

**ENVIRONMENTAL PROTECTION  
AGENCY**
**40 CFR Parts 260, 261, 262, 264, 268,  
269 and 271**
**[FRL-5460-4]**
**RIN 2050-AE22**
**Requirements for Management of  
Hazardous Contaminated Media  
(HWIR-Media)**
**AGENCY:** Environmental Protection  
Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** As part of the President's regulatory reform initiative, the United States Environmental Protection Agency (EPA) is proposing new regulations for contaminated media, including contaminated soils, ground water, and sediments, that are managed during government-overseen remedial actions. The proposed rule would address contaminated media that are currently subject to regulation as "hazardous waste" under the Resource Conservation and Recovery Act (RCRA). The rule's purpose is to develop more flexible management standards for media and wastes generated in the course of site cleanups.

To accomplish the objective, the proposal would establish modified Land Disposal Restrictions (LDR) treatment requirements, and modified permitting procedures for higher-risk, contaminated media that remain subject to hazardous waste regulations; and give EPA and authorized States the authority to remove certain lower-risk, contaminated media from regulation as "hazardous wastes" under most of Subtitle C of RCRA. Under this proposal, many contaminated media management units would be relieved from the obligation to comply with Minimum Technological Requirements (MTRs). The State-authorization procedures for RCRA program revisions would be simplified for this proposed rule; the Hazardous Waste Identification Rule (HWIR-waste); and the Revised Technical Standards for Hazardous Waste Combustion Facilities. Today's proposal also proposes to withdraw the regulations for corrective action management units (CAMUs). In addition, dredged material permitted under CWA or MPRSA would be exempted from Subtitle C.

**DATES:** Written comments on this proposal should be submitted on or before July 29, 1996.

The Agency will hold a public hearing on this proposal on June 4, 1996.

**ADDRESSES:** Commenters must send an original and two copies of their comments referencing docket number F-96-MHWP-FFFFF to: (1) If using regular US Postal service mail: RCRA Docket Information Center, Office of Solid Waste (5305W), U.S. Environmental Protection Agency Headquarters (EPA, HQ), 401 M Street, SW, Washington, D.C. 20460 or (2) if using special delivery, such as overnight express service: RCRA Docket Information Center (RIC), Crystal Gateway One, 1235 Jefferson Davis Highway, First Floor, Arlington, VA 22202. Comments may also be submitted electronically through the Internet to: RCRA-Docket@epamail.epa.gov. These comments should be identified by the docket number F-96-MHWP-FFFFF, and submitted as an ASCII file to avoid the use of special characters and encryptions.

Please do not submit any Confidential Business Information (CBI) electronically. An original and two copies of CBI must be submitted under separate cover to: RCRA CBI Document Control Officer, Office of Solid Waste (5305W), U.S. EPA, 401 M Street, SW, Washington, D.C. 20460.

Public comments and supporting materials are available for viewing in the RCRA Information Center (RIC) located at Crystal Gateway One, 1235 Jefferson Davis Highway, First Floor, Arlington, VA. The RIC is open from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding Federal holidays. To review docket materials, please make an appointment by calling (703) 603-9230. The public may copy a maximum of 100 pages from any regulatory docket at no charge. Additional copies will cost \$.15/page.

The June 4, 1996 public hearing will be held at the Key Bridge Marriott, located at 1401 Lee Highway, Arlington, VA 22209. The main switchboard number for the hotel is (703) 524-6400. Individuals interested in more complete directions or room reservations should contact the hotel directly. Registration for the hearing will begin at 8:30 a.m.. The hearing will begin at 9:00 a.m. and end at 5:00 p.m. unless concluded earlier. Oral and written statements may be submitted at the public hearing. Time for the public hearing is limited; oral presentations will be made in the order that requests are received and will be limited to 15 minutes, unless additional time is available. Requests to speak at the hearing should be submitted in writing to: Carolyn Hoskinson (5303W) U. S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460. Please clearly mark your request

as a request to speak at the public hearing and include both the scheduled date of the hearing (June 4, 1996) and the docket number (F-96-MHWP-FFFFF). Requests to speak may also be made on the day of the hearing by registering at the door; requests to speak by individuals who choose to register at the door on the day of the hearing will be granted in the order received, as time permits. Individuals are requested to provide a copy of their testimony for the record.

**FOR FURTHER INFORMATION CONTACT:** For general information, contact the RCRA Hotline at 1-800-424-9346 or TDD 1-800-553-7672 (hearing impaired). In the Washington metropolitan area, call 703-412-9810 or TDD 703-412-3323.

For more detailed information on specific aspects of this rulemaking, contact Carolyn L. Hoskinson, Office of Solid Waste (5303W), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460, (703) 308-8626. For further information on EPA's development of the guidance document "Best Management Practices for Soils Treatment Technologies," contact Subijoy Dutta (703) 308-8608, (internet address: dutta.subijoy@epamail.epa.gov). For further information on EPA's development of a guidance document for sampling and analysis, which is associated with today's proposal, contact James R. Brown (703) 308-8656, (internet address: brown.jamesr@epamail.epa.gov).

**SUPPLEMENTARY INFORMATION:** The index is available on the Internet. Please follow these instructions to access the information electronically:

Gopher: gopher.epa.gov  
WWW: <http://www.epa.gov>  
Dial-up: (919) 558-0335

This report can be accessed from the main EPA Gopher menu in the directory: EPA Offices and Regions/Office of Solid Waste and Emergency Response (OSWER)/Office of Solid Waste (RCRA)/Hazardous Waste/Corrective Action/(HWIRMDIA).

FTP: ftp.epa.gov  
Login: anonymous  
Password: Your Internet Address  
Files are located in /pub/gopher/  
OSWRCRA

The official record for this action will be kept in paper form. Accordingly, EPA will transfer all comments received electronically into paper form and place them in the official record, with all of the comments received in writing. The official record is the paper record maintained at the address in **ADDRESSES** at the beginning of this document.

EPA's responses to comments, whether written or electronic, will be printed in the Federal Register, or in a "response to comments document" placed in the official record for this rulemaking. EPA will not immediately reply to commenters electronically other than to clarify electronic comments that may be garbled during transmission or conversion to paper form.

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##### I. Authority

These regulations are proposed under the authority of sections 2002(a), 3001, 3004, 3005, 3006, and 3007 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 [RCRA], as amended by the Hazardous and Solid Waste Amendments of 1984 [HSWA], 42 U.S.C. §§ 6912(a), 6921, 6924, 6925, 6926, and 6927.

##### II. Background

##### A. Purpose and Context for Today's Proposed Rule

Since 1980, the Environmental Protection Agency (EPA) has developed a comprehensive regulatory framework under Subtitle C of RCRA that governs the identification, generation, transportation, treatment, storage, and disposal of hazardous wastes. The RCRA program is generally considered prevention- rather than response-oriented. The regulations center around two broad objectives: to prevent releases of hazardous wastes and constituents through a comprehensive and conservative set of management requirements (commonly referred to as "cradle to grave management"); and to minimize the generation and maximize the legitimate reuse and recycling of hazardous wastes.

The RCRA regulations constitute minimum national standards for management of hazardous wastes. In general, they apply equally to all hazardous wastes, regardless of where or how generated, and to all hazardous waste management facilities, regardless of how much government oversight any given facility receives. In order to ensure an adequate level of protection nationally, the RCRA regulations have

been conservatively designed to ensure proper management of hazardous wastes over a range of waste types, environmental conditions, management scenarios, and operational contingencies.

In the course of administering current RCRA regulations, to contaminated media generated during site cleanups, EPA and the States have recognized fundamental differences in both incentives and objectives for prevention- and cleanup-oriented programs. For example, the stringent treatment requirements established by RCRA land disposal restrictions (LDRs) have encouraged many generators to reduce the amount of hazardous waste they generate. On the other hand, when these requirements are applied in the context of site cleanup, they often provide a strong incentive to leave hazardous waste and contaminated media in place, or to select alternate remedies that will minimize the applicability of RCRA regulations. This can result in remedies that are less protective of human health and the environment. (See 54 FR 41566, October 10, 1989; 58 FR 8658, (February 16, 1993); and the information in the docket to today's proposed rule).

In the administration of remedial programs such as Superfund and the RCRA corrective action program, EPA and the States are already faced with an unacceptable situation that must be remedied while operating within the technical and practical realities of the site. Remedial actions generally receive intensive government oversight, and remedial decisions are made by a State or Federal Agency only after site-specific conditions have been thoroughly investigated. In contrast, prevention-oriented hazardous waste regulations are generally implemented independently by facility owner/operators through compliance with national regulatory requirements.

In addition to differences in the incentives and objectives of cleanup- and prevention-oriented programs, EPA and the States recognize that frequently there are significant differences between "as-generated" process wastes and contaminated media or other remediation wastes. For example, contaminated media are often physically quite different from as-generated wastes. Contaminated soils often contain complex mixtures of multiple contaminants, and are highly variable in their composition, handling, and treatability characteristics. For this reason, treatment of contaminated soils can be particularly complex, involving one or a series of custom-designed treatment systems. As-generated wastes,

however, are usually more consistent in composition, since they are derived from specific known manufacturing processes.

Historically, EPA and the States have sought to address the application of RCRA's prevention-oriented standards to remedial actions through a series of regulatory and policy directives. These policies aim at preserving RCRA's goal of protectiveness, while providing government regulators the flexibility and tools necessary to craft effective site-specific remedies. These include the "Area of Contamination" policy, the "Contained-in" policy, the presumption for LDR treatment variances for contaminated soils, and the regulations for Corrective Action Management Units and Temporary Units, which are discussed in section (V)(F) of this preamble. (See e.g., memorandum from Michael Shapiro, Director, Office of Solid Waste, Stephen D. Luftig, Director, Office of Emergency and Remedial Response, and Jerry Clifford, Director, Office of Site Remediation Enforcement, EPA to RCRA Branch Chiefs and CERCLA Regional Managers, (March 13, 1996); section (V)(A)(4)(a) of today's preamble; 55 FR 8666, 8758-8760 (March 8, 1990); "Superfund LDR Guide #6A (2nd Edition) Obtaining a Soil and Debris Treatability Variance for Remedial Actions" EPA/Superfund Publication: 9347.3-06FS (September 1990); "Superfund LDR Guide #6B Obtaining a Soil and Debris Treatability Variance for Removal Actions" EPA/Superfund Publication: 9347.3-06BFS (September 1990); and 58 FR 8658 (February 16, 1993)).

With the exception of the Corrective Action Management Unit regulations, EPA is not proposing that this rulemaking withdraw any of these policies or directives.

Instead, EPA seeks to formally recognize the differences between as-generated waste and contaminated media, by creating a framework that: (1) Allows State and Federal regulators to impose site-specific management requirements on lower-risk contaminated media, and (2) modifies LDR treatment and other requirements that are applicable to higher-risk contaminated media. Since EPA proposes that higher-risk contaminated media remain subject to regulation as "hazardous waste," management of these media would remain subject to most of the other applicable RCRA Subtitle C requirements.

EPA has found that the administrative procedures associated with issuance of RCRA permits can often significantly delay cleanup actions. To relieve this problem, EPA is also proposing to

streamline the administrative requirements for hazardous waste permits that are needed for government-overseen remedial actions. In addition, the proposal contains provisions for State authorization not only for today's proposal, but for all RCRA program revisions, specifically including the Revised Technical Standards for Hazardous Waste Combustion Facilities and the HWIR waste proposals. These are much more streamlined than the RCRA program's current procedures.

In today's notice, EPA is also soliciting comment on an approach that would remove remediation wastes—defined broadly—from the definition of solid waste, if they were managed under a State or EPA-approved plan.

In another matter, today's proposal would exclude dredged material from RCRA Subtitle C when it is managed according to a permit under CWA or MPRSA.

Finally, EPA wishes to emphasize that this proposal and other alternatives discussed address only the management of wastes that are generated during cleanup actions—it does not consider issues associated with what wastes should be cleaned up, what the cleanup levels should be, or how remedies are selected. EPA believes that these and other "how clean is clean" issues are best determined by other State and Federal regulations and guidelines.

Throughout the development of today's proposal, EPA has worked very closely with States as "co-regulators," and the Agency believes that most States share the views and goals expressed in these pages by EPA.

#### *B. Relationship to Previous Regulatory Initiatives*

As noted above, the need for an alternative regulatory scheme for management of contaminated media and remediation waste has been recognized for some time. In recent years, EPA has developed several regulatory initiatives to address that need. Today's proposal is intended to address the issues and problems discussed above in a single, comprehensive regulatory package. As such, it modifies and/or replaces many of the Agency's previous regulatory initiatives, as discussed below.

##### **1. Proposed Subpart S Corrective Action Regulations**

In July 1990, EPA proposed comprehensive regulations to address the substantive and procedural requirements for implementing corrective actions at RCRA facilities under the authorities of RCRA sections 3004(u) and 3004(v) (42 USC §§ 6924(u),(v)). Commonly known as the

"Subpart S proposal," the proposal discussed various technical issues associated with site cleanup including "action levels", cleanup standards, remedy selection, points of compliance and other cleanup requirements. The Subpart S proposal has been the primary guidance for the RCRA corrective action program since its publication.

In general, the Subpart S proposal contemplated that contaminated media would be subject to the same regulatory requirements that apply to as-generated wastes. Although EPA generally did not use the Subpart S proposal to address issues associated with contaminated media management, the Agency did introduce the concept of Corrective Action Management Units (CAMUs) and temporary units (TUs) as a means of providing some relief from the burdens that LDRs and other Subtitle C requirements can impose on cleanup activities. The CAMU concept is discussed more completely below, and in section (V)(F), of today's proposal.

Today's proposal would establish a more definitive and comprehensive set of requirements for the management of contaminated media—and provide considerably more regulatory relief—than the Subpart S proposal would have in this area. Currently EPA is reexamining the Subpart S proposal, and working to finalize and/or repropose some of those regulations in approximately 18 months. As a precursor to the Subpart S rulemaking, the Agency is issuing an Advanced Notice of Proposed Rulemaking (ANPRM). One of the purposes of the ANPRM is to describe the relationship of the Subpart S initiative to other Agency initiatives, including today's proposal. The Agency expects that if finalized, the HWIR-media rules will be an essential complement to and an integral part of the final RCRA corrective action regulations.

## 2. Final Rules for Corrective Action Management Units (CAMUs)

On February 16, 1993 EPA published final regulations for CAMUs and TUs (58 FR 8658). In essence, the CAMU concept provides considerable flexibility to EPA and implementing States to specify design, operating, and closure/post closure requirements for units used for land-based temporary storage, or for treatment of wastes that are generated during cleanup at an RCRA facility. The CAMU also specifies requirements for units that are used as long-term repositories for cleanup wastes. Decision criteria for the designation of CAMUs are specified in those rules. Most importantly, the

placement of cleanup wastes into an approved CAMU does not trigger RCRA LDR requirements (40 CFR 264.552 (a)(1)). Thus, appropriate treatment requirements can be specified by the overseeing Agency<sup>1</sup> on a site- and waste-specific basis. In addition, the CAMU rule provides that consolidation or placement of cleanup wastes into a CAMU does not trigger RCRA section 3004(o) minimum technology requirements (MTRs) (40 CFR 264.552 (a)(2)).

The CAMU rule did not address, however, issues pertaining to the delay often caused by the need to obtain RCRA permits for cleanup actions. While the regulations provide relief from MTRs and LDRs, CAMUs must be approved by the same procedures used for approving other types of hazardous waste management units; i.e., through RCRA permits or permit modifications, or through orders.

The CAMU rule received broad support from many affected stakeholders. Since its adoption, EPA and the States have been using the CAMU rule to provide appropriate regulatory relief for cleanups conducted under RCRA, CERCLA, and State cleanup authorities. Some parties, however, have expressed concern that, according to the rule, LDRs do not apply to wastes managed in a CAMU. They have questioned whether the rule provides too much discretion to EPA and the States, and whether this discretion could result in unacceptably lenient treatment requirements. On May 14, 1993 these parties filed a petition for review with the U.S. Court of Appeals for the District of Columbia Circuit which challenged both the legal and policy bases for the final CAMU rules. *Environmental Defense Fund v. EPA*, No. 93-1316 (D.C. Cir.).

As part of the dialogue that prefaced the creation of the HWIR Federal Advisory Committee (discussed more fully in section C, "Origin of Today's

<sup>1</sup> Throughout this notice, EPA uses the term "overseeing agency" to mean either EPA or the State authorized for the HWIR-media program. Most States are authorized for the RCRA base program, and so would be eligible, as appropriate, to receive authorization for the HWIR-media program if they chose to do so (for a discussion of authorization for LDRs under this proposal, see the State authorization discussion in this preamble). For those States not authorized for the RCRA base program, EPA would operate the HWIR-media program in that State, just as it operates the rest of the RCRA program in that State. Also, EPA might run a cleanup program (e.g., RCRA Corrective Action or Superfund) in a State that receives authorization for the HWIR-media program. In that case, EPA would consult with or seek approval from the State, as appropriate, in order to approve the RMP. The Agency hopes that the EPA Regions and States will develop agreements regarding how this approval will take place.

Proposed Rule"), the Agency agreed to reexamine the CAMU regulations in the context of developing this proposal, which is intended to be a broader, more comprehensive response to the problems in applying traditional RCRA Subtitle C standards to the management of remediation wastes. As discussed in detail elsewhere in this preamble (see section (V)(F)), today's proposal would supersede the CAMU regulations. A more detailed discussion of the relationship between today's proposal and the CAMU regulation is presented in section (V)(F).

## 3. Proposed Land Disposal Restrictions for Hazardous Soils

On September 14, 1993 (58 FR 48092), EPA proposed the "Phase II" land disposal restriction regulations, which included provisions to establish constituent-specific treatment standards for soils contaminated with hazardous wastes. In that proposal, the Agency reiterated that combustion is not always the appropriate BDAT for soils, and proposed treatment standards tailored specifically to contaminated soils. The Agency acknowledged the limitations of the data available when the proposal was written regarding the levels that can be achieved by treating various matrices of contaminated soils with available technologies (58 FR 48092, 48125 (September 14, 1993)). Because of these uncertainties, the Agency outlined several options to establish treatment standards for contaminated soils. Two options described in the proposal's preamble would have based soil treatment standards on some multiplier of the universal treatment standards for hazardous wastes (which were included in the same proposal). Another proposed option was based on a simple 90% reduction standard. The Phase II proposal also contained provisions for codifying the RCRA "contained-in" policy for soils. This policy, which is discussed in detail in section (V)(A)(4)(a) of this preamble, is based on the concept that environmental media (e.g., soils, ground water) that are contaminated with listed hazardous wastes or that exhibit a hazardous characteristic are not of themselves hazardous. However, these media must be regulated under Subtitle C because they contain hazardous wastes; conversely, once they are determined to no longer contain hazardous wastes, the media are generally no longer regulated under RCRA Subtitle C.

EPA received a number of comments on the proposed soil treatment standards, many of which strongly urged the Agency to address LDR treatment standards for contaminated

soils and codification of the contained-in policy in the context of HWIR-media regulations, rather than as part of the LDR Phase II rule. The Agency agreed with those who commented, and in a subsequent Federal Register notice (58 FR 59976, November 12, 1993) announced its intention to use the HWIR-media rule as the vehicle for promulgating these standards. That notice also extended the deadline for comments and data concerning Phase II provisions for hazardous soils to March 18, 1994. The Phase II final rule (minus the soil treatment standards) was promulgated on September 19, 1994 (59 FR 47980).

#### 4. Deferral of the Toxicity Characteristic for Petroleum Contaminated Media and Debris From Cleanup of Releases From Underground Storage Tanks (USTs)

On February 12, 1993, EPA published a proposal to defer the applicability of the toxicity characteristic (TC) rule for petroleum contaminated media and debris that are generated during underground storage tank cleanups. This was a follow-up proposal to the Agency's original temporary deferral, which was part of the final rulemaking for the toxicity characteristic (55 FR 11798, 11862, March 29, 1990). The Agency will be assessing studies to support a final decision as to whether UST petroleum contaminated media and debris should be regulated as hazardous wastes under RCRA Subtitle C. Today's proposal does not address whether or not this material should be regulated as hazardous waste; thus, the temporary exclusion described here will remain in effect until the Agency publishes a separate final rulemaking determination. (Note that because today's proposal does not address this issue, it does not reopen the comment period for the February 12, 1993 proposal.)

#### 5. Suspension of the Toxicity Characteristic for Non-UST Petroleum Contaminated Media (Proposed Rule)

On December 24, 1992, EPA proposed to suspend temporarily the applicability of the toxicity characteristic (TC) to media contaminated with releases of petroleum from sources other than underground storage tanks. This proposal was developed in response to petitions from a number of States. Their contention was that exempting petroleum contaminated media from UST cleanups—while cleanup of petroleum releases from other sources (such as aboveground tanks) remained subject to Subtitle C—made little sense.

In December 1992, EPA answered the States' petitions, and announced its

intention to suspend the applicability of the toxicity characteristic to all petroleum contaminated media (57 FR 61542). The suspension would have taken effect only in States that certified that they had effective authorities and programs in place that could compel cleanup and regulate the management of such petroleum contaminated media in a protective manner. Also, the suspension would only apply to media generated during State or Federally supervised cleanup actions. EPA proposed that the suspension be effective for three years, during which time the Agency would conduct more thorough studies to determine whether or not—and how—petroleum contaminated media should be regulated under RCRA.

After the proposed suspension was published, it became clear that many issues addressed in that proposal applied not only to media contaminated by petroleum releases, but also to the management of all types of contaminated media. The issues associated with judging the adequacy of State cleanup programs and whether such programs can ensure protective management of cleanup wastes outside of the Subtitle C system were also recognized as relevant to other regulatory initiatives involving State authorization under RCRA.

Soon after the publication of the proposed suspension, the Agency, in concert with the States and other stakeholders, launched a major, comprehensive effort to address the regulation of contaminated media under Subtitle C. (See the following discussion of the HWIR-media rulemaking proposal). EPA and the others recognized that these more comprehensive HWIR-media rules would have to deal essentially with the same set of issues addressed in the proposed suspension for petroleum contaminated media. Thus, finalizing the proposed suspension would have required reaching decisions on a number of issues common to both rules.

In effect, finalizing the TC suspension rule would have preempted the HWIR-media process in many respects. To preserve the process, and to avoid the redundancy of developing two regulations to address the same basic problems, EPA decided not to proceed with finalizing the TC Suspension. Instead, the Agency chose to address those issues in the broader context of the HWIR-media rulemaking process.

The Agency believes that the flexibility introduced into Subtitle C requirements in today's proposal sufficiently addresses the issues raised under the proposed "Suspension of the

Toxicity Characteristic for Non-UST Petroleum Contaminated Media," and therefore believes that if the HWIR-media rule is finalized, it will not be necessary to finalize the TC suspension. The Agency requests comments on whether additional flexibility (beyond that provided for in today's proposal) is necessary for non-UST petroleum contaminated media.

#### 6. Proposed Hazardous Waste Identification Rule (May 20, 1992)

Shortly after the publication of the proposed TC suspension, the Agency completed a separate (but related) rulemaking proposal, commonly referred to as the Hazardous Waste Identification Rule (HWIR) (57 FR 21450, May 20, 1992). This proposed rule was issued in response to the U.S. Court of Appeals, District of Columbia Circuit's vacature of the mixture and derived from rules (*Shell Oil Co. v. EPA*, 950 F.2d 741 (D.C. Cir. 1991)), which were issued in 1980 as part of the original RCRA hazardous waste regulations. In that HWIR proposal, EPA outlined alternative regulatory approaches for establishing "exit" levels for hazardous wastes (i.e., concentration levels below which listed hazardous wastes would no longer be subject to Subtitle C jurisdiction). The primary focus of the HWIR proposal was on the "exit" of as-generated hazardous wastes from the Subtitle C system. However, a separate portion of the proposal outlined conceptual approaches for revising Subtitle C requirements as they currently apply to the management of contaminated media (57 FR 21450, 21463, May 20, 1992).

The HWIR proposal received considerable interest. A number of commenters expressed strong concerns about the proposal as a whole, and the process that was used to develop it. Some of the concerns focussed on EPA's failure to consult with the States and the public prior to issuing the very complex and significant proposal. Because of process related issues, the strong views expressed by the States, and the importance of the rulemaking, EPA decided that a more deliberate and inclusive process was needed for developing the regulations. On October 5, 1992 the Agency formally announced its intention to withdraw the May 20, 1992 proposal, and start a series of discussions with various stakeholders to develop a new, carefully considered approach to crafting both exit levels for "as-generated" wastes and management standards for cleanup of contaminated media.

## 7. Relationship to CERCLA

The rule being proposed today would be expected to have a significant impact at sites being addressed under CERCLA. Superfund sites generate large quantities of remediation waste, and compliance with RCRA requirements in the management of this waste has been a recurring concern. The substantive requirements of RCRA Subtitle C, including land disposal restrictions, apply to hazardous wastes at these sites, and permits are required for off-site actions.

Under the approach proposed today, the flexibility being provided for management of remediation waste would be available to CERCLA responses. It should be noted, however, that CERCLA responses must comply with all "applicable" or "relevant and appropriate" requirements, both Federal and State. Therefore, until a RCRA authorized State is authorized for the HWIR-media rule, the State's existing RCRA regulatory system would be applicable (or relevant and appropriate) to Superfund actions in the State.

## 8. Relationship to HWIR-waste Rule (Dec. 21, 1995)

See preamble section (IV)(C).

## 9. Relationship to RCRA Legislative Reform

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, Brownfields and State voluntary programs. EPA has requested comment on a range of alternatives to today's proposal that are consistent with the range of alternatives being discussed for legislative reforms.

## C. Origin of Today's Proposed Rule

In order to facilitate discussions with various stakeholders, EPA established a formal advisory Committee, chartered under the Federal Advisory Committee Act (FACA). Chaired jointly by the Director of the Office of Solid Waste and the Commissioner of the Oregon Department of Environmental Quality (representing the States as "co-regulators"), the HWIR FACA Committee included representatives from industry, environmental organizations, the States, and other affected organizations.

One of the initial decisions reached by the FACA Committee was to create separate sub-groups to address the two major components of the rule—the provisions for contaminated media, and the provisions for as-generated wastes. Since then, these two efforts have proceeded in parallel, and have evolved into separate but obviously related rulemakings. A more complete description of the proceedings of the HWIR FACA Committee and subsequent deliberations of its two sub-groups can be reviewed in the Docket for this rule, and the HWIR-waste rule (60 FR 66344–469, Dec. 21, 1995).

In July 1993 the FACA Committee developed and approved a conceptual framework for the HWIR-media rule. Commonly referred to as the "Harmonized Approach," this framework embodied a number of compromises reached among the participants in the process. It was recognized by the Committee that the Harmonized Approach was only a conceptual outline for crafting a proposed HWIR-media rule, and that a number of important issues remained to be resolved. However, the participants agreed that EPA, in partnership with the States, should begin the formal rulemaking process with the objective of assessing the remaining issues, determining the viability of such a rule from a legal, technical, and policy standpoint, and if possible, developing a proposed rule that embodied the general concepts and directions outlined in that approach. Today's proposal represents the culmination of those efforts.

It should be understood that this proposal, which is patterned after the Harmonized Approach, represents the Agency's best efforts to fulfill the directive of the HWIR FACA Committee. In developing the proposal it was necessary to make decisions on a number of important issues, some of which were not specifically addressed in the Harmonized Approach, including some issues that were not identified

during the FACA process. The Agency recognizes that although tentative consensus was reached by the FACA Committee on the harmonized approach, it cannot be assumed that today's proposal will meet with the approval of all members of the Committee. In fact, some stakeholders have already expressed concerns with some of the specifics of today's proposal.

It is the Agency's view that today's proposal would offer many benefits beyond the present regulatory situation. However, it is quite possible that other, different regulatory approaches could achieve the same objectives and levels of protection, and might offer other advantages in terms of simplicity, cost-effectiveness and/or ease of implementation. A discussion of possible alternative approaches to today's proposed rule is presented in sections IV and VI of this preamble.

In any case, EPA in consultation with the States, will continue to seriously examine the strengths and weaknesses of the proposal presented in today's notice, and of the alternatives discussed. The Agency specifically requests comments on the approaches taken in today's proposed rule, and the specific strengths and weaknesses of the proposed options as well as the alternatives discussed in section VI of this preamble.

Alternative regulatory approaches, and any advantages they may have in comparison to today's proposal, will be very carefully considered. The Agency is committed to issuing a final HWIR-media rule that achieves as much desirable regulatory relief as possible, that is protective of human health and the environment, and that can be easily understood and implemented.

## III. EPA's Policy Objectives for the HWIR-Media Rule

In developing today's proposal, EPA, in consultation with the States, identified several key policy objectives. These are discussed below.

