

## **Clean Air Act Advisory Committee**

**February 27, 2013**

**Crowne Plaza – Alexandria, Virginia**

### **Welcome and New Member Introductions**

Jim DeMocker, U.S. Environmental Protection Agency (USEPA or the Agency), welcomed everyone to the Clean Air Act Advisory Committee (CAAAC) meeting.

### **Air Program Update and Priorities**

Principal Deputy Assistant Administrator Janet McCabe, USEPA, introduced Assistant Administrator Gina McCarthy, USEPA, to provide an update.

Ms. McCarthy welcomed all new members to CAAAC and thanked the committee for participating. Ms. McCarthy reviewed several staff changes within the Agency. Ms. McCarthy emphasized the importance of integrating regulatory programs and voluntary (partnership) programs. Ms. McCarthy mentioned her support of the Clean Air Act Excellence Awards, which provide an opportunity to share tools that promote clean air and the reduction of carbon pollution.

Ms. McCarthy provided an overview of Agency updates since the last CAAAC meeting. USEPA is working on establishing a Tier 3 Motor Vehicle Emission and Fuel Standard. The proposed standard is scheduled to be published in March of 2013. Ms. McCarthy said USEPA faces continuous challenges in meeting ozone obligations. USEPA has an opportunity to move forward with a Tier 3 proposal that will bring immediate opportunity for ozone reductions (low sulfur fuel). Ms. McCarthy noted there is an opportunity to combine the Tier 3 proposal with options available to car manufacturers to incorporate low sulfur fuel. The Agency reviewed the balance between receiving immediate benefits and keeping costs associated with the rule down.

Ms. McCarthy moved to the Renewable Fuel Standard program. USEPA published levels for 2013 and published a Pathways Rule. Ms. McCarthy mentioned the renewable fuels market is beginning to see additional pathways to advanced fuels and cellulosic. USEPA created a proposal that identifies opportunities for the Agency to cost-effectively address Renewable Identification Number (RIN) issues under the Renewable Fuel Standard related to fraud. USEPA has been pursuing compliance and enforcement strategies for the program. Ms. McCarthy noted USEPA will publish a proposal to work closely with industries and producers to ensure a process is moving forward to address RIN fraud concerns.

Ms. McCarthy provided an update on particulate matter 2.5 (PM<sub>2.5</sub>). Ms. McCarthy stated USEPA has revised the National Ambient Air Quality Standard (NAAQS) so reductions are achieved through cost-effective national rules. She encouraged taking advantage of collaborative ways to anticipate problems and provide technical information to address the problems to avoid nonattainment. Through this program and collaboration, USEPA will be able to avoid public health impacts.

Ms. McCarthy discussed the Mercury and Air Toxics Standard (MATS), which take into consideration the concerns of the industry. MATS challenged USEPA to have a different dialogue with the energy sector. The Agency is ensuring it works collaboratively to meet the obligation the President set to move forward with public health improvements.

Ms. McCarthy began a discussion of the interstate transport issue. The issue is continuing to challenge USEPA, especially in light of the courts' denying USEPA's appeal. The obligation to address interstate transport of pollution under the Clean Air Act remains. USEPA has started a conversation with some co-regulators about how to move forward with this issue. It is critical to talk with the states before redesigning any guidance. Both downwind and upwind states need to be certain of their path forward.

Ms. McCarthy moved on to State Implementation Plans (SIPs). The Office of Atmospheric Programs (OAP) and the Office of Air Quality Planning and Standards (OAQPS) are working internally to streamline the process of developing and approving SIPs. USEPA recognizes the President's call for a significant increase in energy efficiency. Energy efficiency is a great way for states to reduce both traditional air pollution and carbon pollution. USEPA is helping states to incorporate renewable energy and energy efficiency into their energy strategies.

Next, Ms. McCarthy discussed how greenhouse gas (GHG) initiatives are moving forward. In March of 2012 USEPA proposed a new source performance standard (NSPS) for GHG emitted from power plants. There are currently 2.5 million public comments regarding this rule.

The Greenhouse Gas Reporting Program provides an incredible wealth of information, which is available in an interactive tool. The data helps users to understand where GHGs are being emitted and allows industry participants to compare emissions. Ms. McCarthy suggested the CAAAC look over the available data.

USEPA voluntarily released a climate indicators report. The Federal government is trying to explain the science and the impacts of climate in an accessible way. The report effectively shows climate trends over the years. Ms. McCarthy encouraged the CAAAC to read the report and to discuss it.

The Energy Star program is extremely important because it identifies products that are energy efficient and well made. The Energy Star program allows USEPA to highlight effective products while increasing energy efficiency. So far, the program has helped to reduce a remarkable amount of GHG emissions.

The portfolio manager tool is currently being used by cities and states to assess the energy efficiency of commercial building space. In Boston, all commercial building space must be evaluated using the Portfolio Manager tool. It has been applied to 40 percent of commercial areas in the United States.

Ms. McCabe began by stating that the urban air toxics report is currently undergoing interagency review.

The NAAQS have been very active in last four years. The Agency is spending a lot of time determining the best implementation plan, including working with stakeholders and states. Implementing the NAAQS is a huge effort and takes some time to do.

Dan Johnson, WESTAR Council, said he is expecting sequestration to happen tomorrow. Does the Agency have plans regarding this?

Ms. McCarthy replied that USEPA is currently reaching out to regions and states to understand the effect that sequestration will have. This is not an easy process for the Agency. There is significant anxiety about USEPA's continued ability to improve public health and the environment.

Patricia Strabbing, Chrysler Group LLC, asked how long the comment period will be for the Tier 3 Rule. Will there be public hearings, and if so, where will they be held?

Ms. McCarthy said she cannot answer those questions because the details are being discussed internally. She has no doubt that there will be at least one public hearing. USEPA would like to see the rule finalized by the end of year, so the comment period will be structured accordingly.

Ann Weeks, Clean Air Task Force, stated that Ms. McCarthy did not discuss when the new GHG NSPS will be finalized. Ms. Weeks strongly encourages USEPA to complete the rule within the year. Forty percent of the carbon pollution emitted by the power sector is emitted from existing plants so the Agency should develop a GHG standard for those.

Ms. McCarthy said the Agency is hoping to finalize the GHG NSPS soon, but adequate time is needed to contemplate the 2.5 million comments. USEPA is committed to staying within the one year window and is working hard to move quickly. The Agency is currently working on new source standards, but existing source standards will be developed in the future.

Ms. McCarthy added that USEPA will be finalizing the reconsideration of the MATS new source limits in March.

