

# memorandum

DATE: August 9, 1996

REPLY TO  
ATTN OF: Office of Environmental Policy and Assistance(EH-413):Coalgate:6-6075

SUBJECT: DEPARTMENTAL RESPONSE TO "SUBPART S" CORRECTIVE ACTION ANPRM

TO: Distribution

**PURPOSE** The purpose of this memorandum is to inform Program Offices and Field Elements of the availability of the consolidated Departmental response to a request from the Environmental Protection Agency (EPA) for comments on the Subpart S corrective action advanced notice of proposed rulemaking (ANPRM).<sup>1</sup>

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**BACKGROUND** The Hazardous and Solid Wastes Amendments (HSWA) of 1984 mandated corrective action for all releases of hazardous wastes and hazardous constituents from solid waste management units at facilities seeking RCRA permits [§ 3004(u)]. On July 27, 1990, the EPA proposed detailed regulations to govern the RCRA corrective action "Subpart S" program.<sup>2</sup> Only a portion of the proposed Subpart S regulations have been finalized to date.<sup>3</sup> Nevertheless, the bulk of the Subpart S proposed regulations have been, and continue to be, used by EPA Regions and authorized States as guidance for planning and implementing corrective action.

Despite considerable progress in implementing the corrective action program over the past 10 years, numerous concerns have been raised by the regulated community, regulators, and environmental groups regarding: (1) the slow progress in achieving cleanup of facilities; (2) a focus on process and reports rather than field work; (3) application of impracticable or overly conservative cleanup goals; and, (4) a lack of meaningful public participation. In response to comments received regarding the program, and the results of an internal EPA review, the Subpart S Initiative was established.

The Subpart S Initiative is an effort to reevaluate the corrective action program to identify and implement improvements (i.e., to focus the program more clearly on environmental results). EPA is working to develop a comprehensive strategy for improving the corrective action program and promulgating final regulations. The Subpart S ANPRM is one element of the Subpart S Initiative.

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<sup>1</sup>Corrective Action for Releases from Solid Waste Management Units at Hazardous Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule (Advanced Notice of Proposed Rulemaking), 61FR May 1, 1996.

<sup>2</sup>Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities; 55FR 307988, July 27, 1990.

<sup>3</sup>Corrective Action Management Units and Temporary Units; Corrective Action Provisions; Final Rule, 58FR 8658, February 1993.

On April 18, 1996, EH-413 made an electronic copy of the ANPRM available to Program Offices and Field Elements for review and comment. <sup>4</sup>

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ISSUES

The Departmental consolidated response, including comments from the Offices of Environmental Management (EM) and Policy (PO), Savannah River Operations Office, Oak Ridge Operations Office, Albuquerque Operations Office, and an internal EH-413 review, on a number of topics and issues discussed in the ANPRM.

In its consolidated response, DOE recommended, among other things, that:

- The equivalency of RCRA corrective action and CERCLA remedial action be recognized in all future rulemakings;
- The corrective action management unit (CAMU) final rule/regulations [40 CFR 264.552] be retained;
- Technical impracticability determinations be applied to all environmental media;
- Future rulemakings provide for site-specific point(s) of compliance;
- Performance-based standards for corrective action, rather than prescriptive requirements, should be used to expedite and improve the corrective action process whenever practicable.

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FOR FURTHER  
INFORMATION

Copies of the Departmental response submitted to EPA is available on EH-41 Website for viewing/downloading at <http://www.eh.doe.gov/opea> under the RCRA heading of the "Policy & Guidance" section.

If you have any questions regarding the subject ANPRM or the Departmental response, please contact Jerry Coalgate of my staff by...

calling (202) 586-6075  
faxing messages to (202) 586-3915  
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Thomas J. Tracecki  
Director, RCRA/CERCLA Division

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<sup>4</sup>EH-413 Memorandum dated April 18, 1996, Subject: Strategy for Promulgation of Regulations Governing RCRA Corrective Action -- Advance Notice of Proposed Rulemaking.

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**Department of Energy**

Washington, DC 20585

July 30, 1996

Docket Clerk  
U.S. Environmental Protection Agency  
RCRA Docket (OS-305)  
401 M Street, S.W.  
Washington, D.C. 20460

Docket Number F-96-CA2P-FFFFF

Dear Sir or Madame:

Re: 61 FR 19432, "Corrective Action for Releases From Solid Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule"

On May 1, 1996, the Environmental Protection Agency (EPA) published a Advance Notice of Proposed Rulemaking (ANPR) to introduce EPA's strategy for promulgating regulations governing correction action for releases from solid waste management units (SWMUs) at hazardous waste management facilities under the Resource Conservation and Recovery Act (RCRA). The ANPR also requests information to assist in the identification and development of potential improvements to the protectiveness, responsiveness, speed or efficiency of corrective actions.

The Department of Energy (DOE) appreciates the opportunity to comment on EPA's implementation of the corrective action program to date, and EPA's vision for the future direction of the corrective action program. The Department also appreciates the opportunity to provide responses to the request for information in the ANPR. These comments and responses to information requests combine the viewpoints and concerns identified by DOE Field Organizations and Program Offices.

DOE is pleased that the ANPR discusses a broad range of flexible and pragmatic approaches for future corrective action rulemaking. The best corrective action program is one that provides the regulator and the regulated community with maximum flexibility to apply a broad range of options for reducing risk and cleaning up SWMUs. Many of DOE's comments relate to the need for EPA to ensure that the flexible and pragmatic approaches discussed in the ANPR are reflected in the final version of the Corrective Action Rule.

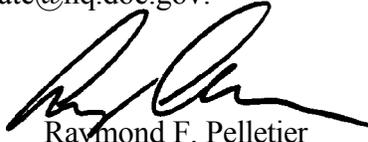
DOE is concerned by EPA's suggestion in the ANPR to promulgate the Subpart S rule in a piecemeal fashion, finalizing portions of the original 1990 Subpart S proposal (55 FR 30798 [July 27, 1990]) and then proposing and promulgating the new approaches described in the ANPR at some future date. It is the Department's position that the entire Subpart S rule needs to be re-proposed and that the new approaches proposed in the ANPR need to be reflected in that re-proposal. The original Subpart S proposal is over 6 years old, there have a number of significant changes to the RCRA program since that time and a number of important new approaches raised in the ANPR will have a major impact on elements of the 1990 Subpart S proposal.

DOE is also concerned with EPA's statement in the ANPR that the Hazardous Waste Identification Rule (HWIR-Media) (61 FR 18780 [April 29, 1996]) will largely obviate the need for the Corrective Action Management Rule (CAMU) (58 FR 8658 [February. 16, 1993]) and that the CAMU rule will be withdrawn as part of the HWIR-Media proposal. DOE considers the promulgation of the CAMU final rule an important success in implementing the RCRA corrective action program. While the CAMU rule has not yet had a sweeping impact on the pace of corrective action implementation, it is premature to retract the rule in favor of an approach (HWIR-Media) that has not yet been finalized. DOE's comments the CAMU rule in this ANPR comment package will be augmented in the future consolidated comment package on the HWIR Media proposed rule.

DOE fully agrees with the stated objectives of the Subpart S Initiative. These objectives can be realized if EPA promulgates the new approaches discussed in the ANPR including: the use of performance objectives for all phases of corrective action implementation; incorporating land use, natural attenuation, and technical impracticability in the remedy selection process; and the designation of flexible points of compliance and not just a "throughout the plume" point of compliance for groundwater corrective action. In addition, the Department considers RCRA/CERCLA overlap at Federal Facilities, voluntary corrective action, State superfund cleanup programs, and self-implementing corrective action, to be some of the more problematic aspects of the existing and proposed corrective action program. As stated throughout the enclosed comment package, the pace of the corrective action program can be accelerated if EPA can promulgate corrective action regulations which ensure that investigation/cleanup performed under any one State or Federal program, will not have to be repeated under another State or Federal program.

The enclosed comments have been divided into two sections: general and specific. The general comments address the broad concerns. The specific comments relate directly to issues raised in particular section of the ANPR. For clarity, each specific comment is preceded by a reference to the section of the ANPR to which it applies and a brief description in bold-face type of the issue within that section to which DOE's comment is directed.

If you have any questions regarding the enclosure please contact Jerry Coalgate of my staff at 202-586-6075 or email [jerry.coalgate@hq.doe.gov](mailto:jerry.coalgate@hq.doe.gov).

A handwritten signature in black ink, appearing to read 'Ray Pelletier', with a stylized, cursive script.

Raymond F. Pelletier  
Director  
Office of Environmental Policy and Assistance

enclosure:

UNITED STATES DEPARTMENT OF ENERGY  
COMMENTS ON CORRECTIVE ACTION FOR RELEASES FROM SOLID  
WASTE MANAGEMENT UNITS AT HAZARDOUS WASTE MANAGEMENT  
FACILITIES.

ADVANCED NOTICE OF PROPOSED 1 RULEMAKING  
(61 Fed. Reg. 19432; May 1, 1996).

GENERAL COMMENTS

- 1) The ANPR discusses a broad range of potential courses of action.

The Advance Notice of Proposed Rulemaking (here in referred to as the ANPR) presents a number of options for proceeding with corrective action rulemaking. DOE commends EPA in this regard. Because of the broad range in conditions at RCRA facilities nationwide, a variety of options for proceeding with corrective action on a facility and SWMU-specific basis should be retained as EPA proceeds toward promulgation of the final Corrective action (i.e. Subpart S) rule. The best system with respect to corrective action is one that provides the regulator and the facility with maximum flexibility to apply a broad range of options for reducing risk and cleaning up SWMUs. For example, DOE would favor regulations that provide the option of proceeding with a performance-based, self-implementing approach for facilities with good or improving track records.

However, DOE would like to make one observation, in this regard. The basic structure of the 1990 Subpart S proposed rule offered the regulator and owners/operators the flexibility to use a broad range of options for completing corrective action. The EPA regions and the States, the true implementors of the corrective action program, may not always take full advantage of the flexibility inherent in the current system, perhaps because of a tendency to adopt conservative approaches in the absence of formal corrective action regulations.

The ANPR references a number of approaches found to be helpful in developing focused site investigations including:

- conceptual site models
- innovative site characterization technologies; and
- use of existing information to streamline the investigation

Coincidentally, the Department has incorporated these approaches in the implementation of corrective action as part of the Department's Environmental Restoration Program. The Department incorporated conceptual site models, the use of innovative characterization technologies, and the use of archival information in a number of RCRA Facility Investigation (RFI) work plans at the Los Alamos National Laboratory (LANL), New

Mexico site. SWMU-specific conceptual exposures models are also used as part of DOE's site strategy management plan for corrective action activities at the Argonne National Laboratory-East (ANL-E) site in Argonne, Illinois. Furthermore, DOE emphasizes the use of such approaches as conceptual site models and innovative site characterization technologies in several of the training programs currently being offered to DOE staff and DOE contractor personnel throughout the DOE complex.

Based on DOE's experience at the Department's facilities regulated under RCRA, the corrective action program has progressed more slowly than hoped, perhaps because the regulated community and program implementors have not worked together to make use of the flexibility that already exists in the program. As already stated this may in part stem from the fact that the 1990 Subpart S proposal was never promulgated. DOE urges EPA to ensure that when the final corrective action rule is promulgated, the flexibility inherent in the proposed 1990 rule, and the flexible approaches in this ANPR, are retained and fully articulated.

- 2) The Subpart S Proposed Rule should be re-proposed to include new approaches introduced in the Advance Notice of Proposed Rulemaking (ANPR).

As stated on page 2 in DOE's October 31, 1995, comments on the draft ANPR, the Department suggests that the entire Subpart S rule needs to be re-proposed. The original Subpart S proposal (55 FR 30798-30884, July 27, 1990) is over 6 years old, and although the basic structure of the proposed rule is sound, there have been a number of changes in the RCRA program since the original 1990 proposal. For example, the Court decisions in Shell Oil v. EPA, EDF v. Reilly, and Chemical Waste Management v. EPA; the Federal Facility Compliance Act of 1992 (FFCA); and a number of regulations EPA has drafted, proposed, or finalized during this period all have a direct and meaningful impact on the RCRA corrective action program. Further, portions of these discussions appear to represent a fundamental change or expansion of the 1990 Subpart S proposed rule.

Specifically, a number of topics raised in the ANPR were not fully described in the 1990 proposed rulemaking including:

- Third Party Oversight
- Natural Attenuation as an element of remedy
- Restricted Land Use and Institutional Controls as elements of remedy
- Technical Impracticability Waivers for all media
- Self Implementing Corrective Action
- Corrective Action "hybrid" of the Risk-Based Corrective Action (RBCA) approach for underground storage tanks
- Performance Based Measures
- Encouraging innovative technical approaches,

- Facilitating voluntary or accelerated cleanups
- Expanded public participation
- Owner/Operator performing site specific risk assessments
- Innovative coordination with or deferral to other programs
- Notification of Natural Resource Trustees in the event of a release

In light of these concerns, and specifically the protracted litigation which resulted in the Court decision in Shell Oil v. EPA and its subsequent impacts to the RCRA program, the Department suggests EPA consider redrafting the Subpart S regulations in their entirety, and republish these regulations as a new proposed rule in accordance with the requirements of the Administrative Procedure Act (APA).

3) Objectives of the Subpart S Initiative.

DOE supports the objectives of the Subpart S Initiative as they are currently stated in Section II, page 19433 of the ANPR, that is to: create a consistent, holistic approach to cleanups; establish protective, practical cleanup expectations; shift responsibilities for achieving cleanup goals to the regulated community; focus on opportunities to streamline and reduce costs; and, enhance opportunities for public participation.

4) Risk Reduction/Risk Management for Human Health and the Environment Should Be Consistent Regardless of Which Program is being used to Compel Cleanup.

The preamble discussion (61 FR 19432, 19435[May 1, 1996]) indicates that the Environmental Defense Fund, while they "expressed general support for consistency in technical matters between RCRA and CERCLA, expressed the opinion that operating hazardous waste management facilities, such as those typically addressed by RCRA corrective action, have an ongoing responsibility to their communities and should, perhaps, be held to higher cleanup standards than abandoned (i.e., Superfund) sites."

DOE has an alternate view on this particular point. The relationship between RCRA corrective action and CERCLA is of particular importance to DOE, because many of its facilities are subject to both RCRA corrective action and CERCLA requirements. At the same time, some sites within DOE facilities are subject to additional cleanup requirements, such as those prescribed under RCRA closure standards, underground storage tank management programs, and other State-specific programs. While flexibility to make site-specific decisions must be retained, EPA should try to develop a consistent decision-making process which ensures that, given approximately the same circumstances, the same decisions are made. The level of protection of human health and the environment should not be different among the different cleanup programs prescribed by EPA and administered by the States.

DOE agrees that it has an ongoing responsibility to the community, and in fact, DOE has

made great progress in enhancing public participation opportunities at all of its facilities. DOE does disagree that waste management facilities (regulated under RCRA) should be held to higher cleanup standards (or rather different cleanup standards) than abandoned past release (i.e., Superfund) sites. Rather, from a risk manager's viewpoint, the reverse is true since it may be more difficult to control access (and thus exposure) at abandoned release sites than at operating RCRA-regulated facilities which typically have institutional controls and physical barriers. However in the interest of consistency, DOE believes that risk should be reduced or managed in an equal manner regardless of which cleanup program applies. Given essentially the same situation, the end result under all of the EPA's cleanup programs should be the same. This is the national consistency that DOE is in support of; not just consistency among the EPA regions and the States that are implementing RCRA corrective action, but consistency among all cleanup programs at all agencies.

The most efficient means of achieving this goal is to tie cleanup decisions, in every case, to site-specific conditions including the site contamination scenario and current and future land use since risk results from a combination of exposure and toxicity. In this manner, risk to human health and the environment would be reduced or managed to uniformly acceptable levels everywhere, regardless of which program was being used to implement cleanup requirements. Further, one of the most efficient ways to implement such a nationally consistent program, is through the establishment of performance-based standards. Additional comments in these areas are provided in the specific comments below.

5) Improve the Means by Which Corrective Action Information is Disseminated.

The ANPR describes RCRA corrective action as an evolving program, and EPA indicates that the program will continue to evolve over time. Part of the problem that EPA has created with RCRA corrective action (and other RCRA programs as well) is the myriad of Federal Register notices, guidance documents, and policy memoranda (some of which are produced under the auspices of the CERCLA program) that has been used in the past to discuss or implement important developments. The ANPR references 42 different documents that pertain to the ever-evolving RCRA corrective action program. Perhaps EPA's procedures for the development of these documents to the regulated community could be made more open and then disseminated more widely. On Pg. 19442 of the ANPR (Column 1), EPA indicates that it is planning to issue a policy memo "Coordination of RCRA/CERCLA Activities." How will the regulated community, including DOE facilities, know that this memo has been published? Perhaps the Agency could consider establishing a mailing list for such guidance documents based upon groups that have commented on corrective action rulemaking process in the past.

6) DOE recognizes that achieving the five objectives will likely involve new approaches to corrective action. One of the new approaches likely to expedite corrective action is

performance based measures.

