submitted supporting information and data in its comments supporting the commenter's (953) claim that 93 percent CO reduction is possible on 4SRB engines. Further, the commenters (953 and 982) said that both control technologies that would be used to reduce HAP emissions from 4SLB and 4SRB engines, that is, oxidation catalyst and NSCR, are

both cost effective and widely available. The commenters (953 and 982) said that requiring the same CO standard for both types of engines would put both engine technologies on equal footing and not provide an incentive for one technology over another.

With that said, the commenters (953 and 982) added that using CO efficiency for 4SRB engines can be challenging because of the sensitive nature of the engine out CO levels, which can be easily affected by the air/fuel ratio. The commenter (953) noted that running the engine slightly lean, that is, 1- to 2-percent excess oxygen (O_2), can be used as strategy to achieve higher CO reduction, but the downside is substantial increases in NO_x emissions. Therefore, the commenter (953) believes the parameters must be tightly controlled and in order to ensure this, the commenter recommended that the EPA also require proper management practices for NSCR operation to ensure the engine is correctly calibrated for air/fuel ratio control.

In contrast, one commenter (1076) said that using CO emissions as a surrogate for formaldehyde emissions is not based on sound science. The commenter (1076) asked that this option be removed from the rule and said that it contradicts the EPA's earlier findings that testing never indicated that there is a correlation between formaldehyde and CO emissions for rich burn engines to the degree that was demonstrated for lean burn engines, and that the EPA determined at that time that CO was not an appropriate surrogate for formaldehyde for rich burn engines. The commenter (1076) does not believe the proposal provides any evidence that at this point in time it is acceptable to use CO as a surrogate and therefore said that the EPA cannot allow CO to act as a surrogate for HAP emissions for rich burn engines.

Response: The EPA proposed an equipment standard that required the installation of NSCR to reduce HAP emissions for existing stationary non-emergency SI 4SRB RICE that are in populated areas. The proposed rule required these engines to demonstrate that the catalyst achieves at least a 75 percent CO reduction or a 30 percent THC reduction. The EPA discussed in the preamble to the proposed rule, beginning at 77 FR 33815 the events leading up to and the justification for the June 2012 proposal to allow THC and CO testing as alternatives to formaldehyde testing for certain rich burn engines. Among some of the reasons the EPA finds it appropriate to allow THC and CO to be tested instead of formaldehyde are cost and ease of measurements, particularly because some of the engines affected are in remote, sparsely populated areas. Therefore, the EPA is retaining this requirement in the final rule to demonstrate compliance by showing a 30 percent or more reduction in THC emissions or 75 percent or more in CO emissions. These alternative compliance measures are supported by various industry groups,

including engine manufacturers, engine operators in the oil and gas industry, power companies, as well as some state agencies. Different engine operators concur with the EPA that THC is a good indicator of catalyst performance. The EPA is also adding another option that allows the owner and operator of the engine to demonstrate that the catalyst achieves a CO concentration level of 270 ppmvd at 15 percent O_2. This concentration level represents a 75 percent reduction from typical uncontrolled emissions from existing stationary non-emergency SI 4SRB RICE and is the CO standard required for new SI 4SRB engines in the NSPS for stationary SI engines.

The EPA agrees with commenters that NSCR is capable of reducing CO emissions by more than 75 percent from rich burn engines and the EPA is not claiming that a 75 percent CO reduction efficiency correlates to 76 percent reduction in formaldehyde. The EPA also agrees with other commenters that there are similarities between CO and formaldehyde emissions trends although a direct correlation has not been established. With that said, the EPA is not setting a MACT numerical emission limitation standard for existing non-emergency 4SRB stationary RICE greater than 500 HP at area sources that are remote, but rather a standard based on GACT and in this case, an equipment standard. The equipment standard being finalized for these engines at area sources is different than the standard where a 76 percent formaldehyde reduction is required, which is the standard for existing and new rich burn engines above 500 HP at major sources. The 75 percent CO reduction efficiency is provided as an option to the initial compliance demonstration and is to ensure proper catalyst activity on a regular basis later on. Since the purpose of this test is to ensure the catalyst is working, the EPA believes that a CO reduction of 75 percent is sufficient, because a 75 percent reduction in CO clearly shows that the catalyst is active and working. The Agency does not disagree that a 93-percent CO reduction is possible on 4SRB engines; however, it is not logical to establish a 93 percent CO efficiency for 4SRB engines simply because this reduction level correlated to a 76 percent formaldehyde reduction for 4SLB engines based on previous studies. In fact, the previous studies that the commenter referred to indicated that the CO efficiency was quite variable from 4SRB engines and a 76 percent formaldehyde efficiency did not correlate to a 93 percent CO reduction in that study.[59]

As the commenters note, the EPA was unable to demonstrate a sufficient relationship between CO emissions and HAP emissions for the original 2004 RICE NESHAP and could not at that time use CO as a surrogate for HAP for rich burn engines as the Agency did for lean burn engines. Engine manufacturer Dresser-Waukesha, who provided data to the EPA that showed that a strong relationship

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[59] Memorandum from Melanie Taylor and Jennifer Snyder, Alpha-Gamma Technologies, Inc. to Sims Roy, EPA OAQPS ESD Combustion Group. January 7, 2004. EPA-HQ-OAR-2002-0059-0665.

exists between the percent reduction of THC and the percent reduction of formaldehyde (the surrogate for HAP) for engines using NSCR, has previously indicated to the EPA that it believes that the Agency was not able to establish a relationship because there was insufficient data available at that time, but that such a relationship may exist. As discussed in the preamble to the proposal Dresser-Waukesha provided data to the Agency from testing that was performed showing that that THC reduction across the catalyst is an appropriate surrogate for HAP reduction across the catalyst. Because of what the EPA believes demonstrates a strong relationship between percentage reductions of THC and percentage reductions of formaldehyde from 4SRB engines using NSCR based on the available data, using THC as an alternative compliance option is justified.

Again, the EPA is not using CO as an actual surrogate of HAP emissions in the final rule, but using the CO test (and THC test) to ensure the catalyst is working on rich burn engines subject to an equipment standard. Although the EPA has not been able to demonstrate in the past a sufficient enough relationship between CO and HAP emissions from rich burn engines, the Agency does believe that the testing of CO does fairly track the emission reduction percentages for formaldehyde and certainly shows that a catalyst is functional.

5.3 Comment: One commenter (953) indicated concern over the proposal to use THC as a surrogate for formaldehyde and questioned whether this is appropriate. The commenter (953) argued that there is no indication that there is a correlation between THC and formaldehyde after the catalyst has been in operation for several thousand hours, and the data used by the EPA appears to be have been on a degreened catalyst, the commenter (953) said. Therefore, it is uncertain whether 30 percent THC reduction will ensure 76-percent formaldehyde reduction on a long term basis. However, if the EPA finalizes a THC reduction as a surrogate for HAP reduction, the commenter (953) indicated that 30-percent THC efficiency is easily achievable long-term with NSCR. Commenter 982 voiced very similar concerns as commenter 953 did, and similarly concluded that as a worst-case scenario, using THC is reasonable. However, more work is needed to study the effects on THC reduction over time, the commenter (982) said.

One commenter (1076) said that using THC emissions as a surrogate for formaldehyde emissions is not based on sound science. The commenter (1076) believes the proposal ignores available technology and would be detrimental to public health if it goes final. The commenter (1076) referred to the Dresser-Waukesha data the EPA analyzed for the proposal and said that the manufacturer does not account for a number of critical variables. For instance, the data did not account for catalytic deactivation nor did it

account for the difference between the type of fuel being used, i.e., pipeline-quality versus gathering-line gas, the commenter (1076) said. The commenter (1076) added that, as catalyst deactivation occurs, there may be a difference in the rate the various HC catalyze, which means it is not certain that a 76-percent formaldehyde reduction is being achieved even though THC is being reduced by 30-percent. The commenter (1076) urged the EPA to properly study all aspects and factors for formaldehyde reduction and not adopt the proposed THC compliance demonstration option, but retain the current requirement to test for formaldehyde.

Response: The EPA disagrees that it is inappropriate to use THC in order to demonstrate compliance with the rule for 4SRB engines. Information the EPA analyzed indicated that a 30 percent reduction in THC emissions would lead to a substantial reduction in formaldehyde emissions, by at least 76 percent. For compliance demonstration purposes, the EPA still believes it is appropriate to allow sources to test for THC emissions, based on the data that was reviewed at the time of the proposal. The commenters did not provide any information to show that the reductions would not continue over a long-term basis, and the commenter goes on to say that 30 percent THC reduction is achievable long-term..

Regarding the comment that the proposed use of THC as a surrogate does not account for catalyst deactivation, the commenter did not provide any data or information to show that this should be a concern because a catalyst that was deactivated was still achieving the required reductions of THC. The commenter also did not provide any data to support its contention that gathering line quality gas would lead directly to catalyst deactivation that would then lead to compliance with the THC standard even though formaldehyde was not being reduced.

5.4 Comment: One commenter (1098) asked that the EPA clarify what is meant by THC in the rule to make it clear what is required when demonstrating compliance with the THC optional demonstration option. The commenters (1098) pointed to 40 CFR part 60, subpart JJJJ, which includes a definition of VOC that references §51.100(s) of 40 CFR, but a footnote to Table 1 of that subpart indicates that formaldehyde is not included in the VOC calculation. The commenter (1098) said that it understands THC to be every organic compound in the gas comprised of carbon and hydrogen that burns in the presence of a flame or the "total gaseous organic concentration of vapors consisting primarily of alkanes, alkenes, and/or arenes (aromatic hydrocarbons)."

Response: Volatile organic compounds and THC are different pollutants. Volatile organic compounds are a list of specific pollutants and THC is defined by the test method used for measuring the pollutants. For the purposes of this rulemaking, THC is measured by EPA Method 25A. EPA Method 25A does not measure individual compounds; it is a carbon counting method (it counts carbon molecules). For example methane (CH_4) has 1 carbon, and propane (C_3H_8) has 3 carbons. The EPA has specified in the final rule that sources must measure THC emissions using Method 25A, reported "as propane" because propane is the gas most typically used as the calibration gas. The requirement to report "as propane" is simply a reporting request and does not imply that propane is in any way related to natural gas or formaldehyde.

5.5 Comment: One commenter (1098) requested that the rule provide an alternative emission standard for existing rich burn engines above 500 HP that must meet either a 75 percent reduction in CO or a 30 percent reduction in THC in terms of concentration. Specifically, the commenter (1098) requested that a CO ppmvd standard be included in the rule, which would ensure consistency with requirements for other engine types that have the choice to meet a concentration limit, but would also provide a cost effective method to testing. This way, compliance would not necessarily have to be based on percent reduction and the tester would not have to employ two analyzers to make simultaneous measurements, the commenter (1098) said. According to commenter 1098, uncontrolled CO emissions for a 4SRB engine is between 1,000 and 1,500 ppmvd at 15 percent O_2, which means that a post-catalyst CO exhaust level with a 75-percent reduction efficiency would be between 250 and 375 ppmvd at 15 percent O_2. Under 40 CFR part 60, subpart JJJJ new 4SRB engines are subject to a 270 ppmvd CO limit and the commenter (1098) asked that the EPA adopt the same standard for existing 4SRB engines above 500 HP in this rule. This would create consistency between the two regulations, increase enforceability and simplify compliance, the commenter (1098) said.

Response: The EPA agrees with the commenter that it is appropriate to add another compliance option that allows the owner and operator of an engine to demonstrate that the catalyst achieves a CO concentration level that is consistent with a 75 percent reduction from typical uncontrolled emissions from existing stationary non-emergency 4SRB RICE. Therefore, the EPA has included an alternative standard in the final rule of 270 ppmvd at 15 percent O_2. As noted by the commenter, this limit also creates consistency with the CO standard required for new SI engines in the NSPS for stationary SI engines under 40 CFR part 60, subpart JJJJ.

6.0 Provisions for Sources in Remote Areas

6.1 Remote Areas of Alaska

6.1.1 Comment: Several commenters (874, 877, 924, 946, 964, 974, 1006, 1020, 1031, 1056, 1062, 1063, 1071, 1105, 1130, 1135, 1136, 1139, 1141, and 1145) expressed that they were supportive of the changes the EPA has proposed that affects stationary engines located in remote areas of Alaska. In addition, some commenters (877, 974, and 1031) agreed with the EPA that GACT for existing stationary CI RICE located in the redefined "remote areas of Alaska" should be defined as the management practices for non-emergency stationary RICE less than or equal to 300 HP as listed in Table 2d of the proposed regulation, rather than the numerical emission limits for CO.

Some commenters (877, 924, 946, 974, 1031, 1062, 1130, and 1135) agreed that it is appropriate to remove the reference to the Federal Aid Highway System (FAHS). Commenter 877 said that this change correctly recognizes that remote areas accessible by the marine highway system face the same unique challenges as those areas not accessible by the FAHS. Some commenters (946, 964, 974, 1031, 1062, and 1135) added that areas accessible by the FAHS, but not connected to the Alaska Railbelt Grid face the same unique challenges as those areas not accessible by the FAHS. Commenter 1130 said that more than two dozen road and Alaska Marine Highway System (AMHS) connected remote Alaska communities faced with staggering fuel, freight, and maintenance costs would otherwise be ineligible for the cost saving regulatory relief currently afforded under the remote area definition.

Response: No response necessary.

6.1.2 Comment: One commenter (1139) said that the rule should return to the original interpretation of FAHS/AMHS definition that is consistent with 40 CFR §69.51, which defines the areas as "geographical areas of Alaska designated by the State of Alaska as being accessible" by the FAHS. The commenter's (1139) historical approach stemmed from motor vehicle rulemakings and defined accessibility by the FAHS as only the AMHS ferry terminals that have regular, year-round, drive-on/drive-off service as presented on the DOT April 2006 National Highway System Map. However, the commenter (1139) said, the EPA now appears to interpret accessible by the FAHS to include all AMHS ferry ports. The commenter (1139) noted that those additional ports include isolated communities (e.g., Kake, Pelican, Cold Bay, King Cove, Sand Point, False Pass, etc.) that are ports with seasonal and/or intermittent one time per week or per month connections to the AMHS. Commenter 922 said that the EPA should

explicitly grant an exemption to remote power generation systems that are not served year-round by the FAHS.

Response: The EPA has not changed the interpretation of which areas are not considered accessible by the FAHS. Communities that do not have regular, year-round, drive-on/drive off ferry service are still not considered accessible by the FAHS.

6.1.3 Comment: Several commenters (877, 974, 1031, 1056, and 1130) generally agreed with the first two criteria of the applicability definition, but said that the EPA should delete the third criterion regarding 12 MW units and the 500-hour operating limit based on the 10-year rolling average. Some commenters (877, 974, and 1031) said that the nameplate capacity of a stationary source has no effect on the unique infrastructure and environmental challenges that the EPA already recognizes are genuine obstacles for remote Alaskan communities. The commenters (877, 974) said that a backup diesel plant that meets the first two criteria should be able to use management practices. The commenters (877, 974, 1031, 1056, 1130) added that the 12-MW value appears to be arbitrary and inconsistent with other air quality regulations that clearly define EGUs as those greater than or equal to 25 MW. In conclusion, the commenters (877, 974) said that if the EPA maintains the nameplate capacity requirement, it should be changed to be 25 MW.

One commenter (1444) said that the 12-MW limit based on system capacity means that some utilities, like the Copper Valley Electric Association (CVEA), may not benefit from the other changes to the remote area definition. Specifically, the commenter (1444) said that the definition in the rule conflicts with other parts of the revised rule, especially the page 117 definition that sets a 12-MW condition on generating "capacity of area sources," which apparently means each power plant, not the power output of the utility as a whole. The commenter (1444) added that utilities that cover large service area may have many small generating units that in total generate more than 12 MW, but these emissions are geographically disbursed. If this change is not made, the commenter (1444) said that these utilities cannot afford to pay substantially higher rates if they are not exempted from the standard.

However, other commenters (1006) support setting a 500-hour run limit based on a 10-year average because it recognizes the fact that for renewable energy based Alaskan system such as the commenter's (hydro power), in most years actual run time would be far below this limit, but in an emergency there may be a year with a higher run time. Other commenters (877, 974, 1444) objected to the 500-hour operating limit based on a 10-year rolling average. The commenters (877, 974) said that

the unique conditions in remote areas of Alaska present obstacles to implementing a numerical emission standard in such communities. The commenters (877, 974 and 1031) said that it is unclear what timeframes should be used to calculate the 10-year rolling average, particularly whether the data set would include data collected prior to implementation of the infrastructure improvements related to renewable energy. Two commenters (877 and 1031) said that the current rules ignores current investments in renewable energy and would diver future investments away from additional renewable energy infrastructure in order to fund cost control equipment that would be required to meet numerical emission standards on engines that rarely run today. For example, commenter (877) stated that if the 10-year rolling period were to begin with a 2003-2012 data set, then the renewable energy infrastructure developments recently constructed as a result of the Alaska Renewable Energy Fund grant program are disregarded. The commenter (877) explained that the grant program allowed them to build a new wind energy resource which has significantly reduced the amount engine hours since mid-2009; however, the proposed rule would still exclude one of the commenter's (877) diesel power plants from the "remote area of Alaska" definition because of higher historical engine use during the company's pre-wind era. One commenter (1444) agreed with requests to allow sufficient flexibility for the Agency to approve a utility exemption without compliance with the full 10-year rolling average requirement to reflect past and future system improvements that reduce emissions. The commenter (1444) said that without this change, Ketchikan ratepayers will be facing more than $500,000 a year burden to meet the revised air standards for a backup generator that the EPA clearly intended to spare Ketchikan from having to upgrade. Two commenters (974 and 1031) added that as the 10-year rolling average moves into the future, it is unclear how affected remote Alaska communities would be able to shift from costly and complex numerical emission limit requirements to the more reasonable management practice requirements, or vice versa, if a community's load growth resulted in exceeding renewable energy supply.

One commenter (874) suggested an alternative to the third criterion such as allowing flexibility in how many years to include in the rolling average calculation. The commenter (874) gave an example of how a shorter averaging period can more accurately reflect current and future probability of remaining below the cap as renewable energy becomes available. Another commenter (964) said the definition should allow exceptions for extenuating circumstances such as loss of transmission lines. The commenter (964) added that in some areas, the bulk of the hydroelectric generation is supplied to the load centers on non-redundant transmission lines. Repairs to inaccessible lines are difficult and may impossible for substantial periods.

One commenter (877) also stated that the third criterion also includes a confusing sub-criterion that the location of a stationary source greater than 12 MW in nameplate capacity can still be considered to be within in a "remote area of Alaska" if the engine is used exclusively for backup power for renewable energy and is used less than 500 hrs/yr on a 10-year rolling average. The commenter (877) stated that this condition is unreasonably complex and unclear. The commenter (877) stated that the historical use of diesel engines, of which remote Alaska communities like Kodiak are required to maintain in redundant back-up capacity to ensure reliability on our isolated micro-grids, has no effect on the unique infrastructure and environmental challenges that the EPA already recognizes are genuine obstacles to implementing a numerical emission standard in our remote island community.