Kathryn Watson, Improving Kids' Environment, said there have been two recent reports that discuss healthy homes. The first report said adults spend 70 percent of their time at home, while children spend up to 80 to 90 percent of their time at home. The second report, from Columbia University, concluded that air pollution can cause an asthma related cockroach allergy. Ms. Watson asked if the Office of Air and Radiation (OAR) has a response to these reports.

Ms. McCarthy replied that indoor air programs pose a significant challenge because funding is lacking. USEPA is collaborating with HUD on a new requirement that mandates testing for radon in multi-family dwellings. Since the government finances housing opportunities, there are opportunities to advance indoor air goals. USEPA is trying to develop federal partnerships that could allow for mitigation.

Brian Mormino, Cummins Inc., noted that Ms. McCarthy's updates did not include the areas where the CAAAC should provide help. Mr. Mormino is interested in the GHG Phase 2 Standards, as well as backup generator issues.

Ms. McCarthy told Mr. Mormino that the next session will include a discussion of priority areas.

Howard Feldman, American Petroleum Institute, stated that the USEPA does not convey their progress and success to the public very well. A large part of the public thinks air quality is decreasing. How can this paradigm be changed?

Ms. McCarthy replied that communicating clean air challenges is very difficult. She is looking forward to addressing carbon pollution effectively. As more research is done, the impacts of air quality are better understood and people become increasingly concerned. Mr. Feldman is correct in saying that the Agency does not publicize their successes as well as they should.

John Paul, Regional Air Pollution Control Agency, asked why there is an asthma epidemic if air quality has improved.

John Walke, Natural Resources Defense Council, said that he agrees with Mr. Feldman that tremendous progress that has been made. Last week in the House of Representatives Science subcommittee there was a hearing about environmental progress. The Republican Party called on two witnesses who essentially said “we’ve done enough.” Some groups believe the air is cleaner and the country is experiencing diminishing returns from the additional marginal gains.

Don Neal, Southern California Edison (SEC), stated that California utilities have improved energy efficiency through a renewable energy requirement. Currently, California is building transmission lines against the will of the public. Does USEPA plan to work with other agencies to promote the construction of transmission lines?

Ms. McCarthy replied that USEPA has tried to encourage sustainable solutions in the energy world, but currently USEPA is not weighing in on transmission lines.

Margaret Gordon, West Oakland Environmental Indicators Project, stated that the conversation should include cumulative impacts in homes and indoors. Mobile sources do not consider diesel and air toxics pollution in relation to healthy homes. There has been a 50 percent reduction in outdoor air pollution in Oakland, but no indoor air quality testing has been done.

Ms. McCarthy pointed out that the Urban Air Toxics report will be sent to congress soon. This report will help to tie those issues together.

Jalonne White-Newsome, We Act for Environmental Justice (WE ACT), appreciates the commitment to environmental justice (EJ) and the tribes. She is interested in how that commitment will be sustained throughout the agency. Will there be meaningful engagement, especially in relation to climate change?

Ms. McCarthy replied that USEPA is thinking inside the box when it comes to EJ. USEPA must build EJ into the infrastructure of agency decisions.

Ms. McCabe added that Administrator Jackson has challenged the Agency to integrate EJ into the fabric of USEPA by developing Plan EJ 2014. USEPA has been working to develop an approach to integrate public outreach into every rulemaking. There has been a huge increase in public outreach.

Vince Hellwig, Michigan Department of Environmental Quality (DEQ), discussed USEPA’s two year study that included putting personal monitors on people inside their homes while

monitoring air quality outside the homes. The study concluded that indoor air quality is often worse than outdoor air quality. Another study concluded every dollar spent on increased air quality saves \$36 in healthcare costs.

Nicky Sheats, Thomas Edison State College, agreed that USEPA has done a good job on moving EJ issues from the margins to the mainstream. EJ communities have seen more public outreach. Substantive policies are still needed to reduce air pollution in low income and colored communities. Streamlining the permitting processes is great, but this committee should focus on public outreach.

### **Subcommittee and Day One Updates**

Mr. Paul began by saying the subcommittee meeting was very successful. The topics discussed include the NAAQS schedule; an update on ozone, sulfur dioxide (SO<sub>2</sub>), and PM<sub>2.5</sub>; an update on the interstate transport rule; and an update on GHG permitting.

The subcommittee discussed the schedule for PM<sub>2.5</sub> and whether the dates should be changed. The current schedule for ongoing NAAQs reviews was shown.

The subcommittee focused on specific pollutants, including ozone, SO<sub>2</sub>, and PM<sub>2.5</sub>. The 2008 Ozone Implementation Rule was discussed. There are a number of issues that could be included in future meetings, such as new source reviews or the process after areas are designated as nonattainment.

The subcommittee discussed the background of SO<sub>2</sub> and how USEPA has responded to comments on the early policies regarding this pollutant. There were white papers and stakeholder meetings. Initial designations are happening now, and there is a plan to deal with future designations.

PM<sub>2.5</sub> has a new annual standard. There have been several recent court decisions, one of which directed the Agency to use Subpart 4 of the Clean Air Act to guide implementation. Modeling guidance is expected soon, and it may help to deal with the impact of the court decisions.

The committee knows Interstate Transport must be addressed. The subcommittee discussed the status of litigation. The processes going forward were mentioned briefly. USEPA will be working with the states in the coming months on the path forward.

Mr. Paul continued that GHG issues were also discussed. The subcommittee got a brief update on GHG permits. Implementation of the Tailoring Rule was discussed. The GHG Five Year Study was also discussed, including the data needed for the study.

The subcommittee ended the meeting with a call to agenda topics. One member requested that USEPA send the agenda and proposed presentations to the subcommittee members 10 days before the meeting. Mr. Paul and Bill Harnett, USEPA, will try to do this.

Pat Childers, USEPA, added that Ms. Wood's presentation to the subcommittee will be posted on USEPA's CAAAC website.

Jim Blubaugh, USEPA, gave an update on the Mobile Source Technical Review Subcommittee (MSTRS). The MSTRS last met in December 2012 and welcomed nine new members from various sectors. There were two panels set up; one was tasked with describing consumer acceptance of advanced vehicles, while the other discussed the future of natural gas in transportation. These groups spawned a conversation about how the public sees hybrids, the technical concerns, and the future for hybrids. Mr. Blubaugh added that natural gas is quite affordable now, which makes it an attractive energy source.

