UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

October 20, 2006

MEMORANDUM

SUBJECT: Interim Guidance for OSWER Cross-Program Revitalization Measures

FROM: Susan Parker Bodine /s/
Assistant Administrator

TO: OSWER Office and Staff Directors
Brownfields, RCRA, Superfund, and Tanks Regional Division Directors

I am pleased to issue the attached *Interim Guidance for OSWER Cross-Program Revitalization Measures*. I am confident that the three new cross-program measures (i.e., the *Universe* indicator, the *Protective for People* measure, and the *Ready for Anticipated Use* measure) along with the two voluntary indicators (i.e., *Status of Use* and *Type of Use* indicators) will allow us to better manage and communicate our collective cleanup- and revitalization-related activities and accomplishments.

I want to thank you and your staff for participating in this groundbreaking effort to develop OSWER's first cross-program measures. I want to express my gratitude to the Cross-Program Revitalization Measures (CPRM) workgroup, led by Guy Tomassoni of the Land Revitalization Staff, for its dedication and contribution to the development of this guidance. I also want to thank leadership from ASTSWMO, OECA and OGC for providing their assistance in this effort.

Issuing the Interim Guidance is a first step toward reporting data for a common set of measures. To accomplish this, I look forward to the following milestones:

- Programs provide implementation guidance by February 2, 2007;
- Programs submit implementation progress reports by May 31, 2007;
- Programs provide Land Revitalization Staff with data by October 30, 2007; and
- Land Revitalization Staff distributes cross-program measures report on December 1, 2007.

Thank you again for all your efforts.

Attachment

cc: Roger Martella, OGC
Granta Nakayama, OECA
Scott Sherman, OSWER
Barry Breen, OSWER
Cross-Program Revitalization Measures Workgroup

ACKNOWLEDGEMENTS

This guidance would not have been possible without the collaboration and contributions by the many individuals listed below who participated in the **Cross-Program Revitalization Measures (CPRM) Workgroup.** This workgroup was organized and chaired by Guy Tomassoni of the Land Revitalization Staff Office (Edward H. Chu, Acting Director) within the Office of Solid Waste and Emergency Response (OSWER)

EPA Headquarters

Jennifer Bohman, OSWER, Office of Brownfields Cleanup and Redevelopment (OBCR)
Bill Finan, OSWER, Office of Emergency Management (OEM)
Melissa Friedland, OSWER, Office of Superfund Remediation and Technology Innovation (OSRTI)
Tessa Hendrickson, Office of Site Remediation Enforcement (OSRE)
Melanie Hoff, OSRTI
Elizabeth Kopits, Office of Policy, Economics and Innovation – National Center for Environmental Economics (OPEI/NCEE)
Jennifer Lue, Office of General Counsel (OGC)
Trina Martynowicz, OSWER, Federal Facility Restoration and Reuse Office (FFRRO)
Steven McNeely, OSWER, Office of Underground Storage Tanks (OUST)
Rich Norris, OSWER, OSRTI
Sara Rasmussen, OSWER, Office of Solid Waste (OSW)
Tracey Stewart (formerly with FFRRO, currently with the Office of the Chief Financial Officer - OCFO)
Aimee Storm, OSWER, FFRRO
Matt Straus, OSWER
Stacy Swartwood, OSWER, OBCR
Janet Weiner, OSWER, OSRTI

EPA Regions

John Podgurski, Brenda Haslett, and Brian Olson (R1)
Dan Forger, Doug Pocze, and Carla Struble (R2)
Deb Goldblum, Chris Thomas, Patricia Corbett, Bonnie Gross and David Iacona (R3)
Channing Bennet and Matt Robbins (R4)
Gary Victorine, Peggy Schwebke, Ann Wentz, and Andy Tschampa (R5)
Jeanne Schulze and Richard Ehrhart (R6)
Stephanie Doolan (R7)
Nat Miullo and Bill Rothenmeyer (R8)
Deirdre Nurre (R9)
Tim Brincefield and Mike Slater (R10)

States

Janine Commerford (Massachusetts)
Mark Gielsfeldt (Wisconson)
Gary King (Illinois)
Bill Mundy (Georgia)
Kaia Petersen (Washington)
David Scaturo (South Carolina)
Maria Williams (formerly from Virginia, currently with OCFO)

This page intentionally left blank.

Interim Guidance for OSWER Cross-Program Revitalization Measures

CONTENTS

I. Introduction

A. Overview

One of EPA's top priorities is to restore contaminated properties to environmental and economic vitality.[1] To date, thousands of acres have been assessed and where appropriate, cleaned up for current and reasonably anticipated future uses. Hundreds of communities have reclaimed contaminated properties for protective ecological, recreational, industrial, military, commercial, residential uses and other productive purposes. Whether through new or continued use of formerly contaminated properties, revitalization can help remove blight, satisfy growing demands for land, foster ecological habitat enhancements, enable economic development, and maintain or improve quality of life.

"Revitalization"

In the broadest sense, "Revitalization" means to impart new life, energy, or activity to something. In the context of contaminated or potentially contaminated properties, revitalization refers to actions taken to promote protective, productive, and sustainable use, continued use, or reuse of property. These revitalization actions can help to impart new life to properties, resulting in enhancements to America's communities and ecosystems.

Site investigations, contaminant cleanup, identification of possible future uses of properties, stakeholder involvement processes, land use planning, actual construction associated with new or enhanced uses, and addressing liability concerns, in addition to many other activities, are all examples of actions that support revitalization.

EPA believes that it is important and valuable to measure revitalization accomplishments. In 2004, the Land Revitalization Office (LRO), within the Office of Solid Waste and Emergency Response (OSWER), formed a workgroup of Headquarters and Regional staff across OSWER's cleanup programs, including the Brownfields, Superfund, RCRA Corrective Action, Underground Storage Tanks (UST), and Federal Facilities programs. The workgroup examined and identified possible opportunities for cross-program approaches to help measure revitalization accomplishments. Existing revitalization measures, as well as possible new cross-program revitalization measures are summarized in the draft report entitled *Measuring Revitalization of Contaminated Properties in America's Communities: Past Accomplishments and Future Opportunities*.[2]

Based on the efforts of the workgroup, OSWER management set a goal of implementing at least one cross-OSWER revitalization measure by fiscal year (FY) 2007.[3] To meet this goal, OSWER expanded the previous workgroup to establish the Cross-Program Revitalization Measures (CPRM) Workgroup, consisting of Headquarters and Regional staff across the cleanup programs, as well as representatives from State governments identified by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). This guidance is a product of deliberations from that workgroup.

---

[1] Source: Administrator Stephen L. Johnson's Action Plan available at http://www.epa.gov/adminweb/administrator/actionplan.htm, and OSWER Assistant Administrator Susan Parker Bodine's Action Plan available at http://www.epa.gov/oswer/actionplan/index.htm. These priorities are also conveyed in Goal 3 and 4 of the Agency's Strategic Plan available at http://www.epa.gov/ocfopage/plan/plan.htm.

[2] Contact CPRM Work Group Lead, Guy Tomassoni at tomassoni.guy@epa.gov, for more information.

[3] August 17, 2005 memo from Thomas P. Dunne, OSWER Acting Assistant Administrator, and Barry N. Breen, OSWER Deputy Assistant Administrator, to OSWER Office and Staff Directors.

B. Purpose and Applicability

This guidance has three purposes. First, OSWER intends that the measures described in this guidance will improve its ability to promote and communicate cleanup- and revitalization-related accomplishments and associated benefits/values to society. Second, this document presents general (Sections II-IV) and preliminary program-specific guidance (see Appendix A) on cross-program measures that OSWER has committed to implement for the following programs: Brownfields, Superfund, RCRA Corrective Action, UST, Federal Facilities Response, and Emergency Response. The third purpose is to present additional measures (Sections V and VI) that interested program offices, as well as other interested parties (e.g., EPA regions, states, local governments, Tribes, etc.) could use on a voluntary basis to help describe revitalization-related accomplishments.

Each OSWER program is responsible for collecting and maintaining its own information for the measures described in this guidance. Any data reported for the measures associated with this guidance should adhere to EPA's quality information policies.[4] Some programs may have a greater ability than others to integrate the new measures into their program-specific data management systems. OSWER programs will use existing databases to the extent possible, as well as program-specific reports. OSWER recognizes that individual programs may have to develop supplemental, program-specific guidance and implementation plans for collecting and documenting information related to measures addressed in this guidance.