DOE recognizes that achieving the five Subpart S objectives as stated in Section II page 19435 of the ANPR will likely involve a mix of both new and existing approaches to corrective action. New approaches cited by EPA include: using performance standards to set goals for site investigations and cleanups; encouraging innovative technical approaches, facilitating voluntary or accelerated cleanups, the use of third party oversight, expanded public participation, and innovative coordination with or deferral to other programs (61 FR 19432; 19437).

Of the new approaches cited by EPA, the use of performance standards rather than prescriptive requirements to set goals for site investigations has perhaps the greatest potential to improve the corrective action process and expedite cleanups at a facility-specific level. Furthermore, as discussed below, the judicious use of performance objectives (agreed upon a priori by stakeholders) has the potential to allow EPA to realize many of the stated objectives of the ANPR.

Furthermore, a performance-based approach for corrective action will support the development and implementation of innovative technologies that decrease the cost of remediation and expedite the cleanup. Many parties examining the cleanup of Federal facilities and use of innovative environmental technologies have endorsed this approach. For example, the final report of the Federal Advisory Committee to Develop On-Site Innovative Technologies (DOIT) States that regulatory streamlining, specific policies encouraging innovation, and targeted regulatory reform should be pursued by environmental agencies to reduce the review time and increase the selection rate of verified innovative technologies. Also, the April 29, 1996, Directive from Elliott Laws, Assistant Administrator for the Office of Solid Waste and Emergency Response, noted that EPA initiatives to promote innovative technology in waste management programs need to be done in partnerships with agencies, States, and the private sector to jointly develop and apply solutions which will allow more efficient protection of the environment and public health.

#### Stabilization Performance Objectives

DOE supports EPA's stabilization approach, as described in the ANPR. Once a site is stabilized, innovative technologies can be deployed for final site remediation with less environmental risk. For example, a performance objective for stabilization of the site may prohibit migration of the groundwater plume. Thereafter, innovative technologies can be used to treat the contaminated soil that contributes to the groundwater contamination. DOE recommends that related implementing documents contain a generic performance objective that requires stabilization of the site (i.e., prevention of further releases to the environment). Site-specific performance objectives for stabilization of the site would follow. This approach would probably require a stepped or phased process for

remediation, with performance objectives for short-term interim control through stabilization, and performance objectives for long-term remediation using the most cost-effective methods.

#### Innovative Technology Performance Objectives

As indicated in the recent HWIR-media proposal (61 FR 18780; 18816), it is EPA's belief that environmental regulations and policies should promote, rather than inhibit, the innovation and adaptation of new technologies. DOE concurs with this position and maintains that innovative technologies can quicken the pace of the corrective action program and result in the completion of cost-effective and protective corrective measures. By incorporating the use of performance objectives in the remedy selection process and by allowing compliance and performance objectives to be linked in the final corrective action rule, EPA can ensure that owners/operators will have the ability to use innovative technologies in support of corrective action activities.

#### Remedy Performance Objectives

DOE encourages early definition of site-specific remedy performance objectives during the site characterization stage in the corrective action process. Data collection requirements can then be limited to data necessary to make the decisions necessary to support those remedy performance objectives.

Remedy performance objectives, where appropriate, should specify:

- media concentration levels
- point(s) of compliance
- time period for attaining compliance.

In addition, remedy performance objectives need to be intimately integrated with any site characterization and monitoring performance objectives.

Further, EPA should consider specific types of performance measures to associate with contamination scenarios and remedies, including presumptive remedies. For example, volatile organic compounds in alluvial deposits may dictate the use of a presumptive remedy, such as soil-vapor extraction, tied to an associated presumptive performance objective

#### Demonstration of Performance

Over the past 18 months, under the Western Governors' Association DOIT initiative, the Interstate Technology Regulatory Cooperation (ITRC) Work Group, which is a consortium of 22 States, DOE, DOD, EPA, industry and stakeholders, has been

addressing regulatory issues related to the use of innovative environmental technologies. Since States are the primary implementors of the corrective action program, DOE recommends that prior to issuance of a draft rule proposed in Fall 1997, EPA work jointly with the ITRC to develop and test performance objectives. The ITRC is currently planning to conduct three pilot projects related to a performance based regulatory approach. Using these pilots, EPA and ITRC could:

- Test and refine any generic performance objects being considered as a result of the ANPRM.
- Develop model performance objectives for particular categories of sites or wastes thorough use of pilot project sites. This would be similar in theory to the conditions in general permits used in other EPA programs.
- Compare the use of innovative technologies at various sites against any proposed performance objective.
- Investigate the use of the American Society of Testing and Materials (ASTM) standard ASTM E1739-95, Risk-Based Corrective Action Applied at Petroleum Release Sites to releases of chemicals other than petroleum products. A key objective would be to identify potential conflicts between the ASTM approach and the RCRA corrective action or CERCLA approaches, and the potential benefits of a performance-based approach based on the ASTM standard.

In summary, DOE supports the use of performance-based approaches acceptable to all stakeholders in the corrective action process. It is the Department's view that increased reliance on performance-based approaches will allow EPA to achieve at least four of the five objectives for the Subpart S Initiative including: establishment of protective, practical cleanup expectations; shifting responsibilities for achieving cleanup goals to the regulated community; realizing opportunities to streamline and reduce costs; and enhanced opportunities for timely and meaningful public participation.

7. DOE reiterates its concern over the overlapping jurisdictional authorities of Federal and State agencies at Federal facilities.

Several of the comments provided below in the Specific Comments section address the issue of clarifying the jurisdictional authorities of Federal and State agencies at sites where there are both on-going RCRA corrective and CERCLA remedial actions, and clarifying the regulatory areas in which RCRA and CERCLA overlap. While the Department acknowledges that the Subpart S rule may not be the singular place to make such important clarifications, DOE would like to make the following suggestions which might help clarify the relationship between the two statutes.

(1) Equivalency between the RCRA corrective action and the CERCLA remedial action programs should be addressed in future rulemakings. Specifically, EPA should state that the remedial actions conducted under RCRA (i.e., the RCRA Facility Investigation/Corrective Measures Study) are equivalent to CERCLA Remedial Investigation/Feasibility Study, and visa versa.

(2) As a general matter, the Department notes that EPA has continued to use a number of terms employed in the CERCLA program interchangeably with terms specific to RCRA corrective action. In DOE's comments on the 1990 Subpart S proposed rule (p. 12, "Terminology"), DOE recommended against this practice until such time as RCRA and CERCLA cleanup requirements can be integrated into a single regulation. If the Agency plans to continue using terms from the CERCLA program in discussing the RCRA program, the best course of action would be make a wholesale shift to the CERCLA "vocabulary," and totally eliminate the terminology developed by the corrective action program. For example, rather than describing an RFI and CMS and a remedial investigation/feasibility study, the generic term "remedial investigation/feasibility study" preceded by the acronym for the applicable program could be used instead. In this way, one ends up with a "CERCLA remedial investigation/feasibility study" and a "RCRA remedial investigation/feasibility study." Such a shift may aid in breaking down the barriers and distinctions between the two programs.

- 8) The criteria, development and application of National Corrective Action Prioritization System (NCAPS) should be subject to public notice and comment according to the Administrative Procedure Act (APA).

The Department observes that the criteria, development, and application of NCAPS has never been subject to formal public notice or comment. If EPA intends to continue to use such a NCAPS model for prioritizing and determining which facilities receive regulatory attention, the Agency should open the model to public scrutiny. This was the approach the Agency took with the CERCLA Hazard Ranking System (HRS), the only other widely used site ranking model. Public comment on the HRS yielded many suggestions and observations that ultimately were incorporated into the model and its application. Since the issue of prioritizing which facilities will receive regulatory attention first (presumably because of the hazards posed to human health or the environment) has a direct impact to communities surrounding those facilities, and in light of the Administration's strong commitment to environmental justice, the Department urges the EPA to formally propose and finalize NCAPS.

- 9) DOE believes that withdrawal of the Corrective Action Management Unit (CAMU) Rule could further slow the pace of the corrective action program and result in the implementation of less protective corrective action remedies.

In the ANPR, page 19437, EPA states that the Hazardous Waste Identification Rule for

Contaminated Media (HWIR-media) will largely obviate the need for the CAMU rule, and is planning to propose withdrawal of the CAMU regulations as part of the HWIR-Media proposal. Withdrawal of the CAMU rule could further reduce the already slow pace of corrective action activities and create a disincentive to implement protective corrective action remedies. DOE discusses its position regarding withdrawal of the CAMU rule in more detail in the Department's comments on the HWIR-media proposal. Comments offered here focus on the potential impact of the withdrawal of the CAMU rule on the corrective action process.

As DOE has indicated in previous communications with the Agency, the Department favored the corrective action management unit (CAMU) concept and considered the promulgation of the CAMU final rule (58 FR 8658 [Feb. 16, 1993]) an important success in implementing the RCRA corrective action program. The fact that very few CAMUs have been approved has, however, diminished the initial enthusiasm associated with the promulgation of the CAMU rule. While the CAMU rule has not yet had a sweeping impact on the pace of corrective action implementation, it is premature to retract the CAMU rule in favor of an approach (HWIR-media) that has not yet been finalized.

EPA's rationale for withdrawal of the CAMU rule is not made clear in either the ANPR or in the HWIR-media proposal. DOE suspects that EPA would not have finalized the CAMU rule unless it felt that CAMUs would be protective of human health and the environment. DOE notes that CAMUs, if properly designed, constructed and operated are protective and the Department has been actively involved in obtaining CAMU approval at Sandia National Laboratory, California. The Department disagrees that the HWIR-media proposal, (if promulgated) would make the CAMU rule unnecessary. It is not apparent that, compared to the CAMU rule, the HWIR-media proposal will streamline the corrective action process to the same extent. Thus withdrawal of the CAMU rule may not be consistent with the 4th of EPA's five Corrective Action Program Priorities (61 FR, 19455 May 1, 1996). This is primarily due to 1) the "universe" of remediation wastes covered under the HWIR-media proposal; and 2) the applicability of land disposal restrictions (LDR) and minimum technology requirements (MTR) under the HWIR-media proposal.

The "universe" of remediation wastes covered by the CAMU rule and the HWIR-media proposal is significantly different. Remediation wastes which could be placed into a CAMU includes solid and hazardous waste and any remediation-derived debris and media (including groundwater, surface water, soils, and sediments considered to be hazardous because of "contained in" determinations) [40 CFR 260.10 and 40 CFR 264.101] . In contrast, the HWIR-media rule proposal only covers the placement of contaminated media in a new type of unit-remediation piles. As the EPA is well aware, corrective action remedies often involve contaminated media and non-media wastes. For example, in the HWIR-media proposal EPA reports that a number of the twenty approved CAMUs already manage sludges from cleanups (61 FR 19432, 18829 May 1, 1996). Thus,

replacing the CAMU rule with the HWIR-media proposal could have a significant impact in some situations, particularly in remedies involving sludges and other non-media wastes.

Furthermore, in the HWIR-media proposal EPA seems to be suggesting that remediation piles could function in lieu of CAMUs and continue to preserve the needed flexibility for conducting certain types of cleanup activities. The Department disagrees with this position. Flexibility would not be preserved because a fundamental difference between remediation piles and CAMUs is that CAMUs can be used for waste disposal without triggering LDRs and MTRs [40 CFR 264.552]. While it is true that remediation piles would not trigger LDRs or MTRs, these proposed units afford regulatory relief from LDRs and MTRs only because wastes are “temporarily” placed in remediation piles. Unlike CAMUs, remediation piles could not be used for disposal of wastes. Further, remediation piles would have to close by the removal of wastes (i.e., clean closure) as do tanks, containers, and other types of storage and treatment units.(61 FR, 18780, 18831 [April 29, 1996] ).

If the CAMU rule is withdrawn, and despite the approaches offered in the HWIR-media rule, owners/operators may be likely to rely on less protective in-situ remedies which would not trigger the LDRs and MTRs. DOE has discussed the bias for potentially less protective in-situ remedies engendered by the LDRs and MTRs in its comments on the 1990 Subpart S proposed rule (Pgs. 4, 5, 6 of the 1991 DOE comment package). As a result, the Department recommends that EPA retain the CAMU rule.

10) Technical Impracticability can apply to the remediation of all environmental media.

EPA acknowledges that environmental restoration is not always feasible, at least in the case of dense non-aqueous phase liquid (DNAPL) contamination of groundwater and in a variety of other cases involving other environmental media. In the specific case of DOE facilities, many releases involve mixed wastes that pose either serious short-term or long-term radiological hazards. DOE is encouraged that EPA recognizes that the principle behind technical impracticability applies not only to groundwater and DNAPL contamination, but to other media (especially soils) and a host of other contaminants, including those not subject to RCRA authority. In fact, DOE has pursued the principle of technical impracticability for all contaminants in all media in environmental restoration activities conducted pursuant to CERCLA. DOE recommends that EPA expand the technical impracticability guidance to address the issue of how to proceed when, despite a facility's best effort, remediation of other contaminated media including soil, sediment, and surface water is not technically practicable.

11) DOE believes that the use of a “throughout the plume” groundwater point of compliance is too inflexible and that the use of a site-specific point of compliance is the best way to ensure that the flexibility so important to the corrective action program can be retained.

In the description of the corrective action program as it exists today, EPA indicates that groundwater points of compliance are generally set by program implementors to be throughout the area of contaminated groundwater, or when wastes is left in place, at and beyond the waste management area encompassing the original source(s) of groundwater contamination (61 FR 19432,. 19450 [May 1, 1996]) . For several reasons, DOE suggests that EPA refrain from establishing this “throughout the plume” point of compliance (POC) for groundwater releases in the corrective action rule.

In DOE’s 1991 comment package on the proposed 1990 Subpart S rule, the Department indicated that EPA should recognize the relative costs associated with the establishment of a POC for groundwater throughout the area of contamination or at the unit boundary and that an alternative POC can provide an equivalent level of protection at much lower costs (pg. 1,2 DOE 1991 comment package). The Department reiterated this opposition to the “throughout the plume” POC in the October 31, 1995, comment letter on the draft ANPR.

As discussed below, EPA highlights many issues in the ANPR which are closely related to the establishment of groundwater POC including: natural attenuation, exposure control via institutional and engineering controls; the need for Technical Impracticability waivers in some situations, and the need to foster a holistic approach to corrective action versus a unit by unit approach. These issues are discussed further below.

- Natural Attenuation As it Relates to the Groundwater POC.

The corrective action program and both of EPA’s other two major remedial action programs (i.e., Superfund, and the Underground Storage Tank Program) recognize that in certain contamination scenarios, natural attenuation can be an acceptable component of remedial actions for contaminated groundwater (61 FR 19432, 19452 [May 1, 1996]). Natural attenuation is a catch-all term which can include biodegradation, chemical degradation, dispersion, dilution, and/or adsorption to achieve remedial goals.

As a practical matter, these chemical, physical, and biological processes occur over a given horizontal and vertical distance down-gradient from a release point. As a result, it would be impossible to incorporate natural attenuation into a groundwater remedy if the groundwater POC was established at the release point, that is, throughout the area of contaminated groundwater or at and beyond the waste management unit encompassing the original source(s) (the “throughout the plume” POC).

EPA should consider the use of site-specific POC in future corrective action rulemaking. Site specific POCs would allow the use of site-specific POC which could result in an option such as a set-back or buffer zone alternative for establishing the point of compliance for groundwater. This alternative provides an adequate margin of safety over which natural attenuation can occur, especially if the set-back is established so that it

would take several years for contamination to reach the facility boundary. Once contamination from the SWMU or SWMU cluster is detected in the buffer zone, the owner/operator would be required to modify the remedy accordingly. Since the POC could still be remotely located from the facility boundary, contamination migrating beyond the buffer zone could be easily addressed before it reaches the facility boundary.

- Exposure Control and the Groundwater POC

Should EPA elect to allow site specific POC, a set-back alternative would be especially appropriate for large Federal facilities, where contamination may be a considerable distance from the facility boundary, where the facility has enhanced engineering and institutional controls (such as fencing and a security force) and where the facility is located on remote parcels of land. As EPA points out in the ANPR, risk results from a combination of toxicity and exposure (61 FR 19432, 19448 [May 1, 1996]). In scenarios where there are extensive distances between hazardous waste or waste-related hazardous constituent releases to groundwater and receptors, and where institutional and engineering controls can further preclude exposure to off-site receptors, the set-back groundwater POC can be both protective and cost effective.

For example, on the Oak Ridge Reservation (ORR) there are interim status land based units subject to post-closure permits which set groundwater POC at the edges of the respective units. Due to site-specific circumstances including complex geological formations and, in some cases, the presence of dense nonaqueous phase liquids, cleanup to Safe Drinking Water Act maximum concentration limits is technically impractical at these POCs. In the case of these interim status land based units, corrective action has been deferred to CERCLA which will likely consider a non-residential land use exposure scenario and containment of plumes at a POC located some distance from the interim status land based units, but still within the reservation property line to limit exposure .