The MSTRS has two workgroups. The SmartWay Legacy Fleet is the first workgroup, and it has three sub-workgroups within it. The first sub-workgroup is tasked with sustaining program growth by pushing supply chain improvements. The second sub-workgroup focuses on exploring and expanding marine and air freight modes. The third sub-workgroup is tasked with helping to advise the Agency on ways to move forward in the non-road sector. The key focus of the workgroup is adapting to the multi-modal supply chain. Mr. Blubaugh noted that Ms. Kindberg will discuss supply chain and improving vessel efficiency later in the day. There is a lot of interest in the SmartWay Legacy Fleet sub-workgroup. Members come from industry, government, environmental, and non-governmental organizations (NGOs). The workgroup will forward recommendations to the MSTRS at the next meeting, and after being finalized they will be forwarded to the CAAAC.

The second workgroup is called Motor Vehicle Emission Simulator (MOVES) Development and it focuses on the mobile source inventory tool. The workgroup is currently working on the next version of the MOVES Model by looking at data sources and analysis methods. The newest model will look at trends in emission rates, fleet and activity inputs, as well as fuel adjustments.

The next meeting is on May 9<sup>th</sup> in Washington D.C.

Robert O'Keefe, Health Effects Institute, asked Mr. Blubaugh to expand on the transition to natural gas and the scale of the change.

Mr. Blubaugh replied that some fleets are changing to natural gas vehicles, such as freight delivery fleets like FedEx and UPS. The minutes from the last MSTRS are on USEPA's website also.

Mr. DeMocker replied that he is eager to hear about consumer acceptance of new technology. One of the key challenges facing economists at USEPA is the gap between the perceived and actual value of energy efficiency.

### **Urban Air Toxics Program**

Gregory Green, USEPA, began a discussion of the Urban Air Toxics Report. The report is undergoing interagency review and is currently being reviewed by the Office of Management and Budget (OMB).

Mr. Green stated that he wants to talk about the purpose of Section 112(k) and its requirements, the urban air toxics strategy, the organization of the report, standards and initiatives that have been implemented as a result of the strategy, and the status of the report.

Section 112(k) has three requirements that should be addressed. The Area Source Program, Section 112(k)(1), achieved a reduction in hazardous air pollutants (HAPs) and a 75 percent reduction in the incidence of cancer. Section 112(k)(3) develops a national strategy on air toxics. Section 112(k)(5) requires USEPA to report back to congress on the actions taken under Section 112(k) to reduce the risk to public health from area sources.

The Integrated Urban Air Toxics Strategy was published in 1999, and it gave a framework to address emissions from area, major, and mobile sources. The approach focused on four key components, including source-specific standards and sector-based standards, national, regional, and community-based initiatives, national air toxics assessments, and education and outreach.

Multiple tools have been used to analyze the Urban Air Toxics program. It is extremely hard to quantify the effect the program has had on the reduction of cancer. Emission reductions from rules passed since 1990 were estimated. Monitoring data was evaluated for key indicator pollutants. Modeling tools, such as the 2005 National-Scale Air Toxics Assessments (NATA), were also used in areas of the country that experience significantly higher levels of air toxics risk.

Rules have been promulgated for 68 area source categories, representing 97 percent of the worst urban HAPs. Ninety-seven Maximum Achievable Control Technology (MACT) standards have been promulgated that cover 174 major source categories. Some MACT standards give much higher benefits than others, so USEPA should figure out which result in the most benefits. Seven standards have been set for specific bio-accumulative toxic pollutants and solid waste combustion sources. Risk reviews have been done for 15 MACTs.

A rule was promulgated in 2007 to reduce air toxics from gasoline-fueled passenger vehicles, gasoline fuel, and portable fuel containers. Many rules have been promulgated to reduce VOCs, including gaseous air toxics, and diesel particulate matter, from a range of on- and off-road gasoline and diesel vehicles and equipment.

Mr. Green continued that in addition to standards, USEPA has helped to establish several national programs that address hot spots. The Community Air Risk Reduction Initiative (CARRI) helps communities understand local air quality issues. The Community-Scale Air Toxics Ambient Monitoring Grants assists state, local, and tribal communities in identifying sources and characterizing the problem. Finally, USEPA implemented the Sustainable Skylines & 7th Generation Tribal Initiatives, which assists communities and tribes in building partnerships to reduce emissions and achieve sustainability.

National, regional, and mobile source initiatives have helped reduce emissions in urban areas. The Wood Smoke Program has removed nearly 63 tons of HAPs and 370 tons of PM from the air annually. The Collision Repair Campaign helps auto body shops reduce harmful HAPs, VOC, and PM emissions, particularly in urban areas. The SmartWay program increases energy efficiency in the goods movement sector.

Air toxics have been reduced by 1.5 million tons per year because of the rules and initiatives put in place by USEPA. In addition, co-benefits of about three million tons per year of non-HAPs emissions have been achieved. Mobile source emissions have been reduced by about 50 percent. Reductions should climb to 80 percent by 2030.

Ambient monitoring data shows that some of the pollutants that are of the greatest concern to public health in urban areas are declining. For example, benzene levels have declined by 66 percent from 1994 to 2009.

This report is currently undergoing OMB review, and should be released to Congress in the next two months.

Shelley Schneider, Nebraska DEQ, stated that a lot of progress has been made, especially in benzene reductions. What level of benzene is determined to be safe?

Chet Wayland, USEPA, replied that the goal is to be below any chronic risk level; there is no specific target to reach.

Ms. Schneider replied that power plants may emit high levels of formaldehyde and acetaldehyde, even if they are not located in an urban area. At what point should USEPA evaluate pollutants from a risk standpoint?

Mr. Green replied that future efforts have to be focused on metropolitan areas. There are many effective national standards, but there is still work to be done.

Mr. Wayland stated that formaldehyde risk numbers have recently changed.

Ms. Watson asked if the NATA assessments will continue. In comparing the assessments, has there been a reduction in risk estimates?

Mr. Green stated that the 2008 risk assessment was not done. The NATA assessments are extremely valuable and will be continued. A 2011 NATA will be done if at all possible. There have been risk reductions, but further work is needed.

Ms. Watson asked if there will be additional funding for CARRI.

Mr. Green replied that Ms. McCarthy considers CARRI to be just as important as the regulatory programs, and therefore will continue to fund it.

Ms. Watson referenced a project that involved putting monitors outside schools, and asked if USEPA will follow up with the schools that had poor air quality.

Mr. Wayland replied that USEPA is doing additional monitoring at the schools that showed high levels of air toxics. In some communities, actions have been taken at the local level to improve air quality in the vicinity of the schools.

Julie Simpson, Nez Perce Tribe, stated that in 2004 the Nez Perce tribe received a grant for a community-based air toxics study. The results showed high levels of formaldehyde and acetaldehyde. There is an emphasis on urban air toxics, even though rural areas have problems with air toxics too.