This guidance is not a regulation, nor does it change or substitute for any regulations. Thus, it does not impose legally binding requirements on EPA, States, Tribes or the regulated community. This guidance does not confer legal rights nor impose legal obligations upon any member of the public. This guidance does not change any existing policies and practices for carrying out investigations and cleanups. Furthermore, achieving any of the performance measures in this guidance does not provide any legal rights or legally enforceable commitments regarding EPA's enforcement intentions or any party's potential liability at the site and does not preclude EPA from taking any necessary enforcement action at the site. Additionally, any determination made for the purposes of the measures described in this guidance is based on the information at the time that the determination is made and may change if the site's conditions change or if new or additional information is discovered regarding the contamination or conditions at the site. As such, parties (e.g., land owners or developers) interested in finding out what uses would be protective for a particular property should rely on site-specific cleanup documents and site-specific institutional controls.

C. Relationship of Cross-Program Revitalization Measures to Other EPA Measures-Related Efforts

Relationship to Existing Performance Measures

The cross-program measures described in this guidance do not replace or add to any of the program-specific measures currently in the Agency's Strategic Plan or being used in program-specific Office of Management and Budget (OMB)Program Assessment Rating Tool

[4] Refer to http://www.epa.gov/quality for more information concerning EPA's data quality policies and guidance.

(PART) evaluations. Furthermore, OSWER does not at this point in time intend to create cross-programmatic targets associated with the cross-program measures described in this guidance.

Relationship to Report on the Environment (ROE) Environmental Indicators

As a result of EPA's Environmental Indicators Initiative launched in 2001, EPA issued the first Draft *Report on the Environment* (ROE[5]) in 2003 to measure and report on the status of and trends in environmental conditions including their impacts on human health and the nation's natural resources. With regard to the state of the nation's land, the Draft ROE examines land use, land cover, chemicals in the landscape, waste generation and management, the extent to which humans are exposed or not exposed to unacceptable levels of contamination at RCRA Corrective Action and Superfund sites, and whether or not contaminated ground water is spreading above levels of concern at those same sites. The report identifies the lack of national-level indicators quantifying the extent of contaminated land as a key data gap. To be included in the ROE, an environmental indicator must be "a numerical value derived from actual measurements of a pressure, state or ambient condition, exposure, or human health or ecological condition over a specified geographic domain, whose trends over time represent or draw attention to underlying trends in the condition of the environment."[6] OSWER will be evaluating the possibility of using acres-based measures described in this guidance as models for new indicators in future ROE updates. Ideally, ROE indicators should be non-programmatic. For example, an ROE indicator describing contaminated or potentially contaminated land should ideally address OSWER as well as non-OSWER sites and acres. However, an ROE indicator addressing OSWER programs would still be a significant step toward a more comprehensive contaminated land indicator.

Relationship to the Selected Regional Priorities Efforts

EPA Regions 1, 2, and 3 have initiated a Selected Regional Priorities Effort to collect land revitalization information at Superfund (non-Federal facility), RCRA Corrective Action (non-Federal facility), Federal facility (Superfund and RCRA), and Brownfield sites. In particular, the effort involves collecting information for the following three measures: number of acres reused (Region 3 only); number of acres ready for reuse (except for RCRA facilities); and, the number of construction completions and number of Brownfield cleanups completed. This multi-regional effort was an outgrowth of the previously mentioned revitalization measures report (see footnote 2), regional revitalization measures pilot projects, and work that led to the development of this guidance. The three regions involved in this Selected Regional Priority Effort intend to revise the data collected thus far to align their effort with the national cross-program revitalization measures effort conveyed in this guidance.

EPA Regions 8, 9 and 10 also have initiated a Great American West (GAW) Mining Regional Priorities Effort. The GAW effort is focused on collecting revitalization-related information for several measures, including the following mining activity output measures:

Acres cleaned up, for which EPA has the lead (based on the existing Superfund Program Implementation Manual) for

[5] Available at http://www.epa.gov/indicators/draftreport.htm.
[6] See http://www.epa.gov/indicators/abouteii.htm.

- Remedial construction completions (NPL and alternative mine sites)
- Removal action completions
- EPA lead voluntary (e.g. Good Samaritan) cleanup completions
- Brownfield cleanups completed, based on current Brownfields definition.

This multi-regional effort also is exploring how to capture acre-based information in other aspects of programs, such as assessments, and will consider opportunities for alignment of their efforts with this CPRM guidance.

D. Overview of CPRM

OSWER cleanup programs have been collecting revitalization-related data either systematically or anecdotally for over a decade. Yet, significant opportunities remain for these programs to collectively and more fully communicate these accomplishments. There also is an opportunity to promote greater consistency in how OSWER cleanup programs describe their workload and accomplishments. Additionally, revitalization measures provide an opportunity to address challenges raised by key stakeholders (e.g., Government Accountability Office[7]) regarding measuring key outcomes.

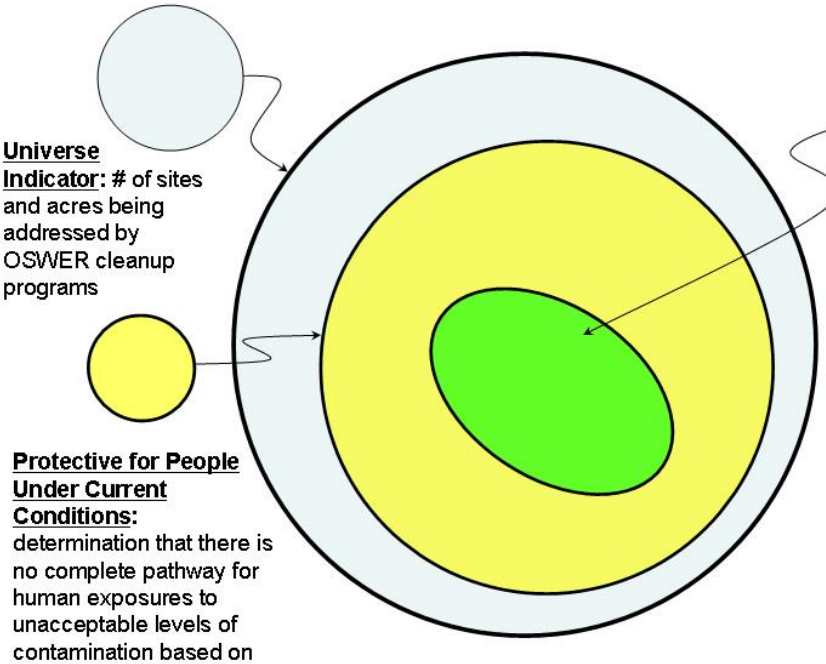
Basic Elements of CPRM Performance Measures and Indicators

The cross-program performance measures and indicators addressed in this guidance are illustrated in Figures 1, 2, and 3, and are described in more detail in Sections II through VI. The distinction used in this guidance between performance measures and indicators is that performance measures refer to qualitative or quantitative methods of assessing progress towards achieving goals and objectives, whereas indicators correspond to information that can help give context to performance measures, describe national trends, focus program resources, and communicate the impacts and benefits. At this time, the OSWER cleanup programs addressed in this guidance have committed to implement the Universe Indicator and two protection-based performance measures illustrated in Figure 1.

The two additional indicators illustrated in Figure 2 are included in this guidance for those programs, regions, States, local governments or Tribes that are in interested in voluntarily collecting consistent information associated with the use of potentially contaminated, contaminated or previously contaminated sites in their respective universes. Figure 3 illustrates how the performance measures and indicators could work together to collectively describe cleanup- and revitalization-related challenges and accomplishments.

[7] See Brownfields Redevelopment Stakeholder Report – "EPA's Program Helps Redevelop Sites, but Additional Measures Could Complement Agency Efforts" at http://www.gao.gov/new.items/d0594.pdf .