Some commenters (877, 974, 1031 and 1130) said that the 10-year recordkeeping requirement on stationary sources would conflict with Alaska Administrative Code 18 AAC 50.326(k)(B)(7) and/or other air program requirements such as Title V that establish a 5-year record retention period. Because of this, the commenter's (877) compiled engine hour data only go back to 2006, and this may be true for other stationary sources (974, 1031).

One commenter (1130) asked what forms of electric generation the definition of "renewable energy" includes. The commenter (1130) suggested that the EPA use the definition of "renewable energy" as provided under the Renewable Energy Fund program managed by the commenter. Another commenter (964) said the term "renewable energy" should be clarified to include hydroelectric energy. One commenter (1139) said that the EPA should work with operators who rely on intermittent renewable energy to craft an appropriate energy products test for their engines. One commenter (1130) asked if the definition of backup power" only occurs in an emergency (such as when a renewable energy generator or transmission line fails) or does it include "normal" circumstances (such as when hydroelectric project water levels are not sufficient to provide 100 percent of the power requirement)?

Response: As described above, most commenters were generally supportive of the first two criteria the EPA proposed to establish under an expanded definition of a "remote area of Alaska," but raised concerns regarding the third criterion. The EPA proposed that areas of Alaska that are accessible by the FAHS and that met all of the following criteria would also be considered remote and subject to management practices under the rule: (1) the stationary CI engine is located in an area not connected to the Alaska Railbelt Grid; (2) at least 10 percent of the power generated by the engine per year is used for residential purposes; and (3) the generating capacity of the area source is less than 12 MW, or the engine is used exclusively for backup power for renewable energy and is used less than 500 hrs/yr on a 10-year

rolling average. After considering the public comments received on the proposed criteria, the EPA is finalizing the first two criteria as proposed, but finalizing a slightly different third criterion. In this final rule, existing CI engines at area sources of HAP are considered remote if they meet the first and second criteria above and they are either at a source with a generating capacity less than 12 MW, or used exclusively for backup power for renewable energy. Based on public comments received on the proposal, the EPA is not finalizing the limitation that the engine be used less than 500 hrs/yr on a 10-year rolling average. The EPA agrees with commenters who indicated that basing the applicability on the previous 10 years of operation would ignore recent investments in renewable energy that have significantly decreased engine hours of operation in recent years. This change should also simplify the applicability determination for sources and avoid any real or perceived issues regarding access to historical records.

In terms of the generating capacity of less than 12 MW that remains as part of the criteria in the final rule that commenter 1444 indicated concerns about, the EPA clarifies that this is the capacity of the area source. According to research conducted, generating systems at area sources in sparsely populated areas are generally smaller than 12 MW. Specifically, the EPA did not find any community type generating facilities in the non-railbelt area above 12 MW. Therefore, after looking at small remote communities that this provision was intended to be limited to and determining that all were less than 12 MW, the EPA believes 12 MW remains appropriate as the cutoff. According to information the Agency received from the CVEA[60] and information from EPA Region 10, generating plants owned by the CVEA will be able to take advantage of this provision. No information was provided to the Agency to indicate otherwise. The EPA did not receive any compelling arguments that would support using a different system capacity limitation and believes that 12 MW is the appropriate cutoff for distinguishing the areas of Alaska in conjunction with the other criteria of the definition to determine which CI engines would be subject to management practices. The EPA does not think there is reasonable justification for providing prime power stationary engines at facilities generating more than 12 MW with remote area status, and believes these engines should be subject to the requirements that apply to non-emergency engines. Most certainly the EPA does not agree that the system capacity limitation should be set at 25 MW. The RICE NESHAP is a different regulation than the NESHAP for Coal and Oil-Fired Electric Utility Steam Generating Units, which commenters refer to, and the RICE NESHAP addresses different, much smaller sources than that regulation and the EPA does not think it is appropriate to set the capacity

[60] Letter from Robert A. Wilkinson, CVEA to Stephen Page, EPA. RICE NESHAP. January 10, 2012. EPA-HQ-OAR-2008-0708-0848.

threshold at 25 MW under this rule merely for consistency with other requirements that apply to much larger units.

The EPA is also defining "backup power for renewable energy" in this final rule as engines that provide backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5): "renewable energy resources" means (A) wind, solar, geothermal, waste heat recovery, hydrothermal, wave, tidal, river in-stream, or hydropower; (B) low-emission nontoxic biomass based on solid or liquid organic fuels from wood, forest and field residues, or animal or fish products; (C) dedicated energy crops available on a renewable basis; or (D) landfill gas and digester gas. This change provides clarity to sources and should be familiar to them. The EPA believes that adding this definition also clarifies that such generators are allowed to operate under the remote definition. The definition of backup power for renewable energy has been added to §63.6675 of the final rule and Alaska Statute, Title 42 – Public Utilities And Carriers And Energy Programs, Chapter 45 – Rural and Statewide Energy Programs, Article 1, Power Assistance Programs, Sec. 42.45.045. Renewable energy grant fund and recommendation program, effective May 3, 2012, has been incorporated by reference at 40 CFR §63.14(d)(10).

6.1.4 Comment: One commenter (1139) said that the proposal should clarify how to treat a source classification change that causes exempt Alaska engines to become subject to the emission limits. For example, the commenter (1139) asked, if a CI engine was part of a source whose generating capacity was limited to less than 12 MW by its distribution system and community growth requires changes in the distribution system that removes this limitation, then the commenter (1139) asked if the emission and ULSD standards apply immediately, or if there would be a compliance schedule.

Response: If changes are made to the source that result in the engine no longer meeting the criteria specified in §63.6603(b)(2), the engine should comply with the applicable requirements for an engine that does not meet the criteria in §63.6603(b)(2) (i.e, emission limitations, crankcase emission controls, ULSD) at the time the engine no longer meets the criteria in §63.6603(b)(2).

6.1.5 Comment: Some commenters (877, 946, 974, 1031, 1062, 1130 and 1135) supported the provision that at least 10 percent of the power generated by these engines per year should be used for residential purposes combined with the requirement that the remote definition should only consider engines not connected to the "Alaska Railbelt Grid. Some of the commenters (877, 946, 974 and 1062) added that

these two criteria reflect a reasonable approach to describe the type of Alaskan communities and electrical systems that serve remote residential populations where the impact of higher energy costs is of greatest concern. Commenter 1130 proposed to use the definition of "residential customer" as used in the Power Cost Equalization (PCE) program, to define "residential purposes." According to the commenter (1130), the PCE definition provides a basis that is readily understood by remote Alaska villages.

One commenter (1063) disagreed that there should be any requirement for residential power production in the remote definition. The commenter (1063) said that RICE located in industrial facilities rather than in towns and villages (e.g., Alyeska's pipeline pump stations) are much more remote from public activity and have far less impact on public health than remote RICE such as engines providing residential power that are located at or near human activity. According to the commenter (1063), remote industrial facilities share the same extreme weather conditions, reliance on on-site power, and high costs unique to Alaska.

One commenter (1139) said that the EPA should clarify that an owner or operator may use readily available system information such as residential and non-residential sales records to ascertain if an engine on that system meets the criterion. The commenter (1139) added that it is unclear whether an industrial, military, or housing contractor camp operator such as a remote mine or exploratory drilling operation would be classified as residential purposes and the EPA should clarify the term "residential purposes" consistent with the intent of the proposed rule-making to ensure both clients and regulators have a clear understanding on how to make this distinction. One commenter (922) said that the EPA should clarify that the 10 percent residential use in the exemption applies to electricity generation supporting bunkhouses, laundry services and galley services that support a seafood processing industry facility.

Response: The EPA agrees with the commenters that it is appropriate to limit the remote classification to engines that are used at least partially for residential purposes, where the impact of higher energy costs is of greatest concern. The EPA agrees that an owner or operator may use readily available system information such as residential and non-residential sales records to ascertain if an engine on that system meets the criterion.

The EPA does not agree that it would be appropriate to use the definition of "residential customer" as used in the PCE program, to define "residential purposes" because the definition of

"residential customer" in the PCE program includes residential locations that are also engaged in commercial activity.

The EPA disagrees with the comment that there should not be any requirement for residential power production in the remote definition. The EPA is also clarifying that for the purposes of considering if the 10 percent residential criterion is met for the example of bunkhouses, laundry services and galley services that support a commercial or industrial facility (such as a seafood processing) where the common control and operation of the units is a commercial or industrial source, the power serving such situations would not be considered to be residential. The intent of these provisions is to be responsive to the comments that presented to the Agency compelling evidence, documenting the need to ease the burden on electrical systems that serve remote residential populations, where the impact of higher energy costs is of greatest concern. Alaskan communities face long, cold, often very wet winter weather, with extended periods of low light levels, that necessitates planning and preparedness to cover community power needs should there be a failure in the primary power system, which is most often hydroelectric. Communities not connected to the Railbelt grid are isolated and must be able to self generate all of the power needed by the community. Therefore many communities utilize very large diesel engines to serve as back up. Use of the engines by the isolated community utility operators is strictly minimized due to the high cost of diesel fuel which must be passed on to the residential rate payers. For example in Ketchikan, Alaska, when only hydropower is used, the typical residential electric cost is 9.58 cents per KW-hr. This cost is comparable to the cost of electricity in Portland, Oregon, at 10.1 cents per KW-hr. In Ketchikan, when diesel-fired generation is necessary, the cost of electricity increases to 34.58 cents per KW-hr. As an example of the limited amount of time the engines are used when in place as back-up to hydropower, Ketchikan used their engines, over a ten year period, for only 3.7 percent of the possible hours in that time period. The sparse population in non-Railbelt communities in Alaska means that for the isolated utilities that serve those areas there are few customers to bear the costs of electricity generation. For example CVEA serves 3,800 customers (8000 area residents) in a geographic area larger than many states. Long distances to metropolitan areas, complications due to weather, and lack of transportation lead to a greater costs for the installation of controls when compared to Alaskan communities on the Railbelt grid, or communities in the continental United States. Cost of living index information has been presented, documenting that communities that are not on the Railbelt grid have a cost of living substantially higher than Alaskan communities on the Railbelt grid, or communities in the continental United States. Considering the greater cost of living for community members, who are in many cases near or below poverty levels, and how sparse the population is that

may be impacted by emissions, the benefits of placing controls on engines in these remote Alaskan communities does not outweigh the increased costs that would be borne by the rate paying customers in these communities.

Engines that service operations that are under common control of a commercial or industrial enterprise are in a substantially different situation. Commercial and industrial installations are better suited to the use of aftertreatment emission control devices because they have appropriate facilities, finances and personnel to handle engines that use aftertreatment.

6.1.6 Comment: Some commenters (1062, 1130 and 1141) said that the EPA should expand the definition of remote areas of Alaska under the NSPS to align with the NESHAP definition. One commenter (1062) noted that if the same remote area reconstructs an existing engine or installs a model year 2014 or later diesel engine, the area will be subject to the full final NSPS Tier 4 emissions requirements, which are not viable or sustainable in small, isolated grid communities. Commenter 1130 added that aligning the existing NSPS definition with the new NESHAP definition will avoid regulatory confusion, complexity and unwarranted cost and provide the regulatory relief to rural Alaska utilities and communities intended by the EPA.

Response: The requirements in the NSPS for stationary engines in remote areas of Alaska are not the focus of this rulemaking and are outside the scope of this final action.

6.2 Expand Remote Category to Include CI Engines

6.2.1 Comment: Several commenters (871, 882, 933, 1002, 1004, 1047, 1056, 1063, and 1078) said that the EPA should establish a remote area category for CI engines as well and extend GACT/management practices to remote CI engines also. One commenter (1056) argued that it makes no sense to require costly emission controls on CI engines that are in sparsely populated areas that conceivably achieve no health based benefit. Several commenters representing Alaska groups also agreed and said that the EPA should expand the types of sources subject to the remote provisions and apply remote management GACT to offshore diesel CI engines and remote CI RICE. Commenter 1004 said that the arguments made for establishing a remote category of existing SI engines is equally valid for CI engines as well. According to one commenter (882), it has about 40 CI engines above 300 HP at area sources in the

Monterey Bay Area District that are used for agricultural field irrigation and would be required to install oxidation catalyst for HAP control under the rule. Each engine would be classified as a "remotely-located agricultural engine" as defined in California's ATCM for Stationary CI Engines, commenter 882 said. Two commenters (882 and 1047) said that language could be added to the rule to define a "remotely-located agricultural engine." These engines are located in Federal attainment areas and should not be required to install aftertreatment and be subject to testing and monitoring, the commenter (882) believes. According to the commenter (882), the CA ATCM found that the toxic risk from these engines is minimal. The commenter (882) would be supportive of management-based practices for these engines. The commenter (882) recommended that the language from the CA ATCM for the definition of remote be considered, which reads as follows:

"Remotely-Located Agricultural Engine means a stationary diesel-fueled CI engine used in agriculture that is:

(A) Located in a Federal ambient air quality area that is designated as unclassifiable or attainment for all PM and ozone NAAQS (Title 40, Code of Federal Regulations, section 81.305); and

(B) located more than one-half mile from any residential area, school, or hospital.

Commenter 933 said that there are several engines located on the US Navy San Nicolas Island, which is located more than 25 miles from the mainland and is not open to the public. There are several stationary CI engines at this location, some which will require add-on emission controls, the commenter (933) said. All fuel is barged to the island, according to the commenter (933) and the engines will need to use new fuel for add-on control. The commenter (933) requested that the engines on San Nicolas Island be exempted entirely or exempted from having to install add-on controls.

One commenter (1063) said that the EPA should revise Table 2d, Item 1, by adding "non-emergency, non-black start CI remote stationary RICE less than 300 HP," or explain why CI RICE located in remote areas have been treated differently under the proposed rule. Another commenter (965) requested that EPA reconsider the numerical limits specified in Table 2d of the RICE MACT for non-emergency CI engines with rated capacity greater than 300 HP and allow demonstrating compliance with the RICE MACT by meeting the work practice standards.

Two commenters (1002 and 1047) asked the remote exemption proposed for certain existing SI engines at area sources of HAP emissions also be extended to existing remotely located agricultural CI engines at area sources of HAP emissions in Federal attainment and unclassifiable/attainment areas and areas that do not significantly impact non-attainment areas. Assuming these engines are distant from

human activity, the commenter (1047) believes that it is appropriate to not include requirements that would necessitate aftertreatment and extensive testing and monitoring.

Response: The issue of extending a remote category definition to CI engines and establishing GACT management practices was not discussed at proposal and the EPA cannot address these CI engines in this final rulemaking. The EPA was obligated in 2010 to address HAP emissions from CI sources not already addressed in 40 CFR part 63, subpart ZZZZ and finalized those standards to meet its statutory obligation under sections 112(d), 112(c)(3) and 112(k) of the CAA to regulate all existing area source CI engines. The EPA did not find it appropriate to establish a category for remote sources at that time and finalized standards to regulate existing stationary CI engines located at area sources on a nationwide basis. The EPA believes that the CAA provides the Agency with the authority to regulate CI engines at area sources nationwide and the EPA has not contemplated reconsidering this decision for the current RICE amendments based on a lack of sufficient reasons from public commenters to justify revisiting this issue.

The rule already requires maintenance practices for a substantial portion of existing stationary CI engines at area sources, i.e., existing stationary CI engines less than or equal to 300 HP and existing emergency CI engines. Existing stationary CI engines less than or equal to 300 HP represent close to 75 percent of CI engines at area sources.[61] Existing emergency CI engines represent 80 percent of all stationary CI engines. Therefore, in total, more than 540,000 existing CI engines, or more than 90 percent of CI engines at area sources are currently subject to management practices under the rule.

The technology needed to meet the emission standards required for the relatively small portion of remaining existing CI engines at area sources is DOC combined with OCV. Both technologies have been proven effective on diesel engines for decades and are clearly available. The EPA has previously evaluated the cost of these systems and determined that the emission reductions that would be achieved by the combined use of these two controls would outweigh the costs for non-emergency engines above 300 HP.[62] Therefore, the Agency disagrees with commenter 1056 that controls are costly for this group of engines. The EPA believes it is appropriate to require such controls on this group of CI engines, in both well populated and sparsely populated areas, because contrary to the commenter's claim, there are

[61] Memorandum from Bradley Nelson, EC/R to Melanie King, EPA. Impacts Associated with NESHAP for Existing Stationary CI RICE. February 17, 2010. EPA-HQ-OAR-2008-0708-0329.

[62] Memorandum from Bradley Nelson and Tanya Parise, EC/R to Melanie King, EPA. MACT Floor Determination for Existing Stationary Non-Emergency CI RICE Less Than 100 HP and Existing Stationary Emergency CI RICE Located at Major Sources and GACT for Existing Stationary CI RICE Located at Area Sources. February 15, 2010. EPA-HQ-OAR-2008-0708-0327.

health based benefits associated with $PM_{2.5}$, which were presented in the 2010 final rule (75 FR 9670). More information on the EPA's determination and the cost of these diesel controls can be found in the docket.[63,64] The cost per ton of HAP removed for non-emergency engines that operate for long periods of time is reasonable, using an annual operating scenario of 1,000 hrs/yr. Engines operating more frequently than 1,000 hrs/yr would have a more favorable cost per ton and HAP emissions are significantly reduced via DOC and OCV. A 300 HP diesel engine operating for 1,000 hrs/yr with these controls would see a HAP reduction of at least 0.01 tpy or about 22 lbs/yr. A 500 HP and a 1,000 HP engine would reduce their HAP emissions by 37 and 75 lbs/yr, respectively. If the engine operates more frequently, for instance, 4,380 hrs/yr, HAP reductions would be close to 100 lbs/yr for a 300 HP engine and 164 and 328 lbs/yr for a 500 HP and 1,000 HP engine, respectively. The PM reductions from a 500 HP engine operating for 1,000 hrs/yr would be 105 lbs/yr and from a 1,000 HP engine 210 lbs/yr. The VOC reductions would be around 1,000 lbs/yr from a 500 HP engine operating for 1,000 hrs/yr and more than 2,000 lbs/yr from a 1,000 HP engine.

Lastly, as commenters 1076, 1101 and 1140 discussed extensively in their comments on these proposed amendments and summarized in comment 1.2.13 of this RTC document, diesel emissions are hazardous and lead to wide range of health issues. Establishing a remote/sparsely populate area category for this group of engines, similar to what was done for certain large existing non-emergency SI engines is not appropriate. Therefore, the Agency maintains the previous decision that diesel oxidation catalyst controls in combination with OCV on existing non-emergency stationary diesel engines above 300 HP at all area sources is feasible and justified and is necessary to protect public health and the environment in all areas.