Ms. Simpson encouraged USEPA to fund a program that swaps wood stoves for modern stoves and then educates the public on how to use them.

Ms. Simpson continued that USEPA Region 10 has a gap in enforcement and investigation assistance for asbestos. Region 10 has “woefully inadequate” asbestos resources.

Mr. Green replied that the metropolitan and urban areas include tribal areas. The wood stoves program is a very active program. Many areas are designated as nonattainment because of residential wood smoke. The wood stove NSPS is almost ready for a proposal and should be finalized by next year.

Mr. Green added that he cannot discuss the asbestos issue, but he can speak to the Region 10 air director.

Mr. Sheats asked what level of risk reduction USEPA wants to reach. The Urban Air Toxics report shows a lot of risk reductions. Have there been new strategies developed to decrease cancer risk? Is there movement towards categorizing diesel pollution as a HAP?

Mr. Green replied that the Agency has not set a definite level of risk to achieve. Areas with a risk of 100 in a million or over need special attention. There are no new strategies mentioned in the report, but it acknowledges that a broad spectrum of strategies is needed to be successful. Every area experiences different problems, so local, state, tribal, and EJ groups must collaborate. There has been no movement towards making diesel pollution a HAP, but there has been discussion about whether it is a carcinogen.

Ms. White-Newsome asked three questions. Does the report include health outcome data, such as cancer incidence, to show the study’s success? Did USEPA stratify the data by only looking at hot spots? What is the plan for public outreach?

Mr. Green replied that a wide variety of studies were looked at while putting the report together. Chapter five of the report summarizes the studies used. Reductions in cancer risk were never quantified because it is almost impossible to do.

Mr. Wayland added that the data was stratified because the monitors were not all located in urban areas. The ambient data showed reductions in emissions.

Mr. Green stated that USEPA is working closely with high risk regions to develop a communications plan. There will be intensive community involvement.

Ms. Gordon stated that the report did not include community impacts. Are there studies that include hospitalization or deaths related to air toxics?

Mr. Green replied that cumulative impacts analysis is an issue that has come up extensively in the air toxics program. Currently, USEPA is trying to quantify the impacts of multiple pollutants on the human body.

Ms. Gordon asked if there is software available to look at hospitalization rates. The cost per asthma attack should be added to the Agency’s studies in the future.

Mr. Green replied that there are long-term studies currently being done that are looking at hospitalizations and death rates associated with air toxics.

Mr. DeMocker said that he would be happy to discuss this issue with Ms. Gordon.

Mr. Feldman responded to Mr. Sheats by pointing out that using ultra-low sulfur diesel fuel combined with new diesel technology makes diesel mobile sources almost emission free.

Mr. Feldman continued that a lot of money has been spent on reducing benzene levels in the air. How will the Agency quantify the change in health risks because of the reduction in benzene?

Mr. Wayland replied that the Office of Research and Development (ORD) is looking into it. Risk and exposure take a long time to calculate. There will be a time lag before the studies are completed.

Mr. Walke said the 2005 NATA report concluded that everyone in the U.S. has a cancer risk of greater than 10 in a million, and the average risk is 50 in a million. Is there a NATA report in progress, and if so, when can it be expected?

Mr. Wayland replied that a 2011 NATA report is coming, but because of budget constraints a retrospective 2008 report will not be done. The 2011 NATA report will be done in 2014.

Mr. Walke said there was a recent court decision that vacated USEPA's claim that the obligation under Section 112(c)(6) has been satisfied for sources accounting for 90 percent of bio-accumulative toxins. Does the Urban Air Toxics plan address this?

Mr. Green replied that the report does not address this. USEPA is currently deciding how to respond to the court decision.

Linda Farrington, Eli Lilly and Company, added that one additional benefit of the Air Toxics Program is the incentive for industry to explore green chemistry and use less toxic raw materials. Has USEPA seen a decreased usage of raw materials that contain HAPs?

Mr. Green replied that yes, there has been decreased usage of materials that contain HAPs. The positive impacts from this will not be seen for an extended period of time.

Ms. Watson requested that the CAAAC discuss the Urban Air Toxics report at the next meeting, in addition to USEPA's strategies going forward.

### **Communicating Air Quality Panel and Discussion**

Mr. DeMocker introduced the first of four panel presenters.

Jason Walker, Northwestern Band of the Shoshone Nation, provided an overview of his presentation on challenges in communicating air quality from a tribal perspective. Northwestern Band of the Shoshone Nation (Northwestern) has been a federally recognized tribe since April 1987. Northwestern operates two environmental programs, which include the Clean Air Act Section 103 Air Grant and the Indian General Assistance Program. Northwestern is one of the smallest reservations in Region 8 with 534 tribal members and a size of 188 acres, yet is one of the most polluted. The reservation is located 90 miles north of Salt Lake City, Utah, which causes a buildup of air pollution.

Northwestern spreads notifications about air quality primarily by word of mouth. Mr. Walker said tribes use tribal websites to notify membership of news and events. However, Mr. Walker noted some tribal websites do not allow Facebook, Twitter, or other social media networks on the server.

Mr. Walker noted there are several challenges to communicating air quality to tribes. Not every tribal member is notified of events because many do not have internet access or check their mail regularly. In addition, not all tribal members are interested in being notified about an event. Mr. Walker said tribal members do not understand the language of the rules because of USEPA acronyms and terminology. Tribal Council has different opinions on how to deal with items concerning the environment versus economic development. Mr. Walker said there is no centralized queue (listserv) regarding tribal issues. Social media works for some tribes, but not for most. Newsletters are used by several tribes but the effectiveness is unknown.

Mr. Walker explained there are 566 federally recognized tribes with approximately 5.2 million people. Each tribe is a sovereign nation. There are approximately 56,000,000 acres of reservation lands in the U.S. Mr. Walker provided a map depicting the various reservations across the nation.

Mr. Neal provided an overview of his presentation on challenges in communicating air quality from an industry perspective. In 2011, SEC delivered 87.34 billion kWh of electricity to more than 14 million people in 180 cities and 11 counties in central, coastal, and southern California. SEC monitors and maintains an electricity system of more than 1.5 million electric poles, 712,605 transformers, and 55,765 distribution switches. SEC has 18,069 full-time employees.

Mr. Neal explained that SEC has air emissions related to fossil fuel generation and vehicle fleets. Power source procurement features a mix of emitting and non-emitting resources. Stakeholder groups are the key to developing attainment and maintenance strategies within air quality control regions (e.g., distribution generation, renewable, electrification).