Figure 1: Universe Indicator and Protection-Based Performance Measures
(Dimensions do not reflect actual data)

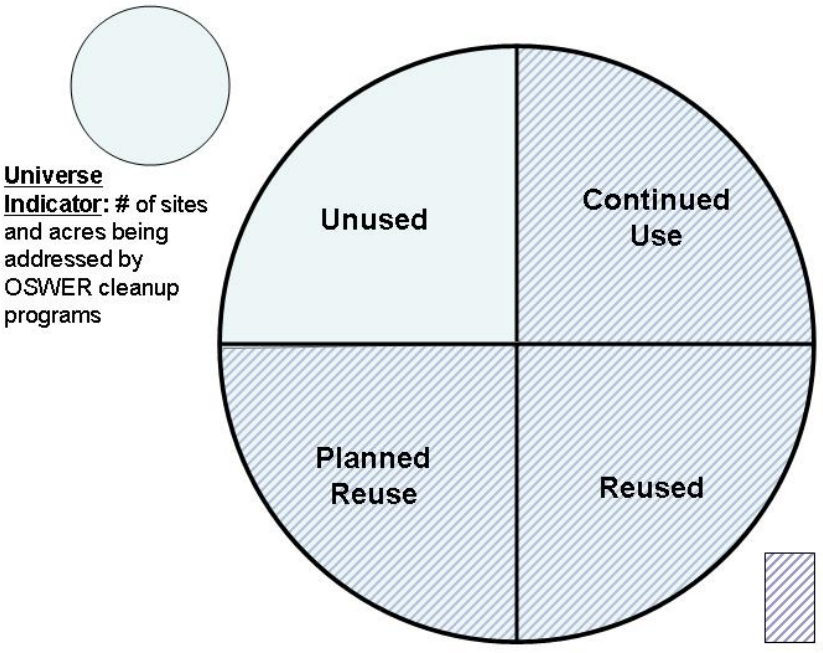


Universe Indicator: # of sites and acres being addressed by OSWER cleanup programs

Protective for People Under Current Conditions: determination that there is no complete pathway for human exposures to unacceptable levels of contamination based on current site conditions

Ready for Anticipated Uses: determination that cleanup goals have been achieved for media that may affect current as well as reasonably anticipated future land uses, and institutional controls identified as part of the remedy are in place

Figure 2: Voluntary Status and Type of Use Revitalization Indicators
(Dimensions do not reflect actual data)

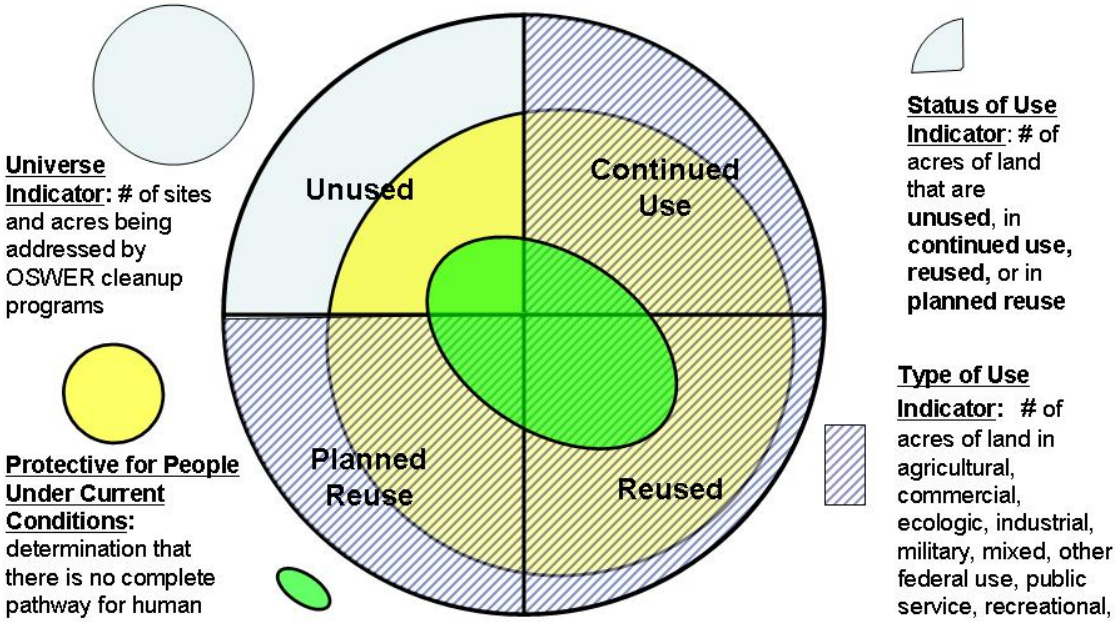


Universe Indicator: # of sites and acres being addressed by OSWER cleanup programs

Status of Use Indicator: # of acres of land that are **unused**, in **continued use, reused,** or in **planned reuse**

Type of Use Indicator: # of acres of land in agricultural, commercial, ecologic, industrial, military, mixed, other federal use, public service, recreational, and residential

Figure 3: Combined Performance and Revitalization Measures Framework
(Dimensions do not reflect actual data)



Importance and Quality of CPRM Acres

OSWER believes that the CPRM needs to focus on acres to provide interested stakeholders with a better sense of the amount of land[8] being addressed by its programs. The primary reason and benefit for capturing acres is that there are significant variations among the different OSWER cleanup programs in terms of the number and size of sites.[9] For example, the acreage footprint for a UST site is relatively small, but there are several hundred thousand such sites. In contrast, there are far fewer Federal facilities sites, but some encompass much larger areas. Cross-program approaches that rely only on the numbers of sites would not accurately reflect these differences.

EPA currently does not have a data standard that would dictate the needed quality for measuring acres. However, the following three basic elements of the Agency's Measure Data Standard[10] are applicable to acres-based measurements in this guidance: (1) measure numerical value, (2) unit of measurement (such as acres), and (3) measurement qualifiers used to identify issues that could affect the results (e.g., source of acre information). Given the flexibility

[8] The term land is not just limited to terrestrial surface area. It could also include the areas of wetlands, surface water and/or sediments associated with a particular site.
[9] Because of these significant variations in site sizes, OSWER will communicate cross-program acre based information collectively across all of its programs subject to this guidance, as well as by individual programs.
[10] See standard EX100010.1 available at http://www.epa.gov/edr/MeasureFD_01062006.pdf.

inherent in the Measure Data Standard, OSWER believes any of the approaches listed in Appendix B of this guidance is sufficient for capturing acre-based measures described in this guidance. A key principle for the quality of acres-based measurements captured in the CPRM is that such measurements should be sufficient for site-specific, programmatic and cross-programmatic estimates.

Avoiding/Minimizing Multiple Counting

OSWER recognizes that at certain sites, more than one of its programs may be involved with assessment and cleanup related activities. For example, a site being addressed by OSWER's Federal Facility Response Program may also have cleanup related obligations under the RCRA Corrective Action and UST Programs. OSWER programs are developing protocols to minimize the likelihood of multiple counting of the same acres, and will be addressing this issue in subsequent program-specific implementation guidance (see Appendix A).

II. Universe Indicator

A. Definition

The Universe Indicator refers to the number of actual or potentially contaminated, or previously contaminated sites[11] and surface acres for which OSWER's cleanup programs have an oversight[12] role for assessment[13] and/or response action[14]. The Universe Indicator does not capture all of the sites or acres of contaminated or potentially contaminated land addressed by non-OSWER EPA programs, other Federal agencies, State or local governments, Tribal Governments and non-government entities. Consistent with this definition, the Universe Indicator comprises the following two sub-indicators:

---

[11] One of the challenges in a cross-program measure is that different programs define land subject to the cleanup authorities with different names, typically based on specific references in statutes and regulations. For example, the Superfund program refers to "sites," the RCRA program refers to "facilities," and the Brownfields program refers to "properties." For simplicity sake, this guidance will use the more generic term "sites."

[12] The term "oversight" in this context can include the following: EPA and/or EPA contractors are directly involved with the assessment investigation and cleanup of sites; EPA staff ensuring that non-EPA entities (e.g., private company, or other federal agency) are investigating and cleaning up sites; EPA tracking cleanup related accomplishments achieved by authorized State programs, Tribal programs, or by grant recipients.

[13] The term "assessment" in this context is being used in a generic sense to reflect either or both initial assessments used to determine whether contamination or suspected contamination at the site warrants further attention, as well as more detailed investigations focused on characterizing the nature and extent of contamination. By referring to site assessment, this guidance is not implying that all assessed sites or sites that need to be assessed will be addressed by the programs identified in this guidance. For example, only those assessed sites that also meet the criteria described in Appendix A, Section A.1.1 would be part of the Superfund Program's universe for the Universe Indicator.

[14] The term "response action" in the context of this guidance refers to the range of engineered and non-engineered activities that are used to ensure protection of human health and the environment from environmental contamination. For example, engineered activities could include engineered treatment actions, such as excavation of contaminated soil or in-place treatment such as bioremediation of the waste or contaminated media, or engineering controls, such as containment of the waste or contaminated media (e.g., barrier walls, low-permeable covers, and liners). Response action could also imply the use of non-engineered controls (e.g., institutional controls, such as easements, notices, ground water use restrictions, etc.). Response action may involve a combination of treatment technologies, engineering controls, and non-engineering controls.

- Number of sites for which EPA OSWER cleanup programs have an oversight role for assessment and/or response action.
- Number of acres of land which EPA OSWER cleanup programs have an oversight role for assessment and/or response action.