6.3 Offshore Sources

6.3.1 Comment: A few commenters (1004, 1020, 1071, 1105, 1145, 1464, 1465, and 1467) asked that stationary non-emergency CI engines greater than 500 HP located at offshore facilities be subject to maintenance practices instead of emission limits. Commenters 1004, 1105 and 1464 said that offshore stationary CI engines should also be included in the definition of a remote stationary engine and that the

[63]Memorandum from Bradley Nelson, EC/R to Melanie King, EPA. MACT Floor and MACT Determination for Existing Stationary Non-Emergency CI RICE Greater Than or Equal to 100 HP Located at Major Sources. February 15, 2010. EPA-HQ-OAR-2008-0708-0332.

[64] Memorandum from Bradley Nelson and Tanya Parise, EC/R Incorporated to Melanie King, USEPA, Cost per Ton of HAP Reduced for Existing Stationary Compression Ignition (CI) Reciprocating Internal Combustion Engines (RICE). February 11, 2010. EPA-HQ-OAR-2008-0708-0290.

maintenance-based management practices that apply to remote stationary SI engines should also apply to offshore stationary CI engines in areas remote from human activity.

Several of the commenters indicated that there are weight and space constraints, and accessibility to offshore platforms that limit the ability to install controls and conduct performance testing of offshore engines. Commenters also stated that there would be minimal impact from the emissions of these sources because of the significantly lower HAP emission exposure and effect on human health from these offshore sources compared to urban areas, and for these reasons argued for maintenance-based requirements. The regulatory burden is substantial and the commenter (1105) also said that most platforms are far from shore and substantially greater than the onshore ¼ mile criteria. The commenter (1020) added that potential health impacts resulting from CI engines located on remote offshore facilities is no greater than the risk posed by remote SI engines requiring management practices. The commenter (1071) explained that the potential health impacts from CI engines on remote offshore facilities would be no greater than the risk posed by remote SI engines that the EPA is proposing management practices for. The commenter (1020) urged the EPA to consistently apply regulatory compliance requirements for SI and CI non-emergency engines located at remote areas. The commenter (1020) provided additional information on the feasibility and costs for add-on controls to meet emissions limits for mobile offshore drilling units and exploratory drilling rigs.

In support of its position, commenter 1467 offered the following arguments:

1. It is impossible for offshore industry vessels to obtain marine engines that simultaneously meet both the International Maritime Organization (IMO) requirements and the EPA's requirements for non-marine engines. The commenter (1467) included an attachment (Attachment 1 to the commenter (1467) letter) that outlined IMO/other requirements and how the application of the cited requirements affects the means by which the stationary RICE NESHAP can be met. In summation, they provide that:

- The engine original engine manufacturer (OEM) will not certify an engine to IMO and EPA standards and that standards often differ from state to state and are considerably more expensive.
- The IMO has not yet approved a practical method for measuring PM and as such will not set a limit for something it cannot measure.
- Existing IMO Maritime Safety Committee-645 guidelines stipulate active redundancy for station-keeping requirements, resulting in multiple engines having to be kept online at low loads nearly all the time.

2. Maintenance systems imposed on offshore drilling vessels are well maintained and documented and the commenter (1467) believes that they exceed the management practices proposed by

the EPA for SI engines and those currently required in the rule for smaller CI engines. The commenter (1467) provided an attachment (Attachment 2 to the comment (1467) letter) that presented offshore maintenance system practices based on OEM input. The specific example provided includes maintenance plans generally followed for good operation of diesel engines where twice daily logs of running conditions are mandated by class are followed and engine lubrication oils are analyzed every 30 days by an oil analysis company for specified properties.

3. Installation of a DOC is an enormous undertaking that could require extensive structural modifications, development of new maintenance requirements, increased safety procedures and hazardous material handling plans that ultimately would not seem to balance out the small gain achieved in the reduction of CO emissions. The commenter provided two attachments (Attachments 3 and 4 to the comment letter). Attachment 3 provided information regarding the instillation of a DOC and the reasons why it is considered a major project where the engine rooms would need to be shutdown during the installation. The commenter (1467) also provided that a full engineering survey would be required to finalize costs and downtime. Attachment 4 indicated that the predominant engine used for main generating units on offshore drilling platforms are large bore, medium speed diesel engines. The commenter (1467) believes, based on an analysis performed, that CI RICE, especially at the sizes commonly found offshore, are not a large emitter of CO and the reduction of CO by use of a DOC is not a cost effective proposition given the safety and size constraints encountered offshore.

In addition, the commenter (1071) compared the CO emissions from 4-stroke SI engines to CI engines and said that requiring management practices on remote CI engines above 500 HP would not have a significant impact on overall CO emission levels on sources regulated under the rule. Additionally, the decrease in HAP reductions from exempting large CI engines in remote areas versus the loss in HAP reductions from SI engines being proposed to be exempt is substantially lower, the commenter (1071) said. The commenter (1071) also said that it is not cost-effective to apply controls to these engines and perform the testing requirements these engines are subject to under the rule. According the commenter (1071), there are additional costs involved in retrofitting oxidation catalyst controls on stationary engines that are offshore, and also argued as commenter 1105 did, the technical challenges related to the installation of oxidation catalyst on engines at offshore facilities, including weight and space constraints. The commenter (1071) said that offshore facilities are subject to weight and space constraints to ensure that the facility meets stability and buoyancy requirements for safety reasons. Offshore facilities are also designed and built to maximize space and additional space is often not readily available to make retrofits, the commenter (1071) said. Adding more weight could require

structural changes, which is one element that was not included in the EPA's cost analysis, the commenter (1071) added. The commenter (1071) provided a cost example for a 6,610 HP engine and showed the various cost elements, arriving at a total cost of $389,557 for an oxidation catalyst with annual operating costs of $71,697, and estimated the cost per ton of HAP reduced at $289,685. The commenter (1071) cited to the cost per ton of non-emergency engines between 100 and 300 HP that the EPA calculated at $265,000 and where the EPA stated "although add-on controls are technically feasible for these engines located at area sources, control costs are high and EPA believes that it is possible to achieve reasonable controls using management practices." The commenter (1071) said that the cost per ton it has calculated for its sources is higher and therefore believes based on that same rationale that the EPA made for 100 to 300 HP non-emergency CI engines that management practices should also apply to CI engines above 500 HP at offshore platforms and exploratory drilling rigs.

One commenter (1020) submitted extensive comments to support their claim that CI non-emergency engines with rated capacity greater than 300 HP located at offshore sources should be allowed to demonstrate compliance with the RICE MACT by meeting the management practice standards similar to that of CI non-emergency engines with rated capacity 300 HP or less. The commenter (1020) said that the same reasonable stakeholder concerns apply to both engine groups. According to the commenter (1020), Outer Continental Shelf (OCS) facilities qualify as remote sources according to the criteria specified in §63.6675. The commenter (1020) said that most of the remote offshore CI engines of concern are located in equally, if not more, remote locations. The commenter (1020) added that the basis for EPA's proposal to exempt existing stationary non-emergency CI RICE greater than 300 HP located at area sources in Alaska not accessible by the FAHS from meeting the numerical CO emission limitations should also apply to CI non-emergency engines at OCS offshore facilities. The commenter (1020) described several issues related to conducting performance tests at offshore facilities such as scheduling and cost challenges related to lack of qualified testing companies and difficulty of scheduling tests during high load operations, which are not typical. The commenter (1020) concluded that costs associated with emission controls, testing, and monitoring requirements for CI engines would also be unreasonable when compared to the HAP emission reductions achieved considering that the CI engines are located in the same sparsely populated areas as the SI engines.

The commenter (1020) supports and agrees with commenter 1071 and their detailed review of the EPA's GACT discussion and annualized cost equations. The commenter (1020) has similar concerns that the engines used as a basis for development of the RICE MACT emission standards did not have information representing large CI engines (9,000+ HP) located at offshore facilities. Referencing the

commenter 1071's letter, the commenter (1020) said that when including additional costs associated with technical challenges for installation and operation of controls to comply with the numerical emission standards for CI engines, the cost-effectiveness per ton of HAP reduced is greater than the amount the EPA determined to not be cost-effective for existing stationary CI non-emergency engines between 100 HP and 300 HP located at area sources. On this basis, the commenter (1020) believes that GACT for existing stationary CI non-emergency engines greater than 300 HP located at area sources on offshore facilities should be management practices, not add-on emission controls. One commenter (965) asserted that the rationale for allowing management practices for existing SI stationary RICE greater than 500 hp located in "remote areas" and the rationale behind broadening of the definition of "remote sources in Alaska" to allow more existing non-emergency CI engines to comply with management practices in lieu of numerical standards also applies to non-emergency CI engines. The commenter argued that non-emergency CI engines at offshore facilities face similar concerns (e.g., offshore operations are often conducted several miles from the shore where reliance on CI engines for supplying power is needed, subject to higher operating and compliance costs compared to onshore area sources).

Commenters 1105 and 1145 recommended that the remote area definition should designate Cook Inlet, Alaska as remote engines. Commenter 1105 stated that the issue is that multiple rooms within a single owner/operator facility structure could be interpreted as separate "dwelling units" under the criteria in item (2)(i) of the definition of remote stationary RICE in 63.6675.The commenter (1105) mentioned as an example platforms in inland waters such as those in Cook Inlet and within the coastal areas of Louisiana and Alabama are not excluded under item (1) of the definition and may have living quarters that would inappropriately be considered multiple dwellings/buildings. The commenter (1105) said that an office that houses a control room, meeting/lunch room, locker room, offices, etc. could also be considered a multiple dwelling building.

Response: The EPA agrees that management practices are more reasonable as GACT for existing non-emergency stationary CI RICE larger than 300 HP on vessels operating on the OCS because of the concerns regarding technical infeasibility and cost for emission controls. The EPA did not receive any public comments indicating that HAP emission controls were generally available and had been demonstrated for the large engines on the vessels. The EPA understands that vessels on the OCS can, among other things, face strict weight and space constraints, which limit control and testing options. Specifically, offshore vessels must adhere to weight and weight distribution limits for stability and buoyancy purposes necessary for safety reasons. The EPA did not intend to establish regulations for

offshore mobile source vessels in its NESHAP rulemaking. At the time of the rulemaking, the EPA had not made any determination regarding whether engines on vessels operating in the OCS would be considered subject to the NESHAP and the EPA did not take into account such engines when promulgating the final NESHAP for existing engines. It is the EPA's understanding that offshore operators are primarily concerned with the application of aftertreatment controls to their main power engines. These main power engines are several thousands of HP in size and on vessels there are usually at least four of these engines, several more in some cases on certain OCS vessels. The catalyst needed for these engines would be substantial.

In addition to the space and weight limitations that offshore facilities face, there are issues with catalyst fouling from the low-load engine operation of the engines of concern. The United States Coast Guard requires that the main engines operate between 25 and 50 percent load, stipulated under IMO, according to offshore operators.[65] Because of low load operation of the main propulsion or power plant engines, the environment for effective catalyst function is not ideal and issues with engine backpressure are a concern. Lastly, there is minimal catalyst vendor experience with retrofitting these large engines on the OCS, plus limited testing companies available. In a letter from engine manufacturer Wartsila to Transocean, Wartsila indicates concerns with the application of an oxidation catalyst for Transocean's vessel.[66] To comply with the requirements of the RICE NESHAP would not be cost effective, according to commenters, and the Agency agrees. It would not be reasonable to impose emission standards under the rule that would necessitate the use of oxidation catalyst or other technology to reduce HAP emissions because of technical feasibility and the costs would be prohibitive. For information on the analysis of impact of engines on OCS vessels, see the rulemaking docket[67]. The EPA agrees with commenters that engines on vessels on the OCS affected by the RICE NESHAP should be permitted to comply with the rule by following maintenance practices, similar to those required for smaller (less than 300 HP) existing stationary diesel engines.

The EPA reached out to operators[68] of these engines and asked for recommendations on management practices that would be appropriate for engines on offshore vessels on the OCS. The EPA

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[65] Email from Douglas Robertson, Statoil to Melanie King, EPA. U.S. Coast Guard Requirements. June 6, 2012. EPA-HQ-OAR-2008-0708-1452.
[66] Letter from Quentin Stewart, Wartsila North America Inc, to Douglas Robertson, Transocean Offshore Int. May 18, 2012. Attachment "Toioxycat 2 document" of EPA-HQ-OAR-2008-0708-1454.
[67] Memorandum from Tanya Parise, EC/R, Incorporated to Melanie King, EPA. RICE NESHAP Reconsideration Final Amendments - Cost and Environmental Impacts. January 14, 2013.
[68] Email from Donald Evans, Statoil to Melanie King, EPA. September 27, 2012. Maintenance Schedules for CI Engines at Offshore Locations. EPA-HQ-OAR-2008-0708-1450.

discussed the maintenance schedule for larger CI engines with the Offshore Operators Committee (OOC) (commenter 1071 in this document), who initially indicated the maintenance items in Table 2d of the proposed rule are appropriate, but that maintenance schedules vary from manufacturer to manufacturer. Therefore, OOC requested that the EPA require adherence to the manufacturer's specifications. However, the EPA cannot simply use this non-specific requirement in the rule and leave the final decision up to manufacturers regarding proper maintenance of CI engines. With that understanding, the OOC indicated that the maintenance schedule in Table 2d of the proposed rule are also reasonable for engines on vessels in the OCS and are preferred over performance standards. The EPA also received input from the International Association of Drilling Contractors who similarly indicated that the maintenance practices and intervals in Table 2d of the proposed rule are suitable for stationary CI engines on offshore drilling vessels on the OCS.[69] Consequently, the EPA is finalizing the following management practice requirements for existing non-emergency CI RICE greater than 300 HP on offshore vessels that are area sources of HAP:

- Change oil every 1,000 hours of operation or annually, whichever comes first, except that sources can extend the period for changing the oil if the oil is part of an oil analysis program as discussed below and the condemning limits are not exceeded;
- Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary;
- Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary; and
- Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

These sources may use an oil analysis program in order to extend the specified oil change requirement. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity and percent water content. The analysis must be conducted at the same frequencies specified for changing the engine oil. If the condemning limits provided below are not exceeded, the engine owner or operator is not required to change the oil. If any of the condemning limits are exceeded, the engine owner or operator must change the oil within two business days or before continuing to use the engine, whichever is later. The condemning limits are as follows:

- Total Base Number is less than 30 percent of the Total Base Number of the oil when new; or

[69] Email from John Pertgen, International Association of Drilling Contractors to Melanie King, EPA. November 11, 2012. Maintenance Schedules for CI Engines at Offshore Locations. EPA-HQ-OAR-2008-0708-1476.

- viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or
- percent water content (by volume) is greater than 0.5.

Owners and operators of these existing stationary CI RICE must develop a maintenance plan that specifies how the management practices will be met and keep records to demonstrate that the required management practices are being met.

The EPA has not accepted the suggestion of commenters to promulgate only management practices to marine stationary platforms. The comments do not indicate that the engines used on these platforms are sufficiently distinguished from other stationary engines to justify not requiring aftertreatment for such engines. The final NESHAP established in 2010 clearly applied to such engines.

Consistent with previous Agency decisions, the EPA maintains that add-on controls are feasible on offshore platforms. In spite of possible size and existing space constraints, control technology vendors have been able to put in aftertreatment, such as in mobile source engines for example. Further, several engines that would be located on platforms would under the RICE NESHAP already be subject to management practices, such as area source diesel engines that are less than or equal to 300 HP. Existing major source engines less than or equal to 300 HP would also be subject to only maintenance-based requirements. It is expected that several engines on platforms might be of this size or smaller, such as for instance crane engines, pumps, and other support-type engine equipment on platforms, and would not be subject to numerical aftertreatment-forcing standards. With that said, for engines that would necessitate aftertreatment, catalyst vendors have indicated that catalysts can put in a silencer, which is typically part of engines on offshore platforms, therefore requiring no additional space.[70]

The EPA has not accepted the suggestion to include Cook Inlet RICE in the definition of applicable waters because this would make the definition inconsistent with that used by the DOT definition of OCS waters. Also, the EPA notes that to the extent waters in the Cook Inlet are sufficiently non-remote and the platforms have a high enough number of buildings intended for human occupancy such that they do not meet the criteria for remote engines under the final regulations, it is appropriate to have these engines treated as non-remote.

6.3.2 Comment: Two commenters (1463 and 1470) said that meeting current and future ozone NAAQS will require additional emissions reductions, not less and that relaxing requirements for RICE on OCS

[70] Email from Melanie King, EPA to Tanya Parise, EC/R, Incorporated. Information on Catalyst Installation. February 17, 2010. EPA-HQ-OAR-2008-0708-0333.

sources is counter to their goals to decrease emissions that contribute to the formation ozone. The commenters urge the EPA not to include any relaxation or exemption for any RICE located at OCS sources. One commenter (1463) expresses concern regarding requests to "relax" or "exempt" CI engines from the requirements which they would otherwise have to comply with as part of an OCS source. The commenter said that granting such requests would not adequately, and equally, protect the health and welfare of the public. The commenter reiterated that EPA could, instead, consider possible limited exemptions for site-specific reasons, but it should not provide an across the board exemption for RICE that are not located in more densely populated areas. The commenter reports than a OCS source could be considered to be a remote location in the ocean, but the emissions from OCS sources can be transported to onshore areas, some of which may be classified as non-attainment for ground level ozone or another pollutant, and should be controlled via proven control technologies.

Another commenter (1470) representing several States (some of which who are represented by commenter 1463) on ozone transport issues disagrees with any exemption or relaxation from the current requirements for any RICE that operate as, or are located at, an OCS source as such a relaxation may hinder the member states' efforts to attain and maintain the current and future ozone NAAQS. As the commenter stated it provided in previous comments, the commenter does not support an across the board exemption for RICE located in less densely populated areas, as emissions from OCS sources can be transported to densely populated onshore areas, some of which may be designated non-attainment for ozone or another pollutant. The commenter (1470) supports its position by pointing out that the EPA recognized the impact of offshore emissions by taking steps to implement a coordinated strategy to address emissions from ships and ocean going vessels in Emission Control Areas (ECA). The commenter (1470) quoted the EPA fact sheets as stating:

"the U.S. coastline and much of the interior of the country will experience significant improvements in air quality due to reduce PM and ozone from ships complying with ECA standards. Coastal areas will experience the largest improvements; however, significant improvements will extend hundreds of miles inland to reach non-attainment areas.[71]"

Commenter 1470 stated that many areas in the OTR are designated as non-attainment for ozone. The commenter reports that many of the non-attainment areas are near "wind energy areas" that are highly populated, in addition to other communities along the coasts of the rest of the contiguous United States. According to the commenter, in order to provide an adequate level of air quality to coastal

[71] http://www.epa.gov/otaq/regs/nonroad/marine/ci/420f10015.htm#3

communities, the EPA must require more than "management practices" to minimize emissions from RICE on OCS sources. Further, the commenter reports that they are only aware of one OCS source in the Atlantic Ocean and any new OCS source in the Atlantic Ocean would be a new source of emissions and should be required to control all sources of its emissions and costs of such control can and should be budgeted for within projects.