### *Special Requirements Should Be Developed That Are Appropriate for Management of Contaminated Media*

As discussed above, based on their experiences overseeing and implementing environmental cleanups, EPA and the States believe that many of the current prevention-oriented regulations under RCRA are inappropriate for regulating the management of contaminated media. EPA and the States have found that these prescriptive standards can create disincentives for action, and constrain the range of options available to

environmental remediators. Thus, in order to better align the regulatory controls for the unique challenges associated with contaminated media, existing Subtitle C requirements should be modified to create a more flexible and common-sense regulatory system for management of contaminated media.

*Requirements for Management of Contaminated Media Should Be Flexible and Should Reflect Actual Media Cleanup Site Conditions and the Characteristics of the Contaminated Media*

EPA and the States have found that cleanup of hazardous waste sites often requires regulators to make numerous site- and media-specific cleanup decisions that can be at odds with RCRA's uniform national standards. Although some may argue that applying uniform national LDR treatment standards and other national standards is appropriate for contaminated media, EPA is persuaded that for the most part, site-specific flexibility is necessary to ensure the most effective management of these wastes. EPA further believes that EPA and/or State oversight of media management activities will ensure that this additional flexibility will not be abused.

*State and Federal Cleanup Programs That Have Adequate Authorities and That Are Responsibly Administered Can and Should Be Relied Upon To Exercise Sound Professional Judgment in Implementing HWIR-Media Regulations*

For some time many States have been successfully operating cleanup programs under State authorities. These States have often completed cleanups at substantial numbers of sites, and have demonstrated a capability for overseeing technically complex cleanups while ensuring adequate protection of human health and the environment. Many of these programs are patterned after existing Federal programs such as CERCLA or RCRA corrective action. EPA is confident, therefore, that many States will be able to effectively implement these new regulations, and exercise sound judgment in making site-specific management decisions.

*HWIR-Media Regulations Should to the Extent Possible Remove Administrative Obstacles To Expedite Cleanups, and Provide Incentives for Voluntary Initiation of Cleanup by Responsible Parties*

The obstacles posed by RCRA permit requirements for cleanups that involve on-site treatment, storage or disposal of contaminated media, and other cleanup wastes have been recognized for some

time. EPA believes that today's proposal would provide considerable relief from these administrative obstacles. At the same time, adequate opportunities for public participation must be maintained. EPA believes that the new administrative procedures presented in today's proposal for remedial actions that would otherwise require traditional RCRA permits would meet the goal of streamlining the process, while maintaining opportunities for public participation.

Because this proposal would provide considerable substantive relief (through more flexible management standards), and relief from administrative obstacles, EPA believes that the rule would have the additional benefit of stimulating voluntary initiation of cleanup actions by owners and operators of contaminated properties.

*Authorizing States for HWIR-Media Regulations Should Be Streamlined and Simplified To Save Time and Resources*

The process for authorizing States for the RCRA Subtitle C program has been characterized by lengthy procedures, large resource expenditures, and detailed, line-by-line reviews of State authorization applications. The goal of these procedures has been to ensure before the State may receive authorization, that State programs are equivalent—in the strictest sense of the word—to the Federal program. EPA views the HWIR-media regulations as an opportunity to rethink the State authorization process, with the goal of creating a new approach that relies on less up-front review by EPA, a greater reliance on certification by States, and more credible and effective sanctions on States that do not effectively implement the regulations for which they are authorized. EPA expects that this new approach to State authorization will be applied to other parts of the RCRA program. If it is successful, the approach may become the template for the RCRA program as a whole. (This is discussed in more detail in section (V)(E).)

*The Regulations Should Be Easy To Understand*

The RCRA Subtitle C program has been criticized by many for being overly complex and thus difficult to comply with. This rule is not intended to fix all of the program's complexities; however, a primary objective in creating this new regulatory framework for management of contaminated media was to ensure that the new regulations are as easy to understand—and implement—as possible.

IV. Introduction and Overview of Today's Proposal and Alternatives to Today's Proposal

*A. Today's Proposed Approach*

Today's proposal would establish two new regulatory regimes for management of contaminated media that would otherwise be subject to regulation under the current RCRA Subtitle C regulations, if the media are managed under the oversight of EPA or an authorized State. The rule would establish a "Bright Line"—a set of constituent-specific concentrations—to distinguish between those two regimes based on whether media are more highly contaminated, or contaminated at lower levels.

Media which were contaminated with constituent concentrations below Bright Line values would be eligible to exit from Subtitle C regulation if the State or EPA determined that the media did not contain waste that present a hazard (i.e., hazardous waste). (See RCRA § 1004(5)). Most management requirements for contaminated media that do not contain hazardous wastes would be specified by the overseeing Agency on a case-by-case basis.

Today's proposal also addresses application of the Land Disposal Restrictions (LDRs) to both hazardous and non-hazardous contaminated media. Hazardous contaminated media are environmental media that contain hazardous wastes or exhibit a hazardous characteristic and have not been determined, pursuant to § 269.4, to no longer contain hazardous wastes. Non-hazardous contaminated media are media determined, pursuant to § 269.4, not to contain hazardous waste. LDRs apply to media contaminated by hazardous wastes when the wastes were land disposed after the effective date of the applicable land disposal prohibitions. When the wastes that are contaminating the media were land disposed before the effective date of the applicable land disposal prohibitions, LDRs attach to the media when the media are removed from the land, unless the media have been determined not to contain hazardous wastes before they are removed from the land. Media subject to the LDRs must be treated to meet LDR treatment standards prior to placement, or re-placement, in a land disposal unit (except a no-migration unit). As stated above, media contaminated by hazardous wastes placed before the effective dates of the applicable land disposal prohibitions and determined to no-longer contain hazardous waste before they are removed from the land are not subject to the land disposal restrictions.

In some cases, hazardous contaminated media may be determined to no-longer contain hazardous waste, but may remain subject to the land disposal restriction treatment standards. As discussed more completely later in today's preamble, this is based on the logic that, once attached, the obligation to meet land disposal restriction treatment standards continues even if a waste is no longer considered hazardous under RCRA Subtitle C.

Under current regulations, media subject to the land disposal restriction treatment standards must meet the standards for the hazardous wastes contained (or, in some cases, formerly contained) in the media, that is, the same treatment standard the contaminating hazardous wastes would have to meet if they were newly generated. Today's proposal would modify the land disposal restriction treatment standards for media subject to the LDRs so that the treatment standards reflect the site-specific nature of cleanup activities and media treatment technologies and strategies more accurately and appropriately. Today's proposal also establishes new Media Treatment Variances to ensure that, when the generic LDR treatment standards are technically impracticable or inappropriate or, for contaminated media with all constituent concentrations below the Bright Line, when the statutory LDR standard can be met with less treatment than required by the generic LDR treatment standards, appropriate treatment will be required. When contaminated media determined by a State or EPA to no-longer contain hazardous waste is still subject to the LDRs, today's proposal establishes a policy that site-specific Media Treatment Variances would be appropriate.

Contaminated media that contain hazardous wastes would continue to be regulated as hazardous wastes, but certain Subtitle C requirements would be modified. Most importantly, the LDR treatment standards for media would be amended, to account for the highly variable characteristics of media (such as soils) that are mixed with hazardous wastes, and the technical uncertainties involved with treating such heterogeneous materials. One of the primary objectives of the proposed rule is to replace generic, national standards with more tailored and flexible requirements for contaminated media. The rule would establish a new mechanism for imposing these site-specific requirements—remediation management plans (RMPs). These plans would be the vehicle for imposing (and enforcing) the new requirements, while

ensuring public participation in the decision making process. An approved RMP would be required for both wastes that contain hazardous wastes and those determined not to contain hazardous wastes. Thus, the regulations would not be self-implementing—the increased flexibility allowed under the new rules would be available to owner/operators and other responsible parties only when there is sufficient government oversight to ensure that such flexibility is not abused.

The use of RMPs should accelerate and streamline cleanup actions in several ways. First, an approved RMP would be considered a RCRA permit, eliminating the need to issue traditional, time-intensive RCRA permits for cleanup actions. Second, the procedures for reviewing and approving RMPs would be considerably less complex than those required for RCRA permits. Third, RMPs would not trigger the requirement for facility-wide (and beyond facility boundary) corrective action requirements under § 3004(u) and (v) of RCRA. Thus, the delays and other disincentives that have often been caused by the need to obtain a RCRA permit for certain cleanup activities should be significantly eased.

It should be noted that certain types of remediation wastes, such as sludges, debris, and other non-media remediation wastes, would not be subject to the more flexible treatment standards specified in the proposal and could not exit from hazardous waste regulation through a contained-in determination. Such materials would be subject to the traditional Subtitle C regulations, including LDR requirements. However, RMPs could be used (at the discretion of the overseeing Agency) to address all types of remediation wastes.

Today's proposal would also replace the current regulations for CAMUs, which were promulgated on February 16, 1993. New CAMUs could not be approved after the publication date of the final HWIR-media rule; however, existing CAMUs would be "grandfathered", and could continue operating for the duration of the remedial operations. For situations in which cleanup wastes are simply stored or treated in piles as part of cleanup activities, a new type of unit—a remediation pile—could be used without triggering LDRs and MTRs. A significant difference between the requirements for these remediation piles and the current CAMU requirements is that these piles would be only temporary and could not be used as a disposal option for remediation wastes. Remediation piles could only be used

during the duration of the cleanup activities at the site.

Another important feature of this proposal is its new approach to authorizing States for the rule, which would be much more streamlined than existing authorization procedures. Under the new approach, States would certify that they have an equivalent program, and EPA would only do a very brief review prior to authorization, rather than a meticulous line-by-line review of the States' regulations to determine equivalence. Once authorized, EPA would monitor the State's implementation of the program. Ultimately, the Agency could revoke a State's authorization specifically for this rule, without having to revoke the State's entire RCRA program (as is currently the case).

#### *B. Alternative Approaches Including Unitary Approach*

The Agency also solicits comments regarding alternative approaches to implementing the objectives of today's proposal. An alternative that was originally suggested by Industry stakeholders has received attention and support from many stakeholders. This alternative approach is commonly referred to as the "Unitary Approach."<sup>2</sup> The Unitary Approach would exempt all cleanup wastes (including contaminated media and non-media remediation wastes) from Subtitle C regulation if they meet certain conditions (the rule would thus be based on a conditional exclusion theory). The conditional exclusion requires that these remediation wastes be managed under an enforceable "Remedial Action Plan" or RAP approved by EPA or an authorized State program. The Unitary Approach would not include a Bright Line concept. All cleanup wastes would be subject to site-specific management requirements set by the overseeing Agency (EPA or State) in the RAP. EPA also believes that many of the key elements of different options and alternatives discussed in this proposal could be combined in different ways to construct an effective HWIR-media program. The following table illustrates three different combinations of the key elements, and is intended to facilitate comparison of options. A further discussion of alternative approaches and hybrids, is provided in section VI of the preamble to today's proposal.

<sup>2</sup> See letter from James R. Roewer, USWAG Program Manager, Utilities Solid Waste Activities Group, to Michael Shapiro, Director, Office of Solid Waste, EPA (September 15, 1995) in the docket for today's proposal.



TABLE 1

Key elements	Proposed option	Hybrid contingent management option	Unitary approach
Legal Theory .....	Contained-in .....	Conditional Exclusion for below the Bright Line.	Conditional Exclusion.
Scope .....	Media only .....	All remediation wastes .....	All remediation wastes.
Bright Line .....	Bright Line—10 <sup>-3</sup> and Hazard index of 10.	Bright Line (a) (for media) same as proposal, or (b) qualitative Bright Line <sup>1</sup> .	No Bright Line.
Hazardous vs. Non-hazardous.	All media above Bright Line are subject to Subtitle C; below is site-specific decision.	All remediation wastes above Bright Line are subject to Subtitle C; below (when managed according to RAP or RMP) are not hazardous.	All remediation wastes managed according to RAP or RMP are not hazardous.
LDRs .....	LDRs required for media where LDRs attaches <sup>2</sup> .	LDRs required for wastes where LDRs attaches <sup>2</sup> .	LDRs required for wastes where LDRs attaches. <sup>3</sup>
Permitting .....	RMP serves as RCRA permit for media that remain subject to Subtitle C.	RMP serves as RCRA permit for wastes that are above the Bright Line; for wastes below the Bright Line, RMP does not have to serve as RCRA permit.	No requirement that RAP/RMP serve as RCRA permit, since wastes are not subject to Subtitle C.

<sup>1</sup> See discussion of qualitative Bright Line below.

<sup>2</sup> See discussion of applicability of LDRs in section (V)(C).

<sup>3</sup> See discussion of alternative option for LDR applicability in section (VI)(A)(3).

The Agency believes that the alternative approaches provide more flexibility than today's approach, and requests comments on the Unitary Approach as an alternative to today's proposal, as well as other options that combine different key elements.

*C. Relationship to HWIR-Waste Rule*

EPA recently proposed two approaches for exemptions from Subtitle C regulation that focus on listed hazardous wastes that are not undergoing remediation (60 FR 66344-469, Dec. 21, 1995). Under the "HWIR-waste" proposal, listed wastes, wastes mixed with listed wastes and wastes derived from listed wastes would be eligible for exemption from Subtitle C where tests show that all hazardous constituents fall below one of the two sets of "exit levels" set out in the proposal.

EPA's goal for the generic option was to identify levels of hazardous constituents that would pose no significant threat to human health or the environment regardless of how the waste was managed after it exited Subtitle C jurisdiction. EPA derived these exit levels by making reasonable worst case assumptions about releases from a variety of solid waste management units. The exit values are designed to be protective even if there is no further regulation or oversight by any Federal or State agency. Moreover, the proposal does not require any regulatory agency to review exit claims or make decisions as to whether an exit is warranted. As noted in that proposal, in addition to listed hazardous wastes, both contaminated media and wastes that do not contain media, but are

undergoing cleanup, would be eligible to exit Subtitle C at these levels under this self-implementing process. However, since the exit levels do not account for site-specific factors that may exist at cleanup sites, large quantities of remediation wastes and contaminated media might not qualify for exit.

The second set of exit levels proposed in the HWIR-waste notice is somewhat less conservative because risk reduction credit is given for the conditions of the exemption, thus, adhering to the overall risk protection goal. These levels, however, would be available only to waste handlers that comply with specified conditions for the management of the exempted wastes. (The proposed option has a condition prohibiting management in land application units.) The notice also describes and requests preliminary comments on several other options for conditional exemptions with more extensive conditions that would increase risk protection and would, presumably, yield even less conservative exit levels. One of these options described could allow regulatory agencies to calculate exemption levels for individual waste management facilities using site-specific data. Waste that exited under this option would be subject to the conditions of the exit, enforced through ordinary, periodic compliance inspections, as opposed to special site-specific oversight.

Today's HWIR-media proposal, unlike the HWIR-waste generic option, does not seek to identify constituent concentrations that would be safe regardless of the manner in which the media is managed. Rather, it tries to

distinguish between (1) contaminated media that are eligible to exit because it is likely that they can be managed safely under cleanup authorities outside of Subtitle C, and (2) media that contain so much contamination that Subtitle C management is warranted. For exempted media EPA is proposing to require that a regulatory agency make any appropriate site-specific decisions about the management of remediation wastes, and impose those decisions in an enforceable document. EPA also expects that States will conduct significant oversight of these requirements during the course of their remediation activities. This scheme provides for more extensive oversight than most of the conditional exemption options in the HWIR-waste proposal. Consequently, the "Bright Line" concentrations in this proposal (that identify media that are eligible for exclusion from Subtitle C) are not as conservative as either the generic or the proposed conditional exemption option in the HWIR-waste proposal. EPA anticipates that larger quantities of contaminated media will be eligible for exemption under this proposal than under the HWIR-waste proposal. (For a further discussion of the technical methodologies used for developing the HWIR-waste exit levels and the HWIR-media Bright Line levels see section (V)(A)(4)(c) of today's preamble and the background documents for the two proposals in the docket.)

Finally, this proposal, unlike the HWIR-waste proposal, provides additional flexibility for materials that remain subject to Subtitle C jurisdiction. For example, EPA is proposing special

permitting and land disposal restriction standards for proposed Part 269. EPA believes this relief will increase environmental protection by reducing regulatory disincentives to cleanup.

## V. Section-by-Section Analysis

### A. General Provisions

#### 1. General Scope of Today's Proposal—§ 269.1

Today's proposal would establish a new Part 269 of 40 CFR, which would prescribe special standards for State or EPA-overseen cleanups managing contaminated media.

In § 269.1, today's proposed rule articulates several important provisions that apply generally to the Part 269 regulations, which are intended to clarify what these rules are intended to do. The following is a discussion of each of those provisions.

The first provision (§ 269.1(a)) clarifies that the rules (except the provisions for RMPs, in Subpart D) would apply only to materials that would otherwise be subject to Subtitle C hazardous waste regulations. The rules would not expand the coverage of Subtitle C regulations, or otherwise cause wastes to be considered hazardous that have not been so regulated before. In other words, contaminated media would have to be hazardous by characteristic, or be contaminated with a listed hazardous waste to become subject to this rule's provisions. Other contaminated media—regardless of constituent levels—would not have to be managed as hazardous wastes, and therefore, would not fall under the scope of this rule.

In discussions with various stakeholders, EPA has become aware that the "coverage" issue has been the source of some confusion. The rule has been perceived by some as applying to all media that might be managed as part of cleanup activities, rather than just those media that are currently subject to regulation as hazardous wastes. This provision is intended to clarify this point.

The second provision (§ 269.1(b)) is intended to explain that today's proposal would only affect certain specific Subtitle C regulations as they apply to hazardous contaminated media (i.e., media that contain hazardous waste). The primary effect of Part 269 concerning these media would be to replace the current LDR regulations (specified in Part 268) with modified treatment requirements, and to significantly streamline permit requirements. Other regulations that apply to treatment, storage, and disposal of hazardous wastes would continue to

apply to hazardous contaminated media.<sup>3</sup> For example, if hazardous contaminated media were generated from cleanup activities—and subsequently stored in tanks or containers for greater than 90 days—the tanks and containers would have to comply with the Subparts I or J requirements of Part 264 (or Part 265, if at an interim status facility). Other Part 264 and 265 requirements would continue to apply in similar fashion.

The third provision (§ 269.1(c)) addresses the interplay between these HWIR-media rules and other cleanup-related laws and regulations. Specifically, it clarifies that remedy selection standards, other "how-clean-is-clean" standards, and guidelines that are specified in cleanup statutes and/or regulations, would not be affected by these rules. EPA wishes to emphasize that the proposed HWIR-media rules would not affect which media or wastes at a site must be cleaned up, or how much contaminated media should be excavated. Such decisions are usually made according to Federal or State cleanup laws and regulations, most of which specify certain guidelines or criteria for determining how sites are to be cleaned up. Only after those decisions are made would these HWIR-media regulations come into play.

The fourth provision (§ 269.1(d)) is meant to emphasize a very important point regarding the Bright Line, which is that the Bright Line values identified in the proposal are not designed as cleanup levels. As stated elsewhere in this preamble (see (V)(A)(4)(c)), the Bright Line concept has very little to do with setting cleanup levels or making other "how-clean-is-clean" decisions. Cleanup levels usually take into account various site-specific and contaminant-specific factors, and are meant to ensure that risks from exposure to residual contamination are at acceptable levels. Bright Line concentrations would determine only whether the overseeing Agency has the discretion to conclude that media no longer contain hazardous waste, and therefore decide what management standards would apply to that media if generated during a cleanup. The use of Bright Line concentrations as cleanup levels would generally be inappropriate.

The fifth, and final provision, (§ 269.1(e)) specifies that these rules would not be self-implementing. As explained elsewhere in this preamble,

<sup>3</sup> Note that this only applies to hazardous contaminated media; media exempt from Subtitle C because of contained-in decisions (see § 269.4) would not be subject to any Subtitle C regulations except perhaps LDRs. (See discussion of LDRs in section (V)(C) of this preamble.)

and in the proposed rule language (§ 269.1(e)), the provisions of Part 269 can only be implemented with oversight by EPA or an authorized State, by an approved Remediation Management Plan (RMP) or analogous document.

#### 2. Purpose/Applicability—§ 269.2

As described above, this rule would modify the existing Subtitle C requirements for the management of more highly contaminated media, and would, in effect, exempt lesser contaminated media (that are determined not to contain any hazardous waste, and are managed in accordance with an approved Remediation Management Plan (RMP)) from most RCRA Subtitle C requirements. For such less-contaminated media, EPA and the States would impose appropriate management requirements on a site- and waste-specific basis, pursuant to authorities not reliant on the presence of RCRA hazardous waste.

The Agency is proposing to promulgate these regulations in a new Part (Part 269) of Title 40 of the Code of Federal Regulations. Issuing the rules for contaminated media management in a readily identified, discrete part of the Subtitle C regulations should help to make them clearer and easier to understand for both regulators and the regulated community. Although an alternate approach was considered that would have promulgated the rules as a series of amendments and modifications to the existing Subtitle C regulations (Parts 260 to 271), EPA believes such an alternative would be more difficult to understand, and would add to the complexity of an already complex body of rules.

Section 269.2 of today's proposal is intended to establish the general scope and applicability of these rules. As such, this part of the proposal addresses a number of important issues that were the subject of considerable debate during the FACA Committee process. The following is an explanation of how this proposal addresses those specific issues.

Section 269.2 specifies that Part 269 (except Subpart D) would apply only to hazardous contaminated media, not to all cleanup wastes. Therefore, non-media remediation wastes (e.g., excavated drum waste) would be subject to the same regulatory requirements that apply to as-generated hazardous wastes (with the exception of the Subpart D provisions for Remediation Management Plans). Likewise, hazardous debris under today's proposal would be subject to the existing LDR treatment standards

for debris, as well as other Subtitle C requirements.

The question of which types of remediation wastes should be covered under the HWIR-media rule was one of the major issues left unresolved by the FACA Committee under the Harmonized Approach. Although all parties on the Committee agreed that hazardous contaminated media (as defined in § 269.3—see ensuing preamble discussion) should be subject to this modified regulatory system, some groups argued that other types of remediation wastes, such as sludges, and other remediation wastes should also be covered by the rule. Those groups argued that separating media from non-media in this context is an artificial distinction that is inconsistent with the realities of managing wastes during cleanup operations. They contended that the rationale for modifying requirements for contaminated media applies equally to these non-media wastes (e.g., the presence of an overseeing agency, and disincentives for cleanup created by Subtitle C requirements). They maintained that the coverage of the rule should reflect the differences between cleanup- and prevention-oriented waste management, rather than create new categories of remediation wastes.

Other parties involved in the FACA Committee argued strongly that the rule should be narrower in scope, and should include only the types of remediation wastes that are clearly different in nature from newly-generated wastes. They said that because non-media remediation wastes (e.g., drummed wastes and sludges), are physically and chemically similar to as-generated hazardous wastes they should be subject to the same treatment standards and other requirements that apply to as-generated wastes. The fact that such wastes are managed as a result of cleanup actions (those parties argued) does not mean that they should be subject to the more flexible rules for remediation waste proposed today.

EPA decided to limit the scope of today's proposal to contaminated media for several reasons. First, the contained-in concept used in this proposal for exempting materials from Subtitle C only applies to media (and, as discussed below, debris). Thus, a different legal concept would have to be used to exempt other types of remediation wastes from Subtitle C. Further discussion of this issue is presented in section (VI)(A) of this preamble.

Another reason for limiting the applicability of the rule to contaminated media is that the cost-benefit analysis prepared for this rule indicates that, on

a national basis, contaminated media comprise approximately 80% of the total volume of material that is typically managed at Superfund (Federal and State) sites, RCRA corrective action sites, and voluntary cleanup sites. The rule would thus provide a considerable amount of regulatory relief, thereby removing the disincentive for cleanup this rule is designed to address. It can also be argued that the need for regulatory relief, particularly from LDR requirements, is more acute for contaminated media than other remediation wastes. This is because, as discussed in section (II)(A) of this preamble, they are often more complex to treat effectively, since there are often large, heterogeneous volumes of media, with numerous types of contaminants present, requiring multiple types of treatment technologies. In addition, this rule, if finalized, will constitute a major change in the way the covered materials are regulated under RCRA and will require a "break-in" period while regulators and the regulated community adjust to the new system. Therefore, it may be prudent to limit the rule to cover only contaminated media, at least until EPA and the States have established a track record in implementing this new regulatory system.

By limiting the applicability of this proposed rule to contaminated media, EPA is not discounting the arguments of those who believe that the rule should be more expansive in scope. It is acknowledged that the rule as drafted may create complexities for site managers and regulators in distinguishing and separating media from other remediation wastes at a site, and then applying two different regulatory regimes to their management. The Agency also recognizes that at many cleanup sites, the issue of whether to pick up and manage remediation wastes or to leave them in place, involves old wastes, not media. The Agency has also found in the Cost/Benefit assessment for today's proposed rule that an alternative which would include all remediation wastes in the scope of this rule would provide significantly more cost savings than the proposed option. As discussed in section (VI)(A) of this preamble, the Agency is seriously considering applying the rule to all remediation wastes and specifically requests comments and factual data concerning whether it is appropriate to do so. Specifically, the Agency seeks comment on the benefits of including all cleanup wastes, and what types of implementation difficulties, if any, would be created by regulating

hazardous contaminated media and other hazardous remediation wastes separately and how easy those problems are to overcome.

*Debris.* A related issue concerning the scope of today's proposal is whether the substantive portions of the rule should cover hazardous debris.<sup>4</sup> Although the FACA Committee did not examine this question in detail, individual members of the committee, as well as several other stakeholders (including several States) have recently contended that the rule should include debris and should allow it to be addressed under the same modified regulatory scheme as for media. These parties argue that although under today's proposal, requirements for debris could be addressed in an RMP, separate management standards (particularly the LDR treatment standards) for debris can complicate cleanups by requiring physical separation of debris from non-debris remediation wastes, and requiring different treatment technologies, where debris and media often can be handled together without compromising environmental protection.

Because this issue arose late in the preparation of today's proposed rule, EPA has decided, with a few exceptions,<sup>5</sup> not to include hazardous debris in the scope of today's proposal. However, should the Agency receive persuasive comments, it will consider including hazardous debris in the final rule.

EPA requests comment on whether hazardous debris should be included in the final Part 269 rule and, if debris is included, the management standards or combinations of management standards (e.g., some combination of the existing Debris Rule standards and the standards for contaminated media proposed today)

<sup>4</sup>Debris is defined in 40 CFR 268.2(g) as "solid material exceeding a 60 mm particle size that is intended for disposal and that is: a manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by § 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection." Hazardous debris is defined in 40 CFR 268.2(h) as "debris that contains a hazardous waste listed in Subpart D of Part 261 of this chapter, or that exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter."

<sup>5</sup>The exceptions are today's proposed regulations for remediation management plans and remediation piles, as discussed in the applicable sections of today's preamble.

that should be imposed. EPA requests that commenters address the distinctions, if any, which should be made between naturally occurring debris (e.g., gravel, tree roots) and man-made debris (e.g., crushed drums, sorbants). For example, should naturally occurring debris be included in the final Part 269 rule and subject to the same standards as contaminated media because it is often co-located with media? While these issues were specifically raised in the context of petroleum contaminated debris, EPA believes they are also applicable to debris more generally.

Details associated with the potential application of today's proposed requirements for contaminated media to hazardous debris are discussed later in sections (V)(A)(4)(b) and (V)(C)(10) of this preamble.

*Oversight.* Section 269.2(b) specifies that the regulations of Part 269 would apply only to cleanup activities that are overseen by EPA or an authorized State agency, in accordance with an approved plan (i.e., a RMP). This limitation is a key feature of the proposal.

As discussed earlier, remedial actions under RCRA, CERCLA, and other Federal and State cleanup programs are typically conducted with substantial government oversight. Often this occurs because the implementing agencies have decided to make many decisions relating to cleanup on a site-specific basis rather than promulgating generally applicable regulations. Agencies have preferred site-specific decision-making in the area of cleanup because remedial management decisions are extremely complex, and because site-specific factors play very important roles in the design and implementation of protective remedies. It is the Agency's belief that the government agency overseeing a particular remedial action is generally best suited to make decisions concerning the management of the contaminated media from that site, because they would be most familiar with the site-specific conditions that would affect how the media should be properly managed. Thus, for the majority of media (i.e., those with all constituent concentrations below the Bright Line), today's proposal would allow EPA or the State to impose site-specific standards in lieu of most of the current Subtitle C requirements.

In many States, several cleanup programs are operated by different programs or agencies of the State government. It is the intention of the Agency to authorize for this rule, State RCRA programs that have incorporated the rule and plan to rely on companion authorities that are not reliant on the

presence of hazardous wastes for jurisdiction (e.g., State solid waste laws, or State Superfund laws, and RCRA corrective action authority at TSDFs), and that are capable of assuring sound media management decisions for media determined to no longer contain hazardous wastes. EPA would then allow those States to determine which companion authority(s) should be used to define media management requirements at any specific site. Likewise, management standards for media determined to no longer contain hazardous wastes may be imposed, as appropriate, under Federal cleanup programs, such as Superfund or RCRA corrective action.