The Universe Indicator is designed to capture baseline information on sites and acres since the inception of the respective programs. As such, the number of sites and acres tracked by the Universe Indicator may change if new sites are discovered and/or addressed by the different OSWER programs (e.g., when a property receives a Brownfields grant or when a site is proposed to the Superfund National Priorities List (NPL)). Acres and sites tracked by the Universe Indicator also may change over time due to changes in data collection processes, changes in OSWER program implementation, and increased accuracy as the methodology evolves. OSWER will use the protection-based performance measures (see Sections III and IV) as a means to capture progress in ensuring acres of land are protective for current uses/conditions and current, as well as reasonably anticipated future uses. It also is important to recognize that OSWER programs stimulate revitalization that might not always be captured by measures applied to sites in the program-specific or nationally aggregated Universe Indicator. For example, OSWER activities may stimulate revitalization of properties surrounding sites addressed by OSWER programs. Additionally, OSWER believes that revitalization-related guidance, training, and general outreach has a positive influence on revitalization outside of the identified Universe Indicator. As such, the identified universes and associated performance measures are likely to be an under representation of direct or indirect OSWER accomplishments.

B. Relationship to Response Action

The Universe Indicator is intended to apply to sites and acres where site assessment activities[15] have already been conducted or will be conducted to determine whether the site is contaminated and, if so, whether additional investigations or response actions are needed to protect human health and the environment. Therefore, the Universe Indicator would apply even at sites where assessment activities alone indicate that there are no unacceptable risks to human health and the environment. In addition, acreage for the Universe Indicator is based on total surface area assessed, rather than total land remediated.

C. Benefits

OSWER anticipates that the Universe Indicator will yield the following benefits:

- The Universe Indicator will provide the context to communicate the overall scope and scale of sites for which OSWER provides oversight of assessments and response actions.
- The measure would provide important context for the interpretation of other measures in the CPRM, and other program-specific measures not mentioned in this guidance. For example, information on the number of acres determined ready for anticipated uses, or how many acres have been reused or are in continued use would be more meaningful when put in context of the Universe Indicator.

[15] Refer back to footnote 13 which is also applicable to this reference to assessment activities.

III. Protective for People Under Current Conditions

A. Definition

The Protective for People Under Current Conditions (PFP) performance measure captures and communicates determinations pertaining to the number of acres[16] at which there is no complete pathway for human exposures to unacceptable levels of contamination based on current site conditions. By definition and as illustrated in Figure 1, acres that fall in the inner circle (acres RAU– described in Section IV) would also satisfy the middle circle (PFP).

The focus on risks to humans and not to ecologic receptors for the PFP measure reflects a policy decision to ensure protection of humans as an important interim milestone. Such determinations are based on an understanding of current conditions and use of the acres, presence and toxicity of contamination, routes of contaminant migration (e.g., ground water, vapor intrusion, etc.), and routes of exposures to humans (e.g., dermal, inhalation, ingestion, etc.). Furthermore, these determinations are made on a site-specific[17] basis at a particular point in time and may change if the site's conditions change or if new or additional information is discovered regarding the contamination or conditions at the site (e.g., contaminant occurrence, migration, and exposures). Documentation that acres achieve the PFP measure should be changed accordingly if/when information becomes available that would bring into question whether the acres continue to meet the PFP definition. Those specific acres in question should only be re-recorded as meeting the PFP measure if and when acres once again meet the PFP definition.

B. Relationship to Response Action

The following areas of general guidance are important considerations in understanding the relationship of the PFP measure to response action.

Approaches Used to Achieve the PFP Measure: The PFP measure can be achieved through the following individual or collective approaches: (1) confirmation through environmental investigations that there is no complete pathway for human exposures to unacceptable levels of contamination based on current site conditions; (2) response actions that treat, contain or remove contaminated media that make it protective for current use/conditions; or (3) solutions that limit or restrict human use and associated exposures through, for example, engineered controls such as caps, or institutional controls such as notices and easements. The primary distinction between the PFP measure and the more final Ready for Anticipated Use (RAU) measure (described in Section IV of this guidance) is that the approaches used to achieve the PFP can, but do not have to be based on more temporary solutions.

[16] The focus of this guidance for the PFP measure is on acres, but programs would also have the ability to report the number of entire sites that achieve this measure.

[17] Users of the data generated by this measure should recognize that determinations are specific to the exact uses at the facility. For example, an owner, investor, or potential buyer shouldn't assume that just because the current site is found to be protective for a specific industrial use that, therefore, any industrial use would be protective of humans.

Meeting the PFP Measure Doesn't Equal Being Done. As mentioned above, the PFP measure can be achieved through more temporary solutions based on current conditions and associated exposures at a given point in time, and is not intended by definition to address long-term human heath or ecologic protection. Therefore, achieving the PFP measure does not imply or suggest that all cleanup obligations have necessarily been fulfilled.

C. Benefits

OSWER anticipates that the PFP performance measure will yield the following benefits.

- The PFP measure is anticipated to be particularly helpful as an important milestone for large and/or complex sites such as those managed by EPA's Superfund, RCRA Corrective Action and Federal Facilities Response Programs. Stabilizing exposures at complex sites was specifically recommended[18] in the early 1990s as an appropriate milestone, while longer-term cleanup objectives are pursued.
- Viewing the measure at an individual site level helps reassure interested parties (e.g., property owners, workers, adjacent land owners, communities, investors, potential buyers or developers, etc.) that there is no complete pathway for human exposures to unacceptable levels of contamination based on current site conditions at identified acres.

IV. Ready for Anticipated Use Performance Measure

A. Definition

The RAU performance measure captures and communicates acres at a site that meet the criteria for the PFP measure, as well as the following two additional two criteria:

- *All cleanup goals have been achieved for media that may affect current and reasonably anticipated future land uses of the site, so that there are no unacceptable risks; and*
- *All institutional or other controls identified as part of the response action to help ensure long-term protection have been put in place.*

Documentation that acres achieve the RAU measure should be changed accordingly if/when information becomes available that would bring into question whether the acres continue to be protective of current as well as reasonably anticipated uses (i.e., meet the previously mentioned criteria). Those specific acres in question should only be re-recorded as meeting the RAU measure if and when the general criteria for the RAU measure have once again been achieved.

[18] The Nation's Hazardous Waste Management Program at the Crossroads – The RCRA Implementation Study. July 1990, EPA/530-SW-90-069, page 81.

B. Relationship to Response Action

OSWER developed the RAU measure to help ensure, on an acre basis, that sites are protective for current conditions, as well as reasonably anticipated future human and ecological uses, as compared with PFP determinations based only on current conditions associated with human exposures. The following areas of general guidance are important considerations in applying the RAU measure:

Approaches Used to Achieve the RAU Measure: Acres typically would be determined to be RAU based on the following individual or collective factors: (1) confirmation through environmental investigations that contaminated media are not present above levels of concern; (2) response actions that treat, contain or remove contaminated media; or (3) solutions that limit or restrict use and associated exposures through, for example, engineered controls such a low-permeability cap, and/or institutional controls such as notices and easements. The primary distinction between the RAU and the PFP is that the approaches used to achieve RAU should be designed to afford longer term (i.e., more permanent) solutions for human health, and addresses ecological protection (see *Ecological Exposures* discussion below).

Media addressed in the RAU Measure: Any media that may affect current and reasonably anticipated future land uses should be considered when applying the RAU measure. For example, if media such as wetlands, surface water bodies, sediments, and ground water may pose an unacceptable risk to areas of current and reasonably anticipated future land use, cleanup goals for these media should be met before declaring that the site meets the RAU measure. However, EPA recognizes that sites or parts of sites can be protective for current and reasonably anticipated future uses even in situations where long-term remedial goals have not been achieved. For example, a site or areas of a site could meet the RAU measure even where a long-term ground water cleanup remedy has yet to achieve its cleanup goals, provided that engineered and institutional controls identified as part of the response action are in place to ensure long-term protection.

Controls in Place: Acreage meeting the RAU measure should, when necessary, have in place all controls (engineered as well as institutional[19]) identified as part of the response action to help ensure that a site is protective for current as well as reasonably anticipated future uses. Controls for a particular site should be identified and documented as part of remedy evaluation and selection or a similar process. Depending on the type of institutional controls used at a site, the term "in place" could include, for example: the enactment or existence of ordinances (*e.g.*, ground water use restrictions), codes, or other regulations by local government; recording of legal instruments in the chain of title for a property; issuance by a regulatory authority of enforcement tools or permits; agreements between the regulatory authority and the property owners or facility operators; use of restrictions of State cleanup programs, easements, covenants; listing of property on a State registry of contaminated sites; recording of deed notices or hazard advisories in local land records; and for active military bases, use of base master plan, instructions, orders, and dig permit systems.

[19] For more information on institutional controls, refer to http://www.epa.gov/superfund/action/ic/guide/icgdraft.pdf.

Ecologic Exposures: Remedial goals established in a remedy decision document for ecological protection associated with a specific land area should be achieved as a prerequisite for determining whether such an area would satisfy RAU criteria.