Response: The EPA acknowledges the concerns about the emissions from these engines. However, the EPA must set the standards for these engines based on section 112 of the CAA, which indicates that the EPA may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices . . . ." As discussed in the response to comment 6.3.1, the EPA received very convincing information from commenters indicating that there are significant concerns about the technological infeasibility of retrofitting existing CI engines on offshore vessels on the OCS with oxidation catalyst control. Based on this information, the EPA determined that management practices are more reasonable as GACT for existing non-emergency stationary CI RICE larger than 300 HP on vessels operating on the OCS and is finalizing management practices for these engines. The EPA did not receive any public comments indicating that HAP emission controls were generally available and had been demonstrated for the large engines on the vessels.

6.3.3 Comment: One commenter (1461) stated that the maintenance practices for remote SI engines prescribe frequencies in which oil and oil filters must be replaced (the earlier of every 1,000 operating hours or annually), air cleaners must be inspected (the earlier of every 1,000 operating hours or annually) and hoses and belts must be inspected (the earlier of every 500 operating hours or annually). Commenter 1461 requests that a similar set of maintenance practices be utilized as the compliance demonstration for offshore CI engines. The commenter explains that the proposed oil change out requirement under 40 CFR 63.6625(i) may not be feasible in certain operating scenarios in which taking an additional engine out-of-service could result in an unsafe working condition. Examples provided:

1. If more than one engine was flagged for oil change at a time, potential issues could arise with available redundancy required for emergency situations making it infeasible to change out more than one engine within the two day time frame.

2. If an engine is off-line for maintenance thereby limiting the available engine redundancy in reserve for required operations or weather conditions, it may not be feasible to shut down another engine due to a failed oil analysis.

3. If environmental conditions (loop current, high wind/sea state) require the use of all engines or a large portion of available engines such that an engine could not be removed from standby operation for redundancy purposes.

4. If immediate repairs were on-going with a related auxiliary system, (e.g., Heat Exchangers, Pumps, Piping), this could limit available redundancy and directly interfere with shut down of a flagged engine for an oil change.

The commenter (1461) requested that a safety exemption be provided with the proposed work practice standards to ensure that the RICE MACT rule does not preclude offshore operators from providing a safe working environment while satisfying the requirement to minimize target HAP emissions from CI engines. The commenter's (1461) opinion is that such an exemption should delay the timing of the oil change process until such time as a safe operating condition could be achieved that allows for completion of the oil change procedures.

Response: The EPA does not agree with the commenter that it would be appropriate to provide an exemption in the rule from performing the required management practices at the required intervals. The owner/operator of the engines should take their operational needs into account when planning how they will comply with the applicable requirements. If an owner/operator has special and unique operating situations that they believe justify an adjustment to the management practices in the rule, the EPA notes that owners/operators may work with state permitting authorities pursuant to 40 CFR subpart E (''Approval of State Programs and Delegation of Federal Authorities'') for approval of alternative management practices for their engines. Subpart E implements section 112(l) of the CAA, which authorizes EPA to approve alternative state/local/tribal HAP standards or programs when such requirements are demonstrated to be no less stringent than EPA promulgated standards.

6.3.4 Comment: One commenter (1466) believes that it is appropriate to require any non-propulsion CI engines such as generators, cranes, and pumps on off-shore drilling vessels to meet the same requirements as land-based engines in the RICE NESHAP, including the numeric emission limits. The commenter states that section 328 of the CAA requires that for OCS sources located within 25 miles of a State's seaward boundary (an area which contains virtually all of their State's (California) OCS oil and gas activity), the air pollution requirements that would be applicable if the source were located …on shore…" The commenter said that section 328 of the CAA is an important tool in helping to ensure that

the air quality impacts of OCS sources are properly addressed and do not adversely impact onshore air quality and public health. The commenter believes that, when off-shore drilling vessels are an OCS source pursuant to the OCS Air Regulations, codified at 40 CFR part 55, the non-propulsion CI engines should be subject to the same NESHAP requirements as land-based stationary CI engines.

Response: The EPA does not agree with the commenter that it cannot establish different requirements depending on the location of an engine. The EPA has established different requirements in other instances in the RICE NESHAP, for example existing CI engines at area sources in remote areas of Alaska. The EPA believes that it has appropriately determined GACT for existing CI engines on offshore vessels on the OCS to be management practices, for the reasons discussed in the response to comment 6.3.1. This decision does not change the fact that new non-propulsion engines would continue to be subject to other requirements, whether they be mobile source requirements or OCS source requirements like compliance to the NSPS.

6.3.5 Comment: One commenter (1469) surveyed its member companies regarding their experience with retrofitting Category 3 marine diesel engines with DOC and none of the companies had any direct experience installing DOC on these engines. According to the commenter, several of the member companies did however have experience with the installation of DOC on Category 2 marine diesel engines (engines from 5 to 30 l/cyl), like those on ferry and tug boats, as well as on similar-sized engines used on locomotives. The commenter (1469) reports that SCR systems have also been used extensively on these Category 2 marine diesel engines. The commenter (MECA) has issued a report entitled "Case Studies of the Use of Exhaust Emission Controls on Locomotives and Large Marine Diesel Engines (September 2009)," which includes select case studies on the installation of DOC and/or SCR systems on large marine diesel engines. The report is available at the following website: www.meca.org/galleries/default-file/Loco%20Marine%20Case%Studies%20update%200909.pdf.

Generally, commenter 1469 believes that the technological feasibility of installing DOC on Category 3-type CI RICE on offshore drilling vessels is feasible and that issues regarding catalyst fouling have available engineering solutions (e.g., high sulfur fuels contribute to plugging, consumption of too much lube oil can contribute to plugging). The commenter (1469) provided that the use of low sulfur fuels, reducing consumption of too much lube oil, increasing the substrate cell size (which is a specification that catalyst suppliers can easily change in their designs; on MECA member company recommended a cell density of around 100 cpsi).

The commenter (1469) also responded to concerns regarding the issue of a "yellow plume" due to the oxidation of nitrogen oxide (NO) to NO_2. The commenter (1469) affirmed that a DOC will

promote NO and O_2 to NO_2, which can, in some cases cause the exhaust to look yellow or brown. The commenter reports that this issue is not different for OCS sources that it is for land-based sources being retrofitted with DOC. According to the commenter (1469), one of their member companies found that a DOC designed for 70 percent CO reduction is small enough that it does not significantly affect opacity. Commenter 1469 stated that, where NO_2 is a concern, the catalyst can be reformulated to virtually eliminate NO_2 formation. The commenter (1469) referred to a report in support of their assertion that is being prepared by a member company that documents testing conducted and offered to submit the EPA a copy once it becomes available. The commenter (1469) also reported that an SCR system can also be installed to reduce emissions of NO_x.

Commenter 1469 indicated that although offshore drilling vessels are remote, these drilling operations still employ on-site workers and personnel that would be exposed to diesel emissions if requirements are relaxed and pollutants such as NO_x, PM and VOC can be transported over great distances, which can result in higher pollution levels in areas far from where the pollutants originated.

Response: The EPA appreciates the information submitted by the commenter regarding experience retrofitting large marine diesel engines with oxidation catalyst. The information submitted by the commenter shows that there is no experience retrofitting large marine diesel engines with oxidation catalyst, which supports the conclusion discussed in the response to comment 6.3.1 that management practices rather than emission controls are GACT for these engines. The commenter indicates that an SCR system may be necessary to address concerns about emissions of NO_2, which would further increase the cost of emission controls for these engines. However, NO_2 is not a listed hazardous air pollutant. The EPA acknowledges the concerns about emissions from these diesel engines, but believes it has appropriately set the standards for these engines based on the requirements of section 112 of the CAA, which require EPA to base the standards on controls that are generally available for these engines, which the EPA has determined to be management practices.

6.3.6 Comment: One commenter (1468) commends the EPA for seeking means to apply the NESHAP and NSPS to the unique equipment and circumstances found on the OCS. The commenter is particularly interested in how the EPA distinguishes between OCS production operations where stationary sources are clearly involved and exploration/delineation activities where stationary sources may not be involved.

The commenter (1468) disagrees with the conclusion by the EPA that mobile marine sources can become subject to the stationary source standards solely as a result of the operation of 40 CFR part 55

(because they are on or attached to an OCS source). The commenter (1468) provides that the definitions for nonroad engine under 40 CFR 1068.3 and definition of marine engine under 40 CFR 94.2 in support of their position. According to the commenter, the EPA applied these definitions in a 2007 memorandum dealing specifically with engines on a jack-up rig:[72]

40 CFR Part 94 defines a "marine vessel" as having the meaning given in 1 USC 3. The definition in 1 USC 3 very broadly includes every craft capable of being used as a means of transportation on water. In this respect, EPA has previously determined that the definition of "marine vessel" includes such craft as ocean-going and inland waterway barges. In keeping with this logic, EPA would also generally consider a jackup rig to be covered by this definition of "marine vessel" since it is basically a barge and is used for transportation of drilling equipment on water. Thus, the rig and any compression ignition engine installed on the rig would be subject to Part 94 according to the applicability provisions found in §94.1 (see http://www.epa.gov/otaq/cert/dearmfr/cisd06012.pdf for guidance on appropriate certification requirements for portable auxiliary engines). I underline "generally" in the above sentence because there's a potential exception to this statement. Although, as you state, jackup rigs typically remain in one location for about 6 months and are then repositioned, if it ever became the case that a rig remained at a location for more than 12 consecutive months, a compression ignition engine installed on the rig could be considered a stationary engine and thereby subject to 40 CFR part 60, subpart IIII, according to the applicability provisions found in 40 CFR 60.4200. In summary, the commenter (1468) believes that:

- RICE used in oil and gas exploration/delineation activities be deemed a stationary source subject to the NESHAP or the NSPS for engines only if they are employed in a single location for more than 12 months and that this 12-month standard be explicitly stated in the final NESHAP for RICE
- Oil and gas exploration and delineation activities should be viewed distinctly by the EPA when considering application of stationary source standards under 40 CFR part 55. The commenter asserts that engines used for exploration and delineation are on mobile equipment (i.e., marine vessels) that typically does not stay at a single location for 12 months or more. The commenter believes that these engines should be treated differently than engines that are bolted into place and can be considered stationary. In the commenters' opinion, for these engines (engines that

[72] Memorandum from Justin G. Greuel, Heavy Duty & Nonroad Engine Group, Compliance & Innovative Strategies Division, Office of Transportation & Air Quality to Carl Thiele of Caterpillar, August 22, 2007.

are bolted into place and at a single location for 12 months or more), it is appropriate to require similar maintenance practices as those proposed for remote SI engines.

- Marine engines (as defined by 40 CFR 94.2), whether on an OCS source or not, that are at a single location for less than 12 months are not subject to the NSPS or NESHAP stationary source because NSPS and NESHAP do not apply to nonroad engines (defined at 40 CFR 1068.30), marine vessel engines are nonroad engines, and neither section 328 of the CAA nor 40 CFR part 55 changes the nonroad engine status of marine vessel engines located on or attached to OCS sources. The commenter reports that the EAB appears to share their view that Part 55 does not require nonroad engines in the OCS to be treated differently than nonroad engines elsewhere[73]:

> Specifically, simply because EPA has identified an OCS source as regulated under the CAA, and subject to the requirements of part 55, does not mean it can avoid the next necessary step of determining the scope of the "stationary source" for PSD purposes. This interpretation is further supported by applicable legislative history. One of Congress' purposes in giving EPA authority to regulate air pollution sources on the OCS was to require similar treatment of onshore and offshore pollution emitting activities by "applying the same air quality protection requirements as would apply if the OCS sources were located within the corresponding onshore area." S. Rep. No. 101- 228, at 77 (1989). The regulatory definition of "stationary source" establishes the basic unit of analysis – i.e., what emissions units must be included as part of a single source – for determining whether the PSD program's minimum PTE thresholds are exceeded and a PSD permit is required. There is nothing in the plain language of the statute that indicates Congress intended to replace the unit of analysis used for determining onshore applicability of PSD permitting with the new concept of "OCS source" when determining PSD applicability offshore. To the contrary, the statute demonstrates that where Congress intended the "OCS source" to be the unit of analysis for determining applicability of a permitting program it did so expressly. [emphasis added]

Response: The RICE NESHAP does not on its face apply to mobile sources, including marine vessels. However, the regulations applicable to sources on the OCS, codified at 40 CFR part 55, specify that

[73] September 14, 2007 Environmental Appeals Board decision in re: Shell Offshore Inc., Kulluk Drilling Unit and Fronteir Discoverer Drilling Unit; OCS Appeal Nos. 07-01 & 07-02, pp 31-34

vessels are OCS sources when they are (1) permanently or temporarily attached to the seabed and erected thereon and used for the purpose of exploring, developing or producing resources there from, within the meaning of section 4(a)(1) of the OCS Lands Act (43 U.S.C. §1331, et seq.); or (2) physically attached to an OCS facility, in which case only the stationary sources aspects of the vessels will be regulated. 40 CFR 55.2. The EPA does not agree with the commenter that marine engines cannot be subject to stationary source requirements such as NESHAP. The exclusion of nonroad engines from the definition of "stationary reciprocating internal combustion engine" in the RICE NESHAP is overridden by the regulations in 40 CFR part 55 that specify the conditions under which vessels are subject to stationary source requirements. The EPA previously responded to the issue raised by this commenter in the response to comment F.4 in the "Response to Comments for Outer Continental Shelf Prevention of Significant Deterioration Permit No. R10OCS/PSD-AK-09-01, Shell Gulf of Mexico Inc. Frontier Discoverer Drillship, Chukchi Sea Exploration Drilling Program. United States Environmental Protection Agency, Region 10, Seattle, Washington."

6.3.7 Comment: One commenter (933) requested clarification on the "remote offshore" designation for SI engines and asked if this would apply to an offshore oil platform in either the OCS or state waters. The commenter (933) read the provision as applying to an OCS offshore oil platform.

Response: Per the definition of remote stationary RICE in the final rule at §63.6675 of the RICE NESHAP the remote offshore designation is classified as an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

6.3.8 Comment: One commenter (1004) asked that owners and operators of OCS engines be exempt from having to evaluate their engine status every 12 months based on the lack of potential human habitation at OCS locations.

Response: The rule does not require an annual reevaluation of status for the OCS vessel engines.

6.3.9 Comment: Two commenters (1461 and 1462) supported the EPA's consideration of additional information presented during the comment period and the implementation of maintenance practices to reduce emissions of target HAP from CI engines located at offshore facilities.

Response: No response is needed

6.3.10 Comment: One commenter (1462) indicated that it agrees in concept with the comments raised in support of extending the same management practice standards to CI engines located on offshore vessels that the EPA has proposed for SI engines located in remote areas. Commenter 1462 said that a similar extension is appropriate and should also apply to CI diesel engines that may be used during the construction phase of Offshore Wind (OSW) projects or for periodic monitoring purposes. The commenter provides that diesel engines that may be used at OSW facilities would face similar infrastructure, environmental and operational resource constraints and challenges as engines located on offshore vessels. The commenter reports that these engines would be used in remote areas well offshore in virtually unpopulated or at best sparsely populated areas during OSW construction or maintenance. The commenter asserts that the potential health impacts resulting from diesel CI engines used at OSW facilities would pose no greater risk than the risks posed by remote SI engines requiring management practices and requests that the EPA incorporate a similar subcategorization for CI engines used at remote locations including offshore vessels and OSW facilities as the EPA has recently proposed for SI engines located in remote areas.

Response: The commenter did not provide any detailed data or information similar to that provided for engines on offshore vessels to show that the installation of emission controls would be technically infeasible for diesel engines used on OSW projects. Therefore, the EPA does not agree with the commenter that it would be appropriate to require management practices rather than emission limits for these engines.

7.0 Stationary Agricultural RICE in San Joaquin Valley (Tier 1-3 Relief)

7.1 Comment: A number of commenters (909, 938, 1004, 1038, 1043, 1052, 1056, and 1060) supported the proposal to include relief for Tier 1, Tier 2, and Tier 3 certified engines. Commenter 938 expressed specific support for changes made to address conflicts with existing rules and regulations in California, such as the San Joaquin Valley Air Pollution Control District's Rule 4702 – Internal Combustion Engines, and the Statewide ATCM for stationary CI engines. The commenter (938) stated that, because of the EPA's proposed changes to the rule, the timeframes for complying with the CA rules, which it had already planned for, are able to be maintained. The commenter (938) said that the proposed changes will simplify the regulatory landscape for agricultural sources that are also planning for other regulations to reduce VOC emissions from pesticides and to reduce NO_x emissions from heavy duty diesel trucks and farm equipment.

Response: No response is needed.

7.2 Comment: One commenter (1030) requested that a stationary CI engine, which is certified by the manufacturer as meeting a CO emission standard of 3.5 g/KW-hr or less (the 40 CFR part 89 standard for CO) should be exempt from additional requirements under 40 CFR part, 63 subpart ZZZZ similarly to those engines that are Tier 2 certified that are exempt. The commenter (1030) is of the opinion that since CO is a surrogate for HAP for CI engines, an engine that can meet 3.5 g/KW-hr should not require additional regulation regardless of whether the NO_x, HC, or PM emissions meet the Tier 2 or 3 standards, as appropriate.

Response: The EPA disagrees and does not believe that it is appropriate to incorporate the commenter's request into the final rule to allow any engine meeting a CO standard of 3.5 g/KW-hr to be exempt from the RICE NESHAP. The proposed amendment was to allow existing stationary Tier 1 and Tier 2 certified CI engines located at area sources that are subject to state and locally enforceable requirements requiring replacement of the engine by June 1, 2018, to meet management practices under the RICE NESHAP from the May 3, 2013, compliance date until January 1, 2015, or 12 years after installation date, but not later than June 1, 2018. In other words, the proposed allowance was limited to engines that were scheduled to be replaced shortly after the RICE NESHAP requirements go into effect. Also, these engines are not exempt from the RICE NESHAP, but are allowed to meet management practices as

opposed to emission standards in certain cases. The purpose of this allowance is to address a specific concern regarding the interaction of the NESHAP with certain rules for agricultural engines in the San Joaquin Valley in California. Because owners and operators of certain engines would have to install controls in order to meet the RICE NESHAP and would also be forced by state and local rules to replace their engines shortly thereafter due to specifying the replacement of engines under those rules, the RICE NESHAP requirement becomes redundant. In addition, the provision allowing engines certified to Tier 3 controls (and Tier 2 controls for engines above 560 KW to meet the requirements for existing engines is designed to allow engines certified to the most stringent standards for CO, PM, NMHC and NO_x in place at the time of the NSPS for new engines to also meet the requirements for existing engines installed during the short time period when those standards had come into place but stationary engines were still considered existing engines. As these standards are for several pollutants in addition to CO and as the regulations for other pollutants (including NMHC and PM, which also are related to HAP control) may be more stringent, or require further control, than those for CO, the EPA does not believe it is appropriate to allow compliance solely with the CO standard to be sufficient for meeting the requirement.