Since these proposed Part 269 regulations and appropriate site-specific management standards for media determined to no longer contain hazardous wastes would be implemented and enforced on a site-by-site basis, some mechanism must be available for the overseeing Agency to document the site-specific requirements, and thus provide a means to enforce compliance with those requirements. The proposal specifies that these rules will only apply when EPA or an authorized State approves a remediation management plan for the site. The requirements that contained-in decisions and appropriate non-Subtitle C management standards must be included in RMPs would also serve the very important purpose of providing the information necessary for the Agency to monitor whether an authorized State is implementing the HWIR-media rule in a protective manner (e.g., whether the State is making protective contained-in determinations). As discussed more fully in section (V)(E) below, today's proposal would allow EPA to withdraw a State's HWIR-media authorization if the Agency determines that the State is not managing the contaminated media addressed by the rule in a protective manner.

An approved RMP may also constitute a RCRA permit in cases where such permits are required specifically for cleanup activities. Further discussion of RMPs is presented elsewhere in this preamble.

§ 269.2(c) is designed to make clear that this rule does not expand the applicability of Subtitle C requirements to any materials for which Subtitle C would otherwise not apply. Materials and activities that are not already subject to Subtitle C would not be required to begin complying with Subtitle C standards. For example, if a site owner managed hazardous contaminated media under the 90-day accumulation provision of 40 CFR

262.34, this rule would not require him to obtain a RCRA Part B permit or a RMP. Similarly, if a site owner treats hazardous contaminated media *in situ* (i.e., without triggering the RCRA Land Disposal Restrictions), this rule would not subject him to the proposed media-specific LDR standards in Part 269.

### 3. Definitions—§ 269.3

Section 269.3 defines several important new terms that are unique to Part 269<sup>6</sup>. These terms are defined here, rather than in § 260.10 (where most of RCRA's regulatory terminology is defined), for the sake of convenience, and to emphasize that these are terms that would be specific only to this portion of the hazardous waste regulations. Of course, the definitions in § 260.10 would apply to Part 269 as well. The following is a discussion of each new term.

*Bright Line Constituent.* Today's proposal specifies the following definition:

Bright Line constituent means any constituent found in media that is listed in Appendix A of this Part, and which is: (1) The basis for listing of a hazardous waste (as specified in Appendix VII of 40 CFR Part 261) found in that media; or (2) a constituent which causes the media to exhibit a hazardous characteristic.

This definition would be used to establish which constituent concentrations in the media must be measured against Bright Line concentrations, which in turn would determine whether the Director has the discretion to decide that the media do not contain hazardous waste. The Agency considered several approaches for defining this term, including defining it to include any constituent that: (1) May be present in the media, (2) may be present in the media and originated from hazardous waste, or (3) may be present in the media, originated from hazardous waste, and was a constituent that either formed the basis for the waste's hazardous waste listing or caused the media to exhibit a hazardous characteristic.

The Agency rejected the first option because it could be over inclusive; i.e., there could be concentrations of constituents in the media that exceed Bright Line concentrations, but did not originate from hazardous waste (e.g.,

<sup>6</sup>The term "Director" as used in today's proposed rule means "Director" as defined currently in 40 CFR 270.2. The HWIR-waste proposal (60 FR 66344-469, Dec. 21, 1995) would move that definition to 260.10, in which case the 260.10 definition would be sufficient to define "Director" for purposes of today's proposal. For that reason, today's rule does not propose a definition for "Director."

naturally occurring constituents). Since under the contained-in principle, media are only regulated under Subtitle C because they contain hazardous waste, this approach could inappropriately extend the reach of the Subtitle C regulations.

EPA chose the third option over the second reasoning that the use of the same constituents that have caused the wastes in the media to be regulated as hazardous form a sound basis for deciding whether those same media should be eligible to be "deregulated." The sole purpose of the Bright Line is to determine whether the media should be eligible for a contained-in determination; the conclusion that all Bright Line constituents are below the Bright Line does not necessarily determine that the media no longer contain waste. If the media contain other constituents of concern, the Director could, where appropriate, use the constituents as the basis for denying a request that the media be determined to no longer contain hazardous wastes.

At some point in the site-cleanup process it would be necessary to determine which constituents in the media are Bright Line constituents. For media that exhibit a hazardous characteristic, the Bright Line constituents should be readily identified (i.e., by chemical analysis). For media contaminated with listed hazardous wastes, Appendix VII to 40 CFR Part 261 lists the constituents that were the basis for listing the waste as hazardous.

The Agency recognizes that identifying the presence of listed wastes (and thus the Bright Line constituents) in media is not always simple. It has been the Agency's longstanding policy that in cases where the origin of the contaminants is unknown, the lead agency may assume that contaminants in media did not originate from listed hazardous wastes. (See e.g., 55 FR 8666, 8758, March 8, 1990, and 53 FR 51394, 51444, (December 21, 1988)). It is generally the responsibility of the owner/operator or responsible party to make a good faith effort to determine whether hazardous constituents in media have originated from listed hazardous wastes. If the origin of constituents in media cannot be determined, and the media do not exhibit a hazardous characteristic, then the media would not be subject to Subtitle C regulations in the first place.

Although Bright Line constituents may help to determine the regulatory status of media they would not necessarily be the only constituents subject to LDR treatment standards. A discussion of how LDR standards would be applied to hazardous waste

constituents in hazardous contaminated media is presented in section (V)(C) of this preamble.

The tables in Appendix A specify concentrations for 100 constituents for which verified human health effects data were available to the Agency at the time of the proposal's publication. These constituents are also the ones most commonly found in contaminated media at Superfund sites. EPA expects that Bright Line concentrations for additional constituents will be available before publication of the final Part 269 rules. However, it is likely that for some time Appendix A will be an incomplete list. Comment is invited as to whether this list should be updated, as data become available, to include as many constituents as possible, or whether for purposes of this regulation it is acceptable to have a Bright Line list that does not specify levels for every constituent that might be found at a cleanup site.

In cases where constituents are present in media but are not among those listed with concentration values in Appendix A to Part 269—the Director would have the discretion (but not the obligation) to specify site-specific or State-wide Bright Line concentrations. The Director's discretion to decide whether media contained hazardous wastes is unconstrained with respect to these constituents.

For constituents that do not have established Bright Line concentration values, EPA believes it would generally be appropriate to use similar assumptions to those used to establish the current Bright Line concentrations. The technical background documents which describe the assumptions, equations, and models used to set the Bright Line numbers are in the docket for today's rule.

Additional discussion of the Bright Line concept is presented in section (V)(A)(4)(c) of this preamble, including information on the specific numbers in Appendix A and how they were calculated. The Agency requests comments on this definition of Bright Line constituents. In particular, the Agency seeks comments on the approach of defining Bright Line constituents as those constituents that caused the waste to be hazardous in the first place. For example, would it make more sense to define Bright Line constituents as any constituents for which LDR treatment would be required? (Constituents that would be required to be treated for LDR are discussed in section (V)(C)(3) below.) This approach may be appropriate, since the owner/operator would already be addressing these constituents for LDR

purposes. The Agency requests comments on approaches for making contained-in decisions for constituents that do not have levels specified in Appendix A.

*Hazardous contaminated media.* Today's rule proposes the following definition of hazardous contaminated media:

Hazardous contaminated media means media that contain hazardous wastes listed in Part 261 Subpart D of this chapter, or that exhibit one or more of the characteristics of hazardous waste defined in Part 261, Subpart C of this chapter, except media which the Director has determined do not contain hazardous wastes pursuant to § 269.4 of this Part (non-hazardous contaminated media).

This definition would be used to identify media that remain subject to regulation as hazardous wastes under RCRA Subtitle C.

*Media.* Today's rule proposes the following definition of media:

Media means materials found in the natural environment such as soil, ground water, surface water, and sediments; or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes and is made up primarily of media. This definition does not include debris (as defined in § 268.2).

This definition is intended to include a broad range of naturally occurring environmental media that may become contaminated with hazardous wastes. Debris has not been included in this definition, for reasons cited in the earlier discussion of debris, section (V)(A)(2), although, as discussed in that section, EPA solicits comments on whether it should be. However, hazardous debris or other remediation wastes may be managed in remediation piles (see discussion of proposed § 264.554), and could be addressed in a remediation management plan under today's proposal.

*Media Remediation Site.* Today's rule proposes the following definition of media remediation site:

Media remediation site means an area contaminated with hazardous waste that is subject to cleanup under State or Federal authority, and areas that are in close proximity to the contaminated area at which remediation wastes are being managed or will be managed pursuant to State or Federal cleanup authorities (such as RCRA corrective action or CERCLA). A media remediation site is not a facility for the purpose of implementing corrective action under § 264.101, but may be subject to such corrective action requirements if the site is located within such a facility (as defined in § 260.10).

EPA also proposes to amend the definition of facility in § 260.10 to

exclude media remediation sites (except those located at a TSDF).

The concept of a media remediation site is new in the RCRA context, although it is similar to the "on-site" concept that is defined in the Superfund program. Traditionally, RCRA has focused on "facilities" for purposes of applying hazardous waste regulations. These are generally properties where industrial operations manage hazardous wastes that they have generated, or where commercial hazardous waste treatment, storage, and/or disposal operations are conducted. For purposes of implementing corrective actions under § 3004 (u) and (v) and 3008(h), a facility is defined (see § 260.10) as "all contiguous property under the control of the owner or operator" where hazardous wastes are managed.

Applying this concept of a facility to cleanup actions can be problematic in some cases, particularly where cleanup activities are being conducted on property that was never before regulated under RCRA (e.g., land that became contaminated before RCRA regulations were promulgated). Under the current regulations, if the cleanup activities at such a site require a RCRA permit, the site would become a "facility" for RCRA purposes, and corrective action requirements would apply to all contiguous property that is under the control of the owner or operator. This has created disincentives for cleanups at properties not heretofore regulated under RCRA. For example, obtaining a permit can be a time- and resource-intensive undertaking, and the facility-wide corrective action requirements that attach once the permit is issued can also deter cleanups. Since a media remediation site would not be considered a facility for RCRA purposes, a RMP issued for the cleanup activities at the site would not trigger any of the RCRA corrective action requirements mandated by RCRA § 3004 (u) and (v).

EPA believes that using the concept of a media remediation site in applying Part 269 regulations, instead of calling them RCRA facilities, is sensible and consistent with the RCRA statute. The HWIR FACA Committee also supported this approach. As originally conceived, RCRA facilities were generally properties whose owners and operators were engaged in ongoing hazardous waste management. Requiring corrective action for such facilities (both facility-wide and beyond the facility boundary) was seen as a quid pro quo; i.e., one of the costs of doing business for those engaged in—and in some way profiting from—the management of hazardous wastes. In a remedial context, however, there is no profit or advantage gained by

owners and operators from managing hazardous wastes; it is simply incidental to performing an act that is environmentally beneficial (i.e., cleaning up a site). Viewing cleanup sites as traditional hazardous waste facilities (and thus imposing additional cleanup responsibilities) can have the effect of penalizing those who wish to clean up their properties.

EPA does not believe that Congress intended for RCRA to create obstacles like this one to cleaning up contaminated sites. Under § 3004(u) of RCRA, the corrective action requirement applies to "a treatment, storage, or disposal facility seeking a permit." This clearly refers to facilities that need permits because they are in the business of hazardous waste management. In the Agency's opinion, sites that only conduct hazardous waste management incidental to cleanup activities are not the types of facilities to which Congress intended to apply the § 3004 (u) and (v) facility-wide (and beyond the facility boundary) corrective action requirements.

In some cases, a media remediation site could be part of an operating (or closing) RCRA hazardous waste management facility that is already subject to the § 3004 (u) and (v) corrective action requirements; in those cases, identifying an area of the facility as a media remediation site would not have any effect on the corrective action requirements for that site or the rest of the facility. The only advantage to designating part of a RCRA-regulated facility as a media remediation site would be that more streamlined permit procedures (for RMPs—see § 269.43) could be used for that part of the facility.

Under the proposed definition, a media remediation site would be limited to the area that is contaminated and subject to cleanup, and adjacent areas that are used for managing remediation wastes as part of cleanup activities. Areas that are remote from the contaminated site would not be eligible to be media remediation sites. For example, if remediation wastes were generated from a site and subsequently transported off-site for treatment or disposal, the treatment/disposal sites could not be considered media remediation sites. These off-site units would be subject to regulation as RCRA facilities for permitting and corrective action purposes.

Of course, units used to manage non-hazardous remediation wastes (including non-hazardous contaminated media—e.g., media determined not to contain hazardous waste), would not need to comply with Subtitle C

regulations, nor would such units need RCRA permits. In other words, if the Director determined that media did not contain hazardous waste, units used for subsequent management of the media (on or off site) would not be subject to permitting or other Subtitle C requirements.

EPA considered the option of allowing certain off-site areas to be considered media remediation sites, such as sites dedicated to managing only remediation wastes, and sites where only remediation wastes from a specific cleanup site were managed. These options could provide significant advantages. For example, excavating wastes from a site located in a floodplain, and staging those wastes in a more secure location away from the floodplain, prior to ultimate disposal could be a reasonable remedy. As proposed, the off-site staging area could not be considered a media remediation site—it would have to be permitted as a traditional hazardous waste storage facility. The Agency recognizes that allowing the use of RMPs at off-site staging facilities might be more streamlined than requiring RCRA permits. However, an option that would allow off-site areas to be considered media remediation sites (or to be permitted under RMPs) could be more complicated to administer. The Agency does not want to restrict off-site management of remediation wastes, but simply to ensure that these off-site locations are adequately overseen. The Agency requests comments on allowing off-site areas to be regulated as media remediation sites under Part 269, and any specific requirements or limitations that should be imposed on off-site media remediation sites.

Today's proposal would allow the Director to include areas in close proximity to contaminated land that is being cleaned up as part of a designated media remediation site. This would allow the site managers a limited amount of room for conducting cleanup operations outside the area that is actually contaminated. For example, cleaning up a lagoon full of sludges might involve constructing and operating a treatment unit at the site; in many cases, it might be impractical or impossible to locate the treatment unit within the lagoon. This provision would require some judgment on the part of regulators responsible for defining the boundaries of a media remediation site. EPA solicits comments on this provision, and on the more general question of how expansive the definition should be, and what types of operations or areas should be included or excluded.

*Non-hazardous contaminated media.* Today's rule proposes the following definition of non-hazardous contaminated media:

Non-hazardous contaminated media means media that are managed as part of cleanup activities and that the Director has determined do not contain hazardous wastes (according to § 269.4), but absent such a determination would have been hazardous contaminated media.

This definition is intended to encompass any media that would have been subject to RCRA Subtitle C management requirements but the Director determined that they do not contain waste that presents a hazard (i.e., hazardous waste) based on controls in a RMP. (See discussion in section (V)(A)(4)(a) of this proposal). This definition is intended to differentiate non-hazardous contaminated media from media which would never have been subject to Subtitle C in the first instance (e.g., soil that was never contaminated with hazardous waste.)

Under today's proposal, management of non-hazardous contaminated media would nevertheless be subject to control and oversight from EPA or an authorized State. As discussed in section (V)(A)(4)(a), in order for hazardous contaminated media to be designated non-hazardous contaminated media, the Director would need to specify any appropriate management controls in an approved RMP. Since the intent of this rule is not to expand the reach of RCRA Subtitle C requirements, "never contaminated soil" would not be subject to the requirements set forth in this part for non-hazardous contaminated media.

Inherent in this definition is the idea that, even though these media would not be regulated as hazardous wastes, they might nevertheless be "contaminated" enough to be of some concern to the overseeing agency's site cleanup decisions. In fact, most of the media that are generated and managed as part of cleanups would likely be eligible to be considered non-hazardous, according to the results of the Regulatory Impact Analysis prepared for this proposed rule.

*Remediation Management Plan (RMP).* Today's rule proposes the following definition for Remediation Management Plan:

Remediation Management Plan means the plan which describes specifically how hazardous and non-hazardous contaminated media will be managed in accordance with this Part. Such a plan may also include, as allowed under Subpart D of this Part, requirements for other remediation wastes and any other (non-Part 269) requirements applicable to hazardous contaminated media.

The requirements of today's proposal depend on a responsible overseeing agency (EPA or an authorized State) to approve and monitor compliance with many site-specific decisions regarding the management of hazardous contaminated media. The RMP would provide the documentation of the plan and relevant information to demonstrate compliance with applicable requirements. A unique aspect of the RMP is that there could be several different kinds of RMPs. Since hazardous and non-hazardous contaminated media would be managed under any number of Federal and State programs, the Agency believes that it would be unnecessarily burdensome to require a fixed form of documentation, as long as the required information is adequately included or described in the documents already being used by the programs that implement the remedial activities. In other words, this rule would allow any enforceable document containing the information required to be included in a RMP if it also goes through at least the minimum public participation requirements in proposed § 269.43.

*Sediment.* Today's proposal specifies the following definition for sediments:

Sediment is the mixture of assorted material that settles to the bottom of a water body. It includes the shells and coverings of mollusks and other animals, transported soil particles from surface erosion, organic matter from dead and rotting vegetation and animals, sewage, industrial wastes, other organic and inorganic materials, and chemicals.

This definition is from EPA's Office of Water's document from June 1993, entitled "Selecting Cleanup Techniques for Contaminated Sediments," EPA 823-B93-001, p. xiv, which is available in the docket to today's proposal. For further discussion of how the proposal would affect management of contaminated sediments, see sections (V)(A)(4)(c) and (V)(H) of this preamble.

*Soil.* Today's proposal specifies the following definition of soil, for the purpose of implementing Part 269 regulations:

Soil means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles (sizes as classified by the U.S. Soil Conservation Service), or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes, and is made up primarily of soil.

This definition was originally proposed in the September 14, 1993 Phase II LDR proposal (58 FR 48092, 48123). It would allow regulators to distinguish between soils, debris, and

other remediation wastes by judging the results of simple, in-situ mechanical removal processes to separate the materials. These processes would include pumping, dredging, or excavation by backhoe, or other devices.

This approach would eliminate requirements for chemical analysis of soil, to differentiate between waste, soil and debris (e.g., considering such things as soil particle size, elemental composition of the soil, or other properties that might distinguish soil from other remediation wastes). The Agency is not proposing that owner/operators or the Director distinguish more precisely than specified in today's proposal between waste, soil, or debris—through a chemical analysis or other tests—since these approaches would be difficult to develop, support, and administer. Specifically, a basis for chemical analysis or other tests has not been developed, and implementation of this approach would most likely not be beneficial. Instead it would simply delay the progress of remedial actions. The Agency specifically solicits comments on this proposed definition for soil, and this type of approach for classifying mixtures of soil and other materials.

#### 4. Identification of Media Not Subject to Regulation as Hazardous Waste—§ 269.4

Section 269.4 specifies that, as long as media do not contain Bright Line Constituents that are at or above Bright Line concentrations, the Director may determine if those media contain hazardous wastes. If not, the Director may determine that the media would not be subject to most RCRA hazardous waste management requirements.<sup>7</sup> This does not mean, however, that management of those media would be unrestricted. Instead, the rule would require EPA or the State to impose appropriate management requirements in an approved RMP, using authorities that do not depend on the presence of hazardous wastes (i.e., general cleanup authorities as provided in Federal or State cleanup statutes).

The Agency is imposing this condition on decisions that media no longer contain hazardous wastes, because the proposed rule, as discussed below, would allow those decisions to be made where media may be more highly contaminated than media the Agency has traditionally deemed to no longer contain hazardous waste. If, for some reason, a RMP were terminated prior to completion of a remedy, those

<sup>7</sup>The exception is, in some cases, the requirement to comply with the land disposal treatment standards. (See discussion in (V)(C).)

media would again become subject to Subtitle C regulation. Understanding the role of the Bright Line and the contained-in principle is essential to understanding how today's proposal would work. Both the contained-in principle and the Bright Line are explained below.

a. The contained-in principle in today's proposed rule background. The contained-in principle is the basis for EPA's longstanding policy regarding the application of RCRA Subtitle C requirements to mixtures of environmental media (e.g., soils, ground water, sediments) and hazardous wastes. This concept has been discussed previously in several Agency directives and in several RCRA rulemakings. (See, e.g., 58 FR 48092, 48127 (September 14, 1993)). In today's proposed rule the Agency is expanding this concept as the basis for allowing EPA or an authorized State to exempt certain contaminated media from the stringent, prevention-oriented RCRA regulations for hazardous waste management that previously would have applied.

The contained-in concept was originally developed to define the regulatory status of environmental media that are contaminated with hazardous wastes. The mixture rule at 40 CFR 261.3(a)(2)(iv) states that "a mixture of solid waste and one or more [listed] hazardous wastes" constitutes a listed waste itself (emphasis added). Similarly, the derived-from rule at 40 CFR 261.3(c)(2)(i) provides that "a solid waste generated from the treatment, storage, or disposal of a hazardous waste" is a hazardous waste (emphasis added).

Since media are not solid wastes, these rules do not apply to mixtures of media and hazardous wastes. However, two other regulations subject contaminated media to Subtitle C requirements. Under 40 CFR 261.3(c)(1) a "hazardous waste will remain a hazardous waste" unless and until certain specified events occur. Under 40 CFR 261.3(d)(2) a "waste which contains" a listed waste remains a hazardous waste until it is delisted. Together these regulations provide for continued regulation of hazardous wastes even after they are released to the environment and mingled with media.

The U.S. Court of Appeals for the District of Columbia Circuit upheld this interpretation of §§ 261.3(c)(1) and (d)(2) in *Chemical Waste Management Inc. v. EPA*, 869 F.2d 1526, 1538-40 (D.C. Cir. 1989), and EPA has explained the policy and its regulatory basis in numerous preambles and letters. (See 57 FR 31138, 31142, 31148 (Aug. 17, 1988);

57 FR 21450, 21453 (May 20, 1992) (inadvertently citing 40 CFR 261(c)(2) in lieu of § 261.3(d)(2)); memorandum from Marcia E. Williams, Director, EPA Office of Solid Waste, to Patrick Tobin, EPA Region IV (Nov. 15, 1986); letter from Jonathan Z. Cannon, EPA Acting Assistant Administrator, Office of Solid Waste and Emergency Response, to Thomas Jorling, Commissioner, New York Department of Environmental Conservation (June 19, 1989); and letter from Sylvia K. Lowrance, Director, EPA Office of Solid Waste, to John Ely, Enforcement Director, Virginia Department of Waste Management (Mar. 26, 1991). Under the contained-in policy, media contaminated with listed hazardous wastes are not wastes themselves, but they contain hazardous wastes and must therefore be managed as hazardous wastes until they no longer contain the waste. This concept is based on the idea that at some point (e.g., at some concentration of hazardous constituents) the media would no longer contain the hazardous waste, or be subject to RCRA Subtitle C regulations.

Because the regulations that serve as the basis for the contained-in policy are part of the "base" RCRA program that was in effect prior to 1984, the Agency has taken the position that EPA or the State agency authorized to administer the "base" RCRA regulations may determine whether media contain listed wastes. Decisions that media no longer contain listed hazardous wastes (or "contained-in" decisions) have typically been made on a case-by-case basis, according to the risks posed by the contaminated media. The Agency has not issued any definitive guidance or regulations for determining appropriate contained-in levels; however, EPA Regions and States have been advised that conservative, health-based levels derived from direct exposure pathways would clearly be acceptable as "contained-in" levels. (See memorandum from Sylvia K. Lowrance to Jeff Zelikson, Region IX, (January 24, 1989)). It has been the common practice of EPA and many States to specify conservative, risk-based levels calculated with standard conservative exposure assumptions (usually based on unrestricted access), or site-specific risk assessments.

With regard to mixtures of media and characteristic wastes, EPA has often stated that media are regulated under RCRA Subtitle C if they exhibit a hazardous waste characteristic. (See 57 FR 21450, 21453, (May 20, 1992)). But, since media generally are not wastes, they become regulated when they have been contaminated with solid or hazardous wastes and the resultant

mixture exhibits a characteristic. EPA has also taken the position that contaminated media cease to be regulated as hazardous waste when sufficient quantities of hazardous constituents are removed so that the mixture ceases to exhibit a characteristic<sup>8</sup> (57 FR 21450, 21453, May 20, 1992).

The contained-in concept in today's proposed rule. One of the primary objectives of today's proposal is to remove lower risk contaminated media from Subtitle C jurisdiction so that more appropriate, site-specific management requirements can be specified by the overseeing Agency. For the purpose of this rulemaking EPA has chosen to use the contained-in concept as the basis for allowing these materials to be exempted from Subtitle C requirements. In formulating the proposal, the Agency considered alternative concepts that might be provided under the RCRA statute that would produce the same or similar exemption. Those concepts are discussed in section (VI)(A)(2) of this preamble.

Today's proposal would allow two separate regulatory regimes to be applied to the management of contaminated media under EPA or State-approved cleanups. For media determined to contain hazardous wastes, modified LDR treatment standards would apply, as would other applicable Subtitle C requirements. For media determined not to contain hazardous wastes, Subtitle C requirements would generally not apply, and the State or EPA would have considerable discretion in applying appropriate management standards.

The proposed rule would limit an overseeing agency's discretion to make site-specific decisions that media no longer contain wastes by specifying "Bright Line" concentration levels. Media that are contaminated below Bright Line concentrations would be eligible for contained-in decisions by the overseeing Agency. However, Bright Line concentrations would not constitute an automatic exemption from Subtitle C; rather, they would represent the concentration below which the State or EPA might determine that media do not contain hazardous waste.

As described below, EPA believes it would generally be acceptable to make a decision that media do not contain hazardous waste at the Bright Line concentrations specified in today's proposal. However, the proposed rule is

<sup>8</sup>Recent developments under the RCRA land disposal restrictions (LDRs) may suggest a qualification to this latter point. (See discussion of LDRs in section (V)(C) of today's preamble.)



designed to provide for site-specific discretion in making such decisions. Thus, it is possible that some States might choose to specify—on a site-specific basis, more broadly as a matter of policy, or in regulations—contained-in levels that are lower (i.e., more stringent) than the Bright Line concentrations specified in today's proposal. Moreover, States can be more stringent than the Federal program, and adopt lower Bright Line concentrations.

In applying the contained-in concept, today's proposed rule does not distinguish between media that are contaminated with listed hazardous wastes, and media that exhibit a hazardous waste characteristic. In both cases, it is the concentration levels of the individual hazardous constituents in the media that determine how the media will be regulated under Part 269. The origin of the constituents (i.e., listed wastes or characteristic hazardous wastes) is irrelevant in comparing measured levels in the media with Bright Line concentrations and/or contained-in concentrations.

EPA sees no reason to apply the Bright Line concept differently to media contaminated with listed hazardous wastes and media that exhibit a hazardous characteristic. In either case the media could presumably be contaminated with the same types of hazardous constituents, at similar concentrations, that would present similar potential risks if mismanaged. Thus, applying these rules differently, depending on how the media came to be regulated as hazardous, would be unnecessary and artificial, and would further complicate how these rules would be implemented in the field.

EPA recognizes that today's rule could have the effect of excluding from Subtitle C regulation some media that until now have been considered hazardous—i.e., media that exhibit a hazardous waste characteristic, with constituent concentrations below the Bright Line and EPA or the State makes a determination that the media no longer contain hazardous waste (often based on protective management controls). However, EPA believes that there is no compelling environmental rationale for not including such media in Part 269 regulation. The risk presented even by characteristic wastes is dependent on site-specific circumstances. Therefore, because today's proposal would require the Director to impose any management controls on contaminated media that are necessary to protect human health and the environment, whether the media is contaminated with listed or characteristic waste is unimportant.

Under today's proposed rule, contained-in decisions would be documented in the site's approved Remediation Management Plan (RMP). If an approved RMP expires or is terminated, the provisions of today's proposal would no longer apply. Therefore, all contaminated media that are addressed in the RMP (i.e., media that are contaminated both above and below contained-in concentrations) would again prospectively be subject to the "base" Subtitle C regulations. For example, if a cleanup of contaminated soil was half completed when a RMP was terminated or expired, the half that was completed in compliance with the RMP while it was in effect, would continue to be considered to be in compliance. For example, if contaminated soil was determined not to contain hazardous waste, and was disposed of in a Subtitle D landfill according to the requirements of the RMP, that Subtitle D landfill would not be considered retroactively to have accepted hazardous wastes. The half of the cleanup that was not completed when the RMP was terminated or expired, however, would have to be completed prospectively in compliance with the non-Part 269 Subtitle C regulations.