Meeting the RAU Measure Doesn't Always Equal Being Done: OSWER recognizes the value of the RAU measure as an important milestone that captures when most, if not all, of the cleanup requirements are fulfilled for the identified acres. However, as described above (*Media addressed in the RAU Measure*), some long-term cleanup obligations that do not impact the protective use of the land may still have to be fulfilled (e.g., maintenance of a landfill cover). Therefore, meeting the RAU measure does not necessarily mean that all cleanup obligations have been fulfilled.[20]

C. Benefits

OSWER anticipates that the RAU measure will yield the following principal benefits.

- Viewing RAU data at individual site level may help reassure interested parties (e.g., property owners, workers, investors, potential buyers or developers, etc.) that the defined acres are protective not only for current use/conditions, but also for reasonably anticipated future uses.
- Viewing the measure collectively across programs helps to communicate broader cross-programmatic, regional and national progress in getting properties through the cleanup process so they can be positive resources to the community.

V. Status of Use Indicator

As mentioned in Section I.D, OSWER included the Status of Use indicator in this guidance for those programs, regions, State, local governments or Tribes that are looking for measures they could use to help describe if and how contaminated, potentially contaminated or previously contaminated properties under their jurisdictions are currently being used. However, the Status of Use indicator is optional and is being provided to assist those programs of offices who want to collect this information to use similar definitions and terms.

Expectations Regarding Voluntary Status and Type of Use Indicators

Given the voluntary nature of these indicators, stakeholders interested in these data should recognize that not all of OSWER programs, EPA Regions, States or Tribes will be collecting this information. While some have expressed interest in using the indicators, for the foreseeable future this information will not be available for the majority of sites in the collective OSWER Programs' Universe. Furthermore, the voluntary nature of the indicators also is anticipated to have an impact on the currency and accuracy of the data. Nevertheless, these voluntary indicators are included in this guidance to promote the collection of information needed to help describe revitalization accomplishments.

[20] For example, using Superfund Program terminology, RAU would achieve goals beyond "Construction Complete" but would not necessarily satisfy site "Deletion." For definitions of these and other terms associated with the Superfund cleanup process, refer to http://www.epa.gov/superfund/action/process/sfproces.htm.

A. Definition

The Status of Use Indicator refers to how the acres[21] at a site subject to the Universe Indicator are being used at the point in time when the determination is made. The Status of Use Indicator has the following sub-indicators:

- ***Continued Use*** – Acres in continued use refer to areas that are being used in the same general manner as they were when the site became subject to a particular cleanup program. For example, continued use would be an appropriate description for a property that was a refinery when it became subject to the RCRA regulations, and is still being used as an operating refinery.

- ***Reused –*** Acres at a site identified as reused refer to a site or portion of a site where a new use or uses are occurring such that there has been a change in the type of use (e.g., industrial to commercial), or the property was unused and now supports a specific use. This means that the developed site, or portion of the site, is "open" or actually being used for its intended reuse purpose by, for example, customers, visitors, employees, residents, or ecologic inhabitants in the case of a planned ecologic reuse.

- ***Planned Reuse –*** Acres in planned reuse refer to a site or portion of a site where a plan for a reuse is in place. This could include conceptual plans, a contract with a developer, secured financing, approval by the local government, or the initiation of site redevelopment.[22]

- ***Unused –*** Acres identified as unused refer to a site or portion of a site which is not being used in any identifiable manner. This could be, for example, because site investigation and cleanup are ongoing, operations ceased, the owner is in bankruptcy, or cleanup is complete, but the site remains unused.

B. Relationship to Response Action

OSWER developed the Status of Use Indicator to be independent of the status of response action because it recognizes that sites or acres of sites could be in various stages of use at various stages of cleanup and, in some cases, use changes. For example, some sites currently being used have achieved the equivalent of the PFP or RAU performance measures, while others have not.

C. Benefits

Programs that explore application, at a full or even pilot scale, of the Status of Use Indicator may realize the following anticipated benefits:

---

[21] While acres are used in this guidance as the unit of measurement for the Status of Use indicator, interested parties could also count the number of sites in the defined Status of Use categories.

[22] OSWER acknowledges that the "Planned Reuse" category may be difficult to capture with certainty; nonetheless, OSWER believes it is an important to distinguish sites with "in place" plans for reuse as compared to sites categorized as unused.

- Compiled "continued use" status data would allow program managers to describe national trends in the number of properties that remain in operation which can have positive economic impacts for the surrounding community (e.g., by avoiding movement of jobs and maintaining tax base) and can reduce pressure on "green field" development.
- Compiled "reused" status data provide information on the trends in revitalization, since it would be OSWER's only measure that captures actual reuse[23]of properties.
- Compiled "unused" status data would provide program managers useful information that could help focus resources. For example, the programs could focus resources on unused properties to promote response actions and to help ensure that there are no unintended barriers to beneficial reuse.
- Compiled "planned reuse" status data would show current revitalization trends on the near horizon. Furthermore, without this status measure, properties, such as those with contracts in place or under construction would likely be counted as unused, and would not reveal the pending positive accomplishments.
- Status of Use Indicator categories could be particularly beneficial from a planning perspective when they are superimposed with other measures. For example, program managers may want to identify as a higher priority those site or acres of sites that are in use (i.e., continued use or reused categories) and have not achieved the PFP measure.
- Understanding the status of use can also be provide the means to evaluate the effectiveness of institutional controls that have been put in place to ensure protection through, for example, use or access restrictions.

VI. Type of Use Indicator

Similar to the Status of Use Indicator, OSWER is including the Type of Use Indicator in this guidance for those programs, regions, State, local governments or Tribes that are looking for measures they could use to help describe in more detail how contaminated or potentially contaminated sites under their jurisdiction are currently being used. Like the Status of Use Indicator, the Type of Use Indicator also is optional.

A. Definition

The Type of Use Indicator describes how the acres[24] at a site are being used at the point in time when the determination is made. Reporting of cross program type of use information would rely on the six primary[25] categories identified below. Where possible, OSWER

[23] Stakeholders interested in "reused" acre data should recognize that getting properties actually reused often is driven by factors (e.g., market interest) outside the control of EPA programs.

24 While acres are used in this guidance as the unit of measurement for the Type of Use indicator, interested parties could also count the number of sites in the defined Type of Use categories.

[25] With the exception of Military and Other Federal Uses, the bolded primary categories are based on the types of uses currently identified in the OMB-approved Brownfield Property Profile Form available at http://www.epa.gov/brownfields/pubs/ppf_without.pdf. The Military and Other Federal Uses category has been included in this guidance since it would address acres that typically would not be addressed by the types of uses associated with Brownfield Grant recipients. The mixed use category identified in this guidance is consistent with the Property Profile form because respondents to that form can select more than one type of use.

encourages interested parties to collect information voluntarily for the identified subcategories to provide data for more detailed analyses.

Commercial and Public Service

- *Commercial Use* – Commercial use refers to use for retail shops, grocery stories, offices, restaurants and other businesses.
- *Public Service Use* – Public service use refers use by a local or State government agency or a non-profit group to serve citizens' needs. This can include transportation services such as rail lines and bus depots, libraries and schools, government offices, public infrastructure such as roads, bridges, utilities or other services for the general public.

Green Space

- *Agricultural Use* – Agricultural uses refers to use for agricultural purposes, such as farmland for growing crops and pasture for livestock. Agricultural use also can encompass other activities, such as orchards, agricultural research and development, and irrigating existing farmland.
- *Recreational Use* – Recreational use refers to use for recreational activities, such as sports facilities, golf courses, ballfields, open space for hiking and picnicking, and other opportunities for indoor or outdoor leisure activities.
- *Ecological Use* – Ecological use refers to areas where proactive measures, including a conservation easement, have been implemented to create, restore, protect or enhance a habitat for terrestrial and/or aquatic plants and animals, such as wildlife sanctuaries, nature preserves, meadows, and wetlands.

Industrial

- *Industrial Use* – Industrial use refers to traditional light and heavy industrial uses, such as processing and manufacturing products from raw materials, as well as fabrication, assembly, treatment, and packaging of finished products. Examples of industrial uses include factories, power plants, warehouses, waste disposal sites, landfill operations, and salvage yards.

Military and Other Federal

- *Military Use* – Military use refers to use for training, operations, research and development, weapons testing, range activities, logistical support, and/or provision of services to support military or national security purposes.
- *Other Federal Use* – Other Federal use refers to use to support the Federal government in Federal agency operations, training, research, and/or provision of services for purposes other than national security or military.

Mixed

- *Mixed Use* – Mixed use refers to areas at which uses cannot be differentiated on the basis of acres. For example, a condominium with retail shops on the ground floor and residential use on the upper floors would fall into this category. When selecting Mixed Use, the individual types of uses should be identified, if possible.

Residential

- *Residential Use* – Residential use refers to use for residential purposes, including single-family homes, town homes, apartment complexes and condominiums, and child/elder care facilities.