Mr. Neal summarized the four main communication challenges facing SEC. The first challenge is that rules and science are complicated and therefore are challenging to explain to the public. Mr. Neal identified the public distrust of USEPA standards for source emissions and air quality as another challenge. The third challenge is the conservative nature of impact analysis using USEPA models. Mr. Neal noted another challenge is the public distrust of industry.

Mr. Hellwig provided an overview of his presentation on challenges in communicating air quality from an agency perspective. Michigan DEQ communicates the status of air quality, as well as air quality "Action Days." Michigan DEQ holds informational meetings about pending permit actions, as well as permit application hearings.

Mr. Hellwig explained the various methods of communicating with the public. Michigan DEQ provides information to community organizations, NGOs, and citizen's groups. Individual mailings and email lists provide information to interested individuals. Michigan DEQ provides information to churches, synagogues, and mosques, as well as to local governments. Michigan DEQ uses websites to spread information, but websites are not accessible by everyone. Mr. Hellwig noted newspapers are problematic because there are no longer daily newspapers and fewer people are receiving them. Michigan DEQ uses public service announcements and contacts tribal leaders to spread air quality information.

Mr. Hellwig noted challenges facing the Michigan DEQ include informing the public and finding convenient locations for public meetings. Putting information into lay terms is a challenge in communicating air quality issues. Mr. Hellwig explained that Michigan DEQ faces challenges in addressing the concerns of the community in the context of the message DEQ is trying to convey. Mr. Hellwig said important considerations include how to word the message and avoid acronyms and technical jargon. Internally discussing how to present the message before meetings assists in ensuring messages are easy to understand. Michigan DEQ sometimes uses a neutral moderator at public meetings to increase public trust.

Ms. White-Newsome provided an overview of her presentation on challenges in communicating air quality from an environmental justice perspective. WE ACT is a 25-year old environmental justice organization based in Harlem, New York. WE ACT's mission is "to build healthy communities by assuring that people of color and/or low-income participate meaningfully in the creation of sound and fair environmental health and protection policies and practices." Clean air is one of the main domains of WE ACT. Ms. White-Newsome provided two examples of projects completed by WE ACT regarding air quality. WE ACT commissioned the first ever community-based air study that helped set the former PM<sub>2.5</sub> standard. WE ACT assisted in converting a bus fleet in New York from diesel fuel to hybrid and clean natural gas. In 2008, WE ACT partners started the Environmental Justice Leadership Forum on Climate Change (EJLFCC). Ms. White-Newsome said she is currently working to bring clean air issues (e.g., Tier 3 standards, ozone) to EJLFCC's 35 member organizations.

Ms. White-Newsome summarized the challenges and opportunities regarding the communication of air quality issues. She stressed the importance of knowing your audience when discussing air quality issues. Since organizations are overwhelmed with various issues, Ms. White-Newsome recommended keeping the air quality message and action simple. Knowing what is most important (i.e., health) is another way to connect with the target audience. Ms. White-Newsome said understanding audience concerns and overcoming trust issues are two challenges in communicating air quality issues. Ms. White-Newsome stressed the importance of accountability and the value of on-the-ground expertise.

Mr. DeMocker opened the meeting for discussion relating to the communication of air quality issues.

Ms. Gordon added a "good neighbor policy" is not complete without outreach to the impacted stakeholders, such as the community and tribes. Ms. Gordon emphasized the importance of breaking down air quality acronyms and establishing ongoing standing meetings with the impacted individuals in order to build relationships.

Chris Kaiser, Rio Tinto Copper, emphasized the complexity of air quality issues and the difficulty of conveying that information to the public. Mr. Kaiser suggested using USEPA as a resource to assist in developing simple, visual communication materials to help individuals understand technical issues.

Peter Pagano, American Iron and Steel Institute, explained the challenge of balancing the recognition of progress achieved with addressing the remaining concerns. Mr. Pagano reviewed three accomplishments of the iron and steel industries. He noted that while there are

technological constraints in finding alternative technologies, American Iron and Steel Institute has an active research and development program. Mr. Pagano said American Iron and Steel uses various tools and websites used to communicate air quality information.

Mr. O'Keefe commented on the diversity of the presentations. Communication needs to evolve with the audience and new technology, such as Facebook and Twitter. He supported the use of shorter documents for public distribution. Mr. O'Keefe said building trust and remaining involved in the entire process are ways to improve communication.

Ms. Schneider said the issues facing tribes are also issues facing small, rural communities. Ms. Schneider asked Mr. Walker if he anticipates having issues with sending out newsletters.

Mr. Walker responded postal service costs have increased. He noted websites are more useful because newsletters are not environmentally friendly and often present outdated information.

Ms. Schneider said there is limited internet access in rural communities. She asked Mr. Hellwig if public DEQ meetings accommodate disabled individuals.

Mr. Hellwig responded DEQ asks the local governments if the meeting requires special needs accommodations.

Ms. Schneider asked Ms. White-Newsome how to handle comments that she cannot address.

Ms. White-Newsome stressed the importance of answering honestly and connecting the individual with a contact who can address the question.

Kelley Green, Texas Cotton Ginners' Association, said there are two challenges associated with increasing the renewable energy portfolio. The first issue is transportation because the energy has to be transported across the state. The second point is that as the energy portfolio increases, reliability of the portfolio becomes an issue.

Mr. Neal said backup dispatchable resources that can come online quickly are necessary to ensure reliability.

Mr. Walke said the National Weather Service has a National Air Quality Air Forecast Model, which forecasts wind patterns and air quality issues within the next 48 hours. The National Weather Service communicates forecasts to the public. Mr. Walke stressed the importance of the model and suggested CAAAC members support continuing the funding of the model.

Ms. Simpson emphasized the importance of training staff and remaining honest and trustworthy during the public outreach process. She also stressed the importance of education and outreach because both can greatly affect health and welfare.

Adrian Shelley, Air Alliance Houston, said a community's unwillingness to engage in air quality issues is often due to larger quality of life issues (e.g., education, employment, healthcare, nutrition, transportation) affecting the community. Mr. Shelley asked how to integrate air quality communication and strategies into larger quality of life strategies.

Mr. Hellwig responded Michigan DEQ invites other governmental agencies to public hearing meetings in attempt to address other quality of life issues.

Ms. White-Newsome added the importance of integration in addressing both types of issues.

Ms. Gordon added California has created the Interagency Working Group, which includes various agencies.