8.0 Compliance Date

8.1 Comment: A number of commenters (875, 877, 916, 939, 941, 942, 943, 945, 948, 951, 952, 967, 968, 970, 974, 975, 976, 977, 978, 979, 984, 985, 986, 996, 997, 999, 1002, 1003, 1007, 1015, 1017, 1018, 1019, 1022, 1024, 1027, 1029, 1031, 1034, 1035, 1036, 1038, 1039, 1040, 1041, 1043, 1045, 1049, 1051, 1055, 1056, 1060, 1061, 1073, 1074, 1075, 1079, 1082, 1083, 1095, 1097, 1105, 1111, 1113, 1119, 1127, 1128, 1130, 1136, 1138, 1146, 1148, 1149, 1150, 1151, 1169, 1315, 1317, 1318, 1319, 1326, and 1445) are concerned with the compliance dates in the rule, especially if the proposed revisions are not finalized.

Several commenters asked that the EPA extend the compliance dates in the rule because the current timing of the rule does not allow enough time to comply with the rule. Some commenters (1060, 1073, 1083 and 1097) requested a 1-year extension from the current May 3, 2013 deadline. Several commenters (877, 974, 1031 and 1130) said that the compliance date should be extended to May 3, 2014 to give sources in Alaska time to design, fund, order and install controls, monitoring systems and other equipment and to avoid winter construction. Alternatively, if the rule does not retain the remote definition or makes significant revisions, extend the compliance date by 22 months after signature, Alaska commenters said. If the final rule significantly changes the provisions that were proposed, two commenters (1105 and 1136) urged the EPA to extend the initial compliance date to October 2014 or by 22 months after the final rule is signed. One commenter (877) stated that the EPA's final definition of "remote areas of Alaska" will determine whether or not their facilities are required to retrofit their engines with expensive customized equipment. The commenter (877) is concerned about not having sufficient time to design, fund, order, and install this new equipment by the May 3, 2013 compliance deadline if the final definition for "remote area of Alaska" excludes any of their RICE units. The commenter (877) stated that if the EPA issues the final rule as late as December 14, 2012, they would be forced to conduct construction activities during Kodiak's extreme winter season, which typically runs through May. The commenter (877) recommended that to avoid an unreasonable and unsafe situation in Kodiak and other remote Alaskan communities, the EPA should offer special consideration to all of the Alaskan area sources not connected to the Alaska Railbelt Grid by extending the compliance deadline to May 3, 2014.

Similarly, commenter 1089 also urged the EPA to finalize the changes as proposed otherwise significant issues with the rule will remain. If for some reason the rule is not finalized in a substantially similar way as proposed, commenter 1089 noted that it would want to discuss with the EPA an extension

to the current compliance dates in the rule to at least late 2014 or 2015. Commenter 916 said that without extending the compliance date the EPA is treating a subset of engines unfairly. Owners of engines subject to the rule have several decisions to make in order to comply with the rule and with the final rule pending it creates uncertainty amongst affected stakeholders, the commenter (916) said. Not much time is provided from when the final rule comes out and owners knowing what they will have to comply with until they have to comply with the rule, commenter 916 added. There is a provision allowing for extension requests, but it is time consuming and involved and does not solve the problem, the commenter (916) said who therefore requested the compliance date be extended until November 3, 2014. Commenter 1075 said that the EPA should give special consideration to owners/operators of affected engines and suggested that a temporary amnesty period from enforcement action could be provided from the time the final rule is published to a year after. Commenter 1075 recommended that affected sources be free from enforcement action if a deviation occurs during this amnesty period as long as the source comes into compliance by the end of the amnesty period. Commenters 975, 977, 979, 996, 997, 1003, 1019, 1034, 1035, 1061, 1111, 1138, 1150, 1169, 1315, 1317, 1318, 1319, and 1326 requested a 6-month extension after the final rule is published in order for sources to comply. Commenters 976, 985, 986, 999, 1018, and 1029 recommended that the CI and SI compliance dates be aligned and set at the SI compliance date of October 19, 2013 for all engines to provide enough time to reach compliance and would have the added benefit of lessening confusion by making the compliance deadlines consistent.

Some commenters (978, 981, 984, 1027 and 1055) said that it is more reasonable to require compliance by the fall of 2014. In the event the proposed requirements are not finalized in terms of the relief provided to existing non-emergency 4-stroke SI engines above 500 HP in remote areas, commenter 1095 requested that the EPA provide a full 3 years from the date the rule is final in order to reach compliance.

The commenter (1082) suggested that the EPA should provide a 17-month extension to the RICE rule compliance deadline to help bypass the winter and summer peak times, give small utilities adequate time to comply with the new requirements, and give utilities adequate time to follow their city budgeting process. One commenter (1104) concurred that the compliance dates be extended past the normal fall outage period in 2014 – for a period of approximately 17 months total – in light of these concerns. In addition, the commenter (1104) proposed that both the CI and SI compliance dates be aligned so that the date for SI compliance would be the same for CI compliance (October 19, 2014). Commenter (1104) further proposed that the EPA retain the additional one-year for compliance, which could be requested

by units on a case-by-case basis, and believes that this 17-month extension should reduce the need for the EPA to evaluate case-by-case extension requests.

One commenter (1148) stated that the compliance date needs to be adjusted since the final rule is not expected until the end of December 2012. The commenter (1148) asserted that it is unrealistic to expect that vendors could travel to the many hundreds of locations across the United States in the winter of 2013 in order to have the equipment calibrated and running by May 2013. Commenter (1148) stated vendors and the small utilities should have until the fall of 2014 to fully retrofit their RICE units since those same RICE units might be needed during the time when the region that they operate in is impacted by compliance with EPA's EGU mercury MACT or MATS regulations.

One commenter (1067) said that the Agency should allow a transition period under May 31, 2016, in order to give owners/operators and demand resource aggregators sufficient time to install emissions controls on their engines if they wish to participate in power markets. This provision would indicate the expectations of owners/operators who wish to bid their units into capacity markets who rely on an exemption in the RICE NESHAP, the commenter (1067) said. Also, the availability of these units would assist RTO, ISO and other balancing authorities during this temporary transition period.

Some commenters (939, 943, 967, 968, 1002,1036, 1038, 1074, 1113 and 1445) said that it is essential that the EPA consider extending the compliance deadline for this rule as a result of the inordinate delay in finalizing important and crucial details during the reconsideration process. Two commenters (968 and 1002) are concerned that municipalities and agricultural irrigation operations will not have enough time to adjust for major changes in the draft reconsideration such as allowing the use of CI-RICE for peak shaving. Commenter 968 said that municipalities will not know the final details of the regulatory matrix until the end of the year with only 4 ½ months before they have to be in compliance by May 3, 2012. Two commenters (968 and 1017) described the complexity of purchasing process at the municipal level. These two commenters (968 and 1017) cited various concerns including:

- Regulatory issues that must be resolved with the state and coordinating with power suppliers or their joint action agency
- Design, testing and implementation (including making physical modifications to the power plant building) issues that preclude meeting such a short time line
- The need to educate city councils and decision makers about the need for costly equipment
- Evaluating whether limited funds might be better used in investing in a new and presumably more efficient generating unit.

Other commenters (1017 and 1051) voiced similar concerns about the nearness of the May 2013 deadline and the impact on smaller plants and small communities in particular. According to one commenter (1017), while larger plants are moving forward with the installation of catalysts, smaller plants will need additional time to determine whether to seek emergency designation and gain compliance. The commenter (1017) added that municipal utilities that opt to designate their RICE units as "emergency" should be able to comply with a May 2013 deadline, as the installation of oxidation catalysts would not be required. However, the commenter (1017) said that members that decide they cannot operate under emergency designation will need more time. The commenter (1017) recommended an 18-month delay in the compliance deadline.

One commenter (968) said that the EPA should extend the deadline by the 16 months that communities have been in limbo about the regulatory details of this rule, to this point, or that the extension should cover the entire period from December of 2010 when reconsideration was announced until December of 2012 when the final rule is published. The commenter (968) added that, while the existing rule gives individual states with delegated authority the opportunity to grant extensions, this option is not as forcefully presented as the recent MATS rule that was very forceful in its encouragement to the states to issue extensions to municipal utilities that were struggling to meet the relatively short time-frames in the rule because of legally imposed requirements. Two commenters (948 and 968) requested that the Agency use forceful language similar to that used and promulgated in the MATS rule to make it clear to state regulators that extensions are appropriate and expected by the Agency.

Some commenters (1036, 1045, 1074, 1151 and 1445) said that it is more reasonable to give vendors and the small utilities until the fall of 2014 to fully retrofit their RICE units since those same RICE units might be needed during the time when the region that they operate in is impacted by compliance with the EPA's EGU mercury MACT or MATS regulations. The commenters (1045, 1074, 1151. 1445) said that some larger utilities with coal plants might be making significant changes and have many baseload coal units offline or converting to gas, which could lead to more RICE units being called upon during the transition time of 2015-2017. Commenter 1036 added that such an extension would bypass the first summer and winter peak demand periods. One commenter (967) requested that the EPA extend the RICE NESHAP compliance date to be at least 6 months after the date the EPA's final action is published in the *Federal Register* to provide affected facilities with adequate time for review and compliance.

Two commenters (939 and 943) requested that the compliance date for RICE be extended by one full calendar year to allow unit owners sufficient time to make retrofits. The commenter asserted that requiring each facility to individually petition for additional time is cumbersome, inefficient and unnecessary.

One commenter (1038) said that the regulated community should be provided an additional 3 years to come into compliance.

Another commenter (1002) described two issues with relying on the 1-year compliance extension provisions. First, the commenter (1002) said that compliance extension requests must be submitted no less than 120 days before the compliance date, January 2013. The commenter (1002) said if the rule is finalized in December 2012, sources have less than 1 month to determine and develop plans for compliance. Second, the commenter (1002) said, the EPA and state resources are not sufficiently prepared for the number of case-by-case extension requests that will be submitted by sources affected by this rulemaking. The commenter (1002) believes that a compliance extension of 1 year in the final rule would be more effective and reasonably attainable for affected sources. The commenter (1002) added that if the compliance date cannot be changed for all sources, at a minimum the EPA should extend the compliance date for area sources. Commenter 1036 said that at a minimum, state administrative agencies charged with enforcement should be given discretion to grant expedited approval of individual and group requests for 1-year extensions.

Response: Section 112(i)(3) of the CAA requires that compliance for existing engines be "as expeditious as practicable, but in no event later than three years after the effective date of such standard…" The compliance date for existing stationary engines is already set at 3 years following the effective date of the standards. As the EPA did not propose any requirements that are more stringent than those finalized in 2010, regulated parties that would be regulated under either the final rules promulgated in 2010 or the proposed revisions have had sufficient time to prepare for compliance. Regarding provisions that were subject to change as a result of the proposal, for the most part, the EPA is finalizing provisions as proposed and therefore in those cases the existing compliance dates will remain. The EPA believes the existing compliance dates are appropriate and justified in those scenarios where there is no difference between the proposed and final rule, because the new requirements are as or less stringent than the prior requirements and reduce the compliance burden for many sources. Regulated parties have had sufficient time to prepare to meet such requirements.

For instance, the EPA is finalizing the proposal to allow THC to be used as an alternative to demonstrating compliance with the formaldehyde percent reduction requirement for existing and new 4SRB engines above 500 HP at major sources. Further, the EPA is finalizing amendments to the requirements that apply to existing stationary non-emergency 4-stroke SI RICE greater than 500 HP located at area sources of HAP emissions, which had been subject to a numerical emission standard and regular monitoring and testing requirements under the final rule published in 2010, and which under the final rule are subject to either management practices, for engines in remote areas, or to an equipment standard and less burdensome monitoring requirements and less onerous and more flexible testing requirements, for engines not located in remote areas. The EPA is also promulgating regulatory relief for certain existing CI engines that are already certified to CAA standards and management practices instead of emission standards for CI engines above 300 HP on OCS vessels. In all these cases, the final rule establishes regulatory relief and will lessen the compliance burden and a compliance extension is not necessary.

In those situations where the EPA is not finalizing revisions as proposed, the EPA is providing additional time to demonstrate compliance. The EPA is finalizing the allowance for stationary engines operating as part of emergency DR allowing a total of 100 hrs/yr, including hours spent for maintenance and testing, as proposed. However, the final rule includes a requirement that stationary emergency CI RICE above 100 HP and a displacement of less than 30 l/cyl that operate or are contractually obligated to be available for more than 15 hrs/yr use ULSD fuel. Since this requirement is a new requirement that was not contemplated at proposal, owners and operators have until January 1, 2015, to start using ULSD. In addition to the ULSD fuel requirement, owners and operators of these engines must report the dates and times the engines operated for emergency DR annually to the EPA, beginning with operation during the 2015 calendar year. Again, since the reporting requirement was not in the proposed rule, the EPA is delaying the start of this requirement. The EPA is adding these requirements beginning in January, 2015, rather than upon initial implementation of the NESHAP for existing engines in May or October of 2013, to provide sources with appropriate lead time to institute these new requirements and make any physical adjustments to engines and other facilities like tanks or other containment structures, as well as any needed adjustments to contracts and other business activities, that may be necessitated by these new requirements. The EPA believes that giving until January 2015 will give sources sufficient time to comply with the rule, and will also allow the EPA necessary time to implement the new reporting requirement.

The EPA is not finalizing the proposed temporary 50-hour allowance for existing stationary emergency engines located at area sources engaged in peak shaving and other non-emergency use as part of a financial arrangement with another entity. Therefore, acknowledging the short time between this final rule and the existing compliance dates (May 3, 2013 for CI and October 19, 2013 for SI), the EPA is allowing existing stationary emergency engines located at area sources to operate for this purpose until May 3, 2014. The EPA believes that it is appropriate to provide a compliance extension in this case to provide more time for sources that wish to engage in peak shaving until they can come into compliance with the applicable requirements for non-emergency engines. Owners and operators that wish to ask for more time to comply with standards based on the particular circumstances of their sources may still do so under the compliance extension provisions. While such provisions may be time consuming, it is appropriate that sources with particular issues be required to specify those conditions and request an extension, rather than EPA granting a blanket exemption not contemplated by the CAA.

8.2 Comment: One commenter (1134) does not believe that the EPA should extend the compliance deadlines in the rule. It is the commenter's (1134) opinion that owners of engines and DR aggregators have had plenty of time to develop compliance strategies for the 2010 rule. The commenter (1134) also reiterated that there is no reliability-related justification for extending the compliance deadline.

Response: As discussed in RTC 8.1, the EPA does not believe it is necessary to provide an extension across the board, but only in cases where the rule is not finalized as proposed. The EPA does believe it is appropriate and justified to provide sources additional time to comply with new requirements not contemplated at proposal, that is, the requirement to use ULSD fuel for emergency engines that operate or that have contractual obligations to operate for more than 15 hrs/yr and report their operation to the EPA.

8.3 Comment: One commenter (1145) noted that the EPA solicited comment on "whether special consideration should be given to engines whose requirements would be reduced by this proposal if, in the final rule, the EPA does not finalize the proposed reduced requirements." The commenter (1145) supports retaining the proposed requirements and added that significant compliance issues will need to be addressed if this is not the case.

Response: The EPA acknowledges the commenter's input. By and large, the EPA is finalizing the requirements as proposed. The EPA does not anticipate any significant compliance issues with such provisions.

9.0 Technical Corrections

9.1 Comment: Some commenters, including 1063, 1089, 1095, 1105, 1136, and 1323 asked that the EPA make several minor corrections to the regulations, which are listed below. One commenter (1105) also requested that the EPA correct other rule portions and explain in the preamble various issues that have led to implementation and regulatory compliance problems. Commenters 1089 and 1105 provided additional specific recommendations on how to address these issues in the rule.

- Correct the title of Table 2b of the proposed RICE NESHAP as it incorrectly contains a reference to area sources.
- Correct 40 CFR 63.6603(a) of the RICE NESHAP to clearly reflect the engines, and their associated tables, to which this section applies.
- Clearly specify that SSM plans are no longer required.
- Clearly state in §63.6660(a) and Table 8 of the RICE NESHAP that onsite records are not required. The commenter (1105) recommended these specific changes: "Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1)**, except the most recent two years of data must be readily accessible but do not need to be retained on site**." The commenter (1105) also asked that the EPA include the exception text in Table 8.
- Allow sample probe placement at the engine exhaust centroid rather than completing a Method 1 or 1A traverse.
- Moisture determination using Method 320 or an "F-Factor" basis as an alternative to EPA Method 4.
- Clarify the timing of monthly pressure drop monitoring for no- or low-use operating months.
- Revise 63.6630(d) in the RICE NESHAP to add the underlined **bold** text: "Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more **using NSCR** can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent."
- Clarify the requirements for NO_x + HC emission standards in 40 CFR part 60, subpart JJJJ Table 2 as it relates to testing for small natural-gas fired engines. Mobile source standards indicate that HC should be assumed to be zero for units from 25 to 100 HP and the commenter (1105) requested that the EPA add a footnote to Table 2 to clarify this in subpart JJJJJ.

- Add a footnote to Table 2 of 40 CFR part 60, subpart JJJJ for emergency engines 25 to 130 HP to indicate that HC should be assumed to be zero for natural gas engine or that HC is treated the same as VOC for this category and VOC methods apply. Otherwise, revise emission limits to indicate NO_x+VOC instead of NO_x+HC in 40 CFR part 60, subpart JJJJ.

Response: The EPA agrees that is appropriate to make the first change requested by commenters and is revising the title of Table 2b of the RICE NESHAP. The EPA also agrees that it would be appropriate to revise §63.6603(a) to remove the reference to Table 1b. The EPA has also clarified in §63.6625(b)(1)(iv) and Table 8 that a SSM plan is not required for CPMS. Regarding the clarification requested for keeping records offsite, the EPA previously addressed this issue in the March 3, 2010, RICE NESHAP amendments. As discussed in the RTC 10.2 in the summary of comments and responses for that rulemaking,[74] the EPA agreed that records could be kept offsite, although they still must be readily accessible onsite. The EPA has revised the reference to §63.10(b) in Table 8 to indicate that the most recent 2 years of data do not have to be kept onsite, just readily accessible onsite. Methods related to sample probe location and moisture determination are not being added at this time. The EPA has addressed the issue of the timing of monthly pressure drop monitoring for no- or low-use operating months in implementation guidance materials.[75] The EPA is not revising §63.6630(d) according to the commenter's suggestion because this is clear in Table 5 of the RICE NESHAP.

This rulemaking was intended to be narrow in scope, and not include revisions to all aspects of the RICE NESHAP nor to make any significant changes to stationary engine NSPS, except for consistency with the NESHAP regarding treatment of emergency engines. Therefore, the EPA is not making the other changes the commenters requested under 40 CFR part 60, subpart JJJJ related to NO_x and HC emission standards. The Agency will revisit the remaining recommendations from the commenters at a later date.