B. Relationship to Response Action

Similar to the Status of Use Indicator, OSWER developed the Type of Use Indicator to be independent of the status of cleanup.[26]

C. Benefits

Programs that explore application, at a full or pilot scale, of the Type of Use Indicator may realize the following anticipated benefits:

- The ways in which properties are used can help the program further evaluate the impacts and benefits of revitalization, including ecological habitat and economic, as well as other positive community impacts.
- Identifying and quantifying the type of use, and overlaying it with the protection-based performance measures, can help identify and develop revitalization-related partnerships with key stakeholder groups. For example, better quantifying the acreage of recreational use could help facilitate partnerships with recreational associations.
- Understanding the type of use also can provide more tangible information regarding revitalization-related accomplishments. For example, overlaying the Type of Use Indicator with one of the protection-based performance measures would allow a program to quantify how many acres of remediated land were used protectively for different specific purposes (e.g., residential, commercial, etc.).
- Understanding the type of use also can provide the means to evaluate the effectiveness of institutional controls that have been put in place to ensure protection through, for example, use or access restrictions.

[26] Users of data generated by this measure should recognize that identifying type of use alone does not describe whether or not the site or acres of the site are protective.

APPENDIX A

PRELIMINARY PROGRAM-SPECIFIC GUIDANCE FOR CROSS-PROGRAM MEASURES

This appendix includes preliminary approaches OSWER programs have identified for implementing the measures described in this guidance. If determined necessary, individual OSWER programs may develop program-specific guidance to supplement and, if needed, modify the preliminary guidance described below.

A.1 Program-Specific Guidance for the Universe Indicator

This section provides preliminary guidance on how OSWER programs intend to identify the number of sites and number of acres that would be reflected in the Universe Indicator. Program-specific guidance is likely needed to address differences in how OSWER programs currently define their sites, as well as boundaries of sites. As mentioned in Section 1.D of the main body of this guidance, OSWER programs will be coordinating with the objective avoiding, to the maximum extent possible, multiple counting of the same acres that are being addressed by multiple programs.

A.1.1 Superfund Sites – Non-Federal Facility

Universe of sites – The universe of non-Federal Superfund sites will include those that have been proposed for the NPL, on the NPL (final), or deleted from the NPL, in addition to Superfund Alternative sites[27] and non-time critical removals that involve assessment and/or cleanup.

Universe of acres – The Superfund Program defines its sites based on delineation of actual or potential contamination.[28] As such, the universe of acres for Superfund-non-Federal facility sites would include those acres subject to a remedial investigation (RI) following proposal to the NPL or designation as a Superfund Alternative site, including acres where a remedial investigation determined that no further action was required, acres where a remedial investigation is planned, acres cleaned up through non-time critical removals or remedial actions, and acres where non-time critical removals or remedial actions are planned or underway. The program currently is evaluating how it will address acres of surface area above subsurface contamination (e.g., contaminated ground water).

[27] Superfund Alternative Sites refer to those sites that an EPA region has decided meet the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) criteria for listing on the NPL and requiring a long-term response. For more information, see http://www.envinfo.com/june2002/sfalts.pdf.

[28] Relative to the listing on the Superfund National Priorities List, a site can be described as "…all contaminated areas within the area used to identify the site, as well as any other location to which contamination from that area has come to be located, or from which the contamination came." "On-Site" is defined in the National Contingency Plan at 40 CFR 300.5.

A.1.2 RCRA Corrective Action Facilities

Universe of sites – The RCRA Corrective Action Program will for FY07 include facilities in its 2008[29] baseline that involve assessment and/or cleanup. At the appropriate time, the RCRA Program will expand its component of the CPRM Universe to include facilities on the year 2020 baseline.

Universe of acres – The RCRA Corrective Action Program will define its universe of acres based on the fenceline-to-fenceline facility boundaries defined as all contiguous property under the control of the owner or operator.[30] OSWER recognizes there will be acres outside the boundaries of some RCRA Corrective Action facilities that are contaminated. However, the RCRA Corrective Action Program does not have acreages for these off-site areas, and collecting off-site acre information would impose additional burden on the States,[31] which implement corrective action at most sites captured in the RCRA Corrective Action component of the Universe Indicator. OSWER recognizes this limitation may in some situations result in an under counting of contaminated acres associated with RCRA facilities where off-site investigations and cleanup have or will need to occur. However, OSWER believes the impact of this potential undercounting will be relatively small when evaluated at a national level. Sites regulated by other programs, such as Brownfields which also collect acres based on facility boundaries, may have the same issues.

A.1.3 Federal Facility Sites

Universe of sites – For the Universe Indicator, the Federal Facilities Response Program will include proposed, final, and deleted Federal facility NPL sites and non-NPL sites where EPA has had involvement in the property assessment, cleanup, or transfer of the site. These include: proposed, final, or deleted NPL sites with a Federal facilities flag in CERCLIS, non-NPL Department of Defense (DoD) Base Realignment and Closure (BRAC) installations where EPA is or has been involved, including sites with a Finding of Suitability to Transfer (FOST), Finding of Suitability to Early Transfer[32] (FOSET), or Finding of Suitability to Lease (FOSL), and other non-NPL sites with EPA involvement in the assessment, remediation, and/or property transfer action. Active DOD ranges without CERCLA or RCRA actions will not be included.

Universe of acres – At Federal facilities meeting the criteria identified for Universe of Sites, the program will include acreage where EPA has been involved with sites that may have actual or potential contamination both within the facility boundaries, as well as any assessed or remediated acres outside the facility boundary subject to EPA involvement. For active DoD facilities, the acreage should not include generally operational ranges.

---

[29] Refer to http://www.epa.gov/correctiveaction/ for links to information pertaining to the RCRA Corrective Action Programs 2008 baseline and 2020 Vision.

[30] See definition of "facility" at 40 CFR 260.10.

[31] The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) expressed their desire that the cross-program measure effort minimize any new data collection burdens on the States.

[32] For more information about early transfers, refer to "EPA Guidance on the Transfer of Federal Property by Deed Before All Necessary Remedial Action Has Been Taken Pursuant to CERCLA Section 120(h)(3)" available at http://www.epa.gov/swerffrr/documents/hkcover.htm.

The exception to this rule of thumb includes those acres on operational ranges that are undergoing or have undergone a response action under CERCLA or RCRA. Only those particular acres should be included, yet not the entire range. The program is currently determining how to address acres of surface area above subsurface contamination (e.g., contaminated ground water).

Federal facilities being addressed solely by RCRA Corrective Action (i.e., there are no EPA CERCLA activities at the facility) should follow the approach being conducted by the RCRA Corrective Action Program described in A.1.2 above, and will not be included in the Federal Facility Response Program's universe of sites or acres for the cross-program measures.

A.1.4 Brownfields

Universe of sites – The Brownfields Program will include properties that have benefited from funding beginning in FY03 under the Brownfields Law[33], including properties assessed and/or cleaned-up using Assessment Grants, Cleanup Grants, and Revolving Loan Fund Grants. OBCR will consider expanding this universe as program data collection methods are implemented over time.

Universe of acres – The Brownfields Program will include acreage within the entire property boundary (not just contaminated portions), as reported by grantees on Property Profile Forms.[34]

A.1.5 Leaking Underground Storage Tanks

Universe of sites – The UST Program will use an assumption-based approach to identify the universe of sites where each confirmed underground storage tank releases tracked by the national UST Program equals one site.[35]

Universe of acres – The UST Program will identify the universe of acres by using an assumption-based approach where one release equals one site which equals one acre.

A.1.6 Emergency Management Sites

Universe of Sites – Ideally, the universe of removal sites will include all locations for which emergency and time-critical Removal Actions are initiated or in progress. OSWER's Office of Emergency Management (OEM) will need to determine which

[33] For more information about the Brownfields Law, refer to http://www.epa.gov/brownfields/sblrbra.htm.

[34] The Brownfields Program relies on grantees to report accomplishment information, including property acreage, assessment activities, and cleanup activities. Regional Project Officers work with grantees to ensure complete and valid reporting. The Brownfields Program solely uses the data reported by grantees. If a grantee fails to report an accomplishment on the Property Profile Form, that accomplishment never will appear in the ACRES database nor be counted by the Brownfields Program.