Myra Reece, South Carolina Bureau of Air Quality, noted the South Carolina Bureau of Air Quality incorporates environmental justice into every initiative. Air quality is a small component of larger quality of life issues. Ms. Reece stressed the importance of communication between communities. Ms. Reece is concerned that voluntary programs and communication will suffer from increased budget cuts.

Maria Alvarez Amaya, University of Texas – El Paso, stressed the importance of technology. She suggested using GIS and iPhones to communicate air quality information.

Ms. Weeks commented that USEPA has been proactive about publishing factsheets and background information that translate the substance of major rules. Ms. Weeks supports translating USEPA materials into Spanish. She also supports the continued use of simple factsheets to convey information to the public.

### **Improving Vessel and Supply Chain Fuel Efficiency**

Lee Kindberg, Maersk Inc., provided an overview of her presentation on improving vessel and supply chain efficiency. Transportation is a significant source of carbon dioxide (CO<sub>2</sub>) and other emissions. Transport accounts for approximately 23 percent of the total CO<sub>2</sub> production. Ms. Kindberg said approximately 90 percent of all cargo transported globally is carried by ship, contributing to four percent of manmade GHG globally.

Ms. Kindberg explained that air quality in many U.S. ports exceeds the national standards, requiring reductions in emissions. Ms. Kindberg stressed that one company is not responsible for improving air quality; improvements must be made by everyone.

Maersk is the world's largest shipping company and is part of the A.P. Møller-Maersk Group (a family company). The company is headquartered in Copenhagen, Denmark. CEO Nils S. Andersen is the fourth CEO of the company since its establishment in 1904.

Ms. Kindberg said that currently a single ship can deliver thousands of tons of cargo for many customers to dozens of ports. Diesel engines have replaced wind power. Ms. Kindberg noted containers have replaced “break bulk” cargo handling. Standard sizes of containers are 20-foot, 40-foot, or 45-foot. A 40-foot container is the size of a city bus and can hold 1,500 DVD players, 18,000 t-shirts, or 90,000 lamb chops. A 45-foot container can hold 28,000 Barbie Dolls. Ms. Kindberg said a pair of shoes shipped from China to London generates 100 grams of CO<sub>2</sub> on its journey. The process of driving to and from the store to purchase the pair of shoes in London generates 1,800 grams of CO<sub>2</sub>.

Ms. Kindberg explained “liner shipping” means vessels have strict routes and schedules, like an airline or bus line. Completing a route requires several weeks, so multiple vessels are scheduled

on each route to provide regular service. A 14-week round trip requires 14 vessels. Ms. Kindberg noted international vessels spend only about five percent of their lifetimes in the waters of any one country or state. The International Maritime Organization (IMO) of the United Nations (UN) regulates the international standards for global ocean shipping. Ms. Kindberg noted the U.S. participates in IMO regulation.

Ms. Kindberg stated ocean shipping has the lowest environmental impact for long distance transportation. Ms. Kindberg explained airfreight takes approximately 40 times the energy to move a ton of cargo a certain distance compared to ocean. The costs follow a similar progression. Air freight takes less time to deliver cargo, but has a higher cost and environmental impact.

Ms. Kindberg provided an overview of changes in the shipping industry. In the past, fuel costs were low and predictable. Environmental regulations were limited and manageable and CO<sub>2</sub> emissions were not an issue. Ms. Kindberg noted marine fuels were “one size fits all.”

Ms. Kindberg provided an overview of the current issues facing the shipping industry. Increased transparency, increased accountability, and increased and changing regulation are all new to the industry. The shipping industry now faces increased customer expectations and increased competition. Vessel fuel prices have soared since 2010 and are volatile. Ms. Kindberg provided a visual detailing the increase in price of bunker fuel and marine gas oil.

Ms. Kindberg reviewed the North American Emissions Control Area (ECA). The ECA worked with the IMO to create a 200 nautical mile zone around the U.S. and Canada, which became effective in August 2012. The ECA anticipates the Caribbean will become part of the ECA in January 2014. The ECA mandates a fuel sulfur maximum of less than one percent between 2012 and 2014. Ms. Kindberg noted that by January 2015, the fuel sulfur maximum will be 0.1 percent.

Vessels are increasing fuel efficiency, which reduces fuel use, CO<sub>2</sub>, and other air emissions. Ms. Kindberg noted CO<sub>2</sub> and other emissions were reduced by 25 percent per twenty-foot equivalent unit (TEU) km from 2007 to 2012. Ms. Kindberg stressed that Maersk met the CO<sub>2</sub> reduction goal eight years early. Maersk, therefore, raised the CO<sub>2</sub> reduction goal to 40 percent for 2020. Ms. Kindberg noted Maersk achieved reductions through a combination of vessel size, technologies, route planning, and operational changes. Ms. Kindberg provided an overview of the innovation used to achieve sustainability. Innovations included alternative fuel tests, new propulsion technologies, propeller, hull, and trim optimization, and waste heat recovery system. Ms. Kindberg said vessel size drives much of energy and CO<sub>2</sub> performance. All of Maersk’s new builds are more energy efficient, including some ships that are 28 to 50 percent more efficient.

Ms. Kindberg said vessel environmental improvements require time and partnerships. Maersk updates new vessels and the existing fleet, and trains personnel. Ms. Kindberg noted improvements go beyond the vessels. Refrigerated (“reefers”) are a new, innovative control system that reduces energy consumption by 50 to 63 percent. Slow or “steady” steaming is a voyage efficiency system that improves on-time delivery at the same time it is minimizing fuel usage. Ms. Kindberg noted Maersk is testing alternative fuels and propulsion. Container flooring

is now recycled plastic, bamboo, or Forest Stewardship Council certified timber. Ms. Kindberg said cleaner fuel significantly reduces toxic air emissions in ports.

Ms. Kindberg stated Maersk customers are demanding more sustainable supply chains. The World Economic Forum identified opportunities for supply chain impact reduction. Opportunities included slowing the supply chain, clean vehicle technologies, and optimizing networks. Ms. Kindberg said the Clean Cargo Working Group (Clean Cargo) is a business-to-business forum with the goal “to promote more sustainable product transportation.” Clean Cargo members carry over 60 percent of all TEU shipped globally. Ms. Kindberg noted Clean Cargo assembles an annual environmental performance survey that includes quantitative reporting. Clean Cargo created standard methods to report environmental impacts of shipping and an annual publication of trade lane averages. Ms. Kindberg said this study enables CO<sub>2</sub> benchmarking and supply chain CO<sub>2</sub> calculations.

Ms. Kindberg presented an example of shipping an item from Central America to Atlanta, Georgia.