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[74] Response to Public Comments on Proposed National Emission Standards for Hazardous Air Pollutants for Existing Stationary Reciprocating Internal Combustion Engines Located at Area Sources of Hazardous Air Pollutant Emissions or Have a Site Rating Less Than or Equal to 500 Brake HP Located at Major Sources of Hazardous Air Pollutant Emissions. http://www.epa.gov/ttn/atw/rice/rice_rtc_2-17-10.pdf.

[75] Implementation Question and Answer Document for National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines and New Source Performance Standards for Stationary Compression Ignition and Spark Ignition Internal Combustion Engines. July 17, 2012. http://www.epa.gov/ttn/atw/rice/20120717riceqaupdate.pdf.

9.2 Comment: One commenter (1095) said that the catalyst inlet temperature is not specified in the rule, only discussed in the preamble. Therefore, the commenter (1095) asked that these ranges be added to Table 5 items 13 and 14 and to Table 6, items 14 and 15.

Response: The EPA agrees with the commenter that the catalyst inlet temperature range should be clarified in Table 6 and has included the catalyst inlet temperatures in Table 6 of the final rule.

9.3 Comment: One commenter (1095) asked that the EPA make some clarifications to equation 4 in the rule. The terms C_{adj}, C_d, and X_{CO2} are not explained and the commenter (1095) asked that the EPA define these terms.

Response: The EPA agrees that some clarifications are needed to equation 4 of the rule and has included definitions of the terms C_{adj}, C_d, and X_{CO2} in the final rule.

9.4 Comment: One commenter (1095) said that §63.6630 and §63.6640 refer to compliance requirements for 4-stroke engines above 500 HP at area sources that are not remote that operate more than 24 hrs/yr, but Table 4 in the rule does not contain corresponding items. The commenter (1095) provided a table in its comments with specific suggestions.

Response: The EPA does not believe the changes the commenter is asking for are necessary. The initial and continuous compliance requirements for existing 4SRB and 4SLB engines above 500 HP at area sources that are not remote are provided in §§63.6630(e) and 63.6640(c) and merely points to Table 4 in order to specify the CO and O_2 measurements methods. Therefore, in terms of what the commenter is suggesting, Table 4 is finalized, as proposed.

9.5 Comment: One commenter (1095) asked that the EPA revise the language in footnote 2 for Table 2c and footnote 1 for Table 2d to reference 63.6625(j) as well as 63.6625(i). The commenter (1095) also said that the title of Table 2c should be corrected to read: "… existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions." The commenter (1095) also recommended revising the current language in 63.6615 and Table 3 because they do not reference the subsequent annual compliance demonstrations required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote

stationary RICE and that are operated more than 24 hours per calendar year per 63.6640(c), which could be misleading. The commenter (1095) suggested specific revised language in its comment letter. Additionally, the commenter (1095) said that Table 5 Items 13 and 14 contain the requirement to install an oxidation catalyst and install NSCR, respectively, and neither of these requirements are emission limitations or operating limitations.

Response: The EPA agrees it would be appropriate to include a reference to both §§63.6625(i) and (j) in footnote 2 of Table 2c and 2d of the RICE NESHAP. Regarding the title of Table 2c of the RICE NESHAP, in the printing of the proposed rule in the Federal Register copy, the mathematical symbol was inadvertently displayed as ">" as opposed to "≤". The final rule maintains the "≤" as originally intended and as currently displayed in the Code of Federal Regulations. Section 63.6615 of the RICE NESHAP is reserved for references to performance testing and points to Table 3, which is also intended to show the requirements for subsequent performance tests. Because the annual compliance demonstrations that are required for existing non-emergency 4SLB and 4SRB engines above 500 HP at area sources that are not remote are not typical "performance tests," but more of a catalyst activity check where alternative testing measures are allowed, the EPA does not think that listing those requirements in §63.6615 and Table 3 of the RICE NESHAP is appropriate. Therefore, the EPA is keeping the annual compliance demonstration requirements at §63.6640(c) to avoid confusion with other continuing compliance provisions. Table 5 of the RICE NESHAP lists the requirements for demonstrating initial compliance with the rule and is the correct place to indicate that owners and operators have to install the oxidation catalyst or NSCR as part of demonstrating initial compliance. The EPA has, however, added "work practices" and "management practices" to the title of Table 5 of the RICE NESHAP to be clear on the requirements that are contained within Table 5. The EPA believes this resolves the commenter's concern on this issue.

9.6 Comment: One commenter (867) asked that in the SI NSPS, Table 2, 4th column, item 3 the EPA specify that the method is from appendix A of part 60. The commenter (867) also requested that the EPA specify in the table the specific appendix that the method is from because appendix A of 40 CFR part 60 has been broken down into 8 groups, i.e., appendix A-1 through A-8. Also, in the CI NSPS, Table 7, the commenter (867) asked if ASTM Method D6522-00 (2005) should be listed as alternative to Method 1 or 1A like it is under the SI NSPS. Lastly, the commenter (867) asked if the flowrate should be added to Table 7 of the CI NSPS like it is in Table 2 of the SI NSPS.

Response: The EPA agrees that it is appropriate to clarify in Table 2 of the SI NSPS that the method in item 3 is from appendix A of 40 CFR part 60 and has done so in the final rule. This is a very minor addition and adds clarity to the regulation as far as where the method can be located. The EPA is not making the other changes the commenter suggested at this point. As also discussed in RTC 9.1, this revised rule was intended to be narrow in scope and focused on the RICE NESHAP specifically, not the other engine regulations (CI and SI NSPS). The EPA did not plan on making any substantial changes to the stationary NSPS rules beyond for purposes of consistency with the changes being made to the RICE NESHAP. As such, the EPA is not making the other changes the commenters requested under 40 CFR part 60. These changes are not within the scope of the proposal and the recommendations regarding methods will be revisited at a later time when the Agency is addressing 40 CFR part 60, subparts IIII and JJJJ.

9.7 Comment: One commenter (1121) said that in the proposal at 60.4231(b) through (d) omitted language stating "part 1054, as applicable," which was previously included in the rule. The commenter (1121) asked that this language be reinserted.

Response: The EPA agrees and has included this in the final rule.

9.8 Comment: One commenter (1121) asked that the EPA revise §60.4231 to clarify the certification requirements for emergency engines and proposed the following language for 60.4231(b) through (d) (60.4231(b) shown as an example (the same changes needed to made to 60.4231(c) and (d)) and **bold** underlined text indicating addition):

"Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP that use gasoline and that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. **Alternatively,** stationary SI internal combustion engine manufacturers may certify their **emergency or non-emergency** stationary SI ICE less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) that use gasoline to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate."

The commenter (1121) added that the EPA should consider taking advantage of providing incentives for manufacturers of emergency engines that certify to more stringent standards and pointed out that 40 CFR part 1054 contains flexibility for those manufacturers who produce cleaner engines. Allowing emergency engines to meet more stringent standards would significantly reduce emissions from engines in the category the commenter (1121) said.

Response: The EPA is not making the suggested changes at this time, but will take these comments into consideration in any future rulemaking that is directed at addressing 40 CFR part 60, subpart JJJJ.

10.0 Miscellaneous Comments

10.1 Uncertainty around Engines used for Emergency DR

10.1.1 Comment: One commenter (1011) said that to assess the emissions impacts from small diesel engines that are used in DR programs is complex because little is known about these engines. They are widely distributed and hard to identify, according to commenter (1011). Owners of many of these engines have not been required to obtain permits, therefore air quality managers have limited information about the location and activity levels of engines participating in DR programs, the commenter (1011) added. This would make it difficult to estimate their emissions and apply emission restrictions where necessary, and it is the commenter's (1011) opinion, that if the proposal goes final this would burden state air quality staff who would, according to the commenter (1011) be required to conduct extensive inventory improvements to obtain a proper account of these engines for SIPs. The commenter (1011) said that the EPA should develop an inventory of these engines and provide additional funding to states that would need to develop SIP quality emissions inventories.

Another commenter (1090) also asked how state air quality regulators will be able to model emissions from uncontrolled RICE in remote areas or from RICE participating in DR programs when data on the number and locations of units as well as run times and pollution emissions are unavailable. The commenter (1090) said that operation of these units could prevent attainment with the NAAQS, with costly implications for states, regulated entities and the health of the public.

Response: As the EPA has acknowledged and indicated in the preamble to the final rule, the EPA does not have specific information about the location of the stationary RICE affected by this final rule that operate under DR programs. The EPA agrees with the commenter who stated that it is difficult assess the emissions impacts. Nonetheless, it is outside of the scope of this rulemaking to develop an inventory of DR engines and to provide funding to states to develop their inventories of engines for SIP purposes. With that said, the final rule requires owners and operators of stationary emergency RICE that operate or are contractually obligated to be available for more than 15 hrs/yr for emergency DR to report the dates and times the engines operated for emergency DR annually to the EPA, beginning with operation during the 2015 calendar year. This reporting requirement will substantially improve what is known of these engines and information regarding the location, size, age, and hours of operation of many engines will become available and can be shared with state and local agencies.

In response to concerns about the ability of states to meet NAAQS, the EPA does not believe that a nationwide rule is the best avenue to address those concerns. Rather than a national rule, area-specific requirements such as state-based SIP activities would be more appropriate to address local issues with ozone. The NAAQS issues are discussed further in RTC 3.1.4.

10.1.2 Comment: One commenter (1033) said that the lack of location information also makes it impossible to determine if there are any situations where an aggregator exerting common control over multiple RICE might trigger major stationary source permitting requirements under the EPA's case-by-case aggregation policy, which the EPA notes is a "highly fact-specific" decision.

Response: As discussed more extensively in this document in RTC 3.1.4 and 3.3.1, the EPA is requiring owners and operators to submit reports to document the location of emergency engines that are used for or that are contractually obligated to be used for more than 15 hours per calendar year. Therefore, information on the location of these units will be available. Other useful information about these units such as how much they are operated and what size the units are, in addition to the fuel used in these units, will also be available. The reporting requirement is specified at §63.6650(h) of the final RICE NESHAP and at §§60.4214(d) and 60.4245(e) of the CI and SI NSPS, respectively.

10.2 Life Time Non-Emergency Provisions

10.2.1 Comment: Several commenters, including commenters 873, 902, 909, 950, 968, 1008, 1027, 1043, 1052, 1053, 1055, 1056, 1060, 1063, 1064, 1089, and 1093 expressed that they do not agree with the EPA's rigid proposed requirement that once an engine exceeds the calendar year limitations on non-emergency operation it will be considered a non-emergency engine for the remaining life of the engine and additional commenters were concerned with the averaging periods. This means that the engine would be subject to the requirements for non-emergency engines. For example, if an engine accidentally tests for 101 hrs/yr the engine from that point on must be treated as a non-emergency engine, and the commenter (1043) did not endorse this proposed requirement.

One commenter (1082) argued that the EPA's proposed language on exceedances of the 100-hour limit is inflexible and will result in accidental shutdowns or over expenditures. The commenter (1082) suggested the EPA add flexibility to the proposed rule language stating that any emergency

generator that exceeds 100 hours of allowed operation would automatically lose its emergency designation.

Another commenter (968) objected to the lifetime penalty provision, because it would apply even in cases where the engine were sold to another owner, thus eliminating the financial value of the unit in the United States and the ability of the local community to meet the power needed of their citizens during a winter ice-storm and or summer tornado that destroyed a transmission line. The commenter (968) added that the breadth of the penalty raises constitutional questions because it would deprive a person – in this case a community – of their property without due process of law.

Commenter 1056 also said that it is not reasonable based on inadvertent and unintentional exceedances. Instead, several commenters (873, 902, 909, 939, 978, 981, 984, 1000, 1017, 1027, 1036, 1043, 1045, 1051, 1053, 1055, 1065, 1074, 1082, 1104, 1146, 1148, 1151, and 1445) suggested that the 100 hrs/yr calendar year total limit be calculated as a running 3-year average. The commenter (1082) stated the rolling average would enable smaller utilities with RICE units to preserve the emergency designation of those units should they accidentally exceed the annual limitation. Commenter 1064 agreed that a 3-year average is more appropriate and would represent the true operational pattern of the engine and prevent automatic recharacterization from emergency to non-emergency. One commenter (1053) asked that the 50 hrs/yr be averaged over 3 years. Commenter 977 said that the operation of engines fluctuates from year to year and could go from 12 hrs one year, zero in the next year, 50 to 90 hrs/yr after that and back to 4 hrs in year 4. Therefore, the commenter (977) believes that a rolling average would be more appropriate and would help small utilities. Several commenters (1082, 1119, 1148) suggested multi-year averaging periods be used in determining compliance. Commenter 1056 recommended a 2 or 3-year rolling average. This commenter (1056) also suggested that except for annual testing and maintenance, the emergency engine could lose its ability to operate for any other non-emergency purpose unless the engine was able to comply with the standard. This would mean that under this alternative the engine could still be used solely for emergency situations defined under the rule, commenter 1056 said. One commenter (1119) recommended a 5-year rolling average, not to exceed 100 hrs/yr on an annual basis.

One commenter (1052) suggested that the EPA allow the status of an engine to change from an emergency to a non-emergency engine at any time (even beyond 2017), allowing a 1-year period for meeting compliance as a non-emergency engine, which would allow for better planning and flexibility in response to changing conditions.

Comment 909 asked that as an alternative to the rolling average that the EPA allow a provision where the site could petition the EPA. Commenter 1064 believes that finalizing this requirement could lead to unnecessarily harsh consequence with little to no environmental benefit. Instead, the commenter (1064) recommended that the EPA use its enforcement discretion to fashion appropriate relief in the case where an engine goes beyond the 100 hrs/yr limit for non-emergency purposes without aftertreatment, as the commenter (1064) believes the Agency does in most every other regulatory and enforcement context. In particular, the commenter (1064) is concerned that this would be a very strict requirement on emergency generators in remote, unmanned locations, where the transfer from commercial to generator power is done automatically. In the event that automatic controls fail, which has occurred in past, generators may start inadvertently or may not be shut down when intended, and when this occur it is possible that the operation of these units may go undetected for days, commenter 1064 said. Further, according to commenter 1064, it is possible that the unit may go beyond the 100 hrs/yr before personnel could be at the site to switch back to commercial power. The commenter (1064) does not believe that an inadvertent error as described in this example would justify changing the regulatory status of the engine for the remainder of the engine's life. Rather than finalizing the proposed regulatory language, the commenter (1064) recommended that the EPA strike that language and employ Agency discretion and evaluate each situation on a case-by-case basis. This would give flexibility in cases where the exceedances were unintentional or unavoidable and prevent the owner from having to install costly environmental controls, the commenter (1064) said.

One commenter (1093) stated the EPA should not adopt its proposed "non-emergency for the remaining life of the engine" condition. The commenter (1093) believes it is unnecessary and inappropriate to codify a one-size-fits-all approach for engines that exceed calendar year limitations on non-emergency operations, and could lead to unnecessarily harsh consequences with no or little corresponding environmental benefit. The commenter (1093) suggested that the EPA rely on its enforcement discretion to fashion appropriate relief in the event that an engine exceeds the 100-hour non-emergency use limitation.

One commenter (1093) expressed concern with the potential implications of the EPA's proposed hard-and-fast rule on emergency generators located at remote, unmanned locations. The commenter (1093) asserted that transfer between commercial power and generator power at these locations is done by means of automatic controls that may malfunction, causing a generator to inadvertently start or fail to shut down on command causing an exceedance of the 100-hr/yr runtime limit before personnel could be dispatched to transfer back to commercial power and shut down the generator. The commenter (1093)

believes this should have no bearing on the regulatory status of a generator for the remainder of its useful life-but this would be the result under EPA's proposed regulatory language.

The commenter (1093) stated that a better approach would be for the EPA to use its inherent enforcement discretion to address non-compliance on a case-by-case basis as it does in other contexts. Alternatively, in addition to making clear that it always retains authority to fashion case-specific solutions, the commenter (1093) stated that the EPA should adopt an approach whereby in order for the regulatory status of an engine to change from emergency to non-emergency, it must not only exceed the non-emergency use restrictions in a given year, but also on a three-year, block-average basis. The commenter (1093) offered the following regulatory amendment to implement this approach:

An engine that exceeds the calendar year limitations on non-emergency operation (1) during any calendar year, and (2) on an average basis for that year and the two successive years will be considered a non-emergency engine and subject to the requirements for non-emergency engines.

Two commenters (909 and 968) said if an engine operates outside of lights out for greater than 100 hours in any year for realistic documented reasons, the EPA should either allow a provision whereby a site could petition the EPA or the designated NESHAP authority to not treat it thereafter as a non-emergency engine, or the rule should track the 100 hours based on a rolling 3-year average. One commenter (1047) said that the EPA, in cooperation with state and local delegated authorities, should address calendar year exceedances on a case-by-case basis to consider mitigating circumstances before requiring the classification of an engine for its remaining life.

One commenter (929) recommended that §60.4211(f), §60.4243(d), and §63.6640(f) be revised to read "An engine that exceeds the calendar year limitations on non-emergency operation will be considered a non-emergency engine and subject to the requirements for non-emergency engines for the remaining period that the engine remains at in service at the current location." According to the commenter (929), this change is needed to accommodate situations where the engine is leased or sold during the life of the engine, resulting in a transfer of ownership or operational control. The commenter (929) added that the functionality of an engine to operate as an emergency engine depends on the location of the engine as well as the operational application. Another commenter (1139) made similar recommendations that exempt emergency engines that exceed the use allowance should only be reclassified only for the life of the engine at the same stationary source. Otherwise, the commenters (1139) said, the engine would have to be tracked so that if the owner sells the engine, the new owner could not use it as an emergency engine subject only to good operational practice. The commenter

(1139) said that this would be difficult to enforce unless the rule also requires permanent documentation to accompany the engine.

Response: The EPA proposed in §§60.4211(f), 60.4243(d), and 63.6640(f) that an engine that exceeds the calendar year limitations for non-emergency operation be considered a non-emergency engine and subject to the requirements for non-emergency engines for the remaining life of the engine. The EPA has reviewed comments on this issue and agrees with commenters that it would be more appropriate to address non-compliance on a case-by-case basis. Therefore, the EPA is not finalizing this particular provision. The EPA has specified in the final rule that any emergency engine that is not operated according the provisions necessary to be followed to remain an emergency engine under 40 CFR part 60, subparts IIII and JJJJ, and part 63, subpart ZZZZ, would not be considered an emergency engine and would have to meet the requirements specified for non-emergency engines. These provisions no longer include the "once a non-emergency engine, always a non-emergency engine" clause of the proposal. If an emergency engine exceeds the 100 hrs/yr limitation, it is considered a violation and the exceedances will be evaluated on a case-by-case basis. The EPA does not agree with commenter 929's suggested language, but has instead finalized the following language: "If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines," at §63.6640(f), and the same provision has been specified at §§60.4211(f) and 60.4243(d). The EPA does not agree with the commenters that it would be appropriate to use a rolling average over a period of several years. The limitation is intended to be an upper limit that will apply for every calendar year and it would not be appropriate to allow sources to exceed the limit in some years.