[35] Currently at the national level, the UST Program tracks reported releases, among other data. This number of reported releases is greater than the number of actual sites due to the occasional circumstance of an individual site having more than one reported release over time. The Program determined that the assumption based approach was the only practical means by which they could participate in the OSWER CPRM effort.

removals specifically to include, namely those addressed by potentially responsible parties (PRPs), states, other local government entities, and/or where EPA is the lead funding source. The universe of sites will include land-based Removal Actions, but may also incorporate sites primarily impacting other media (e.g., ground water and air). In addition, the universe of sites (and acres) always will be uncertain at the start of a given fiscal year due to the unpredictable nature of these events. Accordingly, in FY2007, OEM will define the universe of sites (and acres) at the end of the fiscal year once Removal Actions are accounted for through evaluation of Removal Action Memos, CERCLIS data, or another approach to be determined. OEM may choose to include an estimate of only land-based removal sites or conduct a pilot to understand how the universe could be expanded in the future to include Removal Actions for other contaminated media.

Universe of Acres – The universe of removal site acres should be equal to the sum of the acreage at each site subject to emergency and time critical Removal Actions assessed at the end of each fiscal year. Currently OEM does not keep track of the acreage associated with removals and will need to determine criteria for defining the universe of acres. For example, the acreage at a removal site may be estimated to reflect only the area immediately surrounding the oil or hazardous substance release (e.g., drum sites) or the overall area extent that must be restricted to prevent harm to human health and the environment. In addition, as noted above, in some cases, a measure of acres may not be clearly defined if the media impacted includes other media such as ground water or air. Therefore, further analysis and research will be important to develop a methodology to define and consistently estimate the universe of removal site acres to be included in the CPRM. Additionally, OEM will work with the other OSWER program offices to avoid or minimize to the extent possible double counting of acres in situations where removal actions occur at the same sites being addressed by those other programs (e.g., removal action conducted at a Superfund, Brownfields, or RCRA Corrective Action site).

A.2 Program-Specific Guidance for the PFP Performance Measure

This section provides preliminary guidance on how individual OSWER programs anticipate they will be implementing PFP performance measure.

A.2.1 Superfund Sites (Non-Federal)

All of the acres at a specific Superfund site will achieve the PFP performance measure when the entire Superfund site[36] achieves any one of the following categories in the Superfund Program's Long-Term Human Health Protection Environmental Indicator[37]:

[36] Currently, the Superfund Human Exposure Under Control Environmental Indicator and the RCRA Corrective Action Current Human Exposure Under Control Environmental Indicator is applied for the entire Superfund and RCRA sites, respectively. As a follow-up to this guidance, both programs are considering whether and how they might apply the same criteria for these indicators on a sub-site acres basis. This approach would provide these programs with the ability of showing incremental, acres-based, progress toward confirming that there is no pathway for human exposure to unacceptable levels of contamination based on current conditions..

[37] For more information about the Superfund Human Exposure Under Control Environmental Indicator, refer to guidance and other supporting material available at http://www.epa.gov/superfund/accomp/ei/exposure.htm, and the

Current Human Exposure Under Control; Current Human Exposures Controlled and Protective Remedy in Place; or, Long-term Human Health Protection Achieved. Achieving the PFP measure means that there is no complete pathway for human exposures to unacceptable levels of contamination based on current conditions. Achieving the PFP measure does not involve consideration of future use conditions nor ecological receptors.

The PFP measure applies to the entire surface expression in acres of all contaminated or potentially contaminated media subject to the Superfund remedial investigation and, if needed, response action. For example, this area includes acres – that have the potential to negatively impact humans - of contaminated or potentially contaminated land, acres of land above ground water contaminant plumes and/or subsurface vapor plumes, acres associated with sediment contamination, and acres associated with surface water (all of which could be considered to be part of the Superfund site or Operable Unit).

The entire acreage or partial acreage for sites would be included in this category, by default, if such acreage meets the criteria for the RAU measure.

A.2.2 RCRA Corrective Action Facilities

All of the acres at a RCRA Corrective Action facility achieve the PFP when the entire RCRA facility achieves the RCRA Corrective Action Current Human Exposure Under Control Environmental Indicator,[38] which is consistent in definition with the Current Human Exposure Under Control category of the Superfund Long-Term Human Health Protection Environmental Indicator described in section A.2.1 above.

As described in Section A.1.3 of this guidance, the Universe of Acres for the RCRA Corrective Action Program is identified by the total acres defined by the facility boundaries. As such, the same limitation in capturing acres for the Universe Indicator is applicable for the RCRA Corrective Action PFP measure (even though determinations of whether an entire site meets the Current Human Exposure Under Control Environmental Indicator includes both on-site and off-site considerations). Therefore, and as with the Universe Indicator, this limitation of capturing acres based on the facility boundary may in some situations result in an undercounting of total acres that achieve the PFP measure.

See also footnote 36 concerning the RCRA Corrective Action and Superfund programs' plans to develop supplemental guidance on how they might apply the same criteria for this indicator on a sub-site acre basis.

Program's draft guidance on the Long-Term Human Health Protection Environmental Indicator available at http://www.epa.gov/superfund/accomp/ei/eiguidance.pdf.

[38] For more information about the RCRA Corrective Action Current Human Exposure Under Control Environmental Indicator, refer to guidance and other supporting material available at http://www.epa.gov/epaoswer/hazwaste/ca/eis.htm.

A.2.3 Federal Facility Sites

Acres at Federal facilities meeting the criteria identified for Universe of sites will achieve the PFP measure when one of the following categories in the Superfund Human Health Protection Environmental Indicator: Current Human Exposure Under Control; Current Human Exposures Controlled and Protective Remedy in Place; or Long-term Human Health Protection Achieved. Additionally, acres at Federal facility sites may meet the PFP measure through EPA consultation on leasing actions at BRAC facilities (e.g., FOSL), early transfer actions approved by EPA (e.g., FOSET),[39] and EPA involvement in transfers after all remedial action necessary has been taken (e.g., FOST). Only acres that EPA agrees are "suitable" should be counted towards this measure, and in instances where EPA does not concur with a suitability to lease, transfer, or conduct an early transfer, those acres should not be included.

The entire or partial acreage for sites would be included in this category, by default, if such acreage meets the criteria for the RAU measure.

The PFP measure for Federal facilities being addressed solely by RCRA Corrective Action (i.e., there are no EPA CERCLA activities at the facility) should follow the approach being conducted by the RCRA Corrective Action Program described in A.2.2 above, and will not be included in the Federal Facility Response Program's count of sites and acres.

A.2.4 Brownfields

PFP for Brownfields sites will be achieved at the same time when acres meet the RAU. OSWER is taking this approach since the Brownfields program focuses its cleanup-related measurements on final cleanups rather than interim milestones associated with controlling exposures associated with current conditions. See section A.3.4 for more details concerning RAU applied at Brownfields sites and its applicability to PFP.

A.2.5 Underground Storage Tanks

PFP for UST sites will be achieved at the same time when the RAU measure is achieved. OSWER is taking this approach since EPA's UST program focuses its cleanup-related measurements on final cleanups rather than interim milestones associated with controlling exposures based on current conditions. See section A.3.5 for more details concerning PFP at UST sites and its applicability to RAU.

A.2.6 Emergency Management Sites

All of the acres subject to Removal Actions achieve PFP upon completion of response activities when all identified human exposure pathways from contamination at the site are under control or below health-based levels for current land, air, and/or ground water use

[39] For more information about early transfers, refer to "EPA Guidance on the Transfer of Federal Property by Deed Before All Necessary Remedial Action Has Been Taken Pursuant to CERCLA Section 120(h)(3)" available at http://www.epa.gov/swerffrr/documents/hkcover.htm.

conditions. The criteria for PFP are consistent with the Superfund Human Health Exposures Under Control Environmental Indicator and the RCRA Corrective Action Current Human Exposure Under Control Environmental Indicator. However, as noted in Section A.1.6 above, it will be important to conduct further research to develop a methodology to estimate the appropriate acreage at each site that will be included as part of this performance measure.

A.3 Program Specific Guidance for the RAU Performance Measure

This section provides guidance on how individual OSWER programs anticipate they will implement the RAU performance measure.

A.3.1 Superfund Sites – Non-Federal Facility

All of the acres at a specific Superfund site achieve the RAU measure when the Superfund site has achieved and documented Sitewide Ready-for-Reuse measure in accordance with the May 24, 2006 OSWER Directive 9365.0-36.[40] The definition and guidance for the Superfund Sitewide Ready-for-Reuse measure are consistent with RAU definition and general guidance described in Section IV.A. above.

Parts of a site could still achieve the RAU measure even if the entire site does not satisfy the Sitewide Ready-for-Reuse measure described above. To capture incremental acres meeting the RAU measure, the overseeing regulator would have to determine that the subject acres meet the definition and general guidance described in Section IV.A. above.