- Holistic Versus Unit-by-Unit Approach

In the ANPR, EPA indicates that a holistic approach to corrective action, as opposed to a SWMU-by-SWMU approach, has the potential to increase cleanup efficiency and reduce transaction costs (61 FR 19432, 19456 [May 1, 1996]). The Department agrees with this assessment. A unit-by-unit corrective approach for groundwater releases assumes groundwater contamination and remediation would be unaffected by neighboring SWMUs or Areas of Concern. In reality, groundwater contamination at a given unit can be caused by multiple neighboring units. One way to shift the corrective action program away from a unit-by-unit corrective action approach and towards a holistic approach is to move the groundwater POC away from the waste management unit boundary and allow for the use of site specific POC such as a set-back alternative for the selection of a groundwater POC. For example, in cases where SWMUs are located in proximity to each other, it is unlikely that groundwater remedies would be designed or implemented on a unit-by-unit basis.

Rather, groundwater remedies would tend to involve clusters or aggregates of closely located sources. Thus a set-back groundwater POC alternative may be more appropriate than a unit boundary POC for evaluating the efficacy of such “holistic” groundwater remediation systems.

If, despite the points raised above, EPA continues to view a “throughout the plume” POC as vital to the corrective action program, the Department would like to suggest that EPA develop a suite of groundwater points of compliance which owners/operators, regulators and stakeholders can select from depending upon the hydrogeologic conditions at the facility and the nature of contamination. At a minimum, the suite could include a throughout the plume POC option, and site-specific POC options.

## SPECIFIC COMMENTS

### II Subpart S Initiative

#### II. A. Objectives of the Subpart S Initiative

1. Pg. 19435, Column 1 Objective 1 of the Subpart S Initiative is to "Create a consistent, holistic approach to cleanups at RCRA Facilities."

DOE advocates consistency as well as flexibility in its Environmental Restoration Program. Flexibility must be retained for making site-specific decisions. DOE operates numerous facilities nationwide. However, faced with similar situations in different States, invariably, different decisions regarding application of remedial alternatives are made. Hence, while flexibility to make site-specific decisions must be retained, the applicable decision making process must be defined well enough that, given approximately the same circumstances, the same decisions are made with respect to corrective action.

DOE notes that the ANPR mentions consistency, but is less clear on the concrete steps to be taken to achieve it. DOE urges EPA to consider means for ensuring consistent decision-making among the EPA regions and the States.

#### II.B.2 Public Participation

1. Pg. 19435, Column 2 EPA discussed ways to ensure that the level of public participation opportunities are commensurate with public interest.

DOE suggests that the level of public participation be tailored to the hazards posed by both the corrective action sites and the impact of any remediation efforts on the community. The corrective action public participation approach could be modeled after the RCRA permit modification process wherein the level of public participation is based on the permit modification class (i.e. 1, 2, or 3). This approach provides a well defined

system within which the public has opportunity for review and comment that is commensurate with the rigors of the proposed action.

## II. E. 2 Environmental Indicators for Corrective Action

1. Pg. 19436, Column 3 Use of Environmental Indicators. EPA indicates that it has established two environmental indicators; human exposure controlled and groundwater releases controlled. Further, EPA indicates that it is striving to make the corrective action program more performance-based, and that because environmental indicators focus on results, they can serve well as performance measures.

DOE concurs with EPA that environmental indicators can serve as measures to gauge a performance-based approach. However, DOE perceives that the two environmental indicators established to date seem to be environmental indicators for interim remedies. Once all interim environmental indicators are achieved, the "final" environmental indicator, risks to human health and the environment reduced to an acceptable level, would still need to be achieved. As a result, the aforementioned environmental indicators may be appropriate performance based measures for interim measures and/or stabilization initiative-type measures only.

EPA should consider to establish different measures for interim actions (such as phased remedies, conditional remedies and/or stabilization initiative efforts) versus "final", complete corrective action. These points are discussed in more detail in General Comment 6. By distinguishing between "interim" and "final," performance standards and by thus giving owners/operators goals to achieve, EPA can help facilitate achieving objective 2 as stated in the ANPR, that is to "shift more of the responsibility for achieving cleanup goals to the regulated community".

## II.F.2.b Applicability of 40 CFR Parts 264 and 265 to Regulated Units

1. Pg. 19438 Column 2 EPA is requesting comments on whether overseeing agencies should be given the discretion to remove or modify all or part of the Part 264 and 265 requirements for regulated units at a facility that is undergoing cleanup using the RCRA corrective action process. EPA points out the current inconsistency at some facilities between 1) how regulated units are remediated (in accordance with specific 264 and 265 requirements) and 2) how other solid waste management units (SWMUs) at the same facility that may pose equal environmental risk are remediated (using requirements established on a site-specific basis).

DOE supports the modification of requirements to allow the overseeing agency flexibility to tailor remediation of regulated units to site-specific conditions and risks. This will allow regulators to take a graded approach when dealing with regulated units for which

the current set of prescribed requirements in Part 264 and 265 may not be appropriate. This approach will also more closely parallel the CERCLA process in which 1) the determination of "relevant and appropriate" requirements is dependent on environmental and technical factors at the site, and 2) applicable or relevant and appropriate requirements (ARARs) can be waived under certain conditions.

### II.F. 3 RCRA Statutory Reform-

1. Pg. 19438 Column 3 EPA states that on March 16, 1995, the President committed to identify high cost, low benefit provisions of the Resource Conservation and Recovery Act (RCRA) for legislative reform. After an extensive stakeholder outreach process, the Administration selected two issues. The first issue for legislative reform, an exemption for certain low risk wastes from costly regulation under RCRA's land disposal restrictions program, was signed into law -- the Land Disposal Flexibility Act -- by the President on March 26, 1996.

The second topic identified for legislative reform was the application of RCRA hazardous waste management requirements to cleanup wastes. The Administration currently is discussing with stakeholders and Congress the possible development of bipartisan legislation to expedite the safe and cost-effective management of cleanup wastes that are currently subject to RCRA hazardous waste management requirements. In addition to RCRA cleanup sites, the type of reform being discussed would benefit site cleanups under Superfund, Brownfield and State voluntary programs.

The ANPR indicates that the Administration is discussing with stakeholders and Congress legislation to expedite the safe and cost-effective management of cleanup wastes. However, EPA has chosen not to provide specific information on the reforms being considered. While DOE appreciates that the reforms are initially being targeted at remediation wastes only, consideration should be given to other statutory reforms to expedite the RCRA corrective action program.

For example, one of the most important statutory reforms that could be implemented, is the elimination of the requirement that, in the absence of a corrective action order, RCRA corrective action must be implemented through the RCRA permit program. RCRA permitting constitutes one of the most costly and time-consuming administrative burdens placed on the regulated community. If cleanup under RCRA corrective action could be compelled by a different mechanism, DOE believes that significant savings both in terms of time and resources would be realized for the regulated community and the regulator.

### II.F.4 Improvements to the Procedures for Authorization of State Hazardous Waste Program Revisions

1. Pg. 19439, Column 1 Preparation review and approval of changes to authorized State hazardous waste programs represents a significant workload for States and EPA. In addition, States have often expressed the concern that EPA review of changes to authorized hazardous waste programs is too detailed, resource intensive, and time consuming. To increase the pace and efficiency of authorization of State program revisions and response to State concerns, EPA proposed changes to the regulations for processing State program revision applications.....

The Department conducts clean-ups at sites in a number of States, all of which have various levels of RCRA program authorization. Some current rulemaking activities are expected to provide less stringent RCRA requirements that are welcomed by the regulated community and many States [for example, improvements to the Land Disposal Restrictions (LDR) program proposed in LDR Phase IV]. However, realizing the benefits of new rulemaking can be delayed considerably by the State hazardous waste program revision authorization process. The Department supports changes to the process of approving authorized State hazardous waste programs to make the process more efficient.

Furthermore, keeping up with changes to State hazardous waste programs represents significant workload not only for States and EPA, but also for the regulated community. One aspect of the process that is often frustrating is determining the level of RCRA program authorization for each State and tracking changes to the programs.

Information sources on State authorization exist; however, no comprehensive list of each State's level of hazardous waste program authorization is readily available. It appears that 40 CFR 272, "Approved State Hazardous Waste Management Programs," is intended to be a list of State program authorizations; in practice, though, it is not. For example, New York State is authorized for portions of the RCRA program promulgated through June 1990, but the section reserved in 40 CFR 272 for New York contains no information.

According to the RCRA Hotline, EPA maintains a database that contains up-to-date hazardous waste program authorization information for all the States. If this is true, DOE requests that this database (or some useful composite of its contents) be made readily available to the regulated community, perhaps via the Internet.

#### II.F.5 Superfund Reauthorization

1. Pg. 19439, Column 2 As a general philosophy, EPA believes that the RCRA and CERCLA remedial programs should operate consistently and result in similar environmental solutions when faced with similar circumstances. Currently, Congress is considering legislation to reauthorize CERCLA. If CERCLA is amended, EPA believes that parallel changes in the corrective action program should generally be adopted. Changes to the CERCLA program which might impact the RCRA corrective action program include new approaches to setting

cleanup standards and factoring risk into remedial decision making.

As the Agency is aware, many Federal facilities are listed on the Superfund National Priorities List (NPL). These facilities are subject to the remedial action requirements of CERCLA and regulations under the National Oil and Hazardous Substances Contingency Plan (NCP). Many of these facilities may also be subject to the corrective action requirements of RCRA. EPA has always maintained the position that RCRA's corrective action requirements and the CERCLA remedial action program can be merged at DOE facilities. DOE fully agrees that conceptually this should be the case, however, in reality, experience has shown that such cases are the exception and not the rule. While CERCLA is a Federally implemented program, RCRA is largely implemented by the States. As a result, getting agreement among the responsible regulatory agencies on appropriate remedial requirements is often difficult if not impossible. As DOE has commented in the past in comments on the 1990 Subpart S proposed rule (pg. 36), and the draft ANPR, these statutory constraints do not make effective use of finite resources at Federal facilities forced to comply with both cleanup requirements. DOE urges EPA to champion CERCLA statutory reform that will eliminate duplicative cleanup requirements at Federal facilities.

### III. Corrective Action Implementation

#### III. Flexibility in Current RCRA Corrective Action Program is Under Used

1. Pg. 19440, Column 3 The ANPR states that "The 1990 proposal was intended to support a flexible approach to corrective action. Unfortunately, EPA believes the proposal has at times been interpreted too narrowly, and much of the intended flexibility has been under used."

DOE agrees that the flexibility inherent in the current RCRA corrective action program is under used, and is pleased that EPA intends to retain this flexibility in the new initiative. DOE notes that, as with consistency, the ANPR talks of flexibility, but offers little concrete steps toward assisting the EPA regions and States in using it. Regulatory guidance published by EPA to assist in performing different phases of cleanup and corrective action decisions often specifies document format, context and suggestions regarding content. In some cases, EPA may expect compliance with every suggestion or item discussed in said guidance documents, thus negating any flexibility available under the regulations. DOE is concerned that the flexibility will remain under utilized until regulations which reflect EPA's vision of a flexible corrective action program are promulgated or until EPA makes clear to the regulators the proper role of guidance.

#### III. A. Program Management Philosophy

1. Pg. 19441, Column 1 Few cleanups will follow exactly the same course; therefore,

program implementors and facility owners/operators must be allowed significant latitude to structure the corrective action process, develop cleanup objectives, and select remedies appropriate to facility-specific circumstances. At the same time, a number of basic operating principles guide corrective action program implementation and development.

In a general sense, DOE agrees with EPA's basic operating principles, but offers the following comments:

- Principle 1 - Decisions should be based on site-specific risk. Assuming that an individual lives at the unit boundary for their entire lifetime seems too restrictive. Could EPA ensure that points of compliance for different media are designated in such a way that reasonable exposure assumptions can be assigned to human health and environmental receptors? Site-specific risk means also taking into account current and plausible future land use.
- Principle 2 - EPA indicates that "The purpose of the RCRA corrective action program is to stabilize releases and clean up RCRA facilities in a timely manner." DOE agrees with this operating principle and notes that performance-based measures, and shifting responsibilities for achieving cleanup goals to the regulated community (two objectives of the Subpart S Initiative) will allow EPA to realize this operating principle. The Agency needs to ensure, via rulemaking that implementors can avail themselves of opportunities to utilize these and other "new" approaches described in the ANPR, in implementing corrective action activities.
- Principle 3 - Interim actions and stabilization terminology. As noted in General Comment 7, DOE suggests that EPA refrain from using CERCLA and RCRA terms interchangeably until the two cleanup programs can be integrated into a single regulation. Until that time, RCRA corrective action terminology should be standardized and used consistently. The operating principles especially should reflect the terminology that EPA has already established for the corrective action program. The terms "interim measures" and "stabilization initiative" should be used in place of the terms "interim actions", and "stabilization". The ANPR should reflect the process that EPA has established for the corrective action program; interim measures are used to implement the stabilization initiative. DOE urges EPA to use the same terminology consistently in discussing RCRA corrective action in all future documentation, and to avoid, to the extent possible, using new terminology.

Principle 4 - The term "phased" or "phased approach" is very general. EPA has used the term, in reference to RCRA corrective action, to mean many different things. It can mean:

Interim measures to reduce risk followed by more definitive corrective measures.

Trying an innovative technology at one SWMU before implementing it at other SWMUs.

Prioritizing units on a worst first basis.

Conducting preliminary sampling to confirm the presence of a release of concern before proceeding to a full RFI.

DOE urges EPA to be more specific in the meaning of the terms it uses. This is especially important in a statement of principle.

Principle 5 - DOE is an advocate of early involvement of stakeholders. For example, one of the four Principles presented in DOE's Principles of Environmental Restoration Training course is the early formation of a core group consisting of key stakeholders.

Principle 6 - DOE is also an advocate of using all the "tools" available to any given facility. However, the corrective action program was established by Congress as a program that is implemented through the RCRA permit. Regardless of other tools that may be applied it appears that the RCRA permit must be used to implement the program. This statutory requirement alone is responsible for much of the delay in the RCRA corrective action process. If the regulator and the regulated are to achieve EPA's goals, principles, objective and strategies, as outlined in the ANPR, changes to this most basic of requirements must be considered.

Principle 7 - The States are the primary implementors of RCRA corrective action. It is unclear how this qualifies as an operating principle.

### III B. 1 Concept of Parity -

1. Pg. 19441, Column 3 EPA states that most facilities in the RCRA corrective action universe are potentially subject to cleanup under numerous cleanup authorities, including State or Federal Superfund authorities. The potential for overlapping application of these authorities can cause confusion and concern in the regulated community and among State and Federal regulators. In the 1990 proposal, EPA

stated that one of the Agency's primary objectives was "to achieve substantial consistency with the policies and procedures" of the Superfund remedial program.

DOE supports the concept of parity as the use of cleanup resources can be maximized if the regulated community can investigate and, if necessary, remediate contaminated sites one time under one State or Federal requirement. However, the reality of the situation for DOE is that, investigation/remediation activities completed at some sites under the Superfund remedial program, have to be re-visited under the RCRA corrective action program or other State cleanup authorities. The achievement of substantial technical consistency between the Superfund remedial program and the RCRA corrective action program alone will not ensure parity between the two programs. EPA should consider crafting a State corrective action authorization procedure that ensures parity among State/Federal cleanup programs (including State voluntary cleanup programs and State superfund programs) and that explicitly recognizes that site investigation/cleanup requirements for all of the programs can be satisfied by following one of the programs.

### III B. 2 Voluntary Cleanup

Pg. 19442, Column 2 EPA strongly encourages voluntary corrective actions. As discussed in the 1990 proposal, voluntary cleanups have a number of advantages, including timeliness, flexibility, and efficient use of facility owner/operator and Agency resources. Unfortunately, representatives of the regulated community have, on occasion, complained that procedural barriers have delayed cleanups they were willing to undertake voluntarily.

Voluntary cleanup is one of the most perplexing areas of the RCRA corrective action program. While in concept any facility should be permitted to investigate and remediate releases, DOE maintains that the statutory basis of RCRA corrective action, and the requirement that corrective action be implemented through the RCRA permit, could impose duplicative requirements including, as a minimum, duplicative procedural requirements, for any voluntary action taken. Further, because cleanup of DOE facilities is executed using taxpayer funds, DOE would be concerned that actions taken voluntarily might be questioned in terms of effective use of taxpayer resources. These considerations have the effect of forcing DOE facilities to implement corrective actions only after decisions have been thoroughly documented, and approved by EPA or an authorized States through formal processes and procedures.

While in concept DOE is very much an advocate of voluntary actions, the Department must be cautious in selecting the activities to be conducted voluntarily. If voluntary actions are truly to become an important aspect of the corrective action program for DOE facilities, then two things must happen. First, changes to the RCRA program are required that would eliminate RCRA administrative requirements (i.e. RCRA-equivalent permit) for equivalent actions that are taken voluntarily. Second, some process would need to be

established that could help demonstrate that, for any voluntary action, DOE has spent taxpayer funds appropriately.