Effect of contained-in decisions under today's rule. Once the overseeing Agency has made a decision that media with constituents at certain concentrations no longer contain hazardous wastes (i.e., "a contained-in decision"), the media would no longer be regulated as hazardous wastes under Federal RCRA regulations (§ 261.4(g) and § 269.4(a)).<sup>9</sup> The Agency requests comments, however, on whether the Agency should exempt the media instead, only if it were managed in compliance with the provisions of the RMP. The Agency did not propose this approach primarily because it could be unduly harsh, since any violation, no matter how minor, would result in a reversion to Subtitle C. However, this approach could be incorporated into RMPs on a case-by-case basis, where the Director could specify in the RMP the provision(s) who's violation would result in a reversion to Subtitle C regulation. (See discussion below).

A contained-in decision for wastes at a cleanup site would not, however, eliminate the Administrator's authority to require the owner/operator (or other

responsible parties at sites not regulated by RCRA) to conduct remedial actions for media that do not contain hazardous wastes. Specifically, Federal cleanup authorities under RCRA section 3004(u) at TSDFs, section 7003, and CERCLA authorities, authorize the Agency to require cleanup of a broad spectrum of hazardous constituents and/or hazardous substances, however, the presence of hazardous waste(s) in media is not a requirement for exercising those authorities. Many State cleanup authorities have similar provisions.

Decision factors for contained-in decisions. Because the Agency does not want to constrain site-specific decision-making, today's proposed rule would not mandate specific factors for making contained-in decisions, but would allow the Director to base these decisions on appropriate site-specific factors. However, EPA requests comments on whether decision factors should be codified for making contained-in decisions. EPA believes that the Bright Line concentrations will generally be acceptable for contained-in decisions; however, decision factors could help authorities determine, on a site-specific basis, what types of management controls (see discussion below), if any, would make the Bright Line concentrations appropriate concentrations at which to make contained-in decisions. Decision factors could also aid in determining other appropriate levels at which to make contained-in decisions.

Given the multiplicity of different types of sites, EPA requests comments on what decision factors, if the Agency decided to include them in the final rule, would ensure consistent decision-making, and yet keep the process efficient and flexible. Although EPA does not believe it would be appropriate to do a risk assessment at every site, particularly if the cleanup is of a relatively simple nature, the Agency does believe that the following factors (adapted from the LDR proposal for hazardous soils) contain the types of information that may be appropriate (depending on the specific circumstances at a given site) to consider in making contained-in decisions:

- Media properties;
- Waste constituent properties (including solubility, mobility, toxicity, and interactive effects of constituents present that may affect these properties);
- Exposure potential (including potential for direct human contact, and potential for exposure of sensitive environmental receptors, and the

<sup>9</sup>The Agency notes, however, that by explicitly providing in § 261.4 that decisions under Part 269 that media no longer contain hazardous waste are not subject to most Subtitle C regulations, EPA would not intend to affect in any way the authority of EPA and authorized States to make contained-in decisions outside of the HWIR-media context.

- effect of any management controls which could lessen this potential);
- Surface and subsurface properties (including depth to groundwater, and properties of subsurface formations);
- Climatic conditions;
- Whether the media pose an unacceptable risk to human health and the environment; and
- Other site or waste-specific properties or conditions that may affect whether residual constituent concentrations will pose a threat to human health and the environment.

Most of these factors were proposed in the LDR proposal for hazardous soil (58 FR 48092, September 14, 1993) as decision factors that might be considered by the Director in making contained-in decisions. If the proposal for hazardous soil had been finalized, it would have codified the contained-in principle for hazardous soil. Today's suggested factors differ from those in the hazardous soil proposal in one significant respect. The Agency has determined that it may be appropriate, when assessing "exposure potential," to consider site-specific management controls imposed by the Director that limit potential exposures of human or environmental receptors to media. The Agency made this change because EPA believes that States overseeing cleanups might determine that media that would have traditionally been considered to contain hazardous waste (e.g., media that contained listed wastes and posed an unacceptable risk under traditional exposure scenarios) no longer presented a hazard (and thus did not contain "hazardous" waste), based on site-specific management controls imposed by the Director.

This position is based upon EPA's understanding that RCRA provides EPA and the States the discretion to determine that a waste need not be defined as "hazardous" where restrictions are placed on management such that no improper management could occur that might threaten human health or the environment. (See definition of hazardous waste at RCRA section 1004(5)(B)). The HWIR-waste proposal included a full discussion of the legal basis for this position. For the sake of clarity, it is repeated below (60 FR 66344-469, Dec. 21, 1995).

EPA's original approach to determining whether a waste should be listed as hazardous focused on the inherent chemical composition of the waste, and assumed that mismanagement would occur, causing people or organisms to come into contact with the waste's constituents. (See 45 FR 33084, 33113, (May 19,

1980)). Based on more than a decade of experience with waste management, EPA believes that it is inappropriate to assume that worst-case mismanagement will occur. Moreover, EPA does not believe that worst-case assumptions are compelled by statute.

In recent hazardous waste listing decisions, EPA identified some likely "mismanagement" scenarios that are reasonable for almost all wastewaters or non-wastewaters, and looked hard at available data to determine if any of these are unlikely for the specific wastes being considered, or if other scenarios are likely, given available information about current waste management practices. (See the Carbamates Listing Determination (60 FR 7824, February 9, 1995) and the Dyes and Pigments Proposed Listing Determination (59 FR 66072, December 22, 1994)). Further extending this logic, EPA believes that when a mismanagement scenario is not likely, or has been adequately addressed by other programs, the Agency need not consider the risk from that scenario in deciding whether to classify the waste as hazardous.

EPA believes that the definition of "hazardous waste" in RCRA section 1004(5) permits this approach to hazardous waste classification. Section 1004(5)(B) defines as "hazardous" any waste that may present a substantial present or potential hazard to human health or the environment "when improperly \* \* \* managed." EPA reads this provision to allow it to determine the circumstances under which a waste may present a hazard and to regulate the waste only when those conditions occur. Support for this reading can be found by contrasting section 1004(5)(B) with section 1004(5)(A), which defines certain inherently dangerous wastes as "hazardous" no matter how they are managed. The legislative history of Subtitle C of RCRA also appears to support this interpretation, stating that "the basic thrust of this hazardous waste title is to identify what wastes are hazardous in what quantities, qualities, and concentrations, and the methods of disposal which may make such wastes hazardous." H. Rep. No. 94-1491, 94th Cong., 2d Sess. 6 (1976), reprinted in, "A Legislative History of the Solid Waste Disposal Act, as Amended," Congressional Research Service, Vol. 1, 567 (1991) (emphasis added).

EPA also believes that section 3001 gives it flexibility in order to consider the need to regulate as hazardous those wastes that are not managed in an unsafe manner (section 3001 requires that EPA decide, in determining whether to list or otherwise identify a waste as hazardous waste, whether a

waste "should" be subject to the requirements of Subtitle C). EPA's existing regulatory standards for listing hazardous wastes reflect that flexibility by allowing specific consideration of a waste's potential for mismanagement. (See § 261.11(a)(3) (incorporating the language of RCRA section 1004(5)(B)) and § 261.11(c)(3)(vii) (requiring EPA to consider plausible types of mismanagement)). Where mismanagement of a waste is implausible, the listing regulations do not require EPA to classify a waste as hazardous, based on that mismanagement scenario.

Two decisions by the U.S. Court of Appeals for the District of Columbia Circuit provide potential support for the approach to defining hazardous waste, in *Edison Electric Institute v. EPA*, 2 F.3d 438, (D.C. Cir. 1993) the Court remanded EPA's RCRA Toxicity Characteristic ("TC") as applied to certain mineral processing wastes because the TC was based on modeling of disposal in a municipal solid waste landfill, yet EPA provided no evidence that such wastes were ever placed in municipal landfills or similar units. This suggests that the Court might approve a decision to exempt a waste from Subtitle C regulation if EPA were to find that mismanagement was unlikely to occur. In the same decision the Court upheld a temporary exemption from Subtitle C for petroleum-contaminated media because such materials are also subject to Underground Storage Tanks regulations under RCRA Subtitle I. The court considered the fact that the Subtitle I standards could prevent threats to human health and the environment to be an important factor supporting the exemption. *Id.* At 466. In *NRDC v. EPA*, 25 F.3d 1063 (D.C. Cir. 1994) the Court upheld EPA's finding that alternative management standards for used oil promulgated under section 3014 of RCRA reduced the risks of mismanagement and eliminated the need to list used oil destined for recycling. (The Court, however, did not consider arguments that taking management standards into account violated the statute because petitioners failed to raise that issue during the comment period.)

The Agency believes, therefore, that EPA and the States may consider site-specific management controls when making contained-in decisions pursuant to proposed Part 269. EPA believes that this approach is especially appropriate in the Part 269 context, because of the significant level of oversight generally given to cleanup actions. Management controls that are tailored to site-specific

circumstances and imposed in enforceable documents, and State or EPA oversight of cleanup activities, would ensure that the site-specific management controls that the Director relied upon in making each contained-in decision would continue to be implemented. In addition (although EPA is not proposing to require it as a federal matter), States may want to consider making such contained-in decisions conditional; i.e., media would only be considered nonhazardous so long as they were managed in the manner considered by the Director in making the contained-in decision. Deviations (any, or specific ones) would result in a reversion to Subtitle C regulation.

EPA specifically requests comments on the following: (1) Should the Agency specify a list of criteria to consider; (2) should the Agency prepare decision factors as guidance; (3) should the Agency promulgate decision factors as part of the final rule; (4) are the above decision factors appropriate for making these decisions; (5) if so, should the criteria listed above be more or less specific regarding the conditions that would allow or preclude contained-in decisions; (6) are there other factors the Director should consider when making contained-in decisions, in addition to those listed above; and (7) should there be fewer factors to consider?

*b. Issues associated with hazardous debris.* When EPA promulgated land disposal treatment standards for hazardous debris, it also codified the contained-in principle for debris contaminated with listed hazardous waste. (See 57 FR 37194, 37221, (August 18, 1992)). At the time EPA codified the contained-in principle for hazardous debris, it was the Agency's practice to make contained-in decisions at "health-based,"<sup>10</sup> levels, thus a decision that debris no longer contain hazardous waste would clearly also constitute a "minimize threat" determination for purposes of RCRA section 3004(m). Therefore, contained-in decisions under 40 CFR 260.3(f)(3) also eliminate the duty to comply with the land disposal restriction requirements of 40 CFR Part 268. EPA requests comments on whether the contained-in principle codified for hazardous debris is adequate or whether the contained-in policy should be applied to debris in the same way today's proposed rule applies it to hazardous contaminated media. For example, should contained-in decisions for debris incorporate the Bright Line concept? If a Bright Line is established

for debris, should it be the same as the Bright Line in today's proposed rule for hazardous contaminated media or would some other Bright Line values or methodology be more appropriate for debris? Are there issues associated with requiring that debris be tested to determine if it has constituent concentrations greater than Bright Line concentrations? Is testing routinely too complicated for debris matrices? Should contained-in decisions for debris be based on determinations made for media co-located with the debris (i.e., if debris were located in the same area as media that was determined not to contain hazardous wastes, should the debris be presumed not to contain hazardous wastes)? Similarly, if debris is located in the same area as media that have constituent concentrations less than Bright Line concentrations, should the debris be presumed to also be below the Bright Line?

Alternatively, should the Director be able to make contained-in decisions, as they are described in today's proposed rule, without application of the Bright Line to debris (as we are proposing for sediment? (See preamble (V)(A)(4)(c)). If allowed, should these contained-in decisions replace the existing contained-in decisions available for debris or should the existing contained-in decisions be maintained with non-Bright Line contained-in decisions (as discussed in today's proposed rules addressing sediments—see preamble (V)(A)(4)(c)) available for debris managed under a RMP? Are other combinations of the existing debris contained-in decision provisions and the contained-in decision provision for media in today's proposed rule appropriate?

While today's proposed rule does not include changes to the existing contained-in principle as applied to debris contaminated with listed hazardous waste, EPA could include revisions to the standard in response to public comment. Issues associated with hazardous debris and the possibility of including debris in the final Part 269 rules are also discussed in sections (V)(C)(10) and (V)(A)(2) of today's preamble.

*c. The Bright Line.* One of the key features of the "Harmonized Approach" developed through the FACA process was the concept of a "Bright Line." The Bright Line would divide contaminated media into two different categories, which would be subject to two different regulatory regimes. Although straightforward in concept, the Agency has found it challenging to establish a set of numbers to serve this purpose.

As conceived by the FACA Committee, and presented in Appendix A to today's proposal, the Bright Line is a set of constituent-specific, risk-based concentration levels. In agreeing on a Bright Line approach, the FACA Committee anticipated that a substantial proportion of contaminated media would fall below the Bright Line, and thus be eligible, at the Director's discretion, for flexible, site-specific requirements (non-Subtitle C) set by the overseeing Agency. At the same time, the FACA Committee agreed that the Bright Line should ensure that very highly contaminated media (traditionally considered "hot spots") be subject to uniform national protective standards (e.g., treatment). EPA believes that the Bright Line values presented in today's proposal are a reasonable attempt to balance both of these important objectives.

As originally conceived, the Bright Line was intended to represent in some manner the relative risk posed by contaminated media. Simply put, media contaminated above Bright Line concentrations should pose higher risks than media below the Bright Line under a given exposure scenario. Since the Bright Line is only an indicator of relative risk, the levels should not be interpreted as representing what is protective or "clean." The actual risk of any particular contaminated medium depends on the circumstances by which human or environmental receptors may be exposed to the medium. EPA wishes to emphasize that Bright Line concentrations are not cleanup levels. The Bright Line simply is a means of identifying which regulatory regime may be appropriate for the contaminated media at a cleanup site.

The Agency believes that the management of contaminated media would be conducted in a protective manner under either of the regulatory schemes that would be established by the rule. The underlying assumption is that managing contaminated media under the HWIR-media rule would eliminate significant exposures to humans or ecological receptors. This is because the overseeing agency's presence ensures that media will be managed in a way that directly addresses the risk posed by site-specific circumstances. Thus, protection of human health and the environment can be ensured by applying either the national standards for media that contain hazardous waste, or the site-specific standards specified by the overseeing agency for media, which the overseeing agency has determined do not contain hazardous waste, based on the proposed management standards

<sup>10</sup> See memoranda discussed in section (V)(A)(4)(a) of today's preamble.

identified in the RMP. Thus, in establishing Bright Line concentrations, EPA finds it reasonable to consider the potential effect of different sets of Bright Line concentrations in terms of the proportional volumes of media that would fall above and below the Bright Line. EPA believes that unless a substantial amount of contaminated media are eligible for site-specific decision-making, the disincentives for clean-up will not be eliminated (therefore resulting in greater overall risk to human health and the environment).

Thus, EPA's goal was to develop Bright Line concentrations that would remove a significant amount of contaminated media from Subtitle C jurisdiction, while ensuring that "hot spots" would remain subject to mandatory national standards. In deciding how to determine such levels, the Agency considered several approaches that included selecting concentrations based solely on volume. This approach, however, was rejected because there was no way to account for the relative degree of risk posed by different constituents. In other words, because some constituents are more hazardous than others at the same concentration, a Bright Line based purely on volume would not account for this difference.

EPA, therefore, wanted to set Bright Line concentrations for different constituents at different levels in order to account for this variance in relative risk. In order to do this, EPA needed to consider a potential exposure scenario that would account for the difference in relative risk of these different constituents. Because risk occurs only when there is a chance of exposure, at least one set of exposure assumptions would be necessary to establish the Bright Line.

Since one of the goals of the Bright Line was to identify the most highly contaminated media, the FACA Committee recommended using  $10^{-3}$  as a benchmark for setting the Bright Line. Therefore, the Bright Line values in Appendix A were based on a  $10^{-3}$  risk level for carcinogenic constituents (using the assumptions described above), and a health index of 10 for non-carcinogens, (that is,  $10 \times$  the concentration at which adverse health effects occur) according to certain exposure assumptions. This approach is consistent with the Superfund Principle Threats concept which uses  $10^{-3}$  as a factor to identify the principle threats at Superfund sites.

Describing the Bright Line theory was relatively easy compared with determining Bright Line concentrations

for all media which would be subject to today's Part 269 proposal. Today's rule proposes to define soil, ground water, surface water, and sediments as media. However, the potential exposure assumptions that could be used to determine Bright Line concentrations vary for different types of media. Therefore, EPA established two sets of Bright Line values, one for soils, and one for ground water and surface water.

Today's proposed rule does not include Bright Line numbers for contaminated sediments. The amount of sediment that is classified as RCRA hazardous is very low. Thus, EPA proposes that site-specific contained-in decisions be made for hazardous contaminated sediments. The Agency requests comments on whether to develop a Bright Line specifically for contaminated sediments. The Agency also requests comments on whether it would be appropriate to use the Bright Line for soil for sediments.

Bright Line concentrations for soils. In setting the Bright Line for soils, EPA chose to use exposure scenarios and assumptions that were developed for the Superfund Soil Screening Levels (SSLs), because that effort used standard risk scenarios that have been widely used and accepted by the Agency (and by many States). The SSLs were developed for a purpose different from the Bright Line;<sup>11</sup> however, the exposure scenarios used in that effort are good indicators of relative risk for developing Bright Line values.

The SSLs are based on three human exposure scenarios; direct contact ingestion, inhalation, and drinking contaminated ground water. Each scenario is based on a specific set of assumptions for such things as body weight, frequency of exposure, daily intake rates, and other factors. The inhalation pathway also uses certain models to calculate wind dispersion and the uptake of airborne contaminants by human receptors.

Today's proposed Bright Line numbers for soils are based on only two of those human exposure scenarios—direct contact ingestion and inhalation. The Bright Line value for each constituent is based on whichever pathway yields the more conservative (i.e., lower) concentration. EPA recognizes that protection of ground water is one of RCRA's major goals and

that many of the Subtitle C design and operating standards were developed to protect ground water resources. Therefore, EPA considered the possibility of using the ground water exposure pathway in setting Bright Line concentrations for soils. However, the migration of contaminants from soils to ground water is fundamentally site-specific, and influenced by a number of site-specific factors such as depth to ground water; soil porosity; carbon content and other soil characteristics; amount of rainfall; solubility of the contaminants; and numerous other site- and constituent-specific conditions. The Agency has found less variability in fate and transport potential for inhalation and ingestion exposures in residential settings.

EPA is reluctant to use a greatly simplified ground water model that would not take any site-specific or constituent-specific factors into account. In order to address concerns posed to ground water on a more appropriate site-specific basis, EPA prefers to allow for consideration of ground water risks in making site-specific decisions regarding either the contained-in decision and/or the site-specific management requirements. Given the overseeing Agency's discretion to determine these standards on a site-specific basis, and given that EPA believes that site-specific decisions are most appropriate for ground water risk decisions, the Agency has proposed that the ground water exposure pathway should not be considered in setting the national Bright Line values for soils. Finally, EPA proposes two considerations to overlay the soil Bright Line numbers. EPA proposes to cap the Bright Line values at 10,000 ppm, equivalent to 1% of the volume of the contaminated media. EPA believes that it is reasonable to classify media as highly contaminated if 1% of the volume of media is contaminated with a particular constituent. Therefore capping the Bright Line at 10,000 ppm is consistent with the intention that the Bright Line distinguish between highly contaminated and less contaminated media. The second cap on the soil Bright Line values is the saturation limit (C<sub>sat</sub>). EPA believes it is sound science to compare the concentrations developed through the inhalation and ingestion risk scenarios to the actual concentration that could physically saturate the soil. If the C<sub>sat</sub> was lower than the concentrations from the inhalation or ingestion scenarios, EPA set the Bright Line concentration at the C<sub>sat</sub>. For further details on specific assumptions and methodologies used to

<sup>11</sup> Superfund Soil Screening Levels (SSLs) were developed as a screening tool to determine when further investigation is necessary at Superfund sites. Because the SSLs are intended to be conservative, and trigger investigation whenever prudent, they are set at a  $10^{-6}$  level for carcinogens. For more information on SSLs, call David Cooper (703) 603-8763.

determine the Bright Line values for soils, see Appendix A-1.

The Agency also considered several alternatives for establishing exposure assumptions for soil Bright Line numbers. These alternatives are discussed below. Estimates of the impacts of each alternative (in terms of volumes of media exempted) are all based on a  $10^{-3}$  risk for carcinogens, and a health index of 10 for non-carcinogens (that is 10× the concentration at which adverse health effects occur).

*Alternative #1*—Bright Line for soils based on inhalation, ingestion, and migration to ground water. In addition to inhalation and ingestion pathways, this alternative would use a generic model to derive soil levels that, given certain fate and transport assumptions, would result in transfer of contaminants in the soils to ground water at or below drinking water standards (i.e., maximum concentration levels, or MCL's). EPA did not choose this alternative primarily because of the site-specific variability of calculating ground water exposure scenarios (as discussed above). In addition, this approach would result in Bright Line numbers that were considerably lower than those in the proposed option. The Agency estimated that under this alternative, approximately 50 percent of contaminated media would fall below the Bright Line, compared to 70 to 75 percent under the proposed option.

*Alternative #2*—Bright Line for soils based on inhalation and ingestion pathways, with concentrations calculated on a site-specific basis for the soil-to-ground water pathway. This option would yield Bright Line numbers that would approximate more closely ground water risks for each site. However, it would have the disadvantage of requiring considerable data gathering and analysis simply to calculate Bright Line concentrations, and these concentrations would obviously differ from site to site. This contradicts the idea of the Bright Line as "bright"—i.e., an easily referenced set of numbers that can be applied in a standard fashion. However, since Bright Line numbers would vary widely across the range of cleanup sites, volume estimates for this alternative are not possible to calculate.

*Alternative #3*—Bright Line numbers for soils based on a multipathway analysis. Under this alternative, numerous exposure pathways would be considered for each constituent, and Bright Line concentrations would be set for the most conservative pathway (i.e., the pathway that resulted in the lowest concentration level). In some respects

this approach would be consistent with the multipathway approach being used in the HWIR proposed rule for as-generated wastes (60 FR 66344-469, Dec. 21, 1995). However, the Bright Line is intended for a very different purpose than the "exit levels" being developed for that proposed rule. For instance, the exit levels in the HWIR-Waste rule (discussed in section (II)(B) of this preamble) generally assume that exited wastes will not be subject to any management requirements, whereas this proposal assumes that these wastes will be managed protectively under State/EPA oversight. In addition, the resulting Bright Line values would be much lower than those proposed today, thus much less media would be regulated "below the line."

Bright Line concentrations for ground water and surface water. Today's proposed rule also establishes Bright Line values specifically for contaminated ground water. (See Appendix A-2 and discussion below). As with contaminated soils, highly-concentrated, contaminated ground water would be subject to specific national management standards, while less-contaminated ground water could be managed according to site-specific requirements imposed by the State or EPA.

To set Bright Line concentrations for ground water and surface water (Appendix A-2), EPA used standard exposure assumptions for human ingestion of contaminated water. EPA believes that it is appropriate to use the same Bright Line values for surface water and ground water. And for the same reasons discussed above for soils, the Agency believes a multi-pathway approach, or "actual risk" approach is not necessary for setting Bright Line concentrations for ground water and surface water.

EPA has used the same philosophical approach for the ground water/surface water Bright Line as it has used for soils, by analyzing relative risk and relying on the oversight of authorized States or EPA to ensure that hazards are addressed on a site-specific basis. In addition, EPA used a 10,000 ppm cap for the ground water/surface water Bright Line, just as for the soil Bright Line. This is explained in the soil Bright Line section of the preamble. Finally, if the concentrations from the ingestion of contaminated water were below the detection limits for that constituent in water (the EQC), EPA set the Bright Line at the EQC. More details on the specific assumptions and methodologies used to determine these concentrations are included in Appendix A-2.

Issues common to both sets of Bright Line numbers. In developing today's proposed Bright Line concentrations, some stakeholders said that EPA would need to calculate a number of additional direct and indirect pathways to evaluate the relative risks of contaminated media completely. The stakeholders also said that the Agency would need to predict risks to ecological receptors (i.e., plants and animals) as well as human health risks. EPA, however, does not believe that evaluation of additional pathways is necessary. The pathways selected already provide a sufficient basis for distinguishing relatively lower-risk contaminated media from relatively higher-risk media. The evaluation of other pathways and receptors would be important and, in some cases, necessary if the Bright Line represented "safe" levels of contamination. As explained above, however, the Bright Line serves no such purpose. It merely identifies which of two regulatory schemes would apply to certain contaminated media. If site-specific factors demonstrate that a decision that media no longer contain hazardous wastes, would be inappropriate, then the overseeing agency has the discretion not to make such a determination.

Some stakeholders have voiced concerns about the land use assumptions that were used to set the Bright Line. The SSLs used residential land use assumptions; therefore, residential land use assumptions form the basis for the proposed Bright Line for soils. EPA recognizes that the residential land use assumptions that underlie the ingestion and inhalation exposure pathways used for today's Bright Line values for soil may be inappropriate for managing risks at many sites that would be subject to these HWIR-media regulations. However, since the purpose of using risk assessment to develop the Bright Line is to differentiate between the relative risks of constituents, and not to establish the risks posed at specific sites, either residential or industrial assumptions would have been equally appropriate. Since the Agency's residential risk assessment methodology is more developed than the industrial methodology, the Agency chose to use residential assumptions for developing the Bright Line. The Bright Line for ground water and surface water does not include assumptions about land use. (See discussion above).

Request for comment. EPA solicits comments on the approaches used to develop today's proposed Bright Lines. The Agency also requests comment on the alternatives described above, as well

as any other possible approaches to developing the Bright Line.

In addition, EPA requests comments on whether it is necessary to have a Bright Line at all. If there were no Bright Line, all media would be eligible for contained-in decisions by the overseeing agency on a site-specific basis. Alternatively, the "unitary approach," discussed in section VI of this preamble, would eliminate the Bright Line, and instead would exempt all cleanup wastes managed under a RMP from Subtitle C requirements.

Technical methodology. As discussed above, the technical methodologies used in calculating Bright Line concentrations for soil ingestion and inhalation are those that were used to develop "soil screening levels" for contaminated sites (59 FR 67706, December 30, 1994). In the proposed soil screening level guidance, values for the soil-to-ground water pathway would generally be calculated with data derived from site-specific factors and conditions, although generic values for this pathway would be presented in situations where site-specific data were unavailable. These technical methods and formulae are available for review in the docket for this rulemaking, and in the docket for the soil screening level proposal since they support both rules.

EPA requests comments on the methods, formulae, and technical underpinnings used for this rulemaking. Comments could include information on particular constituents that could change proposed Bright Line concentrations, information that may be used to determine Bright Line numbers for constituents that currently do not have Bright Line numbers. Commenters should keep in mind that the Agency's objective is to provide regulatory relief by encouraging contaminated media with a lower degree of risk to exit from Subtitle C regulation—provided that adequate safeguards exist to protect human health and the environment.

EPA has often found it necessary to propose sets of risk-based numbers to address contaminated media, for example; Subpart S action levels, (55 FR 30798, July 27, 1990), Superfund Soil Screening Levels (see below), and today's proposed rule. Since the Agency's understanding of risk assessment and the science surrounding risk based numbers is constantly developing, EPA has realized that almost as soon as risk-based numbers are published, they can become outdated. As a very current example, today EPA is proposing Bright Line concentrations based, in part, on the Superfund Soil Screening Levels (EPA/9355.4-14FS, EPA/540/R-94/101 PB95-

963529 (December 1994)). After today's proposed Bright Line concentrations were calculated, but before this proposal was published, some of the technical inputs used to calculate the Superfund Soil Screening levels were adjusted in response to public comments (e.g., volatilization factors, cancer slope factors, etc.). EPA did not have time to recalculate the Bright Line concentration before publishing them.

In response to this problem, EPA requests comment on alternatives to keep the Bright Line concentrations up-to-date with the most current Agency risk information and policies (e.g., adjustments to the Soil Screening levels,<sup>12</sup> changes in reference doses or cancer slope factors in the IRIS or HEAST databases). For purposes of comment on this proposal, EPA will update the Bright Line calculations and place them in the docket for this rule.

EPA believes it might be appropriate, instead of promulgating actual Bright Line concentrations in the final rule, to promulgate the methodology that could be used to develop constituent-specific concentrations, in Appendix A to this rule, and to provide guidance on appropriate sources for needed underlying risk-based information. EPA believes it might then be appropriate for States to update their lists of Bright Line concentrations on a regular basis, such as every six months, to remain current with developments in risk information. As an alternative, EPA believes it may be appropriate for States and/or EPA to calculate new Bright Line concentrations for each new RMP at the time it is proposed for public comment. In any case, the Bright Line concentrations being used under a RMP must be stated in the RMP, and available during public comment on the RMP. The Agency requests comment on these alternatives, and any other suggestions for keeping Bright Line concentrations up-to-date.