Ms. Kindberg said alignment will add credibility and drive environmental improvements. Clean Cargo is working to align and harmonize environmental methodologies globally across models. She noted collaboration and dialogue between existing and emerging initiatives will drive transparency and improvements.

Ms. Kindberg provided a case study on Nike. She stated Nike reduced GHG total emissions from the supply chain by 12 percent in one year by switching from air freight to ocean.

Ms. Kindberg summarized the lessons about supply chain calculations. First, a consistent calculator approach is needed. Transportation footprints can and have been reduced in the industry. Ms. Kindberg said the total lifecycle footprint matters the most. She noted transportation is part of the total footprint and the full analysis is necessary to understand the “big picture.” The third lesson emphasizes focus on improvements and incorporation of CO<sub>2</sub> into business decisions. Ms. Kindberg said there is an opportunity to work together to reduce both CO<sub>2</sub> emissions and costs.

Ms. Kindberg concluded her presentation with surprising facts about liner shipping that impact planning for researching and developing regulations. Liner shipping is like an airline or bus line, not a taxi. Ms. Kindberg reiterated that international vessels spend only about five percent of their lifetimes in the waters of any one country or state. She noted the importance of schedule conformance in cost and air emissions because higher speeds dramatically increase fuel use and air emissions. Ms. Kindberg noted vessels operate with total crews of only 16 to 24. The entire world, minus the U.S., uses metric units for environmental, supply chain, and other calculations.

### **Climate Change Adaptation**

Rona Birnbaum, USEPA, began a discussion of climate change adaptation.

Many of the outcomes USEPA is trying to attain, such as clean air, are sensitive to changes in climate. USEPA can no longer assume a stable climate. Thinking about climate change from a mitigation perspective is one of USEPA’s newest challenges.

USEPA's policy statement on climate change adaptation from June of 2011 states "EPA shall develop and implement a Climate Change Adaptation Plan to integrate climate adaptation into the Agency's programs, policies, rules and operations."

Adaptation, according to the National Academy of Sciences, is "an adjustment in natural or human systems to a new or changing environment that exploits beneficial opportunities or moderates negative effects." Adaptations vary according to the system in which they occur; who undertakes them, the climatic stimuli that prompts them, and their timing, functions, forms, and effects. Adaptation can be of two broad types, including reactive or autonomous adaptation, and anticipatory adaptation.

Ms. Birnbaum continued that reactive or autonomous adaptation is the process by which species and ecosystems respond to changed conditions. USEPA is focused on anticipatory adaptation, which is planned and implemented before the impacts of climate change are observed.

According to the Intergovernmental Panel on Climate Change (IPCC), climate divergence will not begin until around 2040 or 2050. Essentially, no matter what mitigation is done at this point, climate change is unavoidable. The number of states and local governments with adaptation plans is growing.

Executive order 13514 called upon the Federal government to form a task force that focuses on adaptation plans. The Interagency Climate Change Adaptation Task Force was formed in the spring of 2009 and is made up of members from over 20 Federal agencies. The Council on Environmental Quality (CEQ) now requires all Federal agencies to have an adaptation plan.

USEPA's draft adaptation plan has been released for a 60 day public comment period. The key pieces include the programmatic vulnerabilities of USEPA's mission to climate change, mainstreaming adaptation into USEPA's programs, policies, rules and operations, and commitments for program and regional office implementation plans.

Initial discussions highlighted five impacted areas, including tropospheric ozone, particulate matter, indoor air quality, stratospheric ozone, and environmental improvements.

Next, Ms. Birnbaum discussed each impacted area. Tropospheric ozone pollution is likely to increase in certain regions due to the effects of climate change. Higher temperatures and weaker air circulation in the United States will lead to more ozone formation in certain regions, even with the same level of emissions of ozone forming chemicals.

Particulate matter levels are likely to be affected through changes in the frequency or intensity of wildfires, though the impact on particulate matter remains significantly uncertain.

Climate change may degrade the quality of indoor air by exacerbating existing indoor air quality problems and introducing new ones. Heavy precipitation events may contribute to increases in

indoor dampness and building deterioration, increasing occupants' exposure to mold and other biological contaminants, as well as outdoor environmental pollutants. The geographic ranges of pests may change, leading to altered patterns of exposure and increased use of pesticides. Warmer average temperatures may lead to changes in occupant behavior that may create health risks. The fundamental concern is that the hotter it is, the more time people will spend indoors.

Climate change may alter the effects of the strategic priorities within EPA's regulatory and voluntary programs to help restore the stratospheric ozone layer. Future knowledge is likely to impact stratospheric protection programs.

Finally, scientific understanding of the ways that climate change may affect the interactions of sulfur, nitrogen, and mercury deposition with ecosystems is evolving.

Ms. Amaya feels it is important to use all of the currently available information. Ms. Birnbaum alluded to the incompleteness of climate science. Anthropogenic activities are one cause of climate change, but another cause is solar activity. USEPA must look at the entire knowledge base of the science.

Ms. Amaya said looking at adaptation approaches and identifying vulnerable populations is critical. Her team was looking into evaporative cooling as an abatement idea, but it was not funded.

Pamela Faggert, Dominion Resources Inc., believes collaboration within USEPA is extremely important for successful climate adaptation. What is the process for merging the results of all of the agencies' reports?

Ms. Birnbaum replied that the Office of Policy (OP) handles several layers of coordination. The Agency agrees that significant coordination is needed. The adaptation plan was developed by several different regions and offices of USEPA. OAR has formed a workgroup to discuss climate issues and to confer with different regions. There is also an overarching workgroup at the Federal level to facilitate discussion.

Ms. Kindberg asked if any tradeoffs have been identified.

Ms. Birnbaum replied that some of the studies used do consider short-term or long-term benefits. When implementation plans are developed, positive tradeoffs will be considered.

Mr. Sheats said that he endorses evaluating climate effects on vulnerable populations, including low-income, of color, elderly, and chronically unhealthy populations.

Ms. White-Newsome pointed out that the presentation does not discuss how USEPA plans to change the public's behavior. Centers for Disease Control (CDC) and the Institute of

Environmental Health Sciences (IEHS) recently held an extreme weather events conference. Does USEPA engage in things like that?

Ms. Birnbaum replied that USEPA does engage with CDC and IEHS quite a bit. Under the U.S. Global Change Research Program (USGCRP) there is a group of Federal agencies that are focused on climate change and human health issues. Discussions are underway to coordinate and pool resources.

### **Public Comments**

Mr. DeMocker opened the floor for public comments. None were given.

### **Topic Discussion for Next Meeting/Close**

Mr. DeMocker summarized the topics reviewed by Ms. McCarthy and Ms. McCabe at the beginning of the meeting.