### III. B. 3. B. Release

1. Pg. 19442 Column 3 EPA defines a release to include abandoned or discarded barrels containers, or other closed receptacles containing hazardous wastes or constituents.

Existing policies, procedures and best management plans already in place at facilities address the issues of container storage. At many facilities, it is not uncommon to find a temporarily misplaced, closed, and non-leaking container. Upon discovery of the container, if it has been determined that no release occurred, and once the container has been placed into appropriate storage or accumulation areas, no additional corrective action activities are necessary. However, the definition of release would require investigation under RCRA, thus unnecessarily expanding the scope and expense of the corrective action program. DOE believes that Congress did not intend for the corrective action program to be used for investigation areas where no actual release occurred.

In addition, the concept of “continued release” and not just incidental spills as the condition meeting the SWMU definition should be clarified in that DOE questions why EPA continues to adhere to the position that permitted discharges also meet the definition of release (61 FR 19432,. 19456 [May 1, 1996]).

### III.B.3.C. Solid Waste Management Unit

1. Pg. 19442, Column 3 EPA defines a SWMU as " Any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released." Pending resolution of the 1990 proposal, EPA has used this definition in corrective action implementation.

The ANPR argues that corrective action authorities can be used to address all unacceptable risks to human health and the environment. "EPA notes that authority exists for requiring corrective action for releases that are not attributable to SWMUs." DOE seeks clarification on this statement since it is the Department’s understanding that RCRA 3004 (u) and (v) address SWMUs only.

### III. C. Corrective Action Process

1. Pg. 19443 Column 2 EPA states that the 1990 proposal was structured around five elements common to most cleanup activities: initial site assessment, site

characterization, interim actions, evaluation of remedial alternatives, and implementation of the selected remedy. The Agency goes on to state that these elements should not become ends in themselves and that implementors should focus on the desired result of a cleanup rather than a mechanistic cleanup process.

DOE is confused by EPA's statement that "These five elements should be viewed as evaluations necessary to make good cleanup decisions, not prescribed steps along a path." If these five elements are necessary to make cleanup decisions, then they must be instituted as prescribed steps along a path, especially if they will typically occur at most cleanups. DOE suggests that EPA clarify its statements in this regard.

The Subpart S rule must de-emphasize the perception that all five of the referenced elements must be accomplished before corrective action cleanups can occur. The Department agrees whole heartedly that the focus of the corrective action process must be on the desired result of a cleanup and not on the five aforementioned elements as prescribed steps along a path. It is apparent to the Department that the corrective action program, as it exists today, does not require owners/operators to complete each step in the path towards the completion of corrective action. However, program implementors have inevitably relied on the completion of each of the five steps in the process to gauge compliance. Unfortunately, as the Agency points out in the discussion on environmental indicators, (61 FR 19432, 19436 [May 1, 1996]) this "bean counting" approach may have caused the corrective action program to minimize the importance of completing site cleanups.

One way to ensure that this emphasis on cleanup is incorporated into the Subpart S program is to ensure that environmental indicators and performance based measures become acceptable approaches for gauging compliance in: investigations, corrective measure studies, and/or remedy implementation. Furthermore, EPA must ensure that program implementors have the flexibility and authority to allow owners/operators, with the input from stakeholders, to utilize such regulatory tools as: the stabilization initiative, release assessments, no further action determinations, and/or good judgement to avoid unnecessary administrative processes, consolidate documentation requirements as appropriate to conserve time and resources and expedite the corrective action process

### III C 1. Initial Site Assessment

1. Pg. 19443, Column 3 EPA states that the first element in most cleanup programs is an initial site assessment. During the initial site assessment information is gathered on site conditions, releases, potential releases, and exposure pathways to determine whether a cleanup may be needed and to identify areas of potential concern.

The first element of RCRA corrective action is the RCRA Facility Assessment (RFA). Use of the term "initial site assessment" implies actual sampling and analysis. Because a

typical RFA involves no sampling and analysis, use of the different term may be misleading. This is especially of concern because the ANPR uses these terms (RFA and initial site assessment) interchangeably. DOE advises EPA to use consistent terminology where possible, to avoid confusion and to promote consistency.

As another matter, the ANPR compares the CERCLA Preliminary Assessment/Site Investigation (PA/SI) to the RFA. While these two steps are often compared, EPA should have also pointed out that the RFA rarely includes sampling to confirm the presence of a release of concern. In contrast, the SI portion of the PA/SI is designed to collect information on the site through sampling. The RCRA and CERCLA processes have always differed in this regard. This difference should be highlighted. It is important to point out that the typical RFA will not involve sampling activities.

### III. C. 1. a. Facility Owners/Operators May Gather RFA Information

1. Pg. 19443, Column 1 Where RFAs have not yet been completed, facility owner/operators may choose to conduct their own site assessments and submit the report to EPA for review.
  - a) DOE seeks clarification regarding this point. DOE is assuming that the terms “site assessment” and “RFA” are being used interchangeably. EPA urges facilities that have not yet had RFAs conducted for them to conduct a "site assessment". Of prime concern to DOE is whether facilities that conduct their own RFA would be required to conduct sampling as part of the RFA. The RFA guidance referred to by EPA promotes sampling and analysis as part of the RFA. Yet EPA, in the process of performing most of the initial RFAs, rarely conducted sampling as part of the RFA process. Any proposed rule that results from the ANPR should provide additional information as to whether facilities that perform their own RFA would be required to conduct sampling as part of the RFA.

DOE believes that RFAs should be conducted based on a desk top review and that sampling and analysis of site conditions should be conducted as part of the investigative phase of the process. The first phase of a RCRA Facility Investigation (RFI) should be confirmation that a release of concern, has in fact, occurred. DOE is concerned that EPA has not clearly addressed requirements for facilities that perform their own RFAs, or if requirements differ when facilities conduct their own RFA? This is especially critical because EPA implies that it may not approve the "site assessment" as the RFA if the assessment is inadequate.

- b) Next in the ANPR discussion on initial site assessments, EPA suggests that facilities update their RFAs. There is no requirement, statutory or regulatory, or in existing guidance, for facilities to update RFAs. Such a requirement is unnecessary, especially since most facilities have only begun the cleanup process pursuant to their existing RFAs. Further, the 1990 Subpart S proposed rule included a requirement that facilities notify the

regulator if new SWMUs or other relevant information regarding releases was discovered (proposed 270.30(l)(12)). If this requirement is codified, then DOE sees no utility for an updated RFA.

- c) Next in the ANPR discussion on initial site assessments, EPA indicates that facilities that wish to obtain a copy of the RFA that was previously completed for their facilities, should contact the appropriate EPA region or State. This has always been a frustrating aspect of the initial stages of RCRA corrective action. In the past, some regions or States resisted providing a copy of the RFA to the facility, and RFAs were provided months or years after they were originally requested. The EPA should consider changes in the manner in which RFA reports are completed and disseminated. First, RFA draft reports should always be provided to the facility for comment. Second, all subsequent drafts of the RFA report, and the final RFA report, should be provided to the facility as a matter of course. Facilities should not have to ask for the report. The opportunity to review and comment on the draft RFA report is particularly important, because DOE and EPA can work together to eliminate any potential discrepancies in the process.

#### III.C.1.b. Release Assessment

1. Pg. 19444 Column 1 EPA states that release assessments (sometimes referred to as Phase 1 assessments) are used to confirm or reduce uncertainty about solid waste management units, areas of concern, and potential releases identified during the initial site assessments.
  - a) The Department supports the use of release assessments to reduce uncertainties about SWMUs and to prioritize and focus facility investigations, but seeks clarification on the timing, content, and remedial actions associated with release assessments.. It appears that release assessments will also give the RCRA program more parity to CERCLA Site Investigations. Additionally, the use of release assessments may help focus limited resources on those SWMUs which present the greatest risk to human health and the environment.

Past experience shows that, in some cases, owners/operators have been required to conduct an RFI for units posing little or no threat (i.e., there has been either no release, a release at such low concentrations it posed no significant threat, or the release involved such a small amount of contaminated media it could be cleaned up in its entirety by excavating a few cubic feet of soil). Nonetheless, because the facility was required to conduct an RFI, it was forced to develop and have approved numerous documents prior to field activities, and most importantly, to seek a permit modification for a "Determination of No Further Action (DNFA)" once the remedial activities were completed.

To address these problems, the Department proposes that the Agency consider allowing

facilities to conduct release assessments as a follow-on to the RFA, but before the regulatory agency imposes requirements for conducting an RFI. If there is a problem which can be managed with a simple interim measure (e.g., excavation and shipment for off-site treatment or disposal), the facility should be given an opportunity to do so, instead of being required to conduct an RFI. The NCP provides for confirmation of releases and, if possible, quick cleanup before requiring protracted investigation. As was discussed in the preamble to the Hazard Ranking System (HRS) final rule (see 55 FR 51567, [December 14, 1990]) EPA applies the HRS to sites based on current conditions. Accordingly, any actions to remove wastes to an off-site treatment or disposal facility conducted prior to the SI will not be considered in determining HRS scores. The only requirement is that the removal action be completed prior to the start of the Site Investigation. EPA's concept of a release assessment should allow for a limited "interim measure" to substantiate that a SWMU can be eliminated from further consideration. DOE requests that EPA clarify what actions and documentation must be associated with a release assessment in order to eliminate units from consideration under corrective action.

- b) On a separate but related topic, absent from the discussion regarding release assessments is a critical element of the July 1990 proposal, Determination of Further Action (proposed 40 CFR 264.514). The Department has previously emphasized strong support for the Determination of No Further Action concept as proposed in the July 1990 Subpart S rule (Pg. 24 and 25, 1991 DOE response). The RFA protocol maybe to be overly conservative in assigning SWMU designations. In many cases, by using credible archival information the owners/operators may be able to demonstrate that an area has in some cases, been improperly designated as a SWMU. Furthermore, in many cases, owners/operators may be able to make a credible demonstration that a release at a given SWMU has never occurred. In these two scenarios, a release assessment should not be required. Rather, the owner/operator would need a mechanism such as the Determination of No Further Action [proposed 264.514] to eliminate releases from further consideration in the corrective action process.

Based upon discussion in the ANPR, the Department is unclear whether EPA is planning a departure from the Determination of No Further Action tenet expressed in the 1990 proposal. For example, does the Agency contemplate incorporating requests from owners/operators for no further action determinations into "Release Assessments"? DOE seeks clarification on the relationship between the "Determination of No Further Action" tenet of the 1990 proposed rule and the concept of "release assessment" as described in the ANPR.

### III.C.1.c. National Corrective Action Prioritization System

1. Pg. 19444, Column 2 Implementing agencies often use initial site assessments to set priorities for limited oversight resources. In the corrective action program, EPA sets priorities using the National Corrective Action Prioritization System (NCAPS).

NCAPS priorities are generally based on information gathered during the RFA. Because of the number of facilities subject to corrective action, the variety of facility-specific conditions, and the limitations on Agency oversight resources, careful prioritization is essential.

DOE agrees with the concept of having a prioritization system for ranking facilities for corrective action. A prioritization system is warranted because of the availability of limited resources on the part of the regulator and the regulated community. However, DOE is concerned that EPA has not published a proposed rule describing the NCAPS system and to obtain the input of stakeholders on the prioritization system. This is especially important as NCAPS could be used to determine which facilities may proceed with corrective action under EPA's proposed self-implementing, performance-based program.

Secondly, EPA indicates in the ANPR that "The Agency's policy is to focus its corrective action resources first on facilities and areas at facilities which present the greatest relative risk..." DOE's understanding of the NCAPS system is that it is designed to rank facilities and not individual areas of contamination or SWMUs in terms of priority. DOE is concerned that EPA may be applying the NCAPS to ranking of areas within facilities, a purpose for which it may not have been designed. DOE recognizes the need to prioritize areas at its facilities for action. However, DOE typically has the most information about its facilities and, thus, its facilities and local stakeholders may often be in the best position to prioritize areas or individual units for action. DOE requests that EPA publish for comment in a proposed rule how NCAPS achieves ranking of individual areas at facilities and how facilities can become involved in the prioritization process.

#### III.C.2.a Conceptual Site Models -

1. Pg. 19444, Column 3 Site investigations and remedy implementation are often most successful when based on a "conceptual site model"

DOE agrees with the conceptual site model approach. Conceptual site models can be very effective tools in understanding the SWMU-receptor exposure pathway. The concept can also be used to understand the relationship of releases from multiple SWMUs and their affect on human health and the environment. This is of special concern to the larger DOE facilities considering that they may have multiple SWMUs spread over a rather large area. DOE requests that EPA consider developing additional guidance on how the conceptual site model can be used on both a SWMU-specific and facility-wide basis.

#### III.C.2.b Innovative Site Characterization Technologies

1. Pg. 19445, Column 1 In the 1990 proposal, EPA recommended a focused approach to site characterization activities. EPA continues to support data collection

approaches that focus on information needed to support decisions.

DOE understands the need for focusing limited resources to obtain enough information regarding SWMUs and releases to permit an informed risk management decision regarding the potential application of corrective measures. DOE has developed its Streamlined Approach to Facility Environmental Restoration (SAFER) ["Remedial Investigation/Feasibility Study (RI/FS) Process, Elements, and Techniques" guidance, DOE/EH 94007658 December 1993, and "Phased Response/Early Actions" guidance DOE/EH-0506 November, 1995] for just this reason. Furthermore, through DOE's Technology Connection (TECHON) program, DOE is continually seeking out proven innovative technologies that can help focus investigations at DOE's facilities.<sup>1</sup>

However, one troubling aspect of innovative site characterization techniques is the acceptance of the resulting analytical data by regulatory decision makers. DOE urges EPA to emphasize to program implementors that, with the right quality control programs in place, the results of innovative site characterization techniques, such as field portable gas chromatography and X ray fluorescence, soil gas sampling/analyses, immunoassay analyses, etc. can be at least as valuable as Level IV analytical data.

#### III.C.2.d Use of Existing Information to Streamline the Remedial Investigation

1. Pg. 19445, Column 3 DOE as a Federal entity, is involved in multiple environmental programs, including State programs, programs conducted pursuant to the Atomic Energy Act, and programs pursuant to Federal environmental regulations, such as RCRA and CERCLA. Often, DOE facilities have developed data pursuant to other programs that are relevant to RCRA and CERCLA remedial programs, but these data have sometimes not been accepted by EPA regional or State programs. EPA indicates in the ANPR that "State or Federal agencies overseeing RCRA corrective action should not require adequate information to be recollected or reformatted." DOE agrees with EPA in this regard, and would therefore recommend that this provision be codified in regulations that EPA develops pursuant to the corrective action program.

Furthermore, DOE supports the use of information collected outside of environmental programs to streamline the site investigation. In the past, DOE incorporated archival data in the SWMU evaluation process for a number of operable unit RFI work plans at Los Alamos National Laboratory (LANL). In a number of cases, archival data was complete enough to allow LANL to request No Further Action Determinations. The archival data considered included: reports, memoranda, letters, calculations, and verbal communication (if substantiated in writing) about SWMUs or SWMU clusters. As long as quality control review can "validate" archival data, existing information can be an invaluable tool in

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Technology Connection (TECHCON) is a U.S. Department of Energy program to increase the use of commercially available technologies to clean up DOE weapons sites.

streamlining investigations and corrective measure studies

### III.C. 2. e Role of Action Levels

1. Pg. 19446, Column 1 EPA states that at certain facilities subject to corrective action, contamination will be present at concentrations that may not justify further action. For this reason, EPA has, in some cases, used the concept of "action levels" as a trigger mechanism for conducting additional corrective action activities...
  - a) EPA proposed the use of generic, nation-wide action levels in its 1990 Subpart S rule as a screening tool for further action [proposed 40 CFR 264.521]. The use of action levels in this regard is an effective tool and the Department supports the continued use of generic, national action levels augmented with site-specific action levels as discussed below . DOE urges EPA to structure future rulemakings in such a way that generic action levels can be easily and frequently updated to account for the evolution of risk assessment techniques and the continued development of new toxicological data. For example, EPA could periodically publish, in the Federal Register, lists of such generic action levels, and/or make such lists available via the internet.

Although the concept of action levels is not currently utilized in the CERCLA program, often Applicable Relevant or Appropriate Requirements are used as action levels. In addition, EPA is in the process of developing soil screening levels for the CERCLA program. The purpose of soil screening levels in the CERCLA program and action levels in the RCRA corrective action program seem to be basically the same. As a result, corrective action levels which are consistent with CERCLA ARARs and/or prospective CERCLA soil screening guidance would help ensure a nationally consistent approach to the corrective action program and would help to foster consistency between the two cleanup programs. Furthermore, a list of clearly defined nationwide action levels may help expedite decision making in the cleanup process. This promotion of cleanup consistency and certainty is particularly important to nation-wide organizations like DOE to support cost-effective and long-term cleanup program planning and technology development. During the process of developing action levels DOE considers it essential that multiple action level lists be developed to account for residential, industrial, agricultural, and recreational exposure scenarios.