The Agency also recognizes the problems of trying to comply with a "moving target." A cleanup could be completed or underway using a certain set of Bright Line concentrations that could then change. EPA believes it might be appropriate to protect those past and on-going cleanup operations from the requirement to change course mid-way, or to revisit completed remediation waste management under a RMP which used outdated Bright Line concentrations. In the Superfund program, requirements that are revised

<sup>12</sup> The Soil Screening Guidance has addressed this problem by publishing the *methodology* as the guidance itself, and only providing the actual concentrations as examples in the appendix to the guidance.

or newly promulgated after the ROD is signed must be attained only when EPA determines that these requirements are ARARs and that they must be met to ensure that the remedy is protective (40 CFR 300.430(f)(1)(ii)(I)). Another alternative could be a shield such as is provided for RCRA permits in 40 CFR 270.4, which could specify that compliance with a RMP would equal compliance with RCRA. EPA requests comments on this protection issue, and how best to achieve it.

Relationship of the HWIR-media Bright Line to the HWIR-waste exit levels. As described earlier in this preamble (in section (IV)(C)) the objectives for the HWIR-waste exit levels and the HWIR-media Bright Line are different. The HWIR-waste exit levels are intended to identify levels of hazardous constituents that would pose no significant threat to human health or the environment regardless of how the waste was managed after it exited Subtitle C jurisdiction. The HWIR-media Bright Line levels are simply intended to distinguish between (1) contaminated media that are eligible to exit Subtitle C because it is likely that they can be managed safely under cleanup authorities outside of Subtitle C, and (2) media that contain so much contamination that Subtitle C management is warranted. Because of these different objectives, EPA developed the two proposals using different methodologies. For the soil Bright Line, HWIR-media used a calculation based on ingestion and inhalation of soil at  $10^{-3}$  cancer risk, and a hazard index of 10 for non-carcinogens. For the non-wastewater HWIR-waste exit level (which is most readily comparable to the soil Bright Line), EPA used an analysis that evaluates exposures from multiple pathways to identify those pathways that may result in a  $10^{-6}$  cancer risk and hazard index of 1 for non-carcinogens. EPA then selected the most limiting pathway, (most conservative), as the exit criteria. EPA believed that the HWIR-waste levels would be more conservative than the HWIR-media concentrations. However, upon a recent comparison of the two sets of numbers, some HWIR-waste exit levels are at higher concentrations (less conservative) than the HWIR-media Bright Line concentrations. In the comparison of those concentrations, EPA determined that for about 27% of the HWIR-media Bright Line concentrations of chemical constituents for soil, the HWIR-waste exit levels for non-wastewater were higher.

A similar result was found when EPA compared the HWIR-media

groundwater/surface water Bright Line concentrations to the HWIR-waste wastewater exit levels. In that case, EPA used direct ingestion of groundwater resulting in a cancer risk of  $10^{-3}$  and hazard index of 10 for non-carcinogens to calculate the HWIR-media Bright Line. For the HWIR-waste wastewater exit level, EPA again analyzed multiple pathways to identify those that would result in a cancer risk of  $10^{-6}$  and a hazard index of 1 for non-carcinogens and then selected the most limiting pathway as the exit criteria. For approximately 20% of the HWIR-media Bright Line concentrations for groundwater/surface water the HWIR-waste concentrations for wastewater were higher.

One of the practical concerns that arises from this difference in concentrations is this: if contaminated media is below the HWIR-waste exit levels, then that media is eligible for exit under that rulemaking just like any other hazardous waste. Therefore, if the HWIR-media rule specified that media at concentrations below the HWIR-waste exit levels were still "above the Bright Line" and not eligible for a contained-in determination, the two rules would be inconsistent. EPA recognizes that this inconsistency must be addressed before promulgation of these two final rules, and requests comments on how to resolve this issue. A preliminary description of the primary differences in the methodologies follows.

One of the most significant differences between the HWIR-waste and the HWIR-media methodologies is that the HWIR-waste methodology was designed to calculate an acceptable concentration at which as-generated waste and treatment residuals could exit the Subtitle C system. A part of that methodology assumed that exited wastes might be managed in such a way as to contaminate soils and groundwater, and calculated the potential risk to receptors from the contaminated soil or groundwater. Therefore, the HWIR-waste analysis models fate and transport between the original waste and the contaminated media, assuming some loss of concentration due to many factors, such as: partitioning of constituents to air, soil, and water; losses of contaminant mass through biodegradation; bioaccumulation through the food chain; and volatilization, hydrolysis, and dispersion of contaminants during transport. The HWIR-media methodology begins at the point where soils and groundwater are already contaminated. Therefore, the HWIR-media Bright Line did not incorporate fate and transport considerations to

calculate the Bright Line concentrations, but assumed the receptor was in direct contact with the contaminated media.

Specific comparison of soil Bright Line to non-wastewater exit levels. If contaminated soil were managed under the HWIR-waste proposal, the soil would be subject to the exit criteria for non-wastewaters. That is why EPA compared the soil Bright Line to the non-wastewaters exit level. For this analysis, the HWIR-media Bright Line for soil based on ingestion or inhalation was compared with the exit criterion for non-wastewater identified as the most limiting pathway (e.g., soil ingestion, fish ingestion) in the HWIR-waste proposal. Thus, the analysis was not necessarily a comparison of exit criteria and Bright Lines for similar exposure pathways.

The analysis indicated that for 27 of the HWIR-media Bright Line constituent concentrations for soil, the proposed Bright Line concentration was lower than the exit criterion for HWIR-wastes for non-wastewater. Of these constituents, six of the lower proposed Bright Line concentrations are lower because the HWIR-media number was intentionally "capped" at 10,000 parts per million. EPA decided to propose a 10,000 ppm cap, equivalent to 1% of the volume of the contaminated media, (as discussed above) because EPA believes that it is reasonable to classify media as highly contaminated if 1% of the volume of media is contaminated with a particular constituent. Therefore capping the Bright Line at 10,000 ppm is consistent with the intention that the Bright Line distinguish between highly contaminated and less contaminated media. The HWIR-waste proposal did not propose to cap the exit levels because it was not intended to differentiate wastes based on higher vs. lower concentration, but instead to differentiate based on risk factors.

For 12 of the 27 constituents, HWIR-media Bright Lines are established at soil saturation limits (Csat) that are less than the corresponding HWIR-waste exit level. EPA believes it is sound science for a rule establishing soil concentrations to compare the concentrations developed through the inhalation and ingestion risk scenarios to the actual concentration that could physically saturate the soil. If the Csat was lower than the concentrations from the inhalation or ingestion scenarios, EPA set the Bright Line concentration at the Csat. The HWIR-waste proposal (since it is proposed for as generated wastes, not soils) did not propose to cap the exit levels at the soil saturation limit.

For the other nine of the 27 constituents, differences in the results can be attributed to several factors related to the underlying assumptions of the methodologies used to calculate the criteria.<sup>13</sup> These include the fate and transport differences discussed above, and:

- Receptors. Although many of the exposure assumptions (e.g., exposure duration, exposure frequency, ingestion rate) are common to the analyses, there are still significant differences in the location of the receptors that will affect the exit criteria. The HWIR-media Bright Lines are based on an exposure scenario in which a resident lives directly on the contaminated media and ingests contaminated soil or inhales particulate and volatile emissions. The HWIR-waste exit levels consider several exposure scenarios; however, none are directly comparable to the HWIR-media exposure scenario. These exposure scenarios include an off-site resident, an adult off-site resident, a child off-site resident, an adult and child on-site 10 years after site closure, and an on-site worker.
- Sources. The HWIR-media Bright Lines for soil ingestion and inhalation exposure pathways are based solely on contaminated soils and assume that the soil is an infinite source. The HWIR-waste non-groundwater non-wastewater exposure pathways consider three sources: land application units, waste piles, and ash monofills. Waste piles and ash monofills are assumed to be infinite sources; however, the land application units are assumed to be finite sources. This assumption may result in higher (less conservative) exit criteria under HWIR-waste.

A comparison of the toxicity benchmarks indicates that the HWIR-media Bright Lines and the HWIR-waste exit levels generally start with the same toxicity benchmark (all but three chemicals for oral ingestion and all but four chemicals for inhalation use the same toxicity benchmarks). Thus, the apparent discrepancies in the criteria can be attributed to the significant differences in the fate and transport modeling of the chemicals in the HWIR-process waste analysis, the receptors evaluated, and assumptions related to the sources (as described above).

<sup>13</sup> If the HWIR-media proposed Bright Line concentrations were updated to reflect the updated Soil Screening levels, as discussed above, two of these nine remaining constituents would have higher HWIR-media Bright Line concentrations than HWIR-waste exit levels.

Specific comparison of Groundwater/Surface Water Bright Line to wastewater exit levels. If contaminated groundwater were managed under the HWIR-waste proposal, the groundwater would be subject to the exit criteria for wastewaters. That is why EPA compared the groundwater/surface water Bright Line to the wastewaters exit level. For this analysis, the HWIR-media Bright Line for groundwater/surface water based on ingestion of groundwater was compared with two options for the exit criterion for wastewater for the HWIR-waste proposal, one based on toxicity benchmarks and one based on toxicity benchmarks and MCLs.

The analysis indicated that 38 constituents had higher proposed HWIR-waste exit criteria than proposed HWIR-media Bright Line concentrations.<sup>14</sup> For one of these 38 constituent, only the MCL option for the HWIR-waste exit level was higher. For four of the 38 constituents, only the toxicity benchmark only option for the HWIR-waste exit level was higher. None of these 38 constituents were affected by the HWIR-media 10,000 ppm cap, and there is not a saturation limit cap on the HWIR-media groundwater/surface water Bright Line.

Similar to the comparison of the HWIR-media soil Bright Line to the HWIR-waste non-wastewater exit levels, the HWIR-media groundwater/surface water Bright Line and the HWIR-waste wastewater exit levels use different methodologies, and therefore produce different results. Again, a key difference between the two sets of concentrations is the use of fate and transport modeling. The HWIR-waste proposal assumes some loss through fate and transport, whereas the HWIR-media methodology assumes direct ingestion of the contaminated groundwater (more details on the two methodologies can be found in the dockets for the two proposed rules).

Request for comments. Because of the above comparisons, EPA has determined that for some constituents, because the HWIR-media methodology was *more* conservative than the HWIR-waste methodology, that conservatism outweighed the fact that the HWIR-media risk target ( $10^{-3}$  for limited pathways) was *less* conservative than the HWIR-waste risk target ( $10^{-6}$  for multiple pathways). Therefore some of the HWIR-waste exit levels, which were

intended to be more conservative overall than the HWIR-media Bright Line, are set at higher concentrations. As described above, EPA recognizes that these discrepancies must be resolved before promulgation of the two proposed rules. For further detail on the methodologies used to develop the HWIR-media Bright Line, Soil Screening Levels and the HWIR-waste exit levels, see the docket for the two proposed HWIR rules. EPA requests comments on how to resolve these issues.

#### *B. Other Requirements Applicable to Management of Hazardous Contaminated Media*

##### 1. Applicability of Other Requirements—§ 269.10

The purpose of today's proposed rule would be to modify the identification, permitting, management, treatment, and disposal requirements for contaminated media. It is not intended to replace the entire scope of Subtitle C requirements as they relate to media. For that reason, many existing Subtitle C requirements would continue to apply to remedial actions conducted in accordance with this Part. Specifically, 40 CFR Parts 262–267 and 270 would continue to apply when complying with this Part, except as specifically replaced by the provisions of this Part. In addition, when treating media subject to LDRs according to the treatment standards in § 269.30, the following provisions of Part 268 would continue to apply' §§ 268.2–268.7 (definitions, dilution prohibition, surface impoundment treatment variance, case-by-case extensions, no migration petitions, and waste analysis and recordkeeping), § 268.44 (treatment variances), and § 268.50 (prohibition on storage). Again, the Agency does not intend to recreate all of the Subtitle C requirements, but in this case only replace certain requirements themselves as they relate to hazardous contaminated media.

##### 2. Intentional Contamination of Media Prohibited—§ 269.11

EPA recognizes that promulgation of standards for hazardous contaminated media that are less onerous than the requirements for hazardous waste may create incentives for mixing waste with soil or other media to render the waste subject to these provisions. The Agency expressly proposes to prohibit this behavior (§ 269.11).

EPA recognizes, however, that sometimes it is necessary to have some mixing of contaminated media for technical purposes to facilitate cleanup. That mixing is not the prohibited mixing referred to here. This prohibition

specifically includes the intent to avoid regulation. If the intent of the mixing is to better comply with the regulations that would apply to the wastes prior to mixing, then it would not be prohibited under this clause. The Agency requests comments on whether further safeguards, in addition to this proposed provision and the civil and criminal enforcement authorities of RCRA, are needed to ensure that no attempts are made to mix wastes with media to take advantage of the reduced requirements of the proposed HWIR-media rule.

##### 3. Interstate Movement of Contaminated Media—§ 269.12

EPA recognizes that media that would be exempted under today's rule, but that previously would have been managed as hazardous wastes, would be transported to and through States that were not the overseeing agency for the remedial action that generated those media. Therefore, the Agency designed the interstate movement requirements of proposed § 269.12 to ensure that receiving (consignment) States—or States through which media would travel—could approve the designation that the media is not hazardous before they accepted the media for transport or disposal.

The default in these requirements is that the media must be managed as Subtitle C waste in the receiving or transporting State if the receiving or transporting State has not been notified of the designation as non-hazardous, or if the receiving or transporting State does not agree with the determination. Receiving and transporting States would also have to be authorized for this Part in order to approve these decisions in their States. If a receiving or transporting State agrees to the redesignation, then the media may be managed as non-hazardous.

EPA requests comments on these interstate movement requirements, specifically on any implementation concerns with this approach, and any suggestions to ease implementation. Several people have expressed concern about notifying the States through which the media would be transported, but not ultimately disposed. The Agency believes that it may be appropriate to limit notification requirements to the States ultimately receiving the media. EPA also feels that it would be necessary to limit the designation of media as non-hazardous only to States that are authorized for this Part. The Agency believes that this would be necessary because the authority to make these contained-in decisions is an integral element for authorization for this Part. EPA believes

<sup>14</sup> If the HWIR-media proposed Bright Line concentrations were updated to reflect current updated risk information, as discussed above, two of these 38 constituents would have higher HWIR-media Bright Line concentrations than HWIR-waste exit levels.



that it may be appropriate to allow States not authorized for this Part to simply approve another authorized States' decision that the media are not hazardous. The Agency requests comments on these issues.

### C. Treatment Requirements

#### 1. Overview of the Land Disposal Restrictions

The Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), enacted on November 8, 1984, largely prohibit land disposal of hazardous wastes.<sup>15</sup> Once a hazardous waste is prohibited from land disposal, the statute provides only two options: comply with a specified treatment standard prior to land disposal, or dispose of the waste in a unit that has been found to satisfy the statutory no migration test (referred to as a "no migration" unit) (RCRA section 3004(m)). Storage of waste prohibited from land disposal is also prohibited, unless the storage is solely for the purpose of accumulating the quantities of hazardous waste that are necessary to facilitate proper recovery, treatment, or disposal (RCRA section 3004(j)). For purposes of the land disposal restrictions, land disposal includes any placement of hazardous waste into a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave (hereafter referred to as "placement") (RCRA section 3004(k)).

Not all management of hazardous waste constitutes placement for purposes of the LDRs. EPA has interpreted "placement" to include putting hazardous waste into a land-based, moving hazardous waste from one land-based unit to another, and removing hazardous waste from the land, managing it in a separate unit, and re-placing it in the same (or a different) land-based. Placement does not occur when waste is consolidated within a land-based unit, when it is treated *in situ*, or when it is left in place (e.g., capped). (See 55 FR 8666, 8758-8760, (March 8, 1990) and "Determining When Land Disposal Restrictions (LDRs) Are Applicable to CERCLA Response Actions," EPA, OSWER Directive 9347.3-05FS, (July 1989)).

<sup>15</sup> The LDR requirements are not cleanup requirements; LDR treatment standards do not trigger removal, exhumation, or other management of contaminated environmental media; however, other applicable requirements, such as State or Federal cleanup requirements, could trigger such actions which, in turn, could trigger LDR requirements.

Congress directed EPA to establish treatment standards for all hazardous wastes restricted from land disposal at the same time as the land disposal prohibitions take effect. According to the statute, treatment standards established by EPA must substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short- and long-term threats to human health and the environment are minimized (RCRA section 3004(m)(1)). In *Hazardous Waste Treatment Council v. EPA*, 886 F.2d 355 (D.C. Dir. 1989), Cert. Denied 111 S.Ct 139 (1990), the court held that section 3004(m) allows both technology- and risk-based treatment standards, provided that technology-based standards are not established "beyond the point at which there is not a 'threat' to human health or the environment." *id.* at 362 (i.e., beyond the point at which threats to human health and the environment are minimized) (59 FR 47980, 47986, September 19, 1994). Hazardous wastes that have been treated to meet the applicable treatment standard may be land disposed in land disposal facilities that meet the requirements of RCRA Subtitle C (RCRA section 3004(m)(2)).

Congress established a schedule for promulgation of land disposal restrictions and treatment standards for all hazardous wastes listed and identified as of November 8, 1984 (the effective date of the HSWA amendments) so that treatment standards would be in effect, and land disposal of all hazardous waste that did not comply with the standards would be prohibited, by May 8, 1990 (RCRA section 3004(g)). For some classes of hazardous wastes, Congress established separate schedules: for certain hazardous wastes identified by the State of California ("California List"), Congress directed EPA to establish treatment standards and prohibit land disposal by July 8, 1987; for hazardous wastes containing solvents and dioxins, Congress directed the Agency to establish treatment standards and prohibit land disposal by November 8, 1986. (RCRA sections 3004(d) and (e)). For wastes listed or identified as hazardous after the HSWA amendments (referred to as "newly identified wastes"), EPA must establish treatment standards and land disposal prohibitions within six months of the effective date of the listing or identification (RCRA section 3004(g)(4)). Under current regulations, environmental media containing hazardous waste are prohibited from

land disposal unless they are treated to meet the treatment standards promulgated for the original hazardous waste in question (i.e., the same treatment standard the contaminating hazardous waste would have to meet if it were newly generated). (See 58 FR 48092, 48123, (September 14, 1993)).

The land disposal restrictions generally attach to hazardous wastes, or environmental media containing hazardous wastes, when they are first generated. Once these restrictions attach, the standards promulgated pursuant to section 3004(m) must be met before the wastes (or environmental media containing the wastes) can be placed into any land disposal unit other than a no migration unit. In cases involving characteristic wastes, the D.C. Circuit held that even elimination of the property that caused EPA to identify wastes as hazardous in the first instance (e.g., treating characteristic wastes so they no longer exhibit a hazardous characteristic) does not automatically eliminate the duty to achieve compliance with the land disposal treatment standards. (*Chemical Waste Management v. U.S. EPA*, 976 F.2d 2,22 (D.C. Dir. 1992), cert. denied, 113 S.Ct 1961 (1993).) The Agency has examined the logic of the *Chemical Waste* decision and concluded that the same logic could arguably be applied in the remediation context; i.e., a determination that environmental media once subject to LDR standards no longer contain hazardous wastes may not automatically eliminate LDR requirements. While the *Chemical Waste* court did not specifically address the remediation context, the Agency believes it may be prudent to follow the logic the court applied to characteristic wastes, and has developed today's proposal accordingly.

It is important to note that the land disposal restrictions apply only to hazardous (or, in some cases, formerly hazardous) wastes and only to placement of hazardous wastes after the effective date of the applicable land disposal prohibition—generally May 8, 1990 for wastes listed or identified at the time of the 1984 amendments, or six months after the effective date of the listing or identification for newly identified wastes.<sup>16</sup> In other words, the duty to comply with LDRs has already attached to hazardous wastes land disposed ("placed") after the applicable effective dates, but not to hazardous wastes disposed prior to the applicable effective dates. Accordingly, hazardous

<sup>16</sup> A detailed listing of when the land disposal prohibitions took effect for individual hazardous wastes can be found in 40 CFR Part 268, Appendix VII.

wastes disposed prior to the effective date of the applicable prohibition only become subject to the LDRs if they are removed from the land and placed into a land disposal unit after the effective date of the applicable prohibition. (See 53 FR 31138, 31148, (August 17, 1988) and *Chemical Waste Management v. US EPA*, 86 9 F.2d 1526, 1536 (D.C. Cir. 1989)), "treatment or disposal of [hazardous waste] will be subject to the [LDR] regulation only if that treatment or disposal occurs after the promulgation of applicable treatment standards.") Similarly, environmental media contaminated by hazardous wastes placed before the effective dates of the applicable land disposal restrictions does not become subject to the LDRs unless they are removed from the land and placed into a land disposal unit after the effective dates of the applicable restrictions.

The land disposal restrictions do not attach to environmental media contaminated by hazardous wastes when the wastes were placed before the effective dates of the applicable land disposal prohibitions. If these media are determined not to contain hazardous wastes before they are removed from the land, then they can be managed as non-hazardous contaminated media and they're not subject to land disposal restrictions. For example, soil contaminated by acetone land disposed ("placed") in 1986 (prior to the effective date of the land disposal prohibition for acetone) and, while still in the land, determined not to contain hazardous waste, is not subject to the land disposal restrictions.<sup>17</sup> This is consistent with the Agency's approach in the HWIR-waste rule, where it indicates that LDRs do not attach to wastes that are not hazardous at the time they are first generated (60 FR 66344, December 21, 1995).

Since application of the land disposal restrictions is limited, in order to determine if a given environmental medium must comply with LDRs one must know the origin of the material contaminating the medium (i.e., hazardous waste or not hazardous waste), the date(s) the material was placed (i.e., before or after the effective date of the applicable land disposal prohibition), and whether or not the medium still contains hazardous waste (i.e., contained-in decision or not).

<sup>17</sup> Similarly, soil contaminated by acetone placed in a solid waste management unit in 1986, but leaked into the soil at some point after 1986, is not subject to the land disposal restrictions provided that, while the soil is still in the land, the Director determines it does not contain hazardous wastes. LDRs would not attach because, in this case, it is the initial placement of hazardous waste that determines whether there is a duty to comply with LDRs.

Facility owner/operators should make a good faith effort to determine whether media were contaminated by hazardous wastes and ascertain the dates of placement. The Agency believes that by using available site- and waste-specific information such as manifests, vouchers, bills of lading, sales and inventory records, storage records, sampling and analysis reports, accident reports, site investigation reports, spill reports, inspection reports and logs, and enforcement orders and permits, facility owner/operators would typically be able to make these determinations. However, as discussed earlier in the preamble of today's proposal, if information is not available or inconclusive, facility owner/operators may generally assume that the material contaminating the media were not hazardous wastes. Similarly, if environmental media were determined to be contaminated by hazardous waste, but if information on the dates of placement is unavailable or inconclusive, facility owner/operators may, in most cases assume the wastes were placed before the effective date.

The Agency believes that, in general, it is reasonable to assume that environmental media do not contain hazardous wastes placed after the effective dates of the applicable land disposal prohibitions when information on the dates of placement is unavailable or inconclusive, in part, because current regulations, in effect since the early 1980's, require generators of hazardous waste to keep detailed records of the amounts of hazardous waste they generate. These records document whether the waste meets land disposal treatment standards and list the dates and locations of the waste's ultimate disposition. With these records, the Agency should be able to determine if environmental media were contaminated by hazardous wastes and if they would be subject to the land disposal restrictions.

In addition, EPA believes that the majority of environmental media contaminated by hazardous wastes were contaminated prior to the effective dates of the applicable land disposal restrictions. Generally, the contamination of environmental media by hazardous waste after the effective date of the applicable land disposal restriction would involve a violation of the LDRs, subject to substantial fines and penalties, including criminal sanctions. The common exception would be one-time spills of hazardous waste or hazardous materials. In these cases, the Agency believes that, typically, independent reporting and record keeping requirements (e.g., CERCLA sections 102 and 103 reporting

requirements or state spill reporting requirements) coupled with ordinary "good housekeeping" procedures, result in records that will allow the Agency to determine the nature of the spilled material, and the date (or a close approximation of the date) of the spill. The Agency requests comments on this approach and on any other assumptions, records, or standards of evaluation that would ensure that facility owner/operators would identify any contaminated media subject to land disposal restrictions properly and completely.

Information on contained-in decisions should be immediately available since, generally, these determinations are made by a regulatory agency on a site-specific basis and careful records are kept.

## 2. Treatment Requirements—§ 269.30

*a. Approach to treatment requirements and recommendations of the FACA Committee.* RCRA section 3004(m) requires that treatment standards for wastes restricted from land disposal, "\* \* \* specify those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." A recurring debate through EPA's development of the land disposal restriction program has been whether treatment standards should be technology-based (i.e., based on performance of a treatment technology) or risk-based (i.e., based on assessment of risks to human health and the environment that are posed by the wastes). The Agency believes that both approaches are allowed. It has long been recognized that Congress did not directly address the questions of how to set treatment standards in the language of section 3004(m).<sup>18</sup> In addition, Congress did not specifically address whether the LDR treatment standards for newly generated wastes and remediation wastes must be identical; the structure of RCRA's LDR provisions suggests that Congress believed that remediation waste may merit special consideration. (See, RCRA sections 3004(d)(3) and 3004(e)(3), which

<sup>18</sup> See, e.g., 51 FR 40572, 40578 (November 7, 1986); *Hazardous Waste Treatment Council v. US EPA*, 886 F.2d 355, 361-3 D.C. Cir. 1989; 55 FR 6640, 6641 (February 26, 1990). The legislative history of section 3004(m) is likewise inconclusive. See discussion of the legislative history at 55 FR 6640, 6641-6642 (February 26, 1990) "[a]t a minimum, the [legislative history shows] that Congress did not provide clear guidance on the meaning of 'minimize threats'."

provided a separate schedule for establishing LDR prohibitions and treatment standards for most remediation wastes).

EPA's preference would be to establish generic nationwide risk-based treatment standards that represent minimized threats to human health and the environment in the short- and long-term. However, the difficulties involved in establishing risk-based standards for contaminated media on a generic nationwide basis are formidable<sup>19</sup>, due, in large part, to the wide variety of site-specific physical and chemical compositions encountered during cleanups in the field. In the absence of the information necessary to develop generic, risk-based standards for contaminated media, the Agency is proposing generic standards using a technology-based approach and, for lower-risk media subject to the LDRs, provisions for site-specific, risk-based minimize threat determinations. (See discussion of Media Treatment Variances, below).

Technology-based standards achieve the objective of minimizing threats by eliminating as much of the uncertainty associated with disposal of hazardous waste as possible. For this reason, technology-based standards were upheld as legally permissible so long as they are not established "beyond the point at which there is not a "threat" to human health or the environment." (See, *Hazardous Waste Treatment Council v. EPA*, 886 F.2d 355, 361-64 (D.C. Cir. 1989), cert. denied 111 S.Ct. 139 (1990), page 362; see also (55 FR 6640, 6642, February 26, 1990)).

Today's proposed regulations would modify the land disposal restriction treatment standards for contaminated media so that they reflect appropriate treatment technologies and strategies for environmental media, and the site-specific nature of cleanup activities more accurately. When non-hazardous contaminated media is still subject to LDRs (e.g., because hazardous wastes contaminating the media were land disposed ("placed") after the effective date of the applicable LDR prohibition, or because the media were determined

to still contain hazardous wastes when removed from the land), today's proposal would establish, as a policy matter, a presumption for site-specific LDR treatment variances. This approach is consistent with the recommendations of the FACA Committee, which agreed that the land disposal treatment standards for "as-generated" wastes are not generally appropriate for contaminated environmental media, and that higher-risk media should be subject to generic national standards while requirements for lower-risk media should be determined on a site-specific basis in the context of agency-overseen cleanups.

b. Proposed treatment standards for contaminated media (1) Applicability. Hazardous contaminated media are environmental media that contain hazardous waste or that exhibit a hazardous characteristic and have not been determined, pursuant to § 269.4, to no longer contain hazardous wastes. Non-hazardous contaminated media are environmental media that have been determined, pursuant to § 269.4, not to contain hazardous wastes. Media contaminated by hazardous wastes placed after the effective date of the applicable land disposal prohibition must be treated to meet LDR treatment standards before it is placed into a land disposal unit. In this case, the land disposal restrictions attach because hazardous waste was originally land disposed—placed—after the effective date of the applicable land disposal prohibition and the standards of section 3004(m) were never met. Likewise, hazardous contaminated media removed from the land after the effective date of the applicable land disposal restriction and placed into a land disposal unit, must be treated to meet LDR treatment standards. The land disposal restrictions attach in this case because, although the hazardous waste was not restricted from land disposal when first disposed, it has subsequently been prohibited from land disposal and, therefore, if removed from the land after the effective date of the applicable prohibition, cannot be placed into a land disposal unit until it meets the standards of RCRA section 3004(m). As discussed earlier in today's preamble, once the land disposal restrictions attach, the standards of section 3004(m) must be met before the wastes (or environmental media) may be placed into any land disposal unit other than a no migration unit, elimination of the property that cause the waste to be hazardous (e.g., deciding, pursuant to § 269.4, that a given environmental media no longer contains hazardous waste) does not automatically mean the

wastes have complied with RCRA section 3004(m).<sup>20</sup>

(2) Today's proposal. In today's proposed rule, EPA would, (1) establish generic, technology-based treatment standards for higher-risk contaminated media subject to the LDRs (i.e., hazardous contaminated media) and, (2) for lower-risk contaminated media subject to the LDRs (i.e., non-hazardous contaminated media), establish, as a policy matter, a presumption for site-specific LDR treatment variances. The treatment standards proposed today would only apply when media subject to the LDRs are managed under a RMP. For hazardous contaminated media other than soils (e.g., groundwater and sediments), the proposed rule would require treatment to meet the LDR treatment standards applicable to the hazardous wastes contained in the media. (See § 269.30(f)). For example, ground water contaminated with a commercial chemical product such as acetone (hazardous waste number U002) would have to be treated to the standards specified in Part 268 for acetone.