10.3 Recordkeeping and Reporting

10.3.1 Comment: A number of commenters (941, 942, 945, 948, 951, 952, 968, 970, 976, 984, 1018, and 1036) said that the rule is silent on the method, manner and details of the records that must be maintained by the regulated entities on the operation of these "emergency only" engines. One commenter (968) believes that it is essential for equity and consistency that the rule gives guidance both to the regulated community and to Federal and state regulators/inspectors about the expected documentation. The commenter (968) said that failure to do so requires each permitted municipality to assemble their own method of documentation for purposes of compliance and it creates the opportunity

for each EPA region to develop its own guidance and directions which additionally opens the door for charges that the EPA is inconsistent in enforcement.

Two commenters (968 and 989) asked the EPA to specify that records might be kept in either written or electronic form. Two commenters (1082 and 1104) stated that a paper requirement is consistent with other statutory requirements where the regulated party retains a paper log or notebook on the premises that would be easily retrieved during an inspection and opposes mandatory electronic reporting or expensive electronic data management systems on RICE units. Commenter 1104 added that frequency conditions should also be documented by the utility using paper recordkeeping procedures. One commenter (1082) made similar statements and also stated the EPA's recordkeeping emergency event requirements are onerous and believes alternatives should be considered. In keeping track of low voltage events, the commenter (1082) requested that utilities be given the option of recording events in paper or electronic logs. The commenter (1082) asserted that this is an acceptable method of recordkeeping for other EPA rules and would help the EPA address its obligations under the Regulatory Flexibility Act. The commenter (1082) suggested the following language:

"In the event that the engine is operated for any reason, the owner or operator must keep reasonably contemporary records either electronically or in writing of the date and time of the commencement and ending of operation with reference to the non-resettable hour meter as well as the purpose of the engine operation. In the event that the engine was operated because of a deviation in voltage of 5 percent or greater, or frequency deviation, the record shall include whether it was for voltage or frequency, the date, time and unit identification." Other commenters (968, 989, 1017, 1036, and 1051) offered similar language.

Response: The recordkeeping requirements in the RICE NESHAP are specified at §63.6655 and the EPA did not propose to make any changes to the existing requirements in that section of the rule. The EPA believes the requirements are clear and the Agency is not silent on the method, manner and details of the records that must be maintained. The recordkeeping requirements for emergency engines are described in §63.6655(f) and require records to be kept of the engine operation via a non-resettable hour meter. This requirement applies to all existing emergency engines less than or equal to 500 HP at major sources and all existing emergency engines at area sources regardless of what the emergency engine is used for if the engine meets the definition of an emergency stationary RICE as defined in §63.6675. Owners and operators are required to keep records indicating what the engine was used for, i.e., emergency or non-emergency, and what classified the operation as either emergency or non-emergency

(including tracking low voltage events). Owners and operators of engines that are used for DR purposes must keep records of the notification of the emergency situation and the time the engine was operated as part of DR. The vast majority of engines come equipped with an hour meter and the EPA does not believe that keeping track of emergency events is onerous. Further, as specified in §63.6660(c), records can be kept in either paper or electric form, as long as the records are readily accessible. This provision includes tracking low voltage events. The EPA has retained the provisions in the current regulation pertaining to recordkeeping requirements for owners and operators of emergency engines. However, the EPA notes that emergency stationary RICE that operate or that are contractually obligated to be available for more than 15 hours per calendar year for DR purposes are subject to annual reporting requirement, as specified in §63.6650(h) of the RICE NESHAP, and at §§60.4214(d) and 60.4245(e) of the CI and SI NSPS, respectively. Owners and operators of these engines cannot simply maintain records (paper or electronic), but will be required to submit these reports yearly to the Compliance and Emissions Data Reporting Interface (CEDRI) online reporting tool and provide the mandatory information spelled out in the rule.

10.3.2 Comment: One commenter (877) stated that imposing a new 10-year recordkeeping requirement on stationary sources would conflict with Alaska Administrative Code, 18 AAC 50.326(k)(B)(7) that states, "the [Alaska] department [of Environmental Conservation] will keep for five years any record and submit to the Federal administrator any information that the Federal administrator may reasonably require to ascertain whether the state Title V permit program complies with the requirements under 42 U.S.C. 7661-7661f (Title V, CAA)." The commenter (877) stated that their compiled engine hour data only goes back to 2006 because their air permits only require Operating Report retention for a period of 5 years.

Response: Based on public comments received on the proposal, the EPA is not finalizing the limitation that the engine be used less than 500 hrs/yr on a 10-year rolling average that was part of the third criterion of §63.6603(b)(iii) of the proposed rule. Therefore, concerns regarding how to calculate and keep track of a 10-year rolling average, and the proposed requirement conflicting with the State of Alaska provisions are a non-issue.

10.3.3 Comment: One commenter (1067) said that the owners/operators of stationary emergency engines that participated in emergency DR programs should be required to notify the EPA or their state or local

permitting authority by the effective date of the rule or within 30 days of signing up with a DR program, whichever is later, if they intend on using the exemption in the rule. For transparency purposes, the notification should be publicly available and should include, at a minimum, the following information: owner/operator, DR program, ISO or balancing authority, location, engine size, make and model, installation date, fuel type, estimated emission rates, and emission controls, if any.

Response: The EPA agrees that a reporting requirement for certain engines participating in emergency DR programs is appropriate and would increase transparency and assist regulatory agencies in ensuring that these engines are in compliance. Therefore, the EPA is including a requirement in all the final rules (RICE NESHAP, CI NSPS and SI NSPS) that engines that are operated for more than 15 hours per calendar year, or that have entered in contracts requiring the engines to be available for more than 15 hours per calendar year, annually report to the EPA the engine location and duration of operation (and other engine details as specified in §§60.4214(d), 60.4245(e), and 63.6650(h)) for emergency DR. The EPA agrees with the commenter that this information should be available to the public and owners and operators subject to the reporting requirement must use the specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) available on the EPA's Central Data Exchange website, and therefore the information submitted on emergency engines will be publicly accessible for anyone to use. The annual reporting requirement is specified at §63.6650(h) of the RICE NESHAP, and at §§60.4214(d) and 60.4245(e) of the CI and SI NSPS, respectively.

10.3.4 Comment: One commenter (1052) said that it is unclear if initial notification is required by May 3, 2013 for emergency stationary CI engines and asked that this be clarified.

Response: Per §63.6645(a)(5), if you own or operate an existing stationary emergency RICE you are not subject to initial notification requirements.

10.3.5 Comment: One commenter (968) noted that operation for peak shaving purposes is limited to a 4-year period from May 3, 2013 to April 16, 2017. The commenter (968) said that since the draft rule narrative makes it clear that the deadline will not be extended, it is inconsistent with the Regulatory Flexibility Act to require communities to invest in the electronic equipment necessary to monitor, record and report operation of their engines when they can only do so for a period of less than 4 years.

Response: Tracking the hours of operation for an engine is not an onerous activity and the majority of engines already come equipped with hour meters that automatically monitor engine operation. Hour meters are for the most part standard equipment used to keep track of engine operating hours for maintenance and warranty purposes. On engines where hour meters are not standard equipment, a device to record hours can be easily installed at a low cost. Also, regardless of whether the emergency engine is used for peak shaving purposes, the owner or operator is still required under the rule to install a non-resettable hour meter, per §63.6625(f). This requirement applies to all emergency engines, even if they are not used for peak shaving. Further, the requirement to document the hours of operation and what they are spent for applies to all emergency engines, as specified in §63.6655(f). Therefore, the comment about recordkeeping is a moot point as it relates to peak shaving and the proposed temporary allowance.

10.3.6 Comment: One commenter (1090) said that in order to provide the Agency with the basic data it needs to protect public health, the EPA should require all stationary engines, whether new, modified or existing, emergency or non-emergency, or located in remote or non-remote areas, to be registered in order to provide the Agency with much needed information. According to the commenter (1090), precedent exists for requiring registration of stationary generators noting that several states that have adopted emissions standards for stationary generators have included registration requirements in their regulations, including California, Connecticut, and Maine. The commenter (1090) stated that typical registration information, in addition to names, addresses and model numbers, includes emissions data, fuel types used, and construction dates and that re-registration should also be required when there is a change in the owner or operator of an engine. The commenter (1090) said that the EPA needs this type of information from all stationary engines in order to enforce compliance with emissions limits, ensure reporting is carried out by all engine owners and operators, and apply the appropriate emissions standards for remanufactured engines. Commenter 1125 agreed that the EPA should adopt a reporting requirement within the RICE NESHAP or through a separate rule, requiring owners and operators to provide the EPA with notification of participation in emergency DR program, including hours of operation and emissions.

Response: The EPA agrees that it is appropriate to require owners and operators of some engines to report to the EPA information about the engine and operation. In the final rule, the EPA is adding a requirement that owners and operators of emergency stationary RICE that operate or that are contractually obligated to be available for more than 15 hours per calendar year for DR purposes submit

annual reports. The yearly reports are required to include details about the engine such as the size and model year of the engine, information about the fuel used if the fuel deviated from the fuel that is required to be used, where the engine is located, and how frequently the engine is operated for emergency DR purposes. The annual reporting requirement is required for owners and operators in all three engine rules at 40 CFR §§63.6650(h), 60.4214(d) and 60.4245(e). Owners and operators of these engines will be required to submit information on the engines annually through the CEDRI online reporting tool available through EPA's CDX (www.epa.gov/cdx).

However, the Agency does not believe that it is reasonable to require notifications or registration of all engines across the board. For example, the EPA does not require owners and operators of existing stationary RICE less than 100 HP, existing stationary emergency RICE, and existing stationary RICE that are not subject to any numerical emission standards to submit notifications in §63.6645(a)(5). The EPA has previously determined that requiring reporting from owners and operators of small and emergency engines would be too burdensome. However, the Agency does require notifications and reporting for those engines whose emissions are of greatest concern. The Agency requires notifications from existing stationary RICE that are less than or equal to 500 HP at major sources, existing stationary RICE at area sources, stationary RICE greater than 500 HP at a major source, and new or reconstructed 4SLB stationary RICE greater than or equal to 250 HP at a major source, as specified in §63.6645(a)(1)-(4), as long as these engines are not any of the engines in §63.6645(a)(5). The engines specified in §63.6645(a)(1)-(4) represent a substantial number of engines from the total universe of engines and notifications of the whereabouts and details of these units will be helpful to the Agency. Further, the Agency requires reports to be submitted as specified in §63.6650 and Table 7 of the rule, which will capture additional engine information and information about the emissions of engines that have the most significant emissions.

10.3.7 Comment: One commenter (1063) said that Footnote 2 of Table 2d requires sources to report any failure to conduct management practices in a timely manner due to an emergency. The commenter (1063) asked that the EPA clarify with a citation under which notification or reporting requirement this report is to be filed. The commenter (1063) added that filing the report under §63.6650(f) does not appear to be appropriate because failure to conduct management practices in a timely manner due to an emergency is not a deviation under 40 CFR part 63, subpart ZZZZ.

Response: Footnote 2 to Table 2d is the only citation for this reporting requirement. This is a stand-alone reporting requirement that is separate from the other reporting requirements described in §63.6650(f).

10.4 Consistency with the NSPS

10.4.1 Comment: One commenter (1093) supported the EPA's efforts to bring consistency to the treatment of emergency engines under NSPS and NESHAP rules. The commenter (1093) believes such consistency helps the regulated community by allowing one set of operating limitations and procedures as we upgrade older units to newer cleaner engines.

Response: No response is needed.

10.4.2 Comment: One commenter (956) supported the EPA's proposal to modify the relevant language in the NSPS to be consistent with the revised NESHAP language. One commenter (1091) supported the EPA's proposal to amend the NSPS for stationary CI and SI engines in 40 CFR part 60, subparts IIII and JJJJ, respectively, to provide the same allowance for stationary emergency engines for emergency DR operation as for engines subject to the RICE NESHAP. The commenter (1091) noted that the NSPS regulations currently do not include such allowance for emergency DR operation and, as result, owners and operators of emergency engines in Hawaii that are subject to NSPS subpart IIII or JJJJ, are not allowed to participate in its emergency DR program.

One commenter (989) recommended that the EPA should revise 40 CFR §§60.4211(f) and 60.4243(d) to be consistent with the proposed 40 CFR §63.6640(f) by including paragraphs 63.6640(f)(4)(i) and (ii) in the CI and SI NSPS sections. The commenter (989) said that the proposed NESHAP provides for limited peak shaving until April 16, 2017; however the NSPS sections do not allow this limited use.

Two commenters (950 and 1065) said that the NESHAP provisions for non-emergency DR should be added to the NSPS in both 40 CFR part 60, subparts IIII and JJJJ. One commenter (1025) supports the EPA's proposal to change the NSPS so that the same emergency DR that is in the NESHAP will be in the NSPS.

One commenter (902) recommended that in addition to making the non-emergency/peak shaving changes in the NESHAP, the same changes should be made in the NSPS in both subparts IIII and JJJJ.

Response: As discussed in the RTC 2.2.1, the EPA is not finalizing the proposed limited temporary allowance for peak shaving, so it would not be appropriate to include such an allowance in the NSPS. As it relates to emergency DR operation, the EPA is finalizing language that is consistent for stationary RICE covered under 40 CFR part 63, subpart ZZZZ and 40 CFR part 60, subparts IIII and JJJJ.

10.5 Use of ULSD Fuel or Alternative Fuels

10.5.1 Comment: One commenter (1033) noted that in the NESCAUM region, many states require emergency backup generators to use ULSD containing 15 ppm or less sulfur by weight. The commenter (1033) said that the use of ULSD fuel should be incorporated into the EPA's final rule as a basic requirement for all diesel engines of any age operating in any DR program.

The EPA requested additional information from the commenter due to a lack of available data showing that switching to ULSD would result in HAP reductions and asked if the commenter had any information to show the link in the reduction of HAP upon changing the fuel to ULSD. In information received from the commenter,[76] including a recent report published by NESCAUM,[77] the commenter stated that there is evidence that the use of ULSD alone can reduce air toxics, such as the BTEX compounds (benzene, toluene, ethylbenzene and xylene) and metals, and notes that ULSD also leads to reductions in THC, which would lower other HAP in the exhaust. The commenter (1033) pointed the EPA to several different studies on heavy-duty vehicles[78] and argued that the studies would be applicable to stationary diesel engines as well. The commenter (1033) also discussed how HAP emissions are reduced with the combination of ULSD and the use of DPF, and referred to the EPA's previous rulemakings on ULSD use with on-road and off-road diesel engines stating that those rulemakings would provide supporting information on this. Also, the commenter (1033) cited to the EPA's 2002 Health Assessment for Diesel Exhaust, which the commenter (1033) said provides details on a variety air toxics in diesel exhaust that ULSD and DPF can substantially reduce (http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=29060). The commenter (1033) indicated in the additional information requested that although the greatest benefit in reducing air toxics from stationary engines when using ULSD fuel would be to use the fuel in combination with DPF. However, even

[76] Email from Paul Miller, NESCAUM to Melanie King, EPA. NESCAUM's RICE NESHAP comments. October 11, 2012. EPA-HQ-OAR-2008-0708-1459.
[77] Determination of Sulfur and Toxic Metals Content of Distillates and Residual Oil in the State of New York. NYSERDA. Final Report 10-31. December 2010.
[78] See attachments to EPA-HQ-OAR-2008-0708-1459.

without DPF, the commenter (1033) said that there are several consistent findings that ULSD alone lowers air toxics from diesel engines.

Response: The EPA agrees that it is appropriate to require certain stationary RICE to ULSD fuel. The EPA already requires existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 l/cyl to use ULSD under §63.6604(a).

Switching from higher sulfur fuels to ULSD will lead to substantial reductions of air toxic emissions. Although the cost of ULSD is more than other higher sulfur fuels such as No. 2 fuel oil and low sulfur fuel, it is cost effective to use ULSD because of savings associated with reduced maintenance from using such fuel. With that said, the Agency disagrees that a 15 ppm fuel requirement is justified for all diesel engines, regardless of size. Requiring ULSD across the board independent of engine size is not justified. For engines below 100 HP, the costs and regulatory burden associated with complying with the fuel requirement may become prohibitive given the nature and use of these engines and their owners and operators. Also, the Agency did not propose the ULSD requirement and did not propose any action in this rule regarding non-emergency CI engines in general or emergency engines used in or contracting for emergency DR for less than 15 hrs/yr. Therefore, the EPA does not believe it is appropriate in the context of this rule to add ULSD requirements for any engines beyond those emergency engines for which requirements were proposed to be revised.

Therefore, the final rule at §63.6604(b) and (c), the EPA is amending the rule to include a requirement that beginning January 1, 2015, stationary emergency engines that are used or contractually obligated to be available for more than 15 hrs/yr for emergency DR, or responding to voltage/frequency deviations, or used for local reliability needs, use ULSD if the engine is larger than 100 HP. The EPA is adding this requirement beginning in January, 2015, rather than upon initial implementation of the NESHAP for existing engines in May 2013, to provide sources with appropriate lead time to institute this new requirement and make any physical adjustments to engines and other facilities like tanks or other containment structures, as well as any needed adjustments to contracts and other business activities, that may be necessitated by this new requirement.

10.5.2 Comment: One commenter (982) expressed that with the recent finding by the WHO that diesel exhaust is a carcinogen, the EPA should require stationary diesel engines to install DPF. The technology has been demonstrated effective in reducing PM emissions from mobile and stationary engines, and provides with the use of ULSD the maximum reduction in PM and additional benefits of substantial

reductions in toxic HC, CO and black carbon, the commenter (982). The technology should be installed on existing stationary diesel engines, where it is feasible, on both non-emergency and emergency engines above 50 HP.

Response: For existing diesel engines, the EPA is not stipulating a particular technology in order to meet the emission standards. Owners and operators could apply any technology that would achieve the reductions or emission standards required under the rule for existing diesel engines, including DPF, and the EPA has not rejected DPF as a potential control option. The Agency agrees that DPF is capable of substantially reducing PM emissions from CI engines. However, the focus of the rule is on HAP emissions and in terms of the HAP reductions and costs associated with a particular control technology, the EPA has determined that diesel oxidation catalyst is justified based on those factors. The EPA discussed more extensively in response to comments[79] on the 2010 rule the reasons for not setting standards for existing diesel engines based on DPF. The EPA disagrees strongly to requiring DPF on emergency and small engines, or any other aftertreatment control for that matter. The EPA determined that work practices were appropriate and justified for small and emergency engines, and the rationale for this determination was discussed at length in 2010.[80]

The EPA is including additional fuel requirements in the final rule at §63.6604(b) and (c) that will lead to reductions in the emissions of air toxics, including metallic HAP (e.g., nickel, zinc, lead) and benzene. Per §63.6604(b), stationary emergency CI RICE with a site rating of more than 100 brake HP and a displacement of less than 30 l/cyl that operate or are contractually obligated to be available for more than 15 hrs/yr for emergency DR, or that operate for local system reliability, must beginning January 1, 2015, use ULSD fuel. Similarly, per §63.6604(c), beginning January 1, 2015, new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 l/cyl located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year must also use ULSD fuel. These fuel requirements are in addition to the existing requirement in §63.6604 (§63.6604(a) in the final rule) that requires

[79] Memorandum from Melanie King, to EPA Docket EPA-HQ-OAR-2008-0708. Response to Public Comments on Proposed National Emission Standards for Hazardous Air Pollutants for Existing Stationary Reciprocating Internal Combustion Engines Located at Area Sources of Hazardous Air Pollutant Emissions or Have a Site Rating Less Than or Equal to 500 Brake HP Located at Major Sources of Hazardous Air Pollutant Emissions. EPA-HQ-OAR-2008-0708-0367.