Despite the many positive aspects associated with standardized, nation-wide action levels, DOE is concerned that the conservatism built into such action levels could, in some cases, overestimate the risks associated with some exposure scenarios. As a result, DOE would prefer that the regulations defining use of action levels establish an alternate process for action level derivation that owners/operators can use in lieu of generic action levels to establish site-specific action levels based on actual risk to human health and the environment. For example, EPA may be able to use the Alternative Concentration Limit methodology (40 CFR 264.94) when developing this alternate process.

DOE also wishes to comment on an aspect of action levels that EPA does not mention in the ANPR. Specifically, DOE has noticed that EPA, its regions, and several States, have developed many different lists of contaminants and associated concentration levels for many different purposes and uses. EPA alone now has existing or proposed lists of contaminants and action levels, cleanup levels, soil screening levels, risk-based concentrations, LDR BDAT levels, LDR Universal Treatment Standards, TCLP levels, exit levels, contingent exit levels, and bright-line criteria. DOE recommends that EPA periodically publish all such levels for constituents in side-by-side fashion, in the Federal Register, so that the regulated community can keep up to date on all the constituent concentrations applicable to environmental restoration programs specifically, and to all environmental programs, in general.

- b) EPA suggests in the ANPR that if ecological risks are a concern then action levels that account for this risk be developed. To promote consistency, DOE would suggest that EPA assume this responsibility.

### III. C. 3 Interim Actions

1. Pg. 19446, Column 3 In the ANPR, EPA states that, since the 1990 proposal, it has increasingly emphasized the importance of interim actions and site stabilization in the corrective action program.

The ANPR introduces another term "Interim Actions". EPA initially coined the term "interim measures" to describe actions that reduce risk or further migration of constituents, pending determination of a long-term "definitive" corrective measure. DOE requests once that EPA avoid using new terminology where it is duplicative.

Notwithstanding, the aggressive use of interim measures to expedite site remediation and progressively reduce risk has been successfully used by DOE, stakeholders; and regulators in states that host DOE facilities. DOE favors the continued application of this concept in the RCRA corrective action program.

### III. C. 4. Evaluation of Remedial Alternatives

1. Pg. 19447, Column 1 EPA advises program implementors and facility owner/operators to focus corrective measure studies on realistic remedies and to tailor the scope and substance of studies to the extent, nature and complexity of releases and contamination at any given facility.

DOE is supportive of the ANPR discussion on tailoring of the Corrective Measures Study (CMS) documentation to focus in on those corrective measure technologies that are most appropriate to a situation. In some cases, determinations of Technical Impracticability

should be considered prior to beginning the CMS. If cleaning up a release is technically impracticable, resources should be expended on preparing relatively brief documentation in support of technical impracticability rather than on a lengthy and unnecessary CMS.

#### III. C. 4. b. Formal Evaluation Not Always Necessary

1. Pg. 19447, Column 3 EPA states in the ANPR that at some facilities the CMS does not have to be submitted to an overseeing agency for review and approval in favor of a performance-based approach.

DOE agrees with EPA that formal evaluations are not always necessary and is an advocate of the performance-based approach. However, DOE is concerned that most of the examples that EPA uses in the ANPR pertain to relatively straightforward problems and relatively straightforward solutions. The performance-based approach can work equally as well in complex situations. Indeed, a primary determinant of whether a performance-based approach is viable is not site complexity or risk, but rather on whether or not a performance measure can be mutually agreed upon by all concerned stakeholders.

#### III. C. 5. a. Balancing Treatment and Exposure Controls,

1. Pg. 19448, Column 3 EPA states in the ANPR that risk is a function of toxicity and exposure; therefore, risk reduction can be accomplished by reducing toxicity and/or preventing exposure.

EPA indicates that "while preventing exposure may appear to be the most direct near-term means of reducing risk, permanent reduction of the toxicity, mobility, and/or volume of contaminated material might be the most cost-effective means of reducing risk over time." In some cases, if exposure can be effectively controlled, and if risk is thus reduced to an acceptable level, then additional measures, most of which would result in higher cost, are not necessary. Use of taxpayer funds for high-cost remedial alternatives, when lower cost alternatives can be just as effective in reducing risks is an important consideration in Federal Agency Environmental Restoration Programs. While DOE agrees that permanent reduction of the toxicity, mobility, and/or volume of contaminated material may be the most effective means of reducing risk, it needs to be recognized that in certain situations, this alternative will not be cost-effective with existing remediation technologies.

#### III C. 5. b. Remedy Selection Criteria

1. Pg. 19449, Column 1 and 2 EPA states that the 1990 proposal, like the Superfund NCP, established a two-phased evaluation for remedy selection.
  - a) The ANPR presents the original remedy threshold criteria and the balancing criteria that were proposed in the Subpart S proposed rule. EPA does not appear to be advocating

any changes to these proposed criteria. These criteria are adequate (although, as explained earlier, a performance-based approach is preferred), but modifications should be considered to incorporate remedy expectations. DOE suggests that EPA consider evaluating these criteria against the remedy selection criteria established in the NCP. EPA states several times throughout the ANPR that the end result of cleanups done pursuant to RCRA and CERCLA authorities should be essentially the same. DOE agrees with EPA in this regard, as indicated previously in these comments. It would be beneficial to have one common set of remedy selection criteria, not just for RCRA and CERCLA, but for all environmental cleanup programs. Therefore, DOE suggests that a common set of remedy selection criteria be developed and proposed.

- b) DOE supports the specific discussion in the ANPR that recognizes cost as a very important consideration in selecting among remedies that meet the threshold criteria. This is of special concern to DOE considering limited funds that are available for its environmental remediation programs. DOE would like to reiterate that institutional controls, because they reduce or eliminate exposure, and hence, reduce or eliminate risk, can be protective of human health and the environment for many SWMUs. Considering their low relative cost, these types of corrective action options are viable.

### III. C.5. c. Media Cleanup Standards

- 1 Pg. 19449, Column 3 and 19450 Column 1 EPA indicates in the ANPR that "EPA intends to cleanup sites in a manner consistent with available, protective, risk-based media cleanup standards (e.g., MCLs and State cleanup standards) or, when such standards do not exist, to clean up to protective media cleanup standards developed for the site in question (e.g., through a site-specific risk assessment). Both approaches require a site-specific risk-based decision."
  - a) DOE advocates an approach whereby standardized media cleanup values can be used when it makes sense to do so and the added cost of unnecessary risk assessment can be avoided as with standardized action levels, standardized media cleanup levels would help foster national consistency in the corrective action program. At the same time, flexibility to establish site-specific values when standardized values are not appropriate or are technically impractical to achieve should also be allowed. MCLs and State cleanup standards need not be the only option available for consideration. DOE maintains that site-specific risk assessments, leading to the establishment of site-specific media cleanup standards, will be protective of human health and the environment. In many cases, such approaches would also be more cost-effective. DOE therefore urges EPA to allow owners/operators to utilize either standardized media cleanup levels or site-specific risk assessments to establish cleanup standards in future Subpart S rulemakings.
  - b) The ANPR indicates that "program implementors and facility owners/operators should generally use  $10^{-6}$  as point of departure when developing site-specific media cleanup

standards. DOE believes that applying the  $10^{-6}$  risk level across the board is unnecessary. Many DOE facilities, and many SWMUs at these and other facilities are located in remote areas, with few or no permanent human residents. Applying a  $10^{-6}$  risk level in this situation is unwarranted. RCRA facilities are, by and large, operating facilities with physical and institutional controls in place. Thus “industrial” exposure scenarios suggest that the  $10^{-4}$  risk level would be more appropriate. DOE suggests that EPA consider the fact that RCRA facilities are typically active operating facilities already zoned for industrial uses in establishing the point of departure for risk determinations. Establish a  $10^{-6}$  risk level as a point of departure for the corrective action program could result in the excessive expenditure of funds for the creation of pristine “islands” surrounded by other ongoing industrial operations.

DOE recognizes and can appreciate regional and State regulators reluctance to deviate from established points of departure. If  $10^{-6}$  is established as the point of departure for general use, DOE requests that EPA outline specific circumstances under which the  $10^{-6}$  point of departure is no longer appropriate. DOE would urge EPA to establish remoteness of a facility or SWMU location as one of the factors to be considered in establishing a site-specific point of departure..

### III. C. 5. d. Point of Compliance

1. Pg. 19450, Column 1 The ANPR indicates that " program implementors and facility owners/operators develop POCs on a site-specific basis. For air releases, program implementors and facility owners/operators have generally used the location of the person most exposed, or other specified point(s) of exposure closer to the source of the release. For surface water, program implementors and facility owners/operators have routinely established the POC at the point at which releases could enter the surface water body; if sediments are affected by releases to surface water, a sediment POC is also established. Points of compliance are generally selected to ensure protection of human and environmental receptors against direct exposure and to take into account protection of other media from cross-media transfer..."

DOE notes that always selecting the same point of exposure (e.g., most exposed individual for air, point at which release enters the water for surface water, etc.) is not a site-specific consideration. A true site-specific approach would permit flexibility to establish the POC at a alternative location deemed appropriate.

As already discussed in the general comments (General Comment 11), DOE believes that the selection of media POC is a critical aspect of the corrective action program. The corrective action rule should allow for the selection of both generic POC as discussed in the 1990 Subpart S proposal, and site-specific POC. In this way, the owner/operator may be able to utilize generic POCs and generic action levels to “test out” of corrective action with minimal expenditure of time and resources for the preparation of work plans, permit

modifications, etc. Alternatively, if site-specific POC and action levels “drive” corrective action the owner/operator could commit resources to develop site-specific action levels and POC in order to ensure stakeholders that investigation/remediation efforts and costs are commensurate with site-specific risks.

This type of approach relies on the groundwork already completed by the Agency for the Subpart S proposal, and also includes aspects of the self-implementing and risk-based decision making approach discussed in DOE’s comment on the corrective action version of the Risk-Based Corrective Action ( RBCA) standard (see specific comment V.D.7).

### III. C. 5. e. Compliance Time Frame

1. Pg. 19450, Column 2 The ANPR indicates that " ...EPA recognizes that uncertainties associated with remediation may make it impossible to specify when a remedy must be completed. For example, due to complexities associated with contaminant occurrence in the subsurface and with groundwater remediation in general, the time needed to remediate groundwater at some sites cannot be accurately predicted. In these circumstances, the Agency recommends the use of performance measures or milestones..."

DOE agrees with EPA that compliance time frames should not be established as a specific time period in these cases. However, DOE is unsure as to what exactly EPA has in mind when discussing use of a performance measure or milestone. The only specific option that is available under the circumstances EPA refers to is periodic reporting.

DOE notes that there are a number of other remediation scenarios (other than groundwater) including soil washing, electrokinetic treatment of metal contaminated soil, phyto-remediation and the use of other innovative technologies which could involve a highly speculative compliance time frame. EPA should consider performance measures or milestones for speculative compliance time frames associated with the remediation of all environmental media, and provide additional guidance on incorporating flexible compliance times frames into remedy implementation.

### III C. 5. f. Site-Specific Risk Assessment,

1. Pg. 19450, Column 3 The ANPR indicates that " At some sites, risk-based decisions can be made using standardized risk considerations, such as standardized exposure assumptions. At other sites, a site-specific risk assessment will be desirable."
  - a) As indicated previously, DOE maintains that flexibility should be retained for applying site-specific risk assessments at any SWMU or facility. Use of site-specific risk assessment will be protective of human health and the environment, and at the same time, is expected to result in application of cost-effective remedies. However, DOE is

concerned about these requirements being applied retroactively at its facilities where corrective action is proceeding at a rapid pace. Additionally, the 1990 proposed rule focused on the collection of information that the Agency (not the owners/operators) will use in conducting a risk assessment. Again, the Department wishes to emphasize that EPA should consider reproposing the Subpart S rule to address the performance of site specific risk assessments by owners/operators.

- b) Although EPA risk assessment guidance clearly requires the use of reasonable exposure assumptions, that policy has not been implemented consistently. Further clarification of what constitutes a “reasonable exposure assumption” would assist both the regulators and the regulated community.

### III.C. 5 Remedy Selection

#### III. C. 5. g. Ecological Risk

1. Pg. 19451 Columns 1 and 2 EPA indicates that corrective action remedies must protect both human health and the environment. Some form of ecological assessment will generally be necessary at all corrective action facilities; at some corrective action facilities, a formal ecological risk assessment will be necessary. EPA also states that ecological risk assessment becomes of even greater importance when non-residential exposures and land use assumptions are used because “industrial” action levels or cleanup standards may not be protective of ecological receptors.

The Department reiterates the need for definitive guidance on the performance of ecological risk assessment in the corrective action context. DOE recognizes EPA's mandate to protect human health and the environment, and is committed to a corrective action program that achieves this goal at its facilities. The Department foresees many scenarios where a Federal facility or portions of a Federal facility will be subsequently used for non-residential land uses. In some cases, such properties cannot be reasonably remediated to levels safe enough for unrestricted human use, but can serve other uses besides, or in addition to, industrial land use. As a result, the form and content of the above referenced “formal” ecological risk assessment is of importance to the Department.

While guidance and procedures are currently available and widely used that address the evaluation of risks to human health, equivalent guidance and procedures for the evaluation of risks to ecological resources and the environment are currently far less developed. Furthermore, the minimal guidance and procedures that are available for the evaluation of ecological risks focus on ecological risk assessment techniques at CERCLA sites, that is sites which are inactive. However, SWMUs are more likely to be located in proximity to actively operating facilities. As a result, it may be difficult, if not impossible, to discriminate impacts to ecological resources due to on-going non RCRA-regulated operations at a facility from those impacts imposed by SWMUs subject to RCRA

corrective action.

EPA should consider the evaluation of ecological risk at operating versus inactive facilities during the development of guidance documents in the ecological risk area.

Furthermore, the EPA should discuss the detail required in a formal ecological risk assessment especially for those facilities where “industrial” exposure scenarios are relied upon to evaluate human health risks. For example, the Agency needs to consider what the content of a formal ecological risk assessment for a RCRA corrective action site should be. Investigators could draw from a wide variety of methods to help assess ecological risk including: qualitative and quantitative surveys of biota, toxicity testing of environmental media, surveys soil processes such as nutrient recycling, residue analysis of biological tissue and uptake modeling for representative and important species. Given the wide variety of techniques available and the lack of definitive guidance and procedures on ecological risk assessment, an inconsistent application of corrective action requirements across the States and the EPA Regions could result. The Department encourages EPA to develop definitive guidance and procedures on ecological risk assessment for the RCRA Corrective Action program.

#### III.C.5.h. Determinations of Technical Impracticability

- 1 Pg. 19451, Column 2 EPA indicates in the ANPR that TI determinations may be made for any medium.

DOE supports EPA in indicating that TI determinations are not limited to groundwater contamination. DOE recommends that EPA publish specific guidance on TI determination for other environmental media. DOE is concerned that all corrective action stakeholders may be reluctant to consider TI determinations for other media without such guidance.

Further, EPA indicates in the ANPR that "In some cases, program implementors and facility owners/operators might not have enough information to justify a determination of technical impracticability at the time of the site characterization or, even, when the remedy is selected." In this case, EPA recommends proceeding with remedy implementation using interim goals and performance measures. DOE agrees with this approach if human health or the environment is deemed to be at risk. DOE would recommend implementation of phased or conditional remedies using interim goals and performance measures as proposed in the 1990 Subpart S proposal (55 FR 30798, 30823 [July 27, 1990]). Collection of additional information as needed to reduce the uncertainty regarding whether a “final” remedy will be effective can occur during the term of the conditional remedy or phased remedy. After this information is collected and uncertainty evaluated, a determination can be made by the regulator, the facility and stakeholders, regarding the TI determination for the final remedy.

In cases where there are no confirmed risks to human health and the environment, DOE recommends collection of additional information as needed to reduce uncertainty regarding the TI of a remedy before any remedial measures occur.

### III. C. 5. I. Natural Attenuation

1. Pg. 19451, Column 3 EPA indicates in the ANPR that "EPA's three major remedial programs (i.e., Superfund, RCRA Corrective Action Program, and the Underground Storage Tank Program) recognize that natural attenuation, in certain circumstances, can be an acceptable component of remedial actions for contaminated groundwater."

DOE supports EPA's recognition that natural attenuation can serve as an effective means of reducing contaminant levels in environmental media. There are several aspects of natural attenuation that DOE would like to address. EPA indicates in the ANPR that "EPA's three major remedial programs (i.e., Superfund, RCRA Corrective Action Program, and the Underground Storage Tank Program) recognize that natural attenuation, in certain circumstances, can be an acceptable component of remedial actions for contaminated groundwater." First, DOE notes that the ANPR represents the first time where natural attenuation has been formally identified as a viable option. Heretofore, EPA's three major remedial programs have not recognized that natural attenuation, in certain circumstances, can be an acceptable component of remedial actions.