For hazardous contaminated soils, the proposed rule would establish alternative soil-specific LDR standards. Proposed § 269.30(e) would require that, generally, soils be treated so that the concentrations of constituents subject to treatment are reduced by 90 percent with treatment capped at 10 times the Universal Treatment Standard. If treatment of a given constituent to meet the 90 percent reduction standard would result in reducing constituent concentrations to less than 10 times the UTS, treatment beyond 10 times the UTS would not be required. For non-metal contaminants, total concentrations of constituents subject to treatment would have to be reduced by at least 90 percent from their initial concentrations (or 10 times the Universal Treatment Standard, whichever is higher). For metal contaminants, the 90 percent standard would apply either to the total concentrations of metals (for treatment technologies that remove metal contaminants), or to the concentrations of the metals in leachate as measured using the TCLP (for solidification-type treatment technologies). In addition to

<sup>19</sup>The Agency has proposed a rule that would define hazardous constituent concentrations below which certain wastes will no longer be listed or identified as "hazardous" under RCRA Subtitle C. (60 FR 66344-469 (December 21, 1995)). In some instances, these concentrations may also serve as risk-based LDR treatment standards. The Agency can set risk-based LDR treatment standards for certain as-generated hazardous wastes (and not for hazardous contaminated environmental media) because the Agency has significantly more information on as-generated wastes streams and as-generated waste streams are typically more homogeneous than contaminated environmental media waste streams.

<sup>20</sup> Of course, if the environmental media is determined not to contain hazardous wastes before it is removed from the land, the land disposal restrictions and duty to comply with RCRA section 3004(m) do no attach, because no placement of hazardous waste will occur after the effective date of the applicable land disposal prohibition. In addition, if contaminated environmental media are determined not to contain solid or hazardous waste (i.e., it's just media) it would not be subject to any RCRA Subtitle C standard, including LDRs.

treating for constituents subject to treatment, for soil that is hazardous because it exhibits the characteristics of ignitability, corrosivity, or reactivity, the Agency proposes to require treatment until the soil no longer exhibits the characteristic.

(3) Justification for soil-specific LDRs. EPA believes that it is appropriate to set soil-specific LDR standards because the soil matrix often poses distinct treatment issues. Specifically, the Part 268 Universal Treatment Standards that would otherwise apply to soil subject to the LDRs are based, in large part, on incineration for organics and high temperature metal recovery (HTMR) for metals. Although incineration and HTMR are highly effective technologies, their selection was based on treatment of concentrated, as-generated hazardous wastes, and they are not generally appropriate for the large volumes of low and moderately contaminated soil typically encountered during site remediation. Thus, the Agency believes that technology-based standards for contaminated soil should not rely exclusively on incineration or HTMR and that, in many cases, innovative (i.e., non-combustion) technologies will be more appropriate (See 55 FR 8666, 8760-8761, (March 8, 1990) and 58 FR 48092, 48125, (September 14, 1993)). While the Agency believes that soil is, in most cases, most appropriately treated using non-combustion technologies, data gathered for the Phase II Soil proposal do not demonstrate conclusively that the Universal Treatment Standards can be met using technologies other than combustion; therefore, EPA is proposing the alternative soil treatment standards discussed today at levels somewhat above UTS levels.

(4) Application of soil-specific LDRs to other media. EPA considered applying the alternative 90% or 10 times the UTS treatment standard to hazardous contaminated media other than soils, but decided not to because there is little information available to the Agency to indicate that the LDR treatment standards that currently apply to these other media are inappropriate, or otherwise pose the same type of technical challenges as they do for soils. In individual cases where the existing UTS standards is inappropriate, the Director would be able to use the proposed Media Treatment Variance procedures outlined below to set alternative LDR treatment standards for these other media.

(5) *Request for comments.* EPA requests comments and data on the LDR treatment standards that would be established by today's proposed

regulations. The Agency is especially interested in comments which document that the current LDR treatment standards are appropriate or inappropriate for hazardous contaminated media other than soils (e.g., groundwater, sediments), or are otherwise compatible or incompatible with the remediation context. The Agency is also interested in comments which document whether the proposed LDR treatment standards for contaminated soils are achievable using technologies appropriate at remediation sites.

*c. Detailed analysis of proposed treatment standards for hazardous contaminated soils.* EPA first proposed LDR treatment standards specific to hazardous contaminated soil in the LDR Phase II Rule (58 FR 48092, September 14, 1993). In the Phase II Rule, EPA requested comment on three options for soil treatment standards: Option 1 was 90% treatment provided treatment achieved concentrations at least equal to or less than one order of magnitude above the Universal Treatment Standard (90% and 10 times UTS); Option 2 was treatment to one order of magnitude above the Universal Treatment Standard (10 times UTS); and Option 3 was 90% treatment with no ceiling value (90%). Commenters on the Phase II proposal strongly supported the 10 times UTS treatment standard,<sup>21</sup> indicating that they thought it would be easy to implement, provide for appropriate levels of protection, and be achievable using a range of treatment technologies. Available data supports the achievability of the 10 times UTS standard, 91% of the data pairs in EPA's Soil Treatability Database were treated to 10 times UTS using non-combustion technologies such as biological treatment, thermal desorption, and dechlorination. Commenters also supported various combinations of the 90% reduction and 10 times UTS standards, including the 90% or 10 times UTS approach proposed today.

Ultimately, EPA has chosen to propose the approach it believes will provide the most flexibility to overseeing agencies and facility owner/operators. Providing for flexibility in the management requirements for contaminated media is one of EPA's goals for the HWIR-media rulemaking. While EPA agrees with some of the comments on the Phase II proposal and believes that many facility owner/

operators will be able to achieve the 10 times UTS treatment standard using non-combustion soil treatment technologies, the Agency does not have information to show that 10 times UTS will be necessary to fulfill the requirements of RCRA section 3004(m) at all sites. In addition, the data pairs in EPA's Soil Treatment Database are primarily from bench and pilot schedule studies and may not reflect the "potentially problematic soil matrices and varying contaminant levels" likely to be encountered in the field (58 FR 48092, 48124, September 14, 1993). Finally, the FACA committee agreed on a 90% treatment standard for contaminated media with constituent concentrations above Bright Line concentrations. Therefore, the Agency believes it is appropriate to also allow for 90% reduction. As discussed below, the Agency believes compliance with either standard fulfills the requirements of RCRA section 3004(m). EPA intends to use the treatability data it receives pursuant to the requirements in proposed § 269.41(c)(9) and § 269.42(b) to fill in gaps in the data on which the proposed standards are based, and intends to amend the standards if appropriate.

EPA acknowledges that because the 90% reduction standard does not guarantee any particular final constituent concentrations, it may increase the chance, in individual cases, that soil treatment standards will not be appropriate to the site or might not meet the statutory standard. To address this concern, the Agency has built a "safety net" into the proposed soil treatment standards in today's regulations, by allowing the Director to specify more stringent soil treatment standards that are based on site-specific factors when he/she finds that the 90% or 10 times the UTS treatment standard does not "minimize threats" (e.g., where initial concentrations of hazardous constituents in the media are abnormally high). (See § 269.32.)

In developing the LDR treatment standards proposed today for hazardous contaminated soils and the standards discussed in the Phase II proposal, the Agency did not use its normal approach to setting technology-based LDR standards. In setting LDR treatment standards, the Agency generally examines available treatment data and sets a standard based on the "best" of the demonstrated available technologies ("BDAT"). The Agency typically finds a technology to be "demonstrated" when the data show that it can operate at the required levels, and "available" when, among other things, it is commercially available and provides "substantial"

<sup>21</sup> Of the 34 comments received, 14 supported 10 times the UTS; 6 supported 90% and 10 times the UTS; 4 supported 90%; 6 supported other combinations of 90% and 10 times the UTS, including the combination proposed today; and 4 supported other options.

treatment. The Agency's selection of the "best" of these technologies is generally based on a statistical evaluation of the treatability data. (See 51 FR 40572, 40588-40593 (Nov. 7, 1986).) Instead of this standard approach, the Agency selected options that could be achieved by available technologies and that would result in the "substantial[]" reductions mandated by RCRA section 3004(m) to develop the standards proposed today.

The Agency believes that RCRA allows this alternative approach to implementing section 3004(m). Specifically, RCRA § 3004(m) does not require the use of "BDAT" to implement a technology-based approach. In fact, as the D.C. Circuit has specifically recognized, section 3004(m) need not be read "as mandating the use of the best demonstrated available technologies (BDAT) in all situations." *Chemical Waste Management, Inc. v. US EPA*, 976 F.2d 2, 15 (D.C. Cir. 1992). Instead, any substantial treatment method that "minimizes" threats according to the statutory objectives is permissible. *Id.*<sup>22</sup> In other instances the Agency chose a BDAT approach because it believed that applying BDAT standards best served the Congressional objectives when the LDR requirements for as-generated wastes were enacted (55 FR 6640-6643, February 26, 1990).

The policy considerations that argue for BDAT as the basis for technology-based standards for as-generated wastes do not, however, support a BDAT approach in the remediation context. EPA has long maintained that setting BDAT standards for newly generated wastes best fulfilled the Congressional goal of reducing the amount of wastes ultimately disposed on the land (55 FR 6640, 6642, February 26, 1990); RCRA section 1003(6). While this may be true for newly generated waste not yet disposed, such standards do not further this goal in the remediation context. As discussed in section (II)(A) of this preamble, current standards can create disincentives to excavation, and more protective management of wastes

<sup>22</sup> The legislative history of section 3004(m) supports the reading that the legislative preference expressed for "BDAT" could be achieved using something less than only the "best" technologies:

The requisite levels of [sic] methods of treatment established by the Agency should be the best that has [sic] been demonstrated to be achievable. This does not require a BAT-type process as under the Clean Air or Clean Water Acts which contemplates technology-forcing standards. *The intent here is to require utilization of available technology in lieu of continued land disposal without prior treatment. It is not intended that every waste receive repetitive or ultimate levels of [sic] methods of treatment*

\* \* \*  
130 Cong. Rec. S. 9178 (daily ed. July 25, 1984) (statement of Sen. Chaffee) [emphasis added].

already disposed of on the land, because excavation of contaminated media for the purposes of treatment may trigger LDRs. Site decision makers are often faced with the choice of either capping or treating the wastes in place (to avoid LDRs), or excavating and triggering the costly BDAT treatment standards. This situation creates an incentive to leave wastes in place, a result obviously not contemplated by Congress in enacting LDRs. For a fuller discussion of this issue, see 54 FR 41566-41569, (Oct. 10, 1989). EPA has justified BDAT standards based in part on the fact that imposing them would create an incentive to generate less of the affected waste in the first instance. (See *Steel Manufacturers Association v. EPA*, 27 F.3d 642, 649 (D.C. Cir. 1994) (upholding the LDR standard, in part, because it minimized the amount of waste that would be generated)). In the remediation context the waste is already in existence, therefore, such "waste minimization" is not an issue. Typically, the threats to human health and the environment that the land disposal restrictions were intended to address are better controlled through excavation and management of remedial wastes and such action should therefore be encouraged, not discouraged.

Accordingly, EPA believes that it is appropriate to set LDR standards for soil subject to the LDRs based on something less than the "best" demonstrated available technologies, so long as those standards encourage the development of more permanent remedies and result in the "substantial[]" reductions contemplated by section 3004(m). The Agency believes that the 90% or 10 times the UTS standard proposed today will, by providing flexibility to cleanup decision makers, encourage the development of more permanent remedies. The Agency also believes that the 90% or 10 times the UTS standard represents a level of treatment that will, in general, "substantially" diminish the toxicity of the wastes or substantially reduce the likelihood of migration of hazardous constituents from the wastes so that short- and long-term threats to human health and the environment are minimized. Among other things, the Agency looks to the percentage of constituents removed, destroyed, or immobilized when deciding whether treatment is "substantial" (51 FR 40572, 40589, November 7, 1986). On this basis, the Agency believes that the 90% component is clearly substantial. Since EPA has previously determined that the UTS standards result in "substantial" treatment, the Agency believes that a standard one order of magnitude higher

should be considered substantial when addressing matrices that can be significantly more difficult to treat.

*d. Application of proposed treatment standards to media which no longer contain hazardous waste.* In some cases, contaminated media with constituent concentrations below the Bright Line will be determined to no longer contain hazardous waste, but may remain subject to the land disposal treatment requirements. As discussed earlier in today's preamble, EPA's analysis in this proposal is based on the logic that once the land disposal restrictions attach to hazardous wastes (or environmental media that contain hazardous wastes) the standards of section 3004(m) must be met before the wastes can be land disposed in any unit other than a no migration unit. Once attached, the obligation to meet land disposal restriction treatment standards continues even if a waste is no longer considered hazardous under RCRA Subtitle C (e.g., by eliminating a hazardous characteristic, or, in the case of an environmental medium, by making a contained-in decision<sup>23</sup>).

In these cases, EPA believes that it will generally be appropriate to use the additional opportunities for Media Treatment Variances proposed in § 269.31 to establish site-specific LDR treatment requirements based on risk. While the Agency is proposing generic technology-based treatment standards for higher-risk environmental media (i.e., hazardous contaminated media); EPA continues to believe that LDR treatment standards for lower-risk contaminated media (i.e., media determined not to contain hazardous wastes) are best addressed on a site-specific basis. This belief was supported by the FACA Committee, which said that lower-risk media should be exempt from the land disposal restrictions, and addressed on a site-specific basis in the context of agency-overseen cleanups.

Media Treatment Variances are discussed in more detail in section (V)(C)(7) of today's preamble. Most of these variances are also available for higher-risk media, the difference is a

<sup>23</sup> Of course, as discussed earlier in today's preamble, if soils were contaminated by hazardous waste prior to the effective date of the applicable land disposal prohibition and a contained-in decision was made prior to removal of the contaminated material from the land, the land disposal restrictions and the duty to treat to LDR treatment standards would not attach in the first instance. Since the Agency believes most environmental media contaminated by hazardous waste were contaminated prior to the effective date of the applicable land disposal restrictions, the Agency believes instances where contaminated environmental media is determined to no longer contain hazardous waste but remains subject to the LDR requirements will be few.

matter of assumptions. The Agency believes that lower-risk media that remain subject to the LDRs (i.e., media determined to no longer contain hazardous waste) should be addressed on a site-specific basis in the context of an Agency overseen cleanup and, because they present less risk, should, as a policy matter, be afforded additional flexibility. Therefore, treatment variances are presumed to be appropriate and are encouraged for these media. It is presumed that hazardous contaminated media will be treated to meet generic, nationwide treatment standards, although a variance may be appropriate in individual circumstances based on site-specific conditions.

*e. More stringent treatment standards—Proposed § 269.32.* As discussed above, because of the great diversity among cleanup sites—in terms of the contaminated media's properties; the exposure potential; size; topography; climate, and many other factors—EPA believes that it is appropriate to provide for situations where meeting the proposed treatment standards for hazardous contaminated media may be insufficient to meet RCRA section 3004(m)'s requirements that “\* \* \* threats to human health and the environment are minimized.” For example, a site might be located in a particularly sensitive environmental setting (e.g., over a shallow aquifer used for drinking water), where large volumes of contaminated soil containing high concentrations of highly-mobile, toxic constituents will be excavated, treated, and disposed on-site. In order to minimize the potential for releases from the on-site landfill over the long-term, it could be appropriate to require some type of treatment that is more stringent than the standards proposed in § 269.30. While EPA believes these situations would be rare, it is sensible to explicitly give overseeing Agencies the authority to impose more stringent LDR treatment requirements when they believe them necessary in order to meet the intent of RCRA section 3004(m). Because these decisions would be made on the record during the RMP approval process, they would be subject to notice and comment. Any final Agency decision to impose more stringent standards would be subject to challenge during the RMP review and approval process.

*f. Cross-media transfer.* Paragraph (h) of proposed § 269.30 specifies that the technologies employed in meeting any treatment standard for contaminated media must be designed and operated in a manner that would control the transfer of contaminants to other media. This

general standard is intended to eliminate from consideration any technology, such as uncontrolled air stripping, that would remove contamination from one medium by simply contaminating another. For a discussion of the Agency's tentative position concerning at what point cross-media transfers of constituents from land-based units could result in an invalidation of that unit as a treatment unit, see 60 FR 43654, 43656, (August 22, 1995). In addition, in conjunction with this rulemaking effort, EPA is developing guidance on controlling cross-media transfer of contaminants for a wide range of soil treatment technologies. The Agency plans to issue this guidance prior to or in conjunction with the final HWIR-media rulemaking. Further information on this guidance may be obtained from Subijoy Dutta in the Office of Solid Waste at (703) 308-8608.

### 3. Constituents Subject to Treatment

EPA is proposing that hazardous contaminated media be treated for each UTS constituent that originated from the contaminating hazardous waste, and that is subject to the treatment standard for such hazardous waste as it was generated (hereafter “constituents subject to treatment”) (§ 269.30(g)). For contaminated media other than soil (e.g., groundwater, sediments), treatment would be required for each constituent subject to treatment with concentrations above the UTS. For contaminated soil, treatment would be required for each constituent subject to treatment with concentrations greater than 10 times the UTS.

EPA believes it is appropriate to link LDR treatment requirements to the contaminating hazardous waste because, under the contained-in principle, environmental media only become subject to hazardous waste management requirements because they contain hazardous waste. The duty to treat, therefore, should only attach to those constituents for which treatment would have been required if the wastes were not contained in environmental media.

EPA is proposing to apply the definition of constituents subject to treatment to environmental media contaminated by both listed and characteristic wastes. Under the proposed rule, if environmental media were contaminated only by listed hazardous wastes (or mixtures of listed hazardous wastes and solid wastes) treatment would be required solely for Part 268 “regulated hazardous constituents” in these wastes (identified in the table entitled “Treatment Standards for Hazardous Wastes” at 40

CFR 268.40). If environmental media exhibit a characteristic, treatment would be required for the characteristic constituent (in the case of TC wastes) or the characteristic property (in the case of ignitable, reactive, or corrosive wastes), and for all constituents listed in § 268.48 “Table UTS—Universal Treatment Standards” present in the media. As stated above, this approach, in essence, incorporates the rule for characteristic wastes that requires treatment of all “underlying hazardous constituents”; underlying hazardous constituents are those constituents for which the Agency has promulgated Universal Treatment Standards (except for zinc and vanadium) that can reasonably be expected to be present in the wastes, and that are present in concentrations exceeding the UTS levels (or, for contaminated soil, ten times the UTS level). (See 40 CFR 268.2(i); 40 CFR 268.40(e); 60 FR 11702, (March 2, 1995); and discussion of underlying hazardous constituents at (59 FR 47980, 48004, (September 19, 1994)).

The Agency requests comments on the scope of the constituents that would be subject to treatment under today's proposed approach. For example, should background concentrations of naturally occurring hazardous constituents be explicitly evaluated when identifying constituents that are subject to treatment? Would it be more appropriate, as was suggested in the Phase II proposal (58 FR 48092, 48124, September 14, 1993), for the Agency to make all constituents present (even in media containing listed wastes) above UTS levels (or for contaminated soil, 10 times UTS levels) subject to treatment? Are there other ways to address the scope of constituents subject to treatment?

The Agency notes that “Bright Line constituents” and “constituents subject to treatment” are two different sets of constituents. Under today's proposal, the Bright Line does not define the applicability of LDR treatment requirements or the constituents subject to treatment in media subject to the LDRs. Contaminated environmental media that contains one or more hazardous constituents at concentrations greater than Bright Line concentrations would be ineligible for a contained-in decision and would become subject to the requirements for hazardous contaminated media, including LDR treatment requirements. Once subject to LDR treatment requirements, contaminated media would have to be treated to the generic, technology-based treatment standards for all constituents subject to treatment, including those below the Bright Line.

EPA requests comments on this approach. For example, should EPA allow site-specific minimized threat Media Treatment Variances (discussed below) for constituents subject to treatment that have initial concentrations below Bright Line concentrations and require compliance with the generic treatment standards only for constituents subject to treatment that have initial concentrations above Bright Line concentrations? How would this affect overseeing agencies that choose to set contained-in levels at concentrations more stringent than the Bright Line?

#### 4. Nonanalyzable Constituents

Some contaminated environmental media may contain constituents that do not have analytical methods. For media containing multiple organic constituents, some of which are analyzable and some of which are nonanalyzable, the Agency believes that treating the analyzable constituents to meet treatment standards should provide adequate treatment of any nonanalyzable constituents. As a general principle, the destruction of an analyzable organic surrogate constituent is an effective indicator for destruction of nonanalyzable organic constituents. The Agency is therefore not proposing treatment standards for nonanalyzable organic constituents found in hazardous contaminated media. The Agency requests comment on this approach as well as data on the degree to which non-analyzable organic constituents are treated when environmental media are treated for other organic contaminants. If, based on public comments, EPA should choose to regulate these constituents, the Agency could require treatment by specific technologies known to achieve adequate treatment of the constituent.

In cases where contaminated environmental media are contaminated solely with nonanalyzable constituents, (i.e., media contaminated only by nonanalyzable U or P wastes), EPA proposes requiring treatment by the methods specified in § 268.42 for those U or P wastes. For a list of U and P wastes, see 40 CFR 261.33. The Agency solicits comments on whether other technologies should be allowed for treatment of such media.

#### 5. Review of Treatment Results—§ 269.33

Once treatment under an approved RMP has been completed, the proposal would require the overseeing agency to review the treatment results and determine whether the treatment standard was achieved. If the treatment

standard were not achieved, EPA proposes that the facility owner/operator would be required to: submit a new RMP that includes plans and procedures designed to re-treat the material, or submit an application for a Media Treatment Variance (if a variance is appropriate). The Director, at his/her discretion, could require that the owner/operator continue to treat the materials until the treatment standard is met, or grant a Media Treatment Variance.

#### 6. Management of Treatment Residuals—§ 269.34

Depending upon the type of treatment system used, residuals from the treatment of media under Part 269 could either be media (hazardous contaminated or otherwise) or wastes (hazardous or otherwise) that have been separated from the media being treated. Under the proposed rule, waste residuals would be managed according to applicable RCRA Subtitle C or Subtitle D requirements. Media residuals would remain subject to Part 269. This is consistent with the Agency's approach to residuals from treating hazardous debris. (See 57 FR 37194, 37240, (August 18, 1992)). If media residuals from treatment of contaminated media meet the treatment standards, they can be disposed of in a Subtitle C land disposal facility. If those media have met their treatment standards and also no longer contain hazardous wastes, they are no longer subject to Subtitle C requirements and can be used, re-used, or returned to the land absent additional Subtitle C control. Under proposed § 269.33, media residuals that do not meet the treatment standards would be re-treated or, if appropriate, granted a Media Treatment Variance.

The Agency requests comments on this approach and on whether regulatory standards for management of non-media treatment residuals are necessary under this Part. For example, should residuals from treating media using stabilization technologies (i.e., stabilized media) be considered waste residuals and subject to the applicable subtitle C or D standard? Should the Agency address, through regulations or guidance, the methods used to determine whether treatment residuals are media or non-media? For example, should the Agency use the approach it promulgated for treatment residuals from treatment of hazardous debris and require that media and non-media treatment residuals be separated using simple physical or mechanical means?

Some treatment methods may distinctly separate hazardous wastes from contaminated media (e.g., carbon

adsorption for groundwater). In these cases, each residual can be measured to certify compliance with the applicable land disposal restriction treatment standards. For other treatment technologies that may not as distinctly separate media from non-media residuals, it may be more difficult to determine which LDR treatment standards should be applied. For example, some treatment methods (e.g., combustion technologies) may result in destruction of the media treated, leaving only non-media residuals. In these cases, should the residuals be subject to the treatment standards for contaminating hazardous wastes (e.g., the Universal Treatment Standard) or the treatment standards for media (e.g., the 90% or 10 times the UTS alternative soil treatment standard proposed today).

#### 7. Media Treatment Variances—§ 269.31

This section provides a mechanism which the Director can use to establish alternative treatment standards for contaminated media subject to the land disposal restrictions. The Agency is proposing to allow variances from generic treatment standards in three situations: when the generic standard is technically impracticable, when the generic standard is inappropriate, or when the Director can demonstrate, based on site-specific circumstances, that lower levels of treatment "minimize threats" in accordance with the standard of RCRA section 3004(m). Each situation is discussed in more detail below.

EPA encourages use of these procedures to establish site-specific LDR treatment standards for media that have been determined to no longer contain hazardous wastes but remain subject to LDRs. In addition, although EPA believes the generic, nationwide technology-based treatment standards for hazardous contaminated media should be appropriate and achievable for the majority of media managed at cleanup sites, the Agency acknowledges that because of the wide range of soils and contaminants that may be encountered in the field, there may be situations where such standards would be inappropriate.

Paragraphs (a) and (b) of § 269.31 would list the situations under which the Agency believes a Media Treatment Variance would be appropriate. Paragraph (c) of § 269.31 would provide the overseeing agency with the authority to request any information from the owner/operator that may be necessary to determine whether a treatment variance should be approved, and paragraph (d) provides that an alternative treatment standard approved according to this

section may be expressed numerically, or as a specified technology.

In order to ensure that the Media Treatment Variance provisions are not used simply to seek approval of an inferior technology or a poorly operated treatment system, § 269.31(e) would specify that any technology used to meet an alternative standard would have to be operated in a manner that optimizes efficiency, and result in substantial reductions in the toxicity or mobility of the media's contaminants. For the reasons discussed above, any such technology would be required to control the cross-media transfer of constituents.

The Media Treatment Variances in today's proposed rule are analogous to the existing site-specific treatment variances in Part 268. (See § 268.44(h)). EPA considered using § 268.44(h) for contaminated media, but decided to propose media-specific variance provisions for three reasons. First, for clarity, EPA has made a conscious effort to develop the HWIR-media rules to operate as a complete system and minimize cross-references to other portions of the regulations. Second, EPA believes that including Media Treatment Variances will make it easier and less disruptive for states to adopt and implement the final HWIR-media rules. Third, EPA believes that it is valuable to propose regulations clarifying the circumstances under which media treatment variances are appropriate, especially in the case of the variance for a site-specific minimize threat determination. The Agency requests comments on the need for the specific Media Treatment Variances proposed today and the relationship of the proposed Media Treatment Variances to the existing site-specific variance procedures in § 268.44(h).

*a. The generic technology-based treatment standard is technically impractical (§ 269.31(a)(1)).* In some cases, an owner/operator may be able to demonstrate to the overseeing agency that achieving the generic LDR standard is technically impracticable. While EPA believes it will typically be possible to achieve the general standards using common remedial technologies (e.g., biological treatment, soil washing, chemical oxidation/precipitation, activated carbon, air stripping), the Agency recognizes that, in some cases, these technologies may not be able to meet the 90% or 10 times the UTS standard. For example, comparison of leachate concentrations from some metal-bearing wastes before and after stabilization or solidification may not indicate a 90% reduction (and may not

be at concentrations below 10 times the UTS).

*b. The generic technology-based treatment standard is inappropriate (§ 269.31(a)(2)).* Many site-specific circumstances could cause the generic treatment standard to be inappropriate. In some cases, the media to be treated may differ significantly from the material upon which the generic treatment standard was based. For example, the Universal Treatment Standards for water were based on treatment of industrial wastewater. In some situations facility owner/operators could be treating groundwater that poses unique treatability issues, and may merit an alternative treatment standard (e.g., groundwater that is highly saline or has high concentrations of other naturally occurring contaminants such as iron). In another example, treatment of soils contaminated by heavy chain polynuclear aromatics (PNAs) with non-combustion strategies may not be sufficient to meet the 10 times the UTS standard.