Regarding fuels, Ms. McCarthy reviewed the Tier 3 Motor Vehicle Emission and Fuel Standards, along with the associated volumes and pathways programs. For PM<sub>2.5</sub>, Ms. McCarthy mentioned health data, PM Advance, and MATS implementation. Ms. McCarthy noted that interstate transport is an ongoing challenge facing the Agency. SIPs were another topic Ms. McCarthy covered. Regarding GHG, Ms. McCarthy reviewed the Carbon Pollution Standards and the GHG Reporting Program. Ms. McCarthy stressed the importance of partnerships and voluntary programs such as Energy Star. Ms. McCabe reviewed the Air Toxics Report, which USEPA expects to publish before the next CAAAC meeting. Ms. McCabe provided an update on NAAQS implementation.

Mr. DeMocker noted the interest in the topic of communication and suggested adding communication as a CAAAC discussion topic again in the future.

Mr. DeMocker summarized the points from the Permits, New Source Review and Toxics subcommittee meeting. Mr. Paul reviewed the opportunities on addressing the challenges from nonattainment designation and development strategies. Mr. Childers noted the MSTRS will have a report from the SmartWay subcommittee in the future. A likely future topic for CAAAC is to review the SmartWay draft report.

Mr. Mormino commented there is little opportunity to provide advice during CAAAC meetings. Mr. Mormino suggested creating a workgroup to brainstorm issues and topics that align with USEPA's short-term and long-term vision before the next CAAAC meeting. Mr. DeMocker responded CAAAC members discuss potential future topics at the end of every meeting. USEPA reviews the identified potential topics before creating the agenda for the next CAAAC meeting. Mr. Childers noted a workgroup focusing on new topics would not have to be open to the public. Mr. Childers added that CAAAC permits individuals to submit topics for future meetings by email.

Ms. Faggert suggested CAAAC study why the air quality is improving in most areas of the country, yet the instances of asthma are increasing. Ms. Faggert agreed that CAAAC needs a way to streamline its focus during the limited meeting time. She outlined the two options

available at CAAAC. The first option is to comment to USEPA experts and presenters during the meeting. The second option is to focus on long-term work with USEPA. Ms. Faggert suggested having a presentation from the Agency on long-term priorities and projects so that CAAAC can be most effective.

Mr. Feldman requested that Ms. McCarthy provide CAAAC with the specific topics the Agency is seeking advice on. Mr. Feldman noted CAAAC has a lot to offer regarding implementation issues. He suggested using an applied context (e.g., communication by example). For example, USEPA could have asked, "How do you think we should be communicating the Urban Air Toxics study to the public at large?" to open the CAAAC discussion.

Mr. Johnson supports Mr. Feldman's comments. Mr. Johnson noted CAAAC's interest in Ms. McCarthy's overview and which topics are important to USEPA. Mr. Johnson has interest in two specific topics covered by Ms. McCarthy, including the future status of transport from a state perspective, and communicating air quality. Mr. Johnson suggested inviting a representative from the Clean Air Science Advisory Committee to explain the rules under which criteria pollutant standards are established.

Ms. Gordon said the biggest strength is being able to hold regional meetings to report on CAAAC discussions with each USEPA Regional Director and staff (as part of the problem-solving collaborative). Community dialogue is vital to build trust in order to mainstream environmental justice.

Mr. DeMocker noted that both Ms. McCarthy and Ms. McCabe stress the importance of communication and partnerships.

Mr. Childers added representation from Region 4 (USEPA's lead region for air quality) is present at the CAAAC meeting.

Ms. Schneider supported Mr. Johnson's statements. Ms. Schneider suggested better educating youth on air quality issues. She supported Mr. Mormino's idea of collectively choosing topics for future CAAAC discussions to maximize the diversity of backgrounds of CAAAC members.

Mr. Sheats suggested reviewing the Urban Air Toxics report for areas that CAAAC should explore and discuss.

Mr. Pagano emphasized the issues of NAAQS implementation and standard setting. He suggested adding both topics to a future CAAAC meeting agenda.

Mr. Green agreed with Mr. Pagano.

Mr. DeMocker noted the next CAAAC meeting will be in July of 2013. He thanked everyone for their comments and closed the meeting.

**Clean Air Act Advisory Committee**

**February 27, 2013**

**List of Attendees**

Maria Alvarez Amaya	University of Texas – El Paso
Bill Becker	National Association of Clean Air Agencies
Jim Blubaugh	USEPA
Rona Birnbaum	USEPA
Pat Childers	USEPA
Cecile Conroy	International Brotherhood of Boilermakers
Jim DeMocker	USEPA
Sarah Dunham	USEPA
Pamela Faggert	Dominion Resources Incorporated
Linda Farrington	Eli Lilly and Company
Howard Feldman	American Petroleum Institute
Jack Goldman	Hearth, Patio & Barbecue Association
Margaret Gordon	West Oakland Environmental Indicators Project
Gregory Green	USEPA
Kelley Green	Texas Cotton Ginner's Association
Bill Harnett	USEPA
Vince Hellwig	Michigan Department of Environmental Quality
Steven Lee Hensley	USA Rice Federation
Thomas Huynh	Philadelphia Air Management Services
Dan Johnson	WESTAR Council
Gary Jones	Printing Industries of America
Chris Kaiser	Rio Tinto Copper

Lee Kindberg	Maersk Incorporated
Gay MacGregor	USEPA
Janet McCabe	USEPA
Gina McCarthy	USEPA
Brian Mormino	Cummins Incorporated
Judi Mosley	Pacific Gas & Electric
Don Neal	Southern California Edison
Robert O'Keefe	Health Effects Institute
Peter Pagano	American Iron and Steel Institute
Vicki Patton	Environmental Defense Fund
John Paul	Regional Air Pollution Control Agency
Myra Reece	South Carolina Bureau of Air Quality
Shelley Schneider	Nebraska Department of Environmental Quality
Nicky Sheats	Thomas Edison State College
Adrian Shelley	Air Alliance Houston
Julie Simpson	Nez Perce Tribe
Geraldine Smith	Public Services Enterprise Group
Patricia Strabbing	Chrysler Group LLC
Mary Turner	Waste Management
Valerie Ughetta	Alliance of Automobile Manufacturers
John Walke	Natural Resources Defense Council
Jason Walker	Northwestern Band of Shoshone Nation
Kathryn Watson	Improving Kids' Environment
Chet Wayland	USEPA
Jalonne White-Newsome	WE ACT for Environmental Justice

Ann Weeks	Clean Air Task Force
Anna Marie Wood	USEPA