Second, DOE believes that natural attenuation can also be an acceptable remedial alternative for media other than groundwater. Natural attenuation is especially suitable for specific situations, such as when biodegradable constituents are present, and recommends that EPA consider developing a presumptive remedy for this situation. At the minimum, guidance describing conditions under which natural attenuation is an acceptable component of a corrective measure would be extremely useful to all corrective action stakeholders.

### III. C. 5. j. Land Use

1. Pg. 19452, Column 1 The ANPR indicates that "...EPA's policy is that current and reasonable expected future land use and corresponding exposure scenarios should be considered in both the selection and timing of remedial actions."

DOE agrees with EPA's policy regarding the consideration of reasonable expected and current land use in the selection and timing of remedies. Furthermore, as stated in specific comment V.E.1 "Land Use" DOE believes reasonable expected and current land use should be considered throughout the corrective action process. Since many DOE facilities are likely to operate under restricted (industrial) land use into the future, the EPA's land use policy, as it relates to remedy selection, will have a major impact on the Department's

environmental restoration program. DOE recommends that EPA's policy regarding land use, and the associated exposure scenarios, be reflected in future corrective action rule proposals.

### III.C. 6. c. Completion of Corrective Measures

1. Pg. 19453, Column 1 The ANPR indicates that "Documents specifying corrective measures implementation should include methods to determine when remedial goals have been achieved."

DOE agrees with EPA in this regard, and further recommends that the criteria for completion of the corrective measure be documented in the permit modification or order where the corrective measure was initially implemented. In this manner, the definition of completion is clearly defined ahead of time. Consequently, facilities would know exactly what needs to be achieved before they can be relieved of corrective action responsibilities. Completion of corrective measures can be made self-implementing which would assist EPA in meeting objective 3 of the corrective action program (see Section II A of the ANPR).

### III. C. 6. D. Incorporation of Corrective Action in RCRA Permits

1. Pg. 19453, Column 2 RCRA Section 3004 (u) mandates that corrective action and schedules of compliance be required for facilities seeking a permit.

DOE perceives that the single-most time consuming aspect of the RCRA corrective action program is the requirement that corrective action and compliance schedules be linked to a RCRA permit primarily intended to regulate the ongoing management of newly-generated hazardous waste. This one requirement alone probably accounts for the largest portion of the delay that is typically associated with cleanups under the RCRA corrective action program. DOE would prefer that the requirement that corrective action and compliance schedules be articulated through the "routine" RCRA permit be eliminated. A substantively equivalent streamlined process can and should be established. DOE notes that even when corrective action can be deferred to other authorities, decision points, such as determination of remedy and completion of corrective measures are still required to be articulated, through the RCRA permit or a corrective action order. RCRA corrective action activities meant to address releases associated with wastes generated in the past, needs to be de-coupled from the RCRA permitting process for "newly-generated" hazardous waste.

DOE seeks clarification from EPA regarding whether or not a facility could be issued more than one permit. There does not appear to be a requirements that only one permit, encompassing both operating and cleanup activities, be issued to a facility under the RCRA program. EPA indicates that in certain cases, RCRA permits may defer to

corrective action activities being conducted under another authority or by another program. If EPA has the flexibility to defer corrective action to mechanisms under other regulatory programs, then it is unclear why EPA can't defer authority to the corrective action portion of a dual RCRA permit. EPA should exercise that authority. DOE urges EPA to re-examine other mechanisms that could be used to accommodate corrective action, and if necessary, to seek statutory changes.

#### IV. Corrective Action Program Priorities

1. Pg. 19455, Column 1 EPA's key goals and implementation strategies for the corrective action program are outlined in this section.

EPA delineates a number of program priorities and implementation strategies in Section IV of the ANPR. DOE has previously commented that EPA should discuss the relationship of the program priorities to other portions of the ANPR that establish principles, goals and strategies. DOE does not disagree with any of the program priorities established in Section IV; however, DOE notes that there is some duplication in these priorities (e.g., stabilization is addressed under item 3 and item 4(a)).

Also, DOE questions whether consideration of non-residential land use scenarios is properly classified as a streamlining strategy. DOE suggests that an additional category should be added to the program priorities to cover land use assumptions and other actions (e.g., use of site-specific risk assessments) that would help to effectively tailor remediation objectives to site-specific circumstances.

#### V. Request for Comments and Data

##### V. A. General

1. Pg. 19455 Column 3 EPA requests general comments on its implementation of the corrective action program to date...the Agency is especially interested in comments which include suggestions for specific improvements...

DOE believes that the pace of the corrective action program can be increased if stakeholders, regulators, and the regulated community are fully engaged in the process. DOE has had success in conducting environmental restoration at its facilities because of outreach to stakeholders. As an example, at the Pinellas Plant the Department has regulatory personnel on the Environmental Restoration (ER) team. Having regulatory personnel on the Pinellas Plant ER team allows two way communication between DOE and regulators and facilitates the negotiation of mutually acceptable solutions and time frames. Argonne National Laboratory-East, environmental restoration program is a success because of open communication with the Illinois Environmental Protection Agency to identify realistic problem sites and thus allow limited resources to be expended

wisely.

2. Pg. 19455 Column 3 Since the Subpart S Initiative includes policy, guidance and rule development, commenters should include specific recommendations for additional policy or guidance development and address the balance between guidance/policy documents and regulations.

Guidance and policy documents seem to be issued without the benefit of input from the regulated community. These documents are subject to change, they are difficult to obtain or keep current with, and they are not always uniformly applied in all EPA regions (i.e., reluctance to exercise the flexibility already provided in the program has been experienced). Additionally, “guidance” documents are sometimes imposed as corrective action requirements. In addition, guidance documents that contain flexible approaches are not fully utilized and instead a strict reading the proposed Subprt S regulations is relied upon. To make the program more flexible in practice, the role of guidance documents needs to be more clearly communicated in the Subpart S rule and in any Subart S training provided by EPA, and perhaps a statement should be included in each guidance document encouraging use of any flexibility contained therein in its implementation. DOE also suggests that EPA continue to develop guidance/policy, but ensure that the guidance and policy are uniformly applied. EPA should also utilize an outreach program to get feedback from the regulated community during the policy/guidance development process.

Areas where the Department considers additional policy/guidance development is needed include:

- 1) Facility wide considerations versus a SWMU by SWMU approach
- 2) Incorporating natural attenuation into remedy selection
- 3) Performance of ecological risk assessment
- 4) Incorporation of speculative compliance time frames into remedies
- 5) Technical impracticability waivers for environmental media other than groundwater
- 6) Incorporating land use into the corrective action process

Finally, EPA should acknowledge where CERCLA technical guidance is applicable/relevant to the RCRA corrective action process in order to supplement the RCRA guidance area.

#### V. C. 1. Performance Standards

1. Pg. 19456, Column 2 EPA has developed two environmental indicators that lend themselves to incorporation into a performance-based approach. Additional environmental indicators should be developed as well and incorporated into the performance-based approach.

As stated in General Comment 6, DOE supports EPA's use of performance standards in the corrective action program. Performance standards can be developed for general application, or for site-specific application. Under site-specific application, separate performance standards need to be developed for each "stage" of the corrective action process. For example, the performance standards for the investigative phases would be different from those established for the selection and/or implementation phase. Performance standards during the investigation phase may require the delineation of soil contaminated above a "industrial land use" risk-based concentration. Performance standards for the implementation phase may require the delineation of an exposure pathway from soils contaminated above a level agreed to by stakeholders upon completion of the investigation phase. Further, performance standards for the investigative phases would be different if the facility is focusing its efforts on collecting information to support interim measures to meet the stabilization initiative vs. collecting information to support selection of definitive corrective measures. Additionally, since site-specific performance standards for any one facility may change over time, different standards could apply to different units at the same time, and equally important, will be different for each facility.

In the ANPR, EPA requests the identification of additional performance standards that could be used in the corrective action program. Several performance standards EPA may want to consider have been summarized below:

- CAP

- Prevent contact between hazardous materials and humans/biota.
- Maximize runoff and minimize ponding
- Maintain cover percolation less than or equal to the percolation of the underlying native soils.
- Prevent damage to the integrity of cap by biota and prevent biota from accessing underlying soils.
- Maintain minimum cover thickness of 4 feet

- Slurry Wall

- Minimize groundwater flow across the slurry wall with a design goal of  $10^{-6}$  cm/sec.
- Construct slurry wall with materials that are compatible with the release
- Minimize migration by keying slurry wall in an underlying low permeability strata.

DOE recommends that EPA propose corrective action regulations that permit application of a performance-based approach or a conventional command and control approach for any particular one facility, with provisions for facilities to "cross-over" as their situation warrants.

#### V. C.2. Less Focus on SWMUs -

1. Pg. 19456, Column 3 EPA states that use of the SWMU concept as discussed in the 1990 proposal has led to numerous unsuccessful permit appeals.

There is a great advantage associated with focusing on individual SWMUs to appropriately single out SWMUs for no further action and/or to design effective remediation systems. However, decisions regarding corrective action at individual SWMUs must be made with full consideration given to facility-wide factors, such as contamination scenarios and the locations of neighboring SWMUs,, site geology, remedy implementation, funding limitations, relationship with the regulator and stakeholders and many others.

DOE further notes that, as under the CERCLA program, individual SWMUs can be combined into operable units or "SWMU groupings." This was the approach adopted for implementation of the corrective action program at the Los Alamos National Laboratory (LANL). As information becomes available on the nature and extent of the contamination problem, SWMUs can be grouped (or re-grouped) to facilitate selection and implementation of remedies. In this manner SWMUs with similar problems, and hence similar solutions, can be combined and addressed together, considering facility-wide factors. This approach would also facilitate the selection of a holistic POC versus a unit by unit POC.

However, in decreasing the focus on individual SWMUs, EPA needs to ensure that releases associated with the more expansive "Areas of Concern" (AOC) are, in fact, subject to corrective action authorities. EPA should not use a holistic approach to expand the existing scope of its corrective action authority. DOE has found that sometimes AOCs considered to be SWMUs by regulators in HSWA permits, do not meet the definition of SWMU. For example, review of the 1100 SWMUs listed in the HSWA permit for the Oak Ridge Reservation revealed many "false SWMUs" which were listed because of radiological contamination only; radiological releases are not subject to RCRA corrective action authorities. Absent statutory changes broadening the scope of HSWA 3004 (u), EPA should not address such "false SWMUs" under RCRA corrective action. Rather, EPA may consider other existing authorities.

#### V.D. Using Non-RCRA Authorities for Corrective Action

##### V.D.1 Cleanup Programs

1. Page 19457, Column 1 EPA states that over half the States have independent Superfund-like authorities and cleanup programs; typically, these authorities and cleanup programs are modeled after the Federal Superfund program. In many cases, EPA believes these independent State authorities are substantively equivalent in scope and effect to the RCRA corrective action program.
  - a) The use of State cleanup programs can offer a number of advantages to program implementors, as well as, to other stakeholders. EPA believes these advantages include: providing States the ability to recover the costs of their program oversight; expanded opportunities for public participation; the ability to recover damages associated with contamination caused by previous owners/operators who would likely not be considered liable under RCRA Sections 3004(u) and 3004(v); and, opportunities for voluntary or independent cleanups.

Many States are already using their independent Superfund-like authorities to address releases of hazardous waste and hazardous constituents at facilities subject to corrective action, especially at facilities operating under interim status.

In general, DOE would support EPA's use of State Superfund programs or accomplishments under other State cleanup programs in lieu of RCRA corrective action if this approach were implemented in a manner that eliminated the problems with dual regulatory structures DOE has experienced at National Priority List (NPL) sites subject to RCRA and CERCLA. The ANPR was not clear on how such an approach would be implemented. One approach that could reduce duplication and provide the regulated community with greater assurance that the State Superfund remedy would not be re-evaluated under RCRA would be for EPA to promulgate this overall approach under the Subpart S regulations, then authorize individual State Superfund programs to operate in lieu of RCRA corrective action requirements. The objective would be for EPA to use an approach that allows owners/operators to have one regulator and one regulatory program, rather than having to satisfy potentially dual or conflicting requirements under RCRA corrective action and the State Superfund law.

DOE notes that under the provisions of current law, States may not assert jurisdiction over radio nuclides at DOE sites through State Superfund laws. However, the parties may be able to agree on procedures similar to those used in the new cleanup agreement at Rocky Flats, where the State provides day-to-day oversight of some of the operable units that contain radio nuclides, then at the time of remedy selection, DOE develops a proposed remedy, the State provides a recommendation to EPA on whether or not to accept DOE's proposal, and EPA concurs or non-concurs with DOE's remedy under its CERCLA authority.

Finally, DOE would note that under section 120(a)(4) of CERCLA, sovereign immunity is

not waived for State Superfund laws at Federal NPL sites. Therefore, use of a State Superfund law to satisfy corrective action at Federal NPL sites would only be appropriate if agreed to by the parties through an interagency agreement or other agreement entered into with the regulators or if a State Superfund law has been authorized by EPA to be used in lieu of a RCRA corrective action program.

- b) EPA also requests comments on enhanced flexibility for States with EPA-Endorsed Comprehensive States Groundwater Protection Programs (CSGWPPs). DOE observes that CSGWPPs only address groundwater resources and hence only cover one media that is addressed under RCRA corrective action. Having a CSGWPP does not necessarily mean that one State is more qualified than another to implement corrective action under State authority. DOE believes that States with CSGWPPs and States without CSGWPPs should be treated equally.

However, in instances when a State has or is developing a CSGWPP, DOE believes that States should use the CSGWPP process to set priorities for groundwater protection based on the use, value, and vulnerability of the groundwater resource, rather than assuming that all groundwater is a drinking water aquifer and should, therefore, be protected based on human consumption. DOE prefers that EPA implements a risk-based approach in all of its groundwater protection programs, in that decisions regarding the potential future use and value of the groundwater be made at the State level. EPA in reviewing and endorsing State CSGWPPs should indicate what additional flexibility would be granted to the State (e.g., in the RCRA corrective action program) once the CSGWPP is endorsed. States are generally reluctant to set groundwater protection standards based on risk without EPA's support at the Federal level.

#### V.D.3.f. Third Party Oversight

- 1. Pg. 19458 Column 2 Several States have established cleanup programs which rely on a licensed third-party overseer, rather than implementing agency staff, to ensure compliance with cleanup requirements at certain facilities.

If EPA were to amend the regulatory structure to ensure the sufficiency of voluntary corrective action, DOE believes that oversight by a qualified third party may be an acceptable method of providing oversight to these cleanups. However, the Department would want to retain the right to raise any disputes directly to the regulatory agency if necessary.

#### V. D. 4. Corrective Action at Interim Status Facilities

- 1. Pg. 19458, Column 1 EPA requests comments on whether the corrective action regulations should be developed under 40 CFR Part 265 as well as under Part 264.

Subpart S rule requirements should be developed for both permitted and interim status facilities. EPA should explicitly address incorporation of interim status and permitted units into the RCRA corrective action program, as one option in lieu of RCRA closure. The proposed rule on closure/post closure requirements recognized the need for fewer distinctions among RCRA cleanups. (59 FR ,5578 [November 8, 1994]). Promulgating and enforcing Subpart S regulations under interim status requirements would serve to notify facilities that corrective action is required for both operating facilities and for facilities that are closing under interim status. Interim Status Subpart S regulations would also serve to notify facilities that intend to obtain an operating permit that corrective action requirements apply during the interim status period, and will also apply after the permit is issued. It is important that corrective action apply during the interim status period in case interim measures are necessary to reduce risk or stabilize releases. By incorporating corrective action requirements into interim status regulations, corrective action orders for interim status facilities would become unnecessary, the exception being uncooperative facilities.

Further, DOE sees no reason why substantive requirements for corrective action for permitted facilities should be different from substantive requirements for facilities that are operating or closing under interim status. Once these facilities become subject to interim status requirements, an RFA should be conducted (by either the facility or the regulator) within a specified period of time. The facility should be ranked using NCAPS, interim measures should be conducted as warranted, and the RFI and other requirements should be initiated when appropriate. The most important aspect of corrective action for interim status facilities, is to retain the flexibility available to the facility and the regulator that applies to the permitted facility. For example, for interim status facilities that intend to obtain their operating permit, the initiation of the RFI can wait until after the permit is issued (although the facility could voluntarily initiate RFI activities before the permit is issued), or it could be initiated sooner if warranted. Interim status facilities should also have the same options available to permitted facilities for the conduct of corrective action including:

- self-implementing corrective action
- voluntary corrective action
- site-specific selection of action levels, points of compliance, and media cleanup levels
- the performance of RFAs, RFIs, CMS, and CMI studies
- the performance of site-specific risk assessments; and
- performance-based approaches.

In addition, by making corrective action applicable at interim status facilities, EPA could help eliminate situations where closed interim status facilities are re-visited under a HSWA permit. For example, DOE's Pinellas Plant closed several hazardous waste Interim Status treatment and storage units. These sites subsequently became SWMUs under the Pinellas

Plant HSWA permit requiring further characterization and, in some cases, cleanup. Thus, ensuring that Interim Status closure requirements would satisfy corrective action requirements will, in many cases, represent a considerable cost savings.