In other cases, the generic treatment standard will be inappropriate because use of an alternative treatment standard would result in a net environmental benefit. For example, use of innovative treatment technology might result in substantial reductions in constituent concentrations in the near-term, while use of a more traditional treatment technology might eventually achieve the generic treatment standard but take twice as much time. For a discussion of EPA's position that a treatment standard may be deemed inappropriate when imposing it "could result in a net environmental detriment." (See 59 FR 44684, 44687, (August 30, 1994)).

*c. Threats can be minimized with less treatment than the generic technology-based standard would require (§ 269.31(b)).* As discussed earlier, EPA prefers to base land disposal restriction treatment requirements on risk. While information is not available to establish generic risk-based treatment standards for contaminated environmental media, EPA believes that adequate information may be available to establish site-specific, risk-based treatment standards. Using this variance, the Director would be able to make a site-specific, risk-based determination of § 3004(m) treatment requirements. In other words, the regulations would allow the Director to determine on a site-specific basis, "levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats

to human health and the environment are minimized" (RCRA section 3004(m)).

EPA is proposing this site-specific approach to ensure appropriate levels of treatment, and to provide some relief from the generic LDR treatment standards where an examination of actual site circumstances demonstrates that the requirements of section 3004(m) may be met with lesser treatment than that required by the generic, technology-based standards proposed today. The Agency has long recognized that section 3004(m) could be implemented on a risk basis, and that the risk approach often would require less treatment than the BDAT approach (51 FR 1602, 1611, (January 14, 1986); 55 FR 6640, 6642, (February 26, 1990); and *Hazardous Waste Treatment Council v. US EPA*, 886 F.2d 355, 361 (D.C. Cir. 1989) (upholding the Agency's view that although permissible, risk-based treatment standards are not compelled by section 3004(m)).

The Agency believes that a great number and variety of site-specific factors would influence minimize threat determinations; therefore, it is not proposing generic decision criteria. In general, however, EPA believes that the decision factors for contained-in decisions discussed earlier would be appropriate. This is similar to the approach in the LDR Phase II proposal, in which the Agency expressed the view that when a regulatory authority determined that media no longer contain hazardous waste, the regulatory authority could also make a site-specific determination that threats had been "minimized" (58 FR 48092, 48128, September 14, 1993).

The Agency further believes the site-specific minimize threat variance would be particularly appropriate in situations when the Director would be able to determine that constituent concentrations greater than the proposed soil treatment standards minimize threats at a site because not providing such relief would result in a less protective remedy. Often, when excavation of environmental media would trigger the duty to comply with LDRs, the LDR treatment standards serve as a disincentive to excavation and treatment in the remediation context. In proposing the NCP, EPA discussed the effect that LDRs can have on CERCLA decision making:

For wastes potentially subject to the LDRs, essentially only two options will generally be available—treatment to BDAT standards, or containment (including containment of wastes treated *in situ*). The range of treatment technologies between these two extremes that may be practical and cost-effective, and yield



highly protective environmental results, would not be available to decision makers. In some cases, given only these two remedial choices, decision makers may be pressured to select containment remedies that offer less permanence than treatment options that might otherwise be selected if the LDRs were not applicable (54 FR 41566, 41568, (October 10, 1989)).

EPA has experienced the same effect in the RCRA closure program. (See 54 FR 41566, 41568, (October 10, 1989)). "EPA's experience with the RCRA closure program has shown that owner/operators, faced with the choice of using BDAT treatment, or no treatment or *in situ* treatment, have a strong incentive to choose the less costly option \* \* \*, which may actually result in less effective long-term performance for many closed units").

While Congress did not address how to determine when threats are minimized in the remediation context, it obviously did not intend LDRs to act as a barrier to aggressive cleanup when enacting RCRA section 3004(m). Therefore, the Agency believes that in cases presenting the dilemma outlined above, and where imposing a lesser standard would encourage more protective management of the media, it would be reasonable for the Director to decide that, because overall risks at the site would be significantly reduced, imposition of lesser LDR treatment requirements would minimize threats at that site; therefore, as a general rule, cleanup to health-based standards through implementation of an approved remedy in the context of an agency-overseen cleanup can be presumed to minimize threats even when the remedy involves placement (or re-placement) of contaminated media which does not meet the generic, technology-based LDR treatment standards. The Agency notes that most Federal and State remedy selection criteria and cleanup procedures include independent requirements or preferences for treatment to ensure that remedies are protective over the long-term, although such would not necessarily be to the generic, technology-based LDR treatment standards.

Consistent with the recommendations of the FACA Committee, which agreed that higher-risk contaminated media should be subject to generic, nationwide standards, while lower-risk contaminated media should be addressed on a site-specific basis in the context of agency overseen cleanups, the Agency is proposing to limit the availability of the site-specific minimized threats variance to hazardous (or formerly hazardous) contaminated environmental media

with all constituent concentrations below the Bright Line. For media that does not have a Bright Line (i.e., sediments) program implementors should consider the Bright Line risk levels and principles when determining if a site-specific minimize threat variance is appropriate. Despite this limitation, the Agency believes that the site-specific, minimize threat determination will provide significant and appropriate relief since Agency experience has shown that the dilemma of choosing between capping and/or treating media in place or excavating and triggering inflexible LDR treatment standards is much more likely to present itself with less contaminated media (such as media in which all constituents are below the Bright Line) (54 FR 41566, 41567, October 10, 1989). This is because an *in situ* option is much more likely to be acceptable under a remedial authority where wastes are not highly concentrated.

EPA recognizes that there may be concerns regarding the ability of the overseeing agency to grant a treatment variance based on a site-specific determination that threats are minimized. However, it should be noted that these decisions would go through the same notice and comment procedures as other substantive standards included in RMPs. Any concerns with risk-based treatment standards identified in a particular RMP could be raised during the comment period, and the overseeing agency would be required to address them when finalizing the RMP.

EPA seeks comments on its approach to site-specific, minimize threat variances. For example, should EPA propose more specific standards for making minimize threat determinations? Should the Agency allow site-specific minimize threat variances for any constituent subject to treatment that has initial concentrations that are less than Bright Line concentrations even though other constituents in the same medium might have concentrations that are greater than Bright Line concentrations? Should EPA allow site-specific, minimize threat variances when constituent concentrations drop below Bright Line concentrations even if the generic, technology-based LDR treatment standards (i.e., 90% or 10 times the UTS) have not yet been achieved? Should EPA allow site-specific, minimize threat variances for constituents with initial concentrations that are greater than the Bright Line?

EPA requests that commenters who support specific standards for minimize threat determinations suggest standards for EPA consideration, and address the

application of these standards in the remediation context. Commenters who support minimize threat determinations for contaminated media with constituent concentrations above the Bright Line should address the relationship of these determinations to contained-in decisions (which, under today's proposed rule are not allowed for contaminated media with constituent concentrations above the Bright Line).

The Agency also requests comments on whether it should attempt to provide explicit opportunities for site-specific minimize threat determinations outside of the HWIR-media context (e.g., add appropriate provisions for non-HWIR-media contaminated media to the current treatment variance rules at § 268.44(h))? If so, should these determinations be limited to media with constituent concentrations below the Bright Line?

#### 8. Request for Comment on Other Options

Two of the Agency's stated policy objectives for the HWIR-media rule are to develop requirements that are appropriate for contaminated media and to remove administrative obstacles to expeditious cleanups where possible. EPA has struggled with these objectives in the context of LDR requirements. The applicability of land disposal treatment requirements depends, in part, on whether contaminated environmental media are determined to contain hazardous waste. Under today's proposed rule, contaminated environmental media that contain hazardous waste, are placed after the effective date of the applicable land disposal prohibition, and have concentrations of hazardous constituents above the Bright Line will always be subject to the LDRs because contained-in decisions are not allowed for contaminated environmental media with constituent concentrations above the Bright Line. For such contaminated environmental media with constituent concentrations below the Bright Line, overseeing agencies would have the discretion to make contained-in decisions, as discussed in section (V)(A)(4)(a), above. Accordingly, in some cases, the LDRs might apply to contaminated environmental media with all constituent concentrations below the Bright Line (e.g., where the duty to comply with LDRs attached to the contaminating waste prior to the initial act of disposal), while in other cases they might not.

While the Agency believes that today's proposed LDR requirements are consistent with the goals and objectives

of the HWIR-media rulemaking and would provide significant and appropriate relief from the LDR treatment requirements for as-generated wastes, it requests comments and suggestions that identify other options for developing appropriate land disposal restriction standards for contaminated media.

The Agency is especially interested in comments that address environmental media with all constituent concentrations below the Bright Line. For example, the HWIR FACA Committee expressed the view that it would be appropriate, as a policy matter, to exempt contaminated media with constituent concentrations below the Bright Line from LDR treatment requirements when these media were subject to agency-overseen cleanups. Comments are therefore invited on how the Agency could attain this result consistent with the requirements of section 3004(m). For example, would it be appropriate for EPA to define contaminated soil and/or other contaminated environmental media (e.g., groundwater, sediments) as a separate LDR "treatability group?" Changes in treatability groups generally result when the properties of a waste that affect treatment performance have changed enough that the waste is no longer considered similar to those in its initial group. Each change in a waste's treatability group constitutes a new point of generation; if the waste is no longer considered "hazardous" at the time of the change (e.g., through a contained-in decision), LDRs would not attach even though the initial waste might have been subject to LDRs prior to the change in treatability group (55 FR 22520, 22660-22662, June 1, 1990). The Agency notes that the treatability group approach could be Bright Line dependent (i.e., available only for contaminated media with all constituent concentrations below the Bright Line) or Bright Line independent (i.e., available for all contaminated media regardless of constituent concentrations).

#### 9. LDR Treatment Requirements for Non-HWIR-media Soils

In some cases, hazardous contaminated soils would not be subject to the alternative LDR treatment requirements in today's proposal. This will be the case in states that choose not to adopt the HWIR-media rules and may also occur at sites where cleanup occurs without direct agency approval (e.g., voluntary cleanup sites). The Phase II proposal would have modified the LDR treatment standards for all hazardous soils regardless of the presence of agency-oversight; however, under

today's proposal, the alternative LDR soil treatment standards would only be available when applied by an overseeing agency through issuance of a RMP.

Today's proposal would limit application of the alternative soil treatment standards proposed today because they were developed, in part, using the assumption that they would only be applied with agency-oversight and, therefore, could be easily adjusted, either upward or down, to account for site-specific conditions. Nonetheless, the Agency requests comment on whether it would be appropriate to extend the 90%/10xUTS treatment standard proposed today to all hazardous contaminated soils, instead of limiting them to soils managed under an approved RMP. This would allow their use in States that do not seek authorization for this rule, or by facility owner/operators who wish to proceed with remedies ahead of formal agency approval of a RMP.

Alternatively, should the Agency adopt soil treatment standards that are adjusted to account for the lack of State or Agency oversight over how they are administered? For example, should the Agency promulgate a 10 times the UTS only standard for non-HWIR-media hazardous soils? This would account for the fact that the "safety-net" provided by proposed § 269.32, which would allow the Director to impose more stringent treatment standards Director on a case-by-case basis, would not be applicable in the non-HWIR-media situation. Would some other combination of a greater percent reduction and lesser UTS multiplier be more appropriate?

#### 10. Issues Associated With Hazardous Debris

Earlier in the preamble for today's proposal, EPA requested comment on whether the substantive requirements of today's proposed rules should be applied to hazardous debris as defined in 40 CFR 268.2(h). Hazardous debris are currently subject to a specific set of LDR treatment standards, promulgated in the LDR Debris rule (57 FR 37194, 37221, August 18, 1992).<sup>24</sup> In individual cases where the generic, national LDR treatment standards are not appropriate or un-achievable for certain hazardous debris, EPA and authorized states may grant site-specific treatment variances using the procedures in 40 CFR 268.44(h).

The LDR treatment standards for hazardous debris promulgated in the LDR Debris Rule are generally expressed

<sup>24</sup> EPA is not now reopening the comment period on the LDR Debris Rule.

as generic, specified technologies, rather than constituent concentrations. While EPA believes that the technologies specified for debris treatment are generally compatible with most types of remedial activities, the Agency recognizes that applying different regulatory schemes at the same site (one for media and one for debris) may unnecessarily complicate cleanups and raise cleanup costs without a discernable environmental benefit.<sup>25</sup> In addition, the debris treatment technologies can be problematic in some instances, especially when the standard of 0.6 cm surface removal is applied to brick, cloth, concrete, paper, pavement, rock or wood debris treated with high pressure steam or water sprays.

EPA requests comments on whether the current LDR treatment standards for hazardous debris remain appropriate or whether hazardous debris should, instead, be subject to treatment standards similar to the standards in today's proposed rule for contaminated media, or whether some combination of the standards would be most appropriate. For example, EPA could allow the Director to impose either the generic debris treatment technologies codified in the Hazardous Debris Rule or, if appropriate, specify site-specific LDR treatment standards (either as constituent concentrations or specified technologies) using the proposed site-specific, minimize threat Media Treatment Variance. Since under today's proposal, site-specific minimize threat Media Treatment Variances are only available for contaminated media with constituent concentrations less than Bright Line concentrations, EPA requests that commenters who support site-specific, minimize threat variances for debris address application of the Bright Line to debris. More generally, EPA requests comments on whether the variances provided for in 40 CFR 268.44(h) are sufficient to provide for appropriate management of hazardous debris or whether the Media Treatment Variances proposed today would be more appropriate.

While today's proposed rule does not include changes to the existing LDR treatment standards and requirements for hazardous debris, EPA could include new LDR treatment standards or requirements in response to public comment. Issues associated with hazardous debris and the possibility of

<sup>25</sup> BP Exploration Alaska Inc estimated that managing hazardous debris in compliance with the existing 40 CFR 268.45 regulations, rather than including hazardous debris in on-going cleanups on similarly contaminated media, would cost \$3,200-\$6,000 a ton since Debris Rule treatment technologies are rarely used in remote Alaska areas.

including debris in the final Part 269 regulations are also discussed in sections (V)(A)(2) and (V)(A)(4)(b) of today's preamble.

#### *D. Remediation Management Plans (RMPs)*

##### 1. General Requirements—§ 269.40

Today's proposed rule provides for considerable site-specific decision making as to how contaminated media should be managed as part of remedial actions. This is particularly so in the case of media that are determined not to contain hazardous waste (on the condition that there is compliance with a RMP that would address any hazards), and thus would not be subject to any of the national, generic Subtitle C management standards. Today's proposal would provide a new administrative mechanism—RMPs—as the means for documenting, providing for public review and comment, and enforcing these site-specific requirements.

Under the proposal, a RMP would be required (1) whenever hazardous contaminated media are managed according to Part 269, and (2) whenever a contained-in determination is made for non-hazardous contaminated media (i.e., contaminated media are determined by the Director to not contain hazardous wastes), and (3) whenever non-hazardous contaminated media are managed in accordance with site-specific management requirements prescribed by the overseeing Agency. Thus, any management of contaminated media that would need a permit according to § 270.1—if Part 269 did not apply—would require a RMP.

It should be understood that RMPs could also be used (if deemed appropriate by the Director) as the procedural/administrative vehicle for imposing management requirements, in addition to those required under Part 269, for any hazardous cleanup wastes under Part 264, and as requirements for management of non-hazardous cleanup wastes. The following are examples of the types of management requirements that could be imposed under a RMP, and the circumstances under which those requirements could apply. When applicable, a RMP must include requirements for management of:

1. Hazardous contaminated media at the media cleanup site, imposed pursuant to Part 269;

2. Hazardous contaminated media at the media cleanup site, imposed pursuant to applicable unit-specific provisions of Part 264 (e.g., standards for tanks, landfills, etc.);

3. Hazardous contaminated media at a permitted, off-site hazardous waste management facility, imposed pursuant to the Part 269 LDR treatment standards;

4. Other types of hazardous cleanup wastes (e.g., debris, sludges) that are managed in compliance with applicable provisions of this chapter;

5. Non-hazardous contaminated media (i.e., media that have been determined by the Director to not contain hazardous wastes, in accordance with § 269.4), that are managed either at a media cleanup site or elsewhere, in accordance with site-specific or other management requirements imposed pursuant to any applicable State or Federal management requirements, which do not require the presence of hazardous waste; and/or

6. Other types of non-hazardous cleanup wastes that are generated from a media cleanup site and managed either at the site or elsewhere, in accordance with management requirements imposed pursuant to applicable State or Federal regulations.

As explained above, RMPs would always be required whenever Part 269 requirements are implemented, except when the cleanup is conducted under circumstances where a permit is not required, such as in CERCLA responses. In the case of CERCLA on-site removal or remedial actions, RMPs would not be required. Generally, however, a Record of Decision (ROD), or other CERCLA decision document, would specify the requirements for compliance with Part 269, if the remedy involved management of contaminated media.

As mentioned already, the provisions of this rule would not waive or replace otherwise applicable provisions of Subtitle C. For example, if the cleanup will be taking place at an operating RCRA Treatment Storage or Disposal Facility (TSDF),<sup>26</sup> that TSDF would still need a traditional RCRA permit for its ongoing operations. If that facility wanted to conduct cleanup according to Part 269, the RCRA permit for the site could serve as the RMP, or the facility could have both a RMP and a RCRA permit. In addition, if hazardous waste management units are to be employed during the remedial activities, such units would have to be operated in

compliance with the appropriate standards of 40 CFR Part 264 (except Subparts B and C, for general facility standards and preparedness and prevention) for design; operation; closure and post-closure; handling procedures; transportation, and inspection of units or equipment.

The Agency is proposing this approach because the requirements of Subparts A and D–DD are appropriate to ensure safe, protective operation of such units for hazardous contaminated media, just as they are appropriate for new wastes. EPA is proposing not to require compliance with parts B and C because those sections were designed for long-term operating hazardous waste facilities, and not one-time cleanup actions. However, EPA recognizes that other 40 CFR Part 264 standards may not be appropriate under certain site-specific circumstances. EPA solicits comments on what other, if any, provisions of 40 CFR Part 264 should not be applicable to management of hazardous contaminated media at media cleanup sites.

The proposed requirements concerning RMPs (Subpart D) are the only provisions of Part 269 that could be applied to management of all types of hazardous cleanup wastes. EPA considered restricting RMPs to address only management of media. Under such an option, however, other types of cleanup wastes, such as debris and sludges, would require a permit—a second authorizing document under the RCRA permit requirements of Part 270. The Agency does not propose to limit RMPs in this way, because RMPs are intended to expedite permitting and accelerate cleanups for a wide variety of sites, and because they can adequately address public participation concerns. As explained in section II of this proposed rule, the requirement to obtain RCRA permits for cleanups has often frustrated desirable cleanup activities. Thus, limiting RMPs to management of contaminated media would severely limit the relief that this rule is intended to provide.

In addition, RMPs would be required only if cleanup wastes are managed in such a way that requires a RCRA permit, or to document contained-in decisions (that media do not contain hazardous waste), and the management requirements for the non-hazardous contaminated media. In many cases, hazardous cleanup wastes could be managed in such a way that does not trigger the requirement for a RCRA permit. An example would be a site where contaminated media are simply excavated and transported off-site to a permitted facility for treatment or

<sup>26</sup> i.e., hazardous waste management activities apart from the cleanup activities would require a RCRA permit. Although the part of the site where the remediation was taking place could be considered a "media remediation site," the entire facility could not be considered a "clean up only" site, and therefore would be subject to applicable RCRA requirements, including permitting, and RCRA §§ 3004(u) and (v) facility, and beyond the facility boundary, corrective action. (See definition of media remediation site in 40 CFR 269.3, and preamble section (V)(A)(3).)

disposal. Another example would be treatment or storage in units that are exempt from permitting requirements, such as wastewater treatment units, or less than 90-day treatment or storage in tanks or containers. In summary, if absent proposed Part 269, a cleanup action did not require a RCRA permit under § 270.1, and a RMP is not needed to document a contained-in decision, it would not need a RMP.

Under proposed § 269.40(e), a RMP could be a "stand alone" document, or as might often be the case, a part of a more comprehensive document prepared by the overseeing agency. An example of a comprehensive document would be an enforcement order that explains the overall remedy for a contaminated site. The order would specify the requirements for management of hazardous cleanup wastes, and other remedial requirements such as cleanup standards and source control requirements. The order's media management requirements would not necessarily have to be presented as a separate plan, so long as those requirements were clearly specified to enable public review and comment. On the other hand, an overseeing agency might prefer to issue a RMP for a cleanup site, and use the RMP as the vehicle for specifying other remedial requirements, in addition to those for waste management.

Proposed § 269.40(c) provides that RMPs may constitute RCRA permits for the purpose of satisfying permitting requirements under RCRA section 3005(c). RMPs are designed to streamline the implementation of remedial actions that need RCRA permits by requiring less extensive review and comment procedures than are required for RCRA permits. In addition, facility-wide corrective action requirements would not generally apply to RMPs. (See preamble discussion of media cleanup sites elsewhere in this proposed rule).

Proposed § 269.40 (f) and (g) specify that approval of a RMP would not convey any property rights, or any exclusive privilege of any sort, and that approval of a RMP does not authorize any injury to persons or property, or any invasion of other private rights, or any infringement of State or local laws or regulations. These statements were taken from RCRA permitting requirements. (See § 270.4 (b) and (c)). EPA believes that these statements should apply in the same manner to RMPs as they do to RCRA permits.

EPA believes it may also be appropriate to specify that compliance with a RMP during its term would constitute compliance, for purposes of

enforcement, with Subtitle C of RCRA. This would be consistent with 40 CFR 270.4(a) for RCRA permits. The Agency requests comments on this issue.

## 2. Content of RMPs—§ 269.41

The purpose of a RMP is to document the requirements for the contaminated media that are being managed at the media cleanup site, and to justify these requirements. This documentation is necessary because it (1) defines the enforceable provisions that apply to contaminated media management activities; (2) provides information to the Director that is sufficient to determine that these actions will be conducted according to applicable provisions; and (3) provides sufficient information and opportunity for public comment through the public participation procedures in § 269.43(e).

Although RMPs may be required for the management of media that result from investigations and treatability studies, the Agency believes that the process and content requirements for such RMPs should be as streamlined as possible. In those cases, under the proposed rule it would only be necessary to include relevant information to determine that media management activities would be in compliance with the requirements of this Part, and other applicable requirements. This would ease the administrative burden on investigations and treatability studies, and therefore facilitate getting these activities underway at cleanup sites. EPA requests comments on whether this streamlining is appropriate, and whether more should be done to reduce the administrative burdens associated with investigations and treatability studies in regard to today's proposal.

Since several different types of cleanup wastes may be managed under approved RMPs, the RMP must define what types of materials are being managed according to their requirements. For media that will be managed by the requirements of this Part, the proposed rule provides that information must demonstrate that the materials are indeed media, as defined in proposed § 269.3. For hazardous contaminated media and other hazardous cleanup wastes that must be managed according to the substantive requirements under Subtitle C, information would be required to demonstrate what type of cleanup wastes would be managed in order to identify the applicable, substantive Subtitle C regulations. This information would be necessary to indicate that the planned remedial activities involving those materials would be in compliance

with those substantive requirements. For non-hazardous contaminated media which would be managed according to applicable State/Federal requirements, the RMP would have to include enough information to allow the Director to determine that the media did not contain hazardous waste. Also, the RMP would have to show that the media would be managed in compliance with any applicable State/Federal requirements.

It is important to demonstrate that the contaminated media being managed would meet the definition in the proposed § 269.3, and that planned treatment of those media would meet the treatment requirements of this Part, if applicable. The RMP would have to provide any information on the media (or waste) characteristics, and the constituent concentrations that would affect how the materials should be treated and/or managed. Particularly, the RMP would have to provide information on initial concentrations of contaminants in the media so that the overseeing agency could determine when any applicable required treatment reductions are met. Also, some contaminants are treated more or less successfully with different types of technologies. Accordingly, this information could affect how those contaminants should be treated.

Different management requirements could be more appropriate for different sites, depending on the volumes of hazardous contaminated media to be managed at the site. Therefore, EPA proposes that RMPs would be required to include information on the volumes of wastes and media to be managed.

The RMP should also specify the types of treatment and management that will be used to treat the contaminated media under the RMP. With this information the Director could determine if other Subtitle C requirements would be applicable to that treatment, such as the 40 CFR Part 264 standards. The Director also could determine if the treatment would be conducted in a way that would be protective of human health and the environment.

As discussed in the section "Treatment Requirements for Hazardous Contaminated Media" of today's proposed rule, EPA is concerned about the potential for remedial technologies to cause cross-media transfer of contaminants. For example, contaminants could be volatilized for removal from the soil, but releasing them to the air could then contaminate the air. Obviously, this would not accomplish the Agency's goal of actual cleanup of contaminants. Instead the

Agency proposes to control the potential of cross-media transfer by requiring that the RMP would include information on how the treatment system would be designed and operated so that the transfer of pollutants to other environmental media would be minimized.

As discussed earlier, EPA is currently developing a set of guidance documents called Best Management Practices for Soils Treatment Technologies. These documents will provide guidance for controlling cross-media contamination from different categories of remedial technologies. This guidance will be made available for comment before it is finalized.

In EPA's experience, accurate waste analysis is critical in selecting effective remedial waste management requirements. Thus, the proposed rule states that RMPs would include information on planned or completed sampling, and analysis procedures necessary to many aspects of the remedial actions, including: characterization, ensuring effective treatment, and demonstrating compliance with the treatment standard. In addition, the RMP would include quality assurance, and quality control procedures to validate the results of the sampling and analysis.

The Agency is currently developing guidance on how to sample, test, and analyze contaminated media. This guidance would be used to characterize the contaminated media being managed in a way that EPA would generally consider adequate for compliance with this Part. This draft guidance is available for comment in the docket for today's proposal.

EPA has found it necessary to collect treatability data for contaminated media so that it can set treatment standards with reasonable faith that those standards can be met with available technologies, and provide information on which technologies have accomplished what results on what kinds of contaminated media to potential users. Today's proposed rule would provide tremendous flexibility in LDR treatment standards because, among other things, of a lack of data regarding what treatment levels can actually be met in practice. One of the rule's goals is to provide data to ensure appropriate, future treatment requirements. In order to collect this much-needed data, the proposed rule would require that upon conclusion of implementation of remedial technologies (both full-scale as well as treatability studies), conducted under approved RMPs, data be submitted to EPA in the manner specified in

Appendix B to this Part. (See §§ 269.41(c)(9) and 269.42(b)). The Agency will make these data available to the public once they have been compiled into EPA's NRMRL treatability database. EPA proposes that data from treatability studies be submitted as soon as the treatability study (or studies) has been completed. Full-scale operating data would be submitted every three years, or after the cleanup has been completed, whichever is first.

*Treatability data.* The National Risk Management Research Laboratory treatability database is available through the Alternative Treatment Technology Information Center (ATTIC) system or on disk at no charge from EPA. The ATTIC system provides access to several independent databases as well as a mechanism for retrieving full-text documents of key literature. The ATTIC system can be accessed with a personal computer and modem 24 hours a day, and no user fees are charged.

To access the ATTIC system, set your PC communications software as follows:

Name: ATTIC  
 Number: (703) 908-2138  
 Baud Supported: Up to 14,400  
 Parity: N  
 Data Bits: 8  
 Stop Bits: 1  
 Terminal Emulations: ANSI, VT100  
 Duplex: Full

For further information on the ATTIC system, please call the ATTIC Hotline at: (703) 908-2137, or contact the ATTIC Program Manager: Daniel Sullivan, U.S. EPA (MS 106), 2890 Woodbridge Avenue, Edison, NJ 08837-3679, phone: (908) 321-6677, fax: (908) 906-6990.

The Agency requests comments on whether this procedure and format will meet the goals of providing access to the public and regulated community about achievable treatment at cleanup sites, and whether it will provide adequate information to the Agency for the development of future rulemakings.

For many reasons, the Director could decide that further information in the RMP is needed to determine compliance with this Part. If the Director does request further information (according to § 269.41(c)(10)), the owner/operator shall revise the proposed RMP to include that information.

Fostering innovative technologies. The Agency believes that environmental regulations and policies should promote, rather than inhibit, the innovation and adaptation of new technologies. By adopting such a strategy, environmental policy can promote both the economy and the environment by creating new industries, jobs, and a new capability to make

environmental progress. We therefore are seeking comments on how this regulation can further innovative technology as well.

In order to clarify what the Agency means by innovative technology in this case, the following is a definition from the White House "Bridge to a Sustainable Future" document from April 1995. "[A] technology that reduces human and ecological risks, enhances cost effectiveness, improves efficiency, and creates products and processes that are environmentally beneficial or benign. The word "technology" is intended to include hardware, software, systems, and services. Categories of environmental technologies include those that avoid environmental harm, control existing problems, remedied or restore past damage, and monitor the state of the environment."