[80] Memorandum from Bradley Nelson and Tanya Parise, EC/R to Melanie King, EPA. MACT Floor Determination for Existing Stationary Non-Emergency CI RICE Less Than 100 HP and Existing Stationary Emergency CI RICE Located at Major Sources and GACT for Existing Stationary CI RICE Located at Area Sources. February 15, 2010. EPA-HQ-OAR-2008-0708-0327.

existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 l/cyl that uses diesel fuel, to use ULSD fuel. Upon implementation of the combination of these fuel requirements in §63.6604 of the final rule, these provisions are expected to have significant benefits.

10.5.3 Comment: One commenter (968) noted that allowing for the use of non-ULSD fuel in emergency-use engines creates a common sense solution for cities with legacy stock of off-road diesel fuel that does not meet the ULSD specifications. The commenter (968) said that allowing cities to consume this legacy fuel avoids significant costs of immediately pumping and cleaning the tanks to refill them with ULSD fuel. According to the commenter (968) it also avoids the practical problem of what to do with the amounts of fuel placed into the market, and avoids potential environmental problems which can be created with the physical and structural instability of empty underground tanks. One commenter (947) said that diesel is often the only available fuel during emergency situations, especially in rural areas; rules should recognize the limited fuel choices in all of rural America.

Response: Certain existing emergency engines will be permitted to continue to use existing fuels that is not ULSD. However, under the final rule, as discussed in RTC 10.5.2, certain emergency engines that operate for or that are contractually obligated to be available for more than 15 hours per calendar year for emergency DR or local system reliability must start using ULSD fuel on January 1, 2015. The EPA has taken into account issues of existing fuel inventories of non-ULSD fuel, and has included a provision in the final at §63.6604(b) and (c) for engines subject to those requirements to use up existing fuel that was obtained prior to January 1, 2015, can be used in these engines until such fuel is depleted. The EPA believes that ULSD is now generally available throughout the United States and should not be difficult to find. As engines generally store their fuel on site, use in emergency situations should not be a problem, although there may be a need for case-specific actions in extreme emergencies.

10.5.4 Comment: One commenter (1398) said that the EPA should consider requiring DR units to use increasing percentages of biodiesel to ameliorate pollution concerns, further wean the country from foreign oil sources and buttress home-grown and often renewable energy sources.

Response: The EPA is supportive of the use of alternative fuels, such as biodiesel in stationary CI engines. As discussed in RTC 10.5.2, the EPA is requiring ULSD to be used in certain existing and new

emergency diesel engines that operate for emergency DR purposes and local system reliability, in addition to the current requirement that existing non-emergency CI engines above 300 HP and below 30 l/cyl use ULSD. The commenter did not provide specific information to show that the use of biodiesel would reduce HAP emissions. With that said, there is nothing in the rule preventing owners and operators from using biodiesel in their engines that are subject to the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Per the definition of diesel fuel in 63.6675 of the RICE NESHAP, biodiesel is a type of diesel fuel and as long as the fuel meets the criteria specified in items (1) and (2) of 40 CFR 80.510(b), owners and operators are free to use such fuel to satisfy the requirements in §63.6604 of the final rule that require fuel compliant with 40 CFR 80.510(b).

10.6 Stationary CI Engines >30 l/cyl

10.6.1 Comment: One commenter (1004) said that the EPA needs to address issues related to stationary CI engines above 30 l/cyl. The commenter (1004) has previously argued that oxidation catalyst and the CO and formaldehyde emission standards in the rule are not feasible for larger engines because of technical compatibility issues. The commenter (1004) recommended that the EPA incorporate the recommendations submitted on June 3, 2009 (EPA-HQ-OAR-2008-0708-0096).

Response: In order to establish different requirements for large stationary CI engines, EPA would need information to show that these emissions and operation of these engines are sufficiently different to warrant different requirements. The commenter has not provided any emissions or operating data in the context of this or the earlier rule to show that the emission limits are not achievable for these engines.

10.7 Other

10.7.1 Comment: One commenter (1089) noted that it has various concerns regarding the Questions and Answers (Q&A) document the EPA issued on July 17, 2012. The commenter (1089) said that the document may pose issues related to this rulemaking. The commenter (1089) said that it has reviewed the Q&A document and that it will submit comments separately.

Response: The EPA will review the commenter's concerns regarding the Q&A document when received.

10.7.2 Comment: One commenter (1069) requested that the EPA provide a limited use exemption for stationary engines at area sources similar to the exemption provided for major sources in §§63.6600(c), 63.6640(e), and 63.6665. The commenter (1069) said that there is no rationale provided for exempting limited use engines at major source, but not at areas sources and claimed it might have been an inadvertent or unintentional error due to several iterations of the rule, where at one point the rule had requirements for major sources, but not for area sources. The commenter (1069) asked that area sources that operate less than 100 hrs/yr be exempt.

Commenter 1106 made similar statements, and referred back to comments submitted on the 2009 proposed rulemaking where the commenter also requested that the EPA exempt stationary engines at area sources that operate less than 100 hrs/yr. The commenter (1106) filed a petition to the EPA in 2012 requesting that the engines at its facility be classified as emergency units. The commenter (1106) added that it did not see justification for why the EPA has determined that only residential, commercial and institutional facilities have emergency engines and said that utilities have emergency engines and should have an emergency use category for these engines. The commenter (1106) also did not understand why industrial engines at the same area sources would not be exempt from the rule and said that the EPA has not provide a basis for this decision. The commenter (1106) requested that the EPA establish a limited use exemption for engines located at area sources similarly to what was done for engines above 500 HP at major sources. A limited use exemption would spare infrequently used units from having to install expensive combustion and catalytic control systems.

Response: Regarding the comment that EPA should establish a limited use exemption for stationary engines at area sources of HAP, the EPA addressed this in the response to comments document for the 2010 RICE NESHAP rulemaking. See comment 6.2.1 in the document titled "Response to Public Comments on Proposed National Emission Standards for Hazardous Air Pollutants for Existing Stationary Reciprocating Internal Combustion Engines Located at Area Sources of Hazardous Air Pollutant Emissions or Have a Site Rating Less Than or Equal to 500 Brake HP Located at Major Sources of Hazardous Air Pollutant Emissions", which can be found in the rulemaking document at EPA-HQ-OAR-2008-0708-0367. The EPA believes that commenter 1106 misunderstood the rule, because the rule does not specify that only residential, commercial, or institutional facilities have emergency engines.

10.7.3 Comment: One commenter (1089) asked that the EPA allow in §63.6640(f)(2)(i) operator-defined procedures for maintenance checks and readiness testing. Smaller and isolated emergency engines may not have readily available maintenance and readiness testing recommendations from government agencies or other third parties, the commenter (1089) said. For consistency, 40 CFR part 60, subpart JJJJ at §60.4243(d)(2)(i) should also be revised.

Response: The EPA does not agree. It is not appropriate to allow owners and operators of emergency engines to follow their own set of procedures for maintenance checks and readiness testing. Owners and operators must follow some set of established guidelines. As defined specified in §63.6640(f)(2)(ii) of the final rule, such guidelines must be issued by the Federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority or transmission operator, or the insurance company associated with the engine.

10.7.4 Comment: One commenter (894) said that the proposed rule raises a number of complicated issues, but did not express a particular opinion on the proposed rulemaking and noted the diversity in viewpoints within its members.

Response: No response is needed.

10.7.5 Comment: One commenter (886) stated that it does not support nor oppose the proposal. The commenter (886) instead stated that these rules are becoming a political tangle of complexity. The commenter (886) explained that the current trend of government regulatory practice toward ever increasing special interest appeasement acts more to discourage commerce, than it does to encourage healthy practices; whereas, a regulatory code with an easily defined base, simple rules, and few if any exemptions, will be less costly to implement, regulate, comply with, and can act to both encourage commerce, and protect the public health. The commenter (886) used the proposed criteria in paragraph (2) in the proposed definition of "remote stationary RICE" in §63.6675, which is based on the number of buildings on either side of the 1-mile length of pipeline as an example. The commenter (886) stated that 56 FR 48505 demonstrates that there has been past ambiguity as to the definition of a "pipeline, gathering line, processing facility, and production facility," and that history would suggest the same scenario could play out here. The commenter (886) also stated that the argument that many gas compression facilities, and other RICE sources are unmanned, and remote, is not entirely true in actual

practice, since maintenance, and operations crews visit these sites to perform activities associated with their use, and maintenance regularly. The commenter (886) stated that few sites would be entirely out of the reach of currently available cellular, or other commercially available communications devices, and by most not be considered remote.

The commenter (886) asked when would "maintenance practices" rather than a passive control device such as an exhaust converter make sense to employ on a source, if the source is not manned to continually monitor, and/or maintain the source? The commenter (886) suggested redefining the base to achieve the same aggregate results instead of offering exemptions as is currently being proposed.

Response: The EPA has attempted to finalize a rulemaking under 40 CFR part 60, subparts IIII and JJJJ and 40 CFR part 63, subpart ZZZZ for stationary engines that is as clear as possible. However, the different regulations affect a significant number of engines and span across many different industries in all parts of the country. Stationary engines are used in numerous applications, use different fuels, have different operating characteristics and come in a range of sizes from very small at less than 100 HP to very large at several thousands of HP. Engines also range in age and location. The Agency must take all these factors into account when establishing a regulation, which means that in certain cases exemptions, subcategories, and other ways of distinguishing between the different engines is necessary. The EPA is with this final rule clarifying several issues that were previously unclear and making a number of corrections to the regulations. Given the complexity and size of the source category that the Agency is dealing with, the EPA believes it is finalizing rules that are as straightforward as possible, while maintaining the Agency's goal of protecting public health and the environment.

10.7.6 Comment: One commenter (1042) had questions regarding the language in §63.6665 and said that smaller engines, particularly smaller emergency engines were completely exempt from the General Provisions of 40 CFR part 63 in the 2008 revisions. However, in 2010 the language in §63.6665 was revised and according to the commenter (1042) penalized small engines (less than 500 HP) by making them subject to General Provisions, while larger engines (above 500 HP) were exempt. The commenter (1042) asked for justification for this provision and requested that the language from the 2008 version of §63.6665 be put back, which exempted existing engines less than 500 HP from General Provisions requirements.

Response: The 2008 RICE NESHAP did not regulate or address existing engines less than 500 HP, therefore those engines were not subject to the General Provisions under that rulemaking. Those engines were covered under the 2010 RICE NESHAP and therefore in that rulemaking the applicability of the General Provisions was extended to those engines, to the extent that was appropriate.

10.7.7 Comment: One commenter (901) stated that under the RICE NESHAP, the commenter operates the following types of equipment: emergency CI engines, emergency SI engines, and non-Emergency, non-black start CI stationary RICE greater than 500 HP. The commenter (901) stated that based on the current rule, the commenter will have to source test five diesel engines at its West Resort and eight at its East Resort. Additionally, the commenter (901) stated that the engines at East Resort are rental units and are not onsite at all times. The commenter (901) stated that performing this type of testing on an ongoing basis is costly and disruptive to operations without a corresponding environmental benefit.

The commenter (901) stated that all of the non-emergency engines used by the commenter have been equipped with a Johnson Matthey Continuously Regenerating Technology (CRT) Particulate Filter in compliance with the California Air Resources Board Stationary Diesel ATCM. The commenter (901) explained that this particular unit consists of an oxidation catalyst and diesel particulate filter and it has been approved pursuant to the CARB ATCM Verification Procedure under Executive Order DE-05-011. The commenter (901) explained that use of the Verification Procedure in California has streamlined compliance and eliminated the need for source testing by each and every affected facility.

The commenter (901) urged the EPA to consider the Verification Procedure, among other approaches, to demonstrating initial and ongoing compliance with the RICE NESHAP. Similar to the California ATCM, the commenter (901) believes that the EPA could verify specific emission control strategies. The commenter (901) stated that in this way, only control strategies not verified through the verification procedure would require source testing.

The commenter (902) further encouraged the EPA to consider modeling the compliance demonstration approaches after the more flexible California Diesel ATCM section 95115.13, which allows:

1) off-road engine certification test data for the stationary diesel-fueled CI engine,

2) engine manufacturer test data,

3) emissions test data from a similar engine,

4) emissions test data used in meeting the requirements of the Verification Procedure for the emission control strategy implemented,

5) source testing of a stationary diesel-fueled CI engine, or

6) other alternative approved compliance demonstration method.

Response: The commenter did not provide specific information about the Verification Procedure, so the EPA was not able to determine whether it would be appropriate for demonstrating compliance with the RICE NESHAP. The EPA does not agree that it would be appropriate to allow compliance to be demonstrated using test data from a similar engine. The EPA cannot be certain that the engines have been operated identically, have had the same operational, deterioration, and malfunction experiences, and have undergone the same maintenance, all of which could affect the emissions. Engines are typically certified to grams per kilowatt hour standards, which are not the same units as the RICE NESHAP standards (ppm), so the EPA does not believe that certification data would be useful in demonstrating compliance with the RICE NESHAP.

10.7.8 Comment: According to one commenter (1090), the EPA's proposed rule may also be in conflict with the Agency's views on aggregation or grouping of multiple, similar sources of emissions into one single source for evaluation of certain permitting requirements. The commenter (1090) pointed to the EPA's three-part test to determine if sources should be aggregated, which includes (1) whether facilities are contiguous or adjacent, (2) whether the facilities are under common control and (3) whether the facilities are under the same industrial grouping. The commenter (1090) said that the EPA lacks critical information to make the proximity determination, but it is likely that many RICE units could be considered as being under the common control of CSP who have direct (automated) or indirect (via notification) access to operation of these units and RICE units are under the same 'reciprocating internal combustion engine' industry category. Additionally, the commenter (1090) said, these aggregated sources would have to exceed locally established pollution emissions thresholds to trigger permitting requirements, which may be determined on a case-by-case basis. The commenter (1090) concluded that it is plausible that the EPA's aggregation policy may apply to some subset of RICE units.

Response: Questions about whether specific sources should be aggregated will be addressed on a site-specific basis.

10.7.9 Comment: One commenter (936) asked why the requirements for area and major source engines could not be separated into two rules because this would make reading and finding the requirements for any specific regulated unit much simpler.

Response: The EPA has developed a rule that it believes is as clear as possible, given the timeframe available and how the different parts of the regulation has been developed (i.e., over a number of years, addressing different engines each time). Considering that there are engines at major and area sources that are subject to the same requirements in some cases, it has made sense to present the requirements in one location (for example, in Table 2b of the RICE NESHAP). There are also many requirements that are the same for engines at major and area sources and to prevent duplication, the requirements are presented once. Also, there are owners and operators who have multiple engines at many different locations that may be major and area sources and it is reasonable to all the requirements in one place where the same sources are affected preventing affected parties from having to review to sets of regulations to determine what requirements apply. Where the requirements are different for engines at major sources versus area sources, the EPA has appropriately split the requirements into two tables, namely Tables 2c for major sources and Table 2d for area sources.

10.7.10 Comment: One commenter (940) requested that the EPA consider setting a de minimis threshold for exemption from regulation. The commenter (940) stated that current rules for SI non-emergency 4SRB engines units less than 100 HP located at area sources require maintenance every 1,440 hours. The commenter reported that, since there are no de minimis limits in the regulation, the requirements apply to any stationary engines less than 100 HP.

Response: The EPA is required to address emissions from all units within the stationary engine source category regardless of size. As such, certain engines cannot be entirely exempted from regulation, but the Agency has the authority to develop subcategories of engines. In developing subcategories for engines, the EPA considered technical criteria such as differences in emission characteristics, mode of operation, size of the engine, and the type of source. Based on what is known about engines and on comments received on the 2009 proposal (74 FR 9697), the EPA determined that an appropriate cutoff that properly takes into account the uniqueness of smaller engines is 100 HP. The EPA intended for the requirements to apply to engines less than 100 HP also and disagrees with the inclusion of a de minimis threshold in the regulation.

During the development of the requirements for existing SI engines at area sources, the EPA determined that is was not feasible to prescribe or enforce an emission standard for non-emergency SI engines less than 100 HP. Instead, it was determined that management practices were more appropriate and consistent with information received on the proposed rule. Management practices are generally available and cost effective, and following set maintenance procedures will ensure that emissions are minimized and engines are properly operated. Therefore, the EPA established management practices for existing non-emergency SI engines less than 100 HP at area sources and remains firm that requiring maintenance practices for these engines is justified and reasonable. The EPA specifically intended to require maintenance practices for small engines and determined based on information from engine operators and engine manufacturers that a maintenance frequency of 1,440 hours was suitable for small engines. Performing the necessary maintenance activities on the oil and filter, spark plugs, and hoses and belts as specified in the rule will ensure proper engine condition and support reducing HAP and other emissions.

10.7.11 Comment: One commenter (1141) asked the EPA to provide regulatory relief to owners and operators of model year 2006 RICE engines that were manufactured after April 1, 2006 and that do not meet Tier 1 NSPS requirements. The commenter (1141) said that many operators ordered non-Tier model year 2006 engines that, due to unprecedented world demand created by worldwide natural disasters, were delayed up to a year and not manufactured until after the April 1, 2006 NSPS deadline for complying with Tier 1 emissions requirements. The commenter (1141) said that this situation is unjust.

Response: The requirements in the NSPS for stationary CI engines manufactured after April 1, 2006 are not the focus of this rulemaking, and comments about those requirements are outside the scope of this rulemaking.

10.7.12 Comment: One commenter (1078) urged the EPA to coordinate with other Agency departments and harmonize different rulemakings with one another in order to reduce the economic burden on the regulated community. The commenter (1078) argued that its industry (rice production) is taking a double hit because it is also being regulated under new rules that address spill prevention, control and countermeasure associated with engines. According to the commenter (1078), if different EPA

departments would coordinate and collaborate with each other, the total burden of being subject to multiple rules could be minimized to lessen the burden and economic viability of family farms.

Response: The EPA makes every effort to coordinate with other departments and harmonize different rulemakings to reduce the economic burden on the regulated community.