#### V. D. 5. Independent or Self-Implementing Corrective Action

1. Pg. 19458, Column 3 EPA is examining approaches to independent or self-implementing corrective action.

DOE seeks clarification from EPA on the differences between voluntary and self-implementing corrective action. DOE's understanding of voluntary corrective action involves corrective action activities not specifically driven by permits or orders. In contrast, DOE foresees a self-implementing corrective action program as being analogous to other RCRA self implementing programs such as generator, treatment, storage, and disposal requirements described under RCRA interim status regulations (40 CFR part 265).

EPA should structure the corrective action program such that it provides the flexibility to tailor the amount of oversight that a facility receives to site-specific considerations. For example, the amount of oversight that a facility receives might be based on the overall progressiveness of the facility. DOE would favor regulations that provide the option of proceeding with a performance-based, self-implementing approach for facilities with good or improving track records, as well as the option for applying a prescriptive, command and control approach for other facilities. Performance records of DOE facilities have improved significantly since RCRA regulations were initially promulgated. Further, DOE facilities are staffed with highly trained and experienced environmental professionals. Even though some DOE facilities may have received a high NCAPS ranking, these facilities could be counted on to properly implement corrective action requirements under a self implementing, performance-based approach.

Self-implementing corrective action, the application of environmental indicators, and the establishment of remedy expectations can all be combined into a performance-based approach to corrective action, with minimal oversight on the part of the regulator. For example, the Risk-Based Corrective Action (RBCA) approach to corrective action, as discussed by DOE below, could function as an independent or self-implementing program. Furthermore, by establishing a system that provides the flexibility to tailor the amount of oversight that a facility receives to site-specific considerations, the regulator would always have the option to apply more oversight if it perceived that the facility was not performing in an acceptable manner.

The determination regarding which facilities qualify for the performance-based, self-implementing approach should be initiated by the facility. Facilities could, for example, submit a short application or petition requesting that they be permitted to implement their

own corrective action program. Such documentation would detail staffing and qualifications, compliance records, provisions for public/stakeholder participation, record keeping and reporting plans, self-auditing programs, and other aspects, as appropriate. The application could also propose the level of regulator oversight that would be appropriate. While DOE believes that certifications are unnecessary (fines and penalties can be levied without these certifications), a certification could also be provided. Further, the document could be resubmitted periodically (DOE would suggest after the first year, and every three years thereafter) outlining progress that has been made. The regulator could also "call in" a resubmittal if there were some question regarding compliance with performance standards. DOE believes that no new technical guidance would be required to implement this approach. The only guidance that would be appropriate would be one that described the expected content of the application or petition - only a model document need be provided.

DOE would like to stress that it believes that this performance-based, self-implementing approach would work best if corrective action does not have to be addressed in RCRA operating permits. With a well thought out, flexible, self-implementing approach, prescriptive permit language regarding corrective action would be unnecessary and would likely be an impediment to a performance-based, self-implementing approach. For example, in lieu of a permit, owners/operators could comply with self implementing regulations to satisfy corrective action requirements and, upon completion of corrective action, receive some form of certification from regulators or mutually agreed upon third party representatives.

#### V. D. 6. Consistency With the CERCLA Program

1. Pg. 19459, Column 2 EPA states that at some facilities, cleanup is being addressed by one authority but final action under the other authority is being deferred.

The relationship between RCRA corrective action and CERCLA is of particular importance to DOE, because many DOE facilities are subject to both RCRA corrective action and CERCLA requirements at the same time and at the same site. For example, some of the 1100 SWMUs listed on the Oak Ridge Reservation, Tennessee (ORR) HSWA permit are also listed in Appendix C of the ORR Federal Facility Agreement as Areas of Concern for further evaluation under CERCLA. Further, some sites within DOE facilities are subject to additional cleanup requirements, such as cleanup requirements prescribed under RCRA closure standards, underground storage tank management programs, and State-specific programs. EPA indicates that "In general, EPA believes coordination of cleanup activities at facilities with overlapping RCRA and CERCLA liability is appropriate." DOE agrees with EPA in this regard if "coordination" means the elimination of duplicative requirements. Cleanup under more than one program requires adherence to substantive and administrative requirements of both programs. This is especially the case since CERCLA is administered by Federal authorities, and RCRA is

intended to be administered by the States. Naturally, different requirements can and often are imposed by both entities, and while these differences are usually worked out, DOE expends considerable resources dealing with the requirements of both laws, and regulators from both the EPA region and the host State. At facilities such as the Portsmouth Gaseous Diffusion Plant, Kentucky, and the ORR, interagency agreements (known as Federal Facility Agreements (FFA) are being used as a means of coordinating the cleanup activities required by the overlapping RCRA and CERCLA programs. Unfortunately, the respective States who are authorized for the base HSWA program and some HSWA clusters, excluding HSWA 3004(u) corrective action, seem reluctant to allow EPA to conduct the entire cleanup under CERCLA. This is most likely because States want to preserve the applicability of RCRA corrective action in the event that the State becomes authorized for RCRA corrective action in the future. As a result, there is some potential that completed CERCLA actions could be re-visited under future State corrective action authority. Having both programs operative at the same time is an inefficient use of resources. DOE urges EPA to champion administrative reforms to allow DOE to proceed under one or the other cleanup program where both would apply at a given site.

In the interim, because DOE is forced to comply with both cleanup programs, the Department would benefit from RCRA/CERCLA consistency in such key areas as:

- Considerations of land use in site characterization, risk assessment, corrective measure studies/feasibility studies, and corrective action implementation/remedial design and remedial action
- Incorporating natural attenuation into remedial alternatives
- Incorporating physical and institutional controls into remedial alternatives; and
- Applicability of Technical Impracticability

DOE also supports EPA's efforts to coordinate cleanup activities at facilities subject to both RCRA and CERCLA. EPA is to be commended for its efforts to streamline cleanups through development of lead regulator approaches. DOE believes that, absent a statutory fix giving one Federal cleanup program primacy at Federal facilities, the two cleanup programs should be as consistent as possible. Further, consistent with past discussions with EPA on the Lead Regulator Workgroup, DOE requests that EPA reconsider its policy (60 FR 14641) to exclude Federal facilities from its NPL deferral policy and administratively revise the policy if possible to include Federal facilities.

However, despite the potential benefits of inter-statute consistency, the Department urges EPA to minimize some aspects of the CERCLA program in the RCRA corrective action program. In particular, the RCRA corrective action program must minimize the procedural aspects of CERCLA which have been established primarily to facilitate cost recovery. These procedural requirements may be unnecessary under RCRA since cost-recovery is not a center-piece of corrective action. Therefore the greater flexibility allowed under

RCRA should not be lost for the sake of maintaining consistency with CERCLA. While DOE's NPL sites may not be able to fully avail themselves of such flexibility, DOE's non-NPL sites could. As the EPA has proposed in the ANPR, the RCRA corrective action program must focus on opportunities to streamline and reduce costs while establishing protective, practical cleanup expectations. DOE believes that by reevaluating the level of regulatory oversight and by focusing on compliance with clear and measurable performance standards, versus CERCLA's penchant for adherence to a prescriptive process, EPA will be able to quicken the pace of the corrective action program.

#### V. D. 7. ASTM RBCA Standard

1. Pg. 19459, Column 3 The Agency is encouraging State and local agencies to incorporate risk-based decision-making into their corrective action programs.

DOE is in favor of a site-specific risk-based approach to corrective action. DOE has reviewed the American Society of Testing and Materials (ASTM) risk assessment approach for USTs and has concluded that the approach outlined by ASTM articulates a risk-based approach to cleanup that can be applied to other cleanup programs [Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites, ASTM E 1739-96 (November 1995)] This is not surprising because risk-based approaches should not be dependent on the environmental law or regulation under which they are applied, or the type of contamination that is of concern.

A corrective action "hybrid" of the Risk-Based Corrective Action (RBCA) approach for underground storage tanks could quicken the pace of corrective action at individual sites and also help the Agency realize many of the objectives which have been established for the corrective action program. Since the RBCA approach relies on owners/operators being pro-active and fully engaged in the corrective action process, ANPR objective 3 ("shift responsibilities for achieving cleanup goals to the regulated community") could be realized. In addition, since the RBCA approach has the potential to be applied nationwide, EPA could achieve ANPR objective 1 ("create a consistent, holistic approach to cleanups"). Furthermore, since the RBCA approach is risk-based, funds and resources for corrective measure implementation would only be expended if risks are documented, thus satisfying ANPR objective 4 ("focus on opportunities to streamline and reduce costs").

DOE envisions a RBCA program which can be used as a framework on which to "hang" many of the new approaches proposed in the ANPR including: performance based approaches; presumptive remedies; use of existing data to streamline the process; self-implementing corrective action; natural attenuation and engineering/institutional controls as elements of remedy; third party oversight, etc. DOE further envisions a RBCA approach that would allow owners/operators to proceed through tiers of progressively more sophisticated data collection/analyses steps and corrective measure implementation steps (if necessary). Each of the increasingly sophisticated data collection/analyses steps

would be commensurate with yes/no decisions points that allow one to either “test out” of a tier or proceed to the next tier.

For example, Tier 1 could involve the use of archival data to either support a determination of no further action or a decision to conduct an RFI. Tier 2 could involve the use of RFI data and generic action levels at generic POCs to either support a determination of no further action, to incorporate natural attenuation, institutional controls, and engineering controls into a “passive” remedy, or to move onto Tier 3. The generic action levels and POCs in Tier 2 would be a corollary to the “look up” tables in the UST/RBCA approach. The owner/operator could elect to either utilize the generic action levels and POC to “drive” corrective action decisions, or invest time and funds in developing site-specific action levels, media cleanup levels and POCs. Tier 3 could involve reliance on site-specific action levels and site specific POC to support either a no further action determination or the continuation to another tier. Subsequent tiers could involve decision steps to either implement presumptive remedies or more complex remedies which would be tied to performance based compliance measures.

DOE encourages EPA to work with ASTM, the regulated community and other stakeholders to develop a corrective action hybrid of the RBCA approach.

#### V. D. 8. Definition of Facility

1. Pg. 19460, Column 1 The Agency States that the definition of facility has been problematic in the past.

The RCRA definition of facility should not differ with respect to application. Such differences are not necessary and complicate implementation of corrective action. DOE recommends that EPA standardize the definition of facility for application to all aspects of RCRA. DOE favors a narrow definition of facility which applies to the portion of the facility under the control of the owner/operator engaged in hazardous waste management and which encompasses only those areas considered to be RCRA regulated units and/or SWMUs. Incorporating contiguity into the definition of facility is not appropriate especially in the case of DOE facilities located on vast tracts of land not effected by ongoing or past RCRA-regulated activities. In fact, the EPCRA definition of “facility”, which includes the concept of contiguity, has proven problematic for both DOE and regulators in the past. DOE believes that if the EPA is concerned about contamination caused by non-RCRA regulated activities, then non-RCRA cleanup authorities such as CERCLA or State cleanup programs should be relied upon.

#### V. E. Balance Between Site-Specific Flexibility and Consistency

1. Pg. 19460, Column 2 The Agency requests comments on the appropriate balance between national consistency and site-specific decision-making.

DOE favors an approach which provides both maximum flexibility to tailor RCRA Corrective Action to site-specific conditions, and promotes consistency at the national level. Flexibility can be preserved by establishing a rule that allows viable options to be applied. EPA needs to retain a national advisory role regarding all corrective action decisions in order to ensure consistency in application of the RCRA corrective action program.

#### V.E.1. Land Use

1. Pg. 19460, Columns 1 and 3 EPA is interested in comments on the effect of a non-residential land use determination on a facility owner/operator's corrective action obligations and the need (if any) for additional regulations to address incorporation of land use determination in the corrective action process. For example, how, if at all, should non-residential land use determinations affect the scope of facility investigations? Should land use determinations be explicitly required as part of remedy selection?

DOE supports the use of reasonable land use scenarios in the corrective action process. The use of residential land use scenarios at most DOE facilities is not realistic, but base risk assessments and cleanup standards have been, and in some cases, continue to be based on residential scenarios. Reasonable land use scenarios, which in the case of many DOE facilities is a restricted or industrial scenarios, can have a significant impact on the entire corrective action process. As a result, DOE believes that EPA should explicitly require consideration of land use in the RCRA corrective action remedy selection process.

Establishing future land use early in the cleanup process can be a critical factor in identifying appropriate alternatives for consideration and in selecting reasonable remedies. It can also streamline the process by eliminating the requirement for unrealistic analyses. In fact, DOE is in the process of completing future land use plans for all of its sites to assist in cleanup decisions and long-term program planning. For example, use of non-residential land use scenarios could impact each phase of the corrective action process as outlined below.

- RCRA Facility Investigation (RFI)/Release Assessment
  - Facilities may be less likely to exceed elevated action levels associated with non-residential scenarios and thus RFIs and/or CMS may be unnecessary.
  - Non-residential exposure scenarios may allow the use of higher detection limits in RFIs, and thus greater reliance on innovative on-site analytical methods for site characterization.

- Corrective Measure Studies
  - Restricted land use scenarios and the resulting elevated risk-based clean-up levels could have a significant effect on the scope of corrective measures studies
  
- Corrective Measure Implementation
  - Restricted land use scenarios would facilitate the incorporation of institutional and engineering controls into corrective action remedies
  
  - Restricted land use scenarios and associated elevated cleanup levels could result in the quick achievement of remediation goals

As noted above, assumptions regarding land use can have a major impact on the entire corrective action process. DOE urges EPA to promulgate regulations which explicitly integrate land use assumptions into the corrective action process.

#### V.E.1. (b) Institutional Controls

1. Pg. 19460, Column 3 When final remedies rely on non-residential exposure assumptions, steps must be taken to ensure the non-residential exposure assumptions remain valid and trigger additional cleanups should exposures change. EPA is interested in comments which address the role of the government, if any, in ensuring the continued application of exposure assumptions and in imposing additional cleanups as necessary. In addition to the role of government, commenters should list other factors, incentives or institutions they believe will play a role in this process. The Agency is particularly interested in comment on the adequacy of institutional controls (e.g., deed notices, easements, or local land use controls) to ensure that changes in land use trigger additional cleanups as appropriate, the advantages or disadvantages associated with such controls as opposed to direct governmental oversight.

In reference to EPA's request regarding the adequacy of institutional controls to control land use, many CERCLA actions undertaken at the Oak Ridge Reservation have included institutional controls as a means of controlling exposure. DOE acknowledges the difficulties in ensuring the long-term effectiveness of a remedy utilizing such controls. However, as noted in the following comment, a corrective action remedy review process similar to the CERCLA 5-year review process would ensure that remedies are evaluated and adjusted if necessary.

#### V. E.1. (d) Periodic Review of Remedies

1. Pg. 19460, Column 3 EPA requests commenters address the need for and potential

benefits or problems associated with periodic review of RCRA corrective action remedies.

In cases where contamination is left on site, DOE feels that EPA should adopt a review process similar to the 5-year CERCLA-type review process. For RCRA facilities on the NPL that are being cleaned up under CERCLA, EPA should not necessarily establish conflicting remedy review provisions; the CERCLA 5-year review should apply unless that statutory requirement is changed. EPA may or may not elect to utilize a 5-year review process for RCRA corrective action remedies. If a 5-year review is determined to be too resource-intensive, EPA should consider a process where a remedy review would be triggered only if specific types of circumstances change that indicate that the remedy is no longer protective (e.g., the remedy is failing, new scientific evidence suggests that a hazardous substance on site presents a more significant threat than originally believed, newly discovered source of hazardous substances that was due to the original permitted owner/operator). This approach would allow regulators and the regulated community to adjust institutional controls, engineering controls, assumptions of land use, etc. to implement modified risk management techniques. Furthermore, a periodic review process would facilitate the incorporation of Technical Impracticability determinations and/or new technologies into a remedy.

Nevertheless, if land use changes to a less restricted use after a remedy has been completed, the party responsible for changing the land use (e.g. community, developer) should assume responsibility for any necessary additional cleanup activities.

## V. 2. Point of Compliance

1. Pg. 19461 Column 1 The Agency requests general comment on its implementation of the point of compliance concept in the corrective action program.

DOE has previously commented on several points raised in the ANPR with respect to points of compliance (see General Comment 11). DOE urges EPA to consider alternatives to the “throughout the plume/unit boundary point of compliance. DOE would like to reiterate its primary concern that maximum flexibility be retained to establish the point of compliance on a site-specific basis, and as agreed to by the facility, the regulator, and other stakeholders.

## V. 3. Action Levels and Media Cleanup Standards

1. Pg. 19461, Column 2 EPA invites general comments and suggestions pertaining to the development, distribution and use of media-specific action and cleanup levels.

DOE has previously commented on several points raised in the ANPR with respect to this

issue (see specific comments III.C.5.c. Media Cleanup Levels, V.D.7 RBCA Standard and III.C.2.e Role of Action Levels). In particular, EPA should publish a list of generic action and media cleanup levels for a number of exposure scenarios including residential, industrial, agricultural and recreational. In addition, DOE requests EPA provide owners/operators the option of investing resources in the development of site-specific action and media cleanup levels in cases where the generic action/media cleanup levels are deemed to be overly protective.