A.3.2 RCRA Corrective Action Facilities – Non-Federal Facility

The RCRA Corrective Action Program is currently evaluating how to implement the RAU measure to reflect the concepts described in the definition and general guidance in IV.A above. In particular, the Program is considering approaches that would be implementable given its large universe of sites (nearly half of which are still operating facilities) and that the Program is predominantly implemented by State programs. OSWER does anticipate that the measure would be applied at both operating and non-operating facilities. For facilities at which the current use is anticipated to be consistent with the future use, the Program anticipates that the measure would focus on achieving cleanup goals and implementing engineering, as well as institutional controls appropriate for current operations. Furthermore, the RCRA Program is evaluating how to capture RAU on portions of RCRA facilities.

Similar to the limitations expressed for the Universe Indicator and the PFP measure, the Program anticipates that the maximum reported RAU acres will be based on the facility boundary.

The RCRA Corrective Action Program intends in FY07 to define how this measure will be implemented in subsequent fiscal years. When these evaluations are completed, a

[40] For more information concerning this Directive, refer to http://www.epa.gov/superfund/programs/recycle/tools/sitewide.htm.

supplement to this guidance will be issued to reflect the approaches the RCRA Corrective Action Program will use to implement the RAU measure.

As with Superfund, parts of a RCRA facility would be able to achieve the RAU measure even if the entire site doesn't satisfy the criteria in IV.A above. To capture incremental acres meeting the RAU measure, the overseeing regulator will have the option of determining specific acres that have met the definition and general guidance in IV.A above.

A.3.3 Federal Facility Sites

Acres at Federal facilities meeting the criteria identified for the Universe of sites shall achieve the RAU measure when the site has met the Superfund Sitewide Ready-for-Reuse performance measure. The definition and guidance for the Superfund Sitewide Ready-for-Reuse measure are consistent with definition and general guidance described in Section IV.A. above.

Portions of a Federal facility could still achieve the RAU measure even if the entire site does not satisfy the Sitewide Ready-for-Reuse measure described above. Likewise, non-NPL sites and acres within the Federal Facilities Response Program could also achieve the RAU measure. To capture those acres which meet the RAU measure, the overseeing regulator would have to determine that the subject acres meet the two-part definition and general guidance for described in Section IV.A. above.

The RAU measure for Federal facilities being addressed solely by RCRA Corrective Action (i.e., there are no EPA CERCLA activities at the facility) should follow the approach being conducted by the RCRA Corrective Action Program described in A.3.2. above, and will not be included in the Federal Facility Response Program's count of sites and acres.

Acres transferred after all remedial action necessary has been taken at a Federal facility, pursuant to CERCLA 120(h)(3)(A), should be included in the RAU measure (e.g., FOST). Only acres that EPA agrees are "suitable" for transfer should be counted towards this measure. In instances where EPA does not concur with a suitability to transfer, those acres should not be included.

A.3.4 Brownfields

All of the acres at a Brownfield site that the program has determined to be "Ready for Reuse" will apply to the RAU measure. The Brownfields Program defines that all the acres of a Brownfields site are Ready for Reuse when:

(1) An assessment indicates no cleanup is required, where this determination is made by the grant recipient or property owner in conjunction with State voluntary response officials and/or certified environmental professionals to indicate that the property does not have any contaminants at levels that pose a threat to human health or the environment. In the Brownfields context, a "no cleanup"

determination may include situations where controls (i.e., engineering and/or institutional controls) are required. In such situations, the institutional controls would have to be in place prior to meeting the RAU measure.

(2) Cleanup (where required) is complete, and documented in a "clean" or "no further action" letter (or its equivalent) issued by the State or tribe under its voluntary response program (or its equivalent) for cleanup activities at the property; or the grant recipient or property owner, upon the recommendation of an environmental professional, has determined and documented that property work is finished and any needed institutional or engineering controls are in place and functional. Ongoing operation and maintenance activities or monitoring may continue after a "cleanup complete" designation has been made. As with the previous discussion on Ready for Reuse based on assessment alone, the Brownfields Program would only acknowledge a Ready for Reuse based on the cleanup where institutional controls, if needed, are in place.

The RAU measure applied at Brownfield sites will be limited to a maximum of the property acres subject to the Brownfields grant. Furthermore, Brownfields cleanups under voluntary cleanup programs only certify cleanup is suitable for the next intended future use.

A.3.5 Underground Storage Tanks

The RAU measure for the UST Program is achieved when cleanup of a confirmed release is completed with the assumption that one release reported at the national level equals one site which equals one acre. This assumption-based approach will be sufficiently accurate to satisfy the overall objectives of the CPRM effort.

A limitation in applying the RAU measure to UST sites is the UST Program's inability at this point in time to identify whether any institutional controls, if needed, are in place. OSWER recognizes this limitation as an inconsistency with the general guidance for the RAU measure described in Section IV.A., above. Any tabulation of RAU information that includes underground storage tank accomplishments will include a caveat of this limitation.

A.3.5 Emergency Management Sites

RAU for Removal Action sites will be difficult to achieve given the nature of emergency and time critical Removal Actions and span of influence associated with OEM response activities. It is unlikely that OEM will incur funds to restore land for future uses, unless the previous or current use is anticipated to be consistent with anticipated uses. Additional research is necessary to determine whether the RAU measure is applicable to Removal Actions, and if so, how it may be implemented.

A.4 Program-Specific Guidance for the Status of Use Indicator

At this point in time, the Status of Use Indicator is an optional measure for OSWER programs. OSWER programs choosing to implement the measure should develop their own guidelines and approaches for efficiently and effectively collecting the information. For example, programs would need to decide how to collect and store the information, and how often to update the information.

A.5. Program-Specific Guidance for the Type of Use Indicator

At this point in time, the Type of Use Indicator is an optional measure for OSWER programs. Currently, OSWER's Superfund and Brownfields programs are collecting type of use information on a national basis, although they are not using all of the same categories or exact definitions as conveyed in this guidance. Given that this measure is optional, OSWER programs choosing to implement this measure have the flexibility to develop their own guidelines and approaches for efficiently and effectively collecting the information. Ideally, OSWER programs should explore opportunities to improve consistency in type of use measures to allow for cross-programmatic reporting and analysis.

APPENDIX B

GUIDANCE FOR ESTIMATING ACREAGE[41]

There are a number of ways to estimate site acreage. Different methods may be used at different sites, depending on the nature of the site and the availability of data. EPA Headquarters, Regions and States should use the most reliable data available at a site when estimating the acreage for measures presented in this guidance. Individuals reporting acreages for any of the CPRM measures should document and record the value in acres and the source(s) of information. As programs gain more experience in implementing the CPRM measures, they should consider developing systems that would track the data. Those information systems should also provide a field for source(s) of information. The following is a list describing sources and approaches to develop acreage estimates for the CPRM measures described in this guidance.

- *Use Existing Documents*. In many cases, the acreage of a site may be available in existing site documents such as RCRA permit applications, RCRA Facility Assessments, RCRA Facility Investigations, RCRA Statement of Basis, or Superfund Remedial Investigation Reports, Superfund Record of Decisions, FOSLs/FOSETs/FOSTs, or Brownfields Property Profile Forms.

- *Consult the Assessment or Cleanup Contractor*. The contractor conducting the assessment or remediation of the site may have detailed maps of the site and, therefore, may have reliable information on the site's acreage readily available.

- *Work With the Property Owner*. Property owners will generally have reliable information on the size of their property. The property owner(s) at a site will often have a copy of a land survey or plat that has been prepared for their property, typically at the time of purchase. The survey or plat will provide the exact coordinates of the property, and will include the total area of the property expressed in either acreage or square feet. This approach will be most effective for sites where the area being investigated encompasses the entire property. In the cases where the measure addresses only a portion of the property, other methods for obtaining acreage information will likely be warranted.

- *Consult Tax Assessor or Other Local Government Records*. Local governments will likely have records that indicate the acreage of the property(ies) in question. In most cases, these will be located in either the tax assessor or planning office of the local government. The local government may ask for "parcel numbers" in order to provide this information. Parcel numbers are used by local governments to identify the specific properties for taxation and zoning. Generally, a street address will suffice in place of a parcel number. If there is no street address for one or more properties, properties may be identified on a tax assessor or zoning map by becoming familiar with major landmarks at or near the site. These maps are sometimes available online, although it may be necessary to visit the local government office.

[41] Modified from *Guidance for Documenting and Reporting the Superfund Revitalization Performance Measures*, September 2004.

- *Use a Geographical Information System (GIS).* If polygonal data that accurately delineates the boundary of the site is available, the acreage may be easily calculated by the use of a GIS. If these data are not available, there are a number of methods that may be used for gathering it (i.e., consult a regional GIS expert). Also, access to hand-held Global Positioning System (GPS) receivers may enable the acquisition of location coordinates at key points on the perimeter of the property or site. The area may be calculated by entering these coordinates into a GIS.

- *Calculate Using Measurements from Maps*. In those instances where the acreage is not readily available, acres for CPRM measures can be calculated using scaled maps.