#### V. 4. Area-Wide Contamination

1. Pg. 19461, Column 3 EPA requests that commenters specifically address the obligation, if any, a facility owner/operator should have to address the area-wide contamination to the extent it is present at his or her facility. EPA also requests comments on application of corrective action requirements when the RCRA facility is otherwise impacted by releases from off-site sources.
  - a) It is DOE's understanding that owners/operators are under no obligation to conduct RCRA corrective action to address contamination scenarios not regulated under RCRA corrective action authority. The mere presence of a element or compound found in appendix VIII of 40 CFR Part 261 does not mean that constituents detected are the result of an activity regulated by corrective action authorities. A number of scenarios could result in the release of a constituent which happens to be on Appendix VIII including: the application of pesticides, elevated "background" concentrations of constituents, permitted releases of constituents in air or water, and/or fill materials used to reclaim tidal areas as described by the Agency on pg. 19461, column 3 of the ANPR.

In such cases, if RCRA corrective action authorities are applied in an area-wide contamination scenario, it makes no sense to create temporary pristine "islands" in the midst of area-wide contamination if off-site sources will continue to contaminate the facility.

- b) DOE agrees that RCRA 3004(v) can compel corrective action beyond a facility boundary unless "the owner/operator was unable to obtain permission to undertake such action". However, it is of questionable value to cleanup contamination on a facility if contamination from offsite sources will continue to contaminate the same area just remediated. Further, DOE believes that application of RCRA corrective action to this situation would only be appropriate if all contributors to the problem are RCRA facilities. Otherwise, DOE believes that application of another statutory authority may be appropriate. DOE observes that the only authority that appears broad enough to address this situation is CERCLA. However, CERCLA, due to the focus on NPL sites, may not be the most desirable option

#### V. E. 5. Ecological Risk

1. Pg. 19462, Column 1 ....The Agency is interested in receiving comments and data pertaining to: state-of-the-art approaches and tools for conducting ecologic-risk assessment, including initial screening as well as detailed assessments; availability of identification of useful guidance; availability of standardized eco-based action levels and cleanup levels, or standardized approaches for developing site-specific levels; site-specific examples of impacts to ecologic receptors from RCRA corrective action sites, and examples of successful remedial actions implemented to address these impacts; limitations associated with assessing ecologic risks, and taking remedial actions to protect ecologic receptors in general; specific needs for additional guidance and research; and suggestions regarding the scope of specific corrective action regulations dealing with assessment and protection of ecologic receptors.....
  - a. Comments and data pertaining to state-of-the-art approaches and tools for conducting ecologic risk assessment, including initial screening as well as detailed assessments.
    - As a rapidly evolving science, many approaches and tools are currently being used for ecological risk assessments. However, these methods and tools span a wide range of ecological and biological endpoints, and the most appropriate method varies among sites, depending on factors such as the species, contaminants, and media involved. For example, electrophoretic analyses may be appropriate for one site, while histopathological evaluations may be more appropriate for another.

Given the vast number of possible ecological endpoints, it may be helpful to make available user-friendly screening tools to ensure that potential "priorities" for a given site are not overlooked. (Key ecological resources are determined in consultation with appropriate oversight agencies and other stakeholders.) This would help streamline the analyses and focus resources on the issues of concern.
    - A major problem with implementing state-of-the-art approaches and tools is the difficulty in gaining acceptance by interested stakeholders. Certain stakeholders may not fully understand the methods being proposed or applied and thus do not readily accept those applications or subsequent results. For example, Monte Carlo analyses can provide valuable insights into the uncertainties associated with uptake modeling and risk estimation, but individuals unfamiliar with this method may reject its use in ecological risk assessments.
  - b) Current availability of useful guidance, and specific needs for additional guidance and research.
    - Many EPA guidance and supporting documents on ecological risk assessment are currently available. Enhancing this accessibility (e.g., through broad announcements of a focused Internet site with linkages to key documents and

supporting studies) would improve the use of current methods and data. However, the available guidance lacks specifics with regard to method selection and risk characterization under different conditions. In particular, better guidance on community- and ecosystem-level methods and approaches would be helpful (as current documents identify the need for conducting ecosystem-level assessments, but little or no guidance is provided on what type of approaches are appropriate). Better guidance would also help the risk assessor justify to the EPA Regional Project Manager (RPM) and others the relatively long-term and comprehensive studies that evaluate multiple ecosystem components, if needed.

- Guidance is also needed on which methods/approaches may be best suited for particular contaminants, media, environmental settings, and receptor species. Comprehensive, detailed guidance is not realistic because of the diversity of methods, species, and endpoints, and prescriptive guidance is not appropriate because flexibility is essential — given the complexity and uniqueness of conditions at sites across the country. However, a compendium of suggested methods and approaches (e.g., presented by taxon, medium, and contaminant) that are acceptable to EPA, with recommendations per different situations, would be very useful. For example, such a compendium could identify a half dozen or more approaches for evaluating heavy metal impacts to small mammal populations, along with conditions under which each is well- or ill-suited. The ecological risk assessors could then use this information as a starting point from which to develop their site-specific approach for a given assessment (which may involve combining useful components from several approaches). This would also assist the many RPMs in the field, as they would be able to gain more knowledge about generally accepted methods per different situations and feel more comfortable with the results. Such guidance would need to be updated on a regular basis and be made readily available to risk assessors and regulators alike (e.g., via the Internet).
- It would be helpful to emphasize the importance of flexibility and judgment to oversight groups. It would be useful to establish an Agency "expert resource hotline" to help encourage and support this flexibility in RPMs and other stakeholders e.g., with regard to understanding the methods and interpret the results (and related decisions).

c. Current availability of standardized eco-based action levels and cleanup levels.

- There are a number of sources for eco-based action levels, including the NOAA HAZMAT program, EPA Region 3 Biological Technical Assistance Group (BTAG), EPA ambient water quality criteria, and levels that have been identified by Environment Canada. The Oak Ridge National Laboratory has also produced a number of reports providing ecology-based benchmark values that can be used to identify action levels. It would be helpful if the EPA could maintain and

disseminate a regularly updated compendium of these values. Such a coordinated effort would greatly reduce the time spent on the ecological risk assessment process at individual sites, particularly in the initial stages during which contaminants of ecological concern are selected and site-specific benchmark values are identified. It would also be helpful to link screening tools to this information, to produce a consolidated information resource.

d. Limitations associated with assessing ecological risks and taking remedial actions to protect ecologic receptors in general.

- Limitations in assessing ecological risks include: (1) lack of guidance and comprehensive data regarding specific methods and approaches for conducting exposure and effects assessments under various field conditions; (2) lack of guidance and comprehensive data for risk characterization and estimation; (3) lack of readily accessible exposure factors for ecological receptors; and (4) lack of contaminant-specific effects information for individual fish and wildlife species.

The major difficulties in conducting ecological risk assessments relate to the general absence of species- and contaminant-specific information regarding potential effects on fish and wildlife species, and the very dispersed nature of the information that is available. For example, the human health risk assessor has ready access to integrated information on exposure factors for humans, as well as slope factors and dose-conversion factors for estimating risks from many contaminants. Such information for ecological risks is either limited in extent or difficult to track down in the open scientific literature. This creates a problem because of the relatively short time within which the ecological risk assessments and required documentation need to be prepared.

- A further limitation is associated with the methods used to estimate risks. Ecological risks are currently estimated using the hazard quotient or weight-of-evidence approach. The hazard quotient approach assumes additivity (which is probably not appropriate) and does not consider synergistic or antagonistic interactions among contaminants. The weight-of-evidence approach requires sufficient effects and exposure assessment results to support the risk estimation. However, these supporting data are extremely limited and there is no guidance on how much "evidence" is sufficient, given the diversity of methods that may be used, the great number of species that may be affected at a site, and overall ecosystem complexity. Additional guidance and compilation of key supporting data for estimating ecological risks (e.g., beginning with common situations) would be useful.
- Limitations in taking remedial actions to protect ecologic receptors include competing desires of the agency, oversight groups, and the affected community

with regard to protecting the variety of "resources" (including human health) per their specific interests. It would be helpful to emphasize the importance of including the protection of ecological resources early in the discussions and negotiations regarding remedial actions and land use plans for individual sites, to ensure timely and informed consideration.

- Additional limitations can be associated with the selection of a remedy for a given site, as certain remedial actions can cause greater ecological impacts than would result from no action (under which current, contaminated conditions would remain). This has Natural Resource Damage Assessment (NRDA) implications and can affect overall project costs.
- e. Suggestions regarding the scope of specific corrective action regulations dealing with assessment and protection of ecologic receptors.
- The scope and content of the corrective action regulations should be consistent with and ensure compliance with other relevant ecological requirements (including those identified in the Endangered Species Act and those addressing wetlands protection).

#### V.E.6. Risk Assessment Methods

1. Pg. 19462 Column 1 EPA is interested in the effect of provisions which would encourage the expanded consideration of site-specific conditions and other innovative risk assessment methods where such provisions would enhance program effectiveness or efficiency.

- Innovative Approaches

EPA requests comment on methods available for conducting risk assessment. In order for EPA to encourage innovative approaches the EPA should: develop guidance that identifies a tiered or iterative approach within a general framework for risk assessment so that more conservative screening methods can be applied when the outcome is not significantly affected; emphasize and encourage the use of site-specific information (including land use and factors affecting bioavailability) where overly conservative assumptions skew the results; develop and distribute high-quality, innovative "benchmark" assessments to help guide assessors; conduct a national review of pilot programs to evaluate the performance and progress of innovative approaches; and develop and make information available on lessons learned.

- Validation of Methodology

In order to independently validate the risk assessment, DOE encourages the use of

independent peer review to ensure adequate technical content and to minimize the need for extensive technical review by the regulatory agencies; the use of stakeholder review panels; and establishment of a certification program for risk assessment professionals in order to alleviate concerns over qualifications.

- Incentives to Ensure Quality Risk Assessments

To provide incentives to encourage quality risk assessments, EPA could provide relief from administrative burdens (e.g. lengthy studies, full permit applications and modifications, and other reports) where significant progress is being demonstrated and could provide quick turnaround reviews for those projects that pursue a streamlined pilot.

Effective use of site-specific risk assessments is inhibited by using the default values presented in the regulations as mandatory standards and using conservative future land use scenarios.

EPA could incorporate the significant improvements that have been made in risk assessment methodology since the 1990 proposal by; incorporating integrated multi-pathway analyses that reflect site conditions; emphasize the use of best estimates and ranges for input parameters; update values or allow the use of recent information to better reflect the current understanding for exposure factors; improving the development of screening action levels; assisting in developing uncertainty discussions that clearly explain the conservatism built into the toxicity values for many contaminants and providing the means for excluding certain contaminants for which the uncertainty is so great as to preclude meaningful estimates of risk.

EPA could act as a positive force for improvement of risk assessment methods by, encouraging the use of recent data in determining appropriate values for exposure factors with consideration of site-specific land use and exposure scenarios; encouraging greater use of toxicological science in the interpretation of human responses to toxic substances; giving central tendency estimates a primary role in decision making; allowing flexibility in what the target risk level, per computation limitations and site-specific factors (including land use and the potential for exposure); and encouraging and assisting in the exchange of risk-related information among the risk assessment/management community.

#### V.F. Public Participation and Environmental Justice

1. Pg. 19462, Columns 2 and 3 EPA intends for the final corrective action regulations to be consistent with the Agency's efforts to improve permitting and public participation while providing sufficient flexibility to meet site-specific goals.
  - a) DOE supports tailoring public participation activities to the level of community interest. The Department considers regulators and the sites to be the most appropriate sources of

judgement regarding the best methods to involve the public in the corrective action process. Mandating a particular level of public participation where it is not warranted by public interest is not the best use of the limited stakeholder resources. With regard to an owners/operators' responsibility to inform the community of the initiation of corrective action, we believe that the owners/operators do have a responsibility to inform the community and should, at a minimum, publish a notice in a major local newspaper of general circulation and/or provide notice to potentially interested parties through the facility mailing list. DOE supports EPA's proposal to allow the owner/operator to initiate a permit modification. DOE also supports providing public notification in the event that voluntary corrective action is relied upon to satisfy corrective action requirements. However, after notification is provided, DOE maintains that EPA should modify the requirements to allow the facility and regulators to jointly establish active, equitable methods of involving the public. There are a variety of avenues for informing the public. All of these avenues should be considered, but all avenues may not be productive at all facilities. For example, DOE has had success with advisory groups; however, all facilities may not have the level of public interest which DOE sites have.

- b. RCRA corrective action requirements may also involve public participation and environmental justice responsibilities similar to the requirements of the National Environmental Policy Act of 1969 (NEPA). DOE is committed to NEPA compliance as it relates to corrective action. DOE recognizes however, that although NEPA's environmental evaluation and public participation requirements are not identical to those of RCRA, the procedural aspects of RCRA corrective action may nevertheless satisfy many requirements set forth in the NEPA process.

DOE recognizes that EPA's ability to minimize the duplication of effort associated with RCRA/NEPA compliance may be limited (i.e., resolution may require legislative action). Nevertheless, in developing the final corrective action rule, EPA may wish to consider the regulatory burden and practical difficulties associated with implementing cleanup actions subject to RCRA and NEPA and explicitly address how the RCRA requirements have been designed to satisfy the requirements of the NEPA process..

#### V. G. When Permits Can be Terminated, and V.H. Effect of Property Transfer on Corrective Action Requirements

- 1. Pg. 19463, Column 2 EPA is inviting comment on whether, as a policy matter, extended permitting is the best approach to ensuring that corrective action is carried out over the long term, or whether other alternatives should be considered.
  - a) EPA requests comment regarding when permits should be terminated. Because permit maintenance and renewal can be resource intensive, DOE supports having the option of using other mechanisms such as enforcement orders to oversee corrective actions after those hazardous waste management activities giving rise to the need for the permit have

ceased. Moreover, the Department maintains that the corrective action aspects of permits or orders should contain provisions for the termination of the permit/order after the facility has demonstrated to have achieved agreed upon cleanup standards for a specified period of time or that Technical impracticability has been demonstrated.

DOE recommends that EPA propose rulemaking which addresses the use of RCRA 3004 (u) and (v) authorities to issue an order to complete corrective action once the permit is terminated.

- b) DOE agrees that in the case of privately owned facilities, regulators may have a need to extend permitting beyond the “life” of a facility and/or in the event of change of ownership. Permit termination may be an especially important issue in the event that institutional or engineering controls must be managed indefinitely into the future. However, permit termination is less of a problem in the case of Federal facilities because of property transfer requirements established by CERCLA as amended by the Community Environmental Response Facilitation Act [PL 102-426] (CERFA). CERCLA Section 120 specifies requirements for contaminated and uncontaminated property. The transfer of real property owned by the United States on which a hazardous substance was released (i.e. a SWMU) must include a covenant in the Deed warranting that:

a. All remedial action necessary to protect human health and the environment with respect to the substances has been taken prior to the transfer (120(h)(3)(A), and

b. Any additional remedial action found necessary after the transfer will be conducted by the US (120 (h)(3)(B), and

c. A clause granting the US access to the property if post-transfer remedial or corrective action is necessary 120(h)(3)(C).

Furthermore, for the transfer of uncontaminated property owned by the United States the property transfer deed must contain 1) a covenant warranting that the US shall conduct any post-transfer response or corrective action found necessary, and 2) a clause granting the US a right of access to conduct any necessary response or corrective action on the transferred property or adjoining property 120(h)(4)(D).

Given the requirements of CERCLA 120, owners/operators of Federal facilities would be compelled to conduct corrective action with or without a permit if action was found to be necessary after property transfer.

#### V.J. State Authorization

1. Pg. 19464 Column 2 EPA requests comments on whether final corrective action regulations should not be effective in States authorized for the existing corrective

action program until those States adopt the final rules.

DOE supports EPA's proposal to delay effectiveness of any final Subpart S corrective action regulations in States already authorized for the existing corrective action regulations. The alternative, allowing the corrective action program to revert to EPA, would severely disrupt ongoing cleanup activities. However, the existing authorized State corrective action programs do not include all of the pragmatic, and innovative approaches highlighted in the ANPR which should be adopted in the final corrective action regulations. As a result, corrective action activities controlled by less flexible State programs could result in corrective measures that are inconsistent with the final Subprt S regulations.

One way to address this potential disparity is for EPA to include an option in future rulemaking that would allow both State and Federal regulators to participate in the review and approval of proposed corrective actions regardless of a State's authorization status, and that either the State or the Federal regulators function as "lead regulator" throughout the corrective action process. Finally, DOE suggests, EPA should consider applying the modified State authorization procedures proposed for the Hazardous Waste Identification Rule for Contaminated Media (61 FR 18789 [April 29, 1996]), in order to streamline the authorization process and allow States to quickly adopt the "final" Subpart S regulations.