One example of how this proposed rule attempts to foster innovative technologies is by creating a new media treatment variance. In cases where innovative technologies will be protective of human health and the environment, given site-specific conditions, a media treatment variance could set an alternative treatment standard using an innovative technology.

The Agency requests comments on what specific regulatory or policy changes should be added to the rule to: (1) Increase incentives for innovative technologies; and (2) identify and reduce any existing barriers to innovative technologies. Specifically, the Agency requests comments on how RCRA requirements can be changed, in a manner acceptable to all concerned parties, to allow for rapid technology development.

EPA solicits comments on the desirability of, and possible approaches for, tailoring regulatory requirements for technologies when the risk of a major system failure is impossible, remote, or without significant risk from unit operations commonly called "soft landing technologies." For such technologies, particularly those that are in-situ, a high level of regulatory control does not appear necessary. Certain ex-situ technologies such as soil washing also seem to present a minimal risk. EPA requests comments and suggestions specifically on how regulatory requirements could be tailored to "soft landing" technologies. For example, should RMPs for soft landing technologies have a more streamlined approval process than other RMPs; or should they be exempt from permitting requirements entirely; or should their requirements be tailored differently?

### 3. Treatability Studies—§ 269.42

EPA recognizes that treatability studies are likely to be an important component of evaluation, selection, and application of LDR treatment technologies, especially for innovative technologies. Thus, it may be highly desirable or even necessary to generate site-specific, pilot-scale treatability information to support preparation of Remediation Management Plans (RMPs).

In § 269.42 of today's proposed rule, EPA proposes that treatability studies would be conducted subject to the discretion of the Director, and in accordance with appropriate provisions of 40 CFR 269.41 and 269.43. (See discussion above). If a treatability study were going to be conducted under a RMP, the RMP would include information describing how the study would be conducted, including relevant design and operating parameters, information on waste characteristics, and sampling and analytical procedures.

If applicable, the currently available Treatability Sample Exclusion Rule could be used for treatability studies; however, the rule might not cover all situations where relief for treatability studies is needed. EPA solicits comments on whether it would be preferable to revise the Treatability Sample Exclusion Rule (40 CFR 261.4(e)-(f)) to allow site-specific decisions regarding quantities and time frames for treatability studies that have been conducted in support of activities covered by HWIR-media, or other cleanup projects.

The Agency recently revised the Treatability Sample Exclusion Rule to allow up to 10,000 kg of contaminated media to be used in treatability studies without permits or manifests. In promulgating the revision, EPA was aware, based on comments received on the proposal, that the quantity limits were not always sufficient to allow treatability studies of appropriate scale, particularly for in-situ treatments. Because treatability studies in support of HWIR-media activities have the objective of improved remedial decision-making and cleanups, and would take place under regulatory oversight, EPA sees merit in facilitating appropriate scale studies, and requests comments on whether to allow the Director to determine, on a site-specific basis, to exempt waste under treatability studies when necessary in order to obtain effective treatability study results. The Director would be required to ensure, as always, that exempting the wastes would not pose a threat to human health and the environment. The Agency requests comments on any other

approaches to effective treatability studies, and other issues related to this area.

### 4. Approval of RMPs—§ 269.43

This section of the proposed rule sets out procedures for review and approval of RMPs. If, however, the overseeing Agency were using an alternative document as discussed above, and if the Agency had review and approval requirements for the document (that provide equivalent or greater opportunities for public review and comment), then those alternative procedures could be used. Examples of these procedures would be the RCRA permit, or the permit modification procedures in Part 270. If necessary, the Director could also require further review and comment procedures.

The proposed rule would require both the owner and operator to sign the draft RMP before submitting it to the Director for review and approval. The owner and the operator's signatures would certify their agreement to implement the provisions of the RMP if the RMP is approved as submitted. In the context of cleanups, EPA has found that, on occasion, either the owner or operator is unwilling to sign a permit application. For example, a property owner may be unwilling to sign, because of fear of liability, where a lessee is conducting a cleanup. EPA solicits comments on whether signatures of both the owner and operator are needed in every case.

The Director could require modification or additional information that might be necessary for demonstrating compliance with the requirements of this Part. For example, to allow EPA and the States flexibility in using existing enforceable documents and procedures to comply with the requirements for RMPs, the Agency is not proposing national requirements in areas such as record keeping and reporting. EPA believes that the Director should specify any additional requirements that he/she determines necessary, (but that do not have national requirements specified in Part 269) in the RMP. The Agency requests comments on whether EPA should specify national requirements for record keeping and reporting, or any other requirements for RMPs.

Once the Director determines that the draft RMP adequately demonstrates compliance with the requirements of this Part, he/she could add provisions to the proposed RMP that specify conditions under which the media must be managed, in accordance with this Part and other applicable provisions of Subtitle C. The Director could also add contained-in concentrations for media

that would be managed under the RMP. If media that originally contain hazardous wastes were to be treated to a point at or below which they no longer would contain the wastes, then these levels would be necessary to define when the media no longer contain hazardous wastes.

If the Director had established applicable State-wide contained-in concentration levels, or if all media at the site were to be managed as hazardous contaminated media, then such contained-in levels could simply be referenced in the RMP.

The Director must also document site-specific minimize threat determinations or other treatment variances in the RMP if such a determination were made for the site in question. This would provide the public the opportunity to review and comment on both contained-in and minimize threat decisions.

EPA considers public review and comment procedures to be an extremely important part of the review and approval process for remedial activities. The Agency intends for the procedures provided in this proposed rule to balance the need for public involvement with the need for fast and efficient approval of remedial activities.

In essence, EPA is proposing to require the use of the minimum public participation requirements set out in RCRA section 7004(b). Thus, the first step in the proposed public review and comment procedures is for the Director to publish in a major local newspaper of general circulation, and broadcast over a local radio station his/her intention to approve the RMP. This notice would provide the public with the opportunity to submit written or oral comments, and would be required to specify the length of time that the public has to comment. The proposed rule specifies that the comment period shall be no shorter than 45 days. At this time, the Director would also be required to transmit a written notice of his/her intent to approve the RMP to each unit of local government having jurisdiction over the area in which the site was located, and to each State agency having any authority under State law with respect to any construction or operations at the site.

The next step is an informal hearing. The Director could determine on his/her own initiative that a hearing is appropriate, or receive a request for a hearing. In either case the Director would be required to schedule a hearing to discuss issues relating to approval of the RMP. The hearing would provide the interested public an opportunity to present written or oral statements. The Director would be required, whenever

possible, to schedule the hearing at a location that is convenient to the site's nearest population center. The Director would be required to give notice again in the newspaper and on the radio of the hearing's date, time, and subject matter.

After the comment period, and after the hearing (if one is held) the Director would be required to consider and respond to all significant written and oral comments (received by the deadline) on the proposed RMP. If the Director determines that it is appropriate, he/she may modify the RMP to accommodate the comments received.

At that point, the Director would be required to determine if the RMP were adequate, and if it met the requirements of this Part. If so, he/she would be required to notify the owner/operator and all other commenters in writing that the RMP had been approved. Once the RMP had been approved, it would be an enforceable document, and a final Agency action (not subject to administrative appeals in § 124.19 of this part).

EPA requests comments on whether these public participation requirements are appropriate for RMPs. The Agency also requests comments on public participation requirements in the State Authorization section of this proposal. The Agency is proposing this approach to public participation for RMPs because RMPs can serve as RCRA permits if necessary; hence, the Agency is proposing to follow the statutory requirements for public participation for RCRA permits. The Agency also requests comments on whether there should be different levels of public participation if the media contain hazardous wastes, or if the Director determines that the media do not contain hazardous wastes. The Agency requests comments on whether there should be some flexibility in the public participation requirements based on the different types of activities that could be performed according to RMPs. See further discussion of this issue below in the State Authorization section (V)(E)(6)(b) of the preamble regarding essential elements for an HWIR-media program.

Proposed § 269.43(f) specifies that RMPs that require combustion of cleanup wastes at a media cleanup site would have to be approved according to the more rigorous procedures that are required for RCRA permits under Part 270. Technologies involving higher levels of energy input generally achieve higher levels of contaminant removal/destruction, and may do so with greater consistency over a range of conditions. Nevertheless, higher energy systems

potentially may have undesirable side-effects. As in the case of combustion, regulatory attention, including preliminary demonstrations of performance through trial burns, etc., has been found necessary to address these concerns.

#### 5. Modification of RMPs—§ 269.44

Plans for remedial actions sometimes need to be modified. Often, modifications are necessary as new information becomes available, or when unforeseen circumstances arise. In order to retain the most flexibility for overseeing Agencies that have their own requirements for modification of remedial plans, this rule proposes that the RMP specify procedures for any necessary modifications. The Agency believes that if the modifications include a major change in the management of hazardous contaminated media at the site, the modification procedures should provide opportunities for public review and comment.

#### 6. Expiration, Termination, and Revocation of RMPs—§ 269.45

In a similar manner as modifications to RMPs, EPA intends for the Director to specify in the RMP the procedures under which the RMP will expire, terminate, or be revoked. RMPs which constitute permits for land disposal facilities must be reviewed every five years to comply with the statutory requirements under RCRA section 3005(c)(3), and all RMPs which constitute RCRA permits must be renewed at least every 10 years, if they will remain in effect longer than that, in order to comply with the statutory requirements under RCRA section 3005(c)(3).

#### E. Streamlined Authorization Procedures for Program Revisions (Part 271)

##### 1. Statutory and Regulatory Authorities

Section 3006(b) of RCRA, 42 U.S.C. 6929(b), instructs EPA, after notice and opportunity to comment, to authorize State programs, unless the Agency finds that the State program is not equivalent to the Federal program, nor consistent with the Federal program, nor adequate in providing for enforcement. General standards and requirements for State authorization are set forth in 40 CFR Part 271. Following authorization, EPA retains the enforcement authorities of RCRA sections 3008, 7003 and 3013, although the authorized State has primary enforcement responsibility. Pursuant to RCRA section 3009, 42 U.S.C. 6929, States may choose to

implement hazardous waste management requirements that are either more stringent or broader in scope than the Federal requirements. State requirements that are more stringent may be included in a State's authorized program; requirements that are broader in scope are not part of the authorized State program.<sup>27</sup> (See 40 CFR 271.1(i)).

#### 2. Background and Approach to Streamlined Authorization

EPA has been reviewing State authorization applications and authorizing State hazardous waste programs since the early 1980's. Currently 49 States and territories have received final authorization as defined in 40 CFR 270.2 for the base RCRA program.<sup>28</sup> To varying degrees these same States and territories are also authorized to implement provisions promulgated under the Hazardous and Solid Waste Amendments of 1984 (HSWA). Many States have more than a decade of experience promulgating rules for and implementing authorized hazardous waste programs.

Once authorized, States are required to adopt and become authorized for new and revised Federal requirements that are more stringent than the authorized State program. (See 40 CFR 271.21). Since EPA regularly revises the RCRA regulations in response to statutory provisions, court ordered deadlines, evolving science, and changing Agency priorities, States continually submit program revisions to EPA for review and approval.

Under the current authorization structure, all revisions to authorized State hazardous waste programs, including minor changes, are potentially subject to the same standards of application and receive the same level of EPA scrutiny. Preparation, review, and processing of these program revisions represent a significant resource commitment on the part of EPA and the States. Occasionally, States and EPA Regions can experience delays in authorization of State program revisions during which EPA and a State are jointly implementing many portions of the RCRA program. For example, in many States EPA is still implementing

<sup>27</sup> More stringent State requirements are typically those which impose additional requirements on wastes or facilities that are already addressed by the Federal program. Broader in scope requirements are typically those that would address wastes or facilities not covered by the Federal program. The authorization status of a State's requirements does not in any way affect the ability of a State to enforce such requirements as a matter of State law.

<sup>28</sup> In this context, the "base" RCRA program refers to authorization for all or part of the regulations promulgated by EPA prior to January 26, 1983.

regulations promulgated pursuant to the 1984 HSWA amendments. Any delay in authorization of State program revisions concerns EPA and State regulators, and can confuse the public and the regulated community who often must interact with both agencies for even routine inquiries (e.g., the status of a pending permit application or the compliance of a given hazardous waste management facility).

EPA is continuously improving the administrative processes associated with authorization of State program revisions. Over the past years, improvements have been made through joint training of State and Federal authorization staff, increased emphasis on early EPA involvement in initial preparation of authorization applications, and delegation of the authority to grant authorization for program revisions to EPA Regional offices. EPA believes that the quality of State program revision applications has improved and therefore, EPA review and approval of these submittals has accelerated.

Over the past two years, many EPA rulemaking workgroups (including the HWIR FACA Committee) began to discuss and/or develop streamlined authorization procedures specific to their rulemakings. Based on these discussions, EPA became concerned that some of the recently gained efficiencies in authorization processes could be lost if every new Federal rule contained its own specialized authorization procedures. EPA believes that promulgating specific authorization procedures for each new rule could force State and Regional authorization personnel to continually revise their application formats and review procedures. EPA is especially concerned since many States do not apply for authorization of new Federal regulations one rule at a time, but "cluster" their authorization applications. Establishing slightly different authorization procedures for each new Federal rule might preclude clustering of program revisions, and actually slow authorization by forcing States and EPA Regions to prepare and process separate program revision applications for each new rule.

To address this situation, and to further improve the authorization process, EPA developed two generic sets of streamlined procedures for the authorization of program revisions. The first set of streamlined procedures was proposed in the Phase IV proposal (60 FR 43654, August 22, 1995);<sup>29</sup> the

second set is being proposed today. EPA believes that these procedures would formalize some efficiencies in the authorization of State program revisions piloted by some States and EPA Regions.

In addition, EPA believes that, by using these new generic procedures, States and EPA Regions would continue to be able to cluster their authorization applications, and conduct successful reviews, by including all Category 1 rules in one authorization package, and all Category 2 rules in another authorization package. (See preamble (V)(E)(3) for discussion of Categories 1 and 2). States and EPA Regions could even choose to coordinate the submittal dates for these authorization packages. For example, the Category 2 application could be submitted prior to the Category 1 application. This would allow the EPA Region to include an authorization decision for both applications in one Federal Register notice.

Through use of two sets of authorization procedures, EPA hopes to tailor the level of effort for preparation, review, and approval of revision applications to the significance of the program revision. Both new sets of procedures would significantly streamline authorization of program revisions. However, both would also provide for EPA review of State program revisions and maintain opportunities for public review and comment on EPA's proposed authorization decisions.

In developing streamlined authorization procedures, EPA used three guiding principles. First, States are EPA's partners in environmental protection. Although EPA must maintain minimum national standards for hazardous waste management, the Agency recognizes that many States have sophisticated, and highly-developed programs for hazardous waste management and cleanup designed to meet their individual circumstances and priorities. Second, State programs do not have to be exactly the same as the Federal program to be equivalent. EPA review of State programs must focus on whether State programs would achieve the same results. (See S. Rept. 98-248 p. 62). Third, EPA should continue to promote the most efficient use of State and Federal authorization resources and take advantage of opportunities to streamline and otherwise encourage State authorization.

### 3. Streamlined Procedures—§ 271.21

*a. Phase IV proposal—Category 1.* In the recent Phase IV Land Disposal Restrictions (LDR) proposal (60 FR 43654, August 22, 1995), EPA proposed

a streamlined set of authorization procedures that would apply to certain routine changes to the LDR program, such as the application of treatment standards to newly identified wastes. The streamlined authorization procedures proposed with Phase IV have come to be known as Category 1 procedures for authorization of program revisions, or simply "Category 1."

In the Phase IV proposal, EPA explained that the proposed streamlined authorization procedures would also be used for certain other revisions to the LDR program and could be considered for future, non-LDR, rules. EPA proposed the generic streamlined authorization procedures for Category 1 in the Phase IV proposal because many of the changes to the LDR program proposed in the Phase IV proposal exemplify the types of program revisions EPA believes should be addressed by Category 1. In general, EPA believes Category 1 authorization procedures would be appropriate for rules or parts of rules that do not change the basic structure of the authorized State program, or expand the State program into significant new areas or jurisdictions. For example, the application of LDR treatment standards to newly identified wastes and revisions to existing LDR treatment standards discussed in the Phase IV proposal would be additions of new wastes to an existing program, changes to numeric criteria, or improvements in existing procedures. These would have minimal effect on the basic scope or implementation of authorized State LDR programs.

Since Category 1 authorization procedures are designed for rules or parts of rules that do not significantly change the way a State might implement its authorized program, EPA believes it is essential that the State first be authorized for the appropriate prerequisite program component. For example, the Phase IV proposal would allow use of Category 1 authorization procedures only in States already authorized for the LDR Third Third regulations (55 FR 22520, June 1, 1990) since the LDR Third Third rule essentially completed the framework of the LDR program. Interested individuals are encouraged to refer to the LDR Phase IV proposal at (60 FR 43654, August 22, 1995), for more information on Category 1 authorization requirements and procedures. Note that in today's proposed rule, EPA would reserve 40 CFR 271.21(h) for finalization of the generic Category 1 streamlined authorization procedures proposed in 40 CFR 271.28 of the LDR Phase IV proposal.

<sup>29</sup> EPA is not now reopening the comment period on the Phase IV proposal.



*b. Today's proposal—Category 2.* In this proposed rule, EPA addresses authorization of program revisions that have significant impacts on State hazardous waste programs. EPA is proposing generic Category 2 authorization procedures today because we believe the HWIR-media rule exemplifies the type of program revisions which could be addressed using the Category 2 procedures. In general, EPA believes that Category 2 authorization procedures would be appropriate for rules or portions of rules that address areas not previously covered by the authorized State program, or that substantially change the nature of the program.

For example, implementation of the HWIR-media regulations proposed today would involve policy decisions for management of hazardous contaminated media. These policy decisions would likely affect the way States implement hazardous waste requirements at cleanup sites, and State HWIR-media programs would probably be significantly different from the States' previously authorized programs. As with the Category 1 procedures discussed above, EPA believes it could be appropriate to require States to be authorized for certain rules prior to receiving authorization for certain Category 2 rules. For instance, a prerequisite for authorization of today's HWIR-media regulations would be final authorization as defined by 40 CFR 270.2 for the "base" RCRA program (the base RCRA program is defined in footnote #28 in (V)(E)(2) of today's proposed rule).

The Category 2 authorization procedures proposed today consist of the following components: (i) Requirements for Category 2 revision applications; (ii) criteria to be used by EPA to determine if Category 2 revision applications are complete; and (iii) procedures for EPA review and approval of Category 2 revision application. Each of these components is discussed in detail below.

When developing the authorization procedures discussed today, EPA sought to balance its desire to recognize successful State performance and experience with the need to ensure adequate implementation of minimum Federal requirements. EPA requests comments on (1) whether the authorization procedures proposed today sufficiently recognize the sophistication of State programs, while maintaining an appropriate level of EPA review; (2) whether these provisions are appropriate for authorization of the HWIR-media regulations (alternative approaches to HWIR-media

authorization and HWIR-media eligibility are discussed in section (V)(E)(6)(a) of today's proposed rule); (3) other types of regulations that these procedures could address; and (4) whether the development of generic sets of authorization procedures will preclude or inhibit clustering of program revision applications, thereby potentially slowing their authorization. EPA also requests comments from State, tribal, and territorial governments on the degree to which the authorization approach proposed today will streamline and create efficiencies in the preparation, review, and approval of revision applications.

i. Requirements for Category 2 revision applications (§ 271.21(i)(1)). EPA is proposing that Category 2 revision applications include: (1) a certification by the State attorney general (or the attorney for State agencies that have independent legal counsel) that the laws and regulations of the State provide authority to implement a program equivalent to the Federal program; (2) a certification by the State program director that the State has the capability to implement an equivalent program and commits to implementing an equivalent program; (3) an update to the State/EPA Memorandum of Agreement (MOA) and/or State Program Description (PD) if necessary; and (4) copies of all applicable State laws and regulations showing that such laws and regulations are fully effective. EPA also proposes to allow States, at their discretion, to submit any additional information that they believe will support their revision application.

State certifications (§ 271.21(i)(1)(i)). The State certifications should specifically address the Category 2 rule for which a State is seeking authorization, and include reference to State authorities and requirements that provide for a State program equivalent to the Federal program.

The State attorney general's certification should include specific citations to the State laws and regulations that the State would rely on to implement an equivalent program. If appropriate, the attorney general's certification should include citations to judicial decisions that demonstrate that the State's laws and regulations provide for an equivalent program. All State laws and regulations cited in the State attorney general's certification must be fully effective at the time the certification is signed. Copies of all cited laws, regulations, and judicial decisions must be attached to the State's certification.

In cases where authorization of a Category 2 rule is contingent on the State already being authorized for certain rules, EPA is proposing that the State attorney general's certification include certification that the State is authorized for the prerequisite requirements. Although information on a State's authorization status is, of course, available to EPA, the Agency believes that requiring that the State AG certification address prerequisite requirements would ensure that the State adequately considers these requirements when preparing the authorization application. In addition, States should note that existing regulations at 40 CFR 271.21(a) and (c) require an authorized State to keep EPA fully informed of any proposed changes to its basic statutory or regulatory authorities, its forms, procedures, or priorities, and to notify EPA whenever they propose to transfer all or part of the authorized program from the approved State agency to another State agency. Failure by an authorized State to keep EPA fully informed of changes to State statutes and regulations may affect authorization of that State's program revision applications.

The State program director's certification should specifically address the State's intent and capability to implement an equivalent program. The State program director is the "director" as defined at 40 CFR 270.2. If EPA has established essential elements for the rule in question, the State program director's certification must address each essential element individually. Essential elements are discussed in detail below. It may be helpful for the State to reference State policies, procedures, or other documents that support the State program director's certification. When referenced, these documents should be fully effective at the time of the certification, and copies must be attached.

Essential elements (§ 271.21(i)(1)(ii)). EPA could choose to promulgate essential program elements for any Category 2 rule. Essential elements summarize critical program components and/or implementation requirements. They would be intended to focus State and EPA resources on a review of critical program components to determine whether the State program will achieve the same results as the Federal program, rather than on line-by-line comparisons of State and Federal regulations. Essential elements could include regulatory provisions, and enforcement or capability considerations. EPA emphasizes that the purpose of essential elements is not to promote detailed or exhaustive re-

evaluations of authorized State programs. Instead, essential elements should be used by State and EPA Regions to ensure that all impacts of certain Category 2 program revisions have been identified and adequately considered. As discussed in section (V)(E)(3)(b)(iii) of the preamble below, EPA would give great deference to States in their certifications of programmatic intent and capability.

EPA would establish essential elements as specifically as possible; however, because of the varying degrees to which States are authorized for the RCRA program and HSWA amendments, some essential elements could overlap with authorized requirements in some States. For example, one of the essential elements proposed today for the HWIR-media rule is "authority to address all media that contain hazardous wastes listed in Part 261 Subpart D of this chapter, or that exhibit one or more of the characteristics of hazardous waste defined in Part 261, Subpart C of this chapter." Some States that have already been authorized for various portions of the RCRA program, including the corrective action program, and the land disposal restrictions for hazardous debris. These States have already promulgated—and are using—appropriate rules for addressing media.

If EPA promulgates essential elements for a particular rule, EPA proposes that the Director's certification would address each essential element individually. When State program components corresponding to an essential element have already been reviewed by EPA when authorizing a previous program revision, the Agency would not re-evaluate the State program component. In these cases, EPA would evaluate the essential element portion of the Director's certification only to verify that the State did, in fact, consider the essential element when deciding how it would implement the program revision at issue.

EPA is not proposing that essential elements replace the authorization checklists currently used by States and EPA to document authorized State authorities. However, to ensure that work is not duplicated, future authorization checklists would incorporate any promulgated essential elements. EPA is proposing essential elements for the HWIR-media rule; these elements are discussed in section (V)(E)(6)(b) of the preamble to today's proposed rule.

Update to the State/EPA Memorandum of Agreement and/or State Program Description (§ 271.21(i)(1)(iii)). EPA is proposing

that the Category 2 revision application would include either updates to the State/EPA Memorandum of Agreement and Program Description or certification by the Director that such updates are not necessary. EPA believes that these updates or certifications must be required because Category 2 rules could affect the way a State implements its authorized program.

Consequently, implementation of the proposed program revision could raise issues not addressed by the existing MOA or PD. For example, a State hazardous waste agency may choose to rely on another State agency (e.g., a State water control board) to implement some Category 2 rules. In these cases the State/EPA MOA and Program Description should be updated to reflect the various roles and responsibilities of the two State agencies, and to designate a lead agency for communications with EPA. (See 40 CFR 271.6). If an update to the State/EPA MOA is needed, it should be finalized and signed by the State and EPA before final authorization of the program revision.

EPA does not believe authorization of Category 2 program revisions would routinely necessitate updates to State/EPA Memorandums of Agreement or Program Descriptions. In cases where the MOA already addresses issues such as routine State program monitoring, sharing of information, and procedures for State enforcement, Category 2 revisions could simply add additional requirements to those already implemented by the State agency, and updates would not typically be necessary. Similarly, when the State Program Description already addresses the setting of State priorities, organizational structures, and implementation strategies, and a Category 2 program revision only adds to RCRA requirements already implemented by the State agency, updates would not typically be necessary. In other cases, Category 2 program revisions—even those that would simply add to the RCRA requirements already implemented by a State—could have significant resource implications that should be addressed in an update to the State Program Description.

ii. Completeness check (§§ 271.21(i)(2) and 271.21(k)). When EPA receives a Category 2 revision application, the Agency would conduct a completeness check to determine if the application contains all of the required components. To be considered complete, Category 2 revision applications must include the State attorney general and Director certifications, any necessary updates to

the State/EPA MOA and PD, and copies of all cited laws and regulations, as discussed above.

The criteria for completeness checks of Category 2 revision applications would be essentially the same as those proposed in the Phase IV proposal for completeness checks of Category 1 revision applications. Like Category 1 revision applications, Category 2 revision applications would be considered incomplete if: (1) Copies of the laws and regulations cited by the State in their certifications were not included; (2) the statutes and regulations cited by the State were not in effect; (3) the State was not yet authorized for any prerequisite regulations; or (4) the State certifications contain significant errors or omissions.

EPA proposes to allow 30 days for the completeness check. When the Agency determines that a Category 2 revision application is incomplete, it will notify the State in writing. This written notification will specifically identify the application's deficiencies, and provide the State an opportunity to revise and re-submit its application. In cases where a State application was deemed incomplete because of minor errors or omissions, and the State and EPA are in agreement on correction of such errors, the Agency could choose to proceed with the review and approval process discussed below, emphasizing that final authorization of the State program would be contingent on agreed upon corrections to errors in the State application.

iii. Review and approval (§ 271.21(i)(3)). Following determination that a Category 2 program revision application is complete, EPA would review the application as necessary to confirm that the State revisions are equivalent to applicable Federal rules. During this review, EPA could, for example, examine an update to the State/EPA Memorandum of Agreement, if one were submitted, to see if it addressed implementation roles. Similarly, EPA could review the State Director's certification of essential elements to learn more about how the State intended to implement the program revision.

EPA proposes to allow a maximum period of 60 days, beginning when the Agency determines that a program revision application is complete, to consider the application, and to prepare a Federal Register notice requesting public comment on EPA's tentative authorization decision. Although EPA and the State may agree to a shorter or longer review period, EPA believes that it would be possible to confirm the revision's equivalence and prepare the

necessary Federal Register notice within 60 days.

Through the initial authorization of the State program, EPA would have become familiar with the program, and with the laws and regulations of the State. In addition, through the existing procedures for EPA monitoring and oversight of authorized State programs, EPA would be familiar with a State's program priorities, implementation strategies, policies, and procedures. Therefore, authorization of program revisions should be a straightforward process, where EPA's role would be to confirm that the State has adequately considered implementation of the program revision at issue, and has appropriately certified that the State laws and regulations provide for a program equivalent to the Federal program. EPA emphasizes that the review of program revision applications that are provided for in proposed 40 CFR 271.21(i)(3) should be used only to address the particular program revision at issue. Concerns EPA might have with parts of the State program that are already authorized should be addressed during EPA's monitoring and oversight of the State program.

EPA believes that the exact level of review necessary to confirm that a State's revisions provide for a program equivalent to the Federal program would vary from State to State, and from rule to rule. For example, in cases where EPA is very familiar with the State program (e.g., in the case of HWIR-media, in a State authorized for corrective action), the review necessary for EPA to confirm equivalence would not be extensive. In other cases, a State may be proposing to implement a program revision using a non-hazardous waste authority, or a combination of authorities, and the level of review necessary for EPA to confirm equivalency could be more intensive. EPA has developed the Category 2 authorization procedures to allow States and EPA Regions the flexibility to establish the level of review necessary for a determination of equivalence, rather than presupposing that any given level of review would be appropriate in all States for all Category 2 program revisions.

EPA proposes to use the procedures for an immediate final rule (see 40 CFR 271.21(b)(3)) to request comments on its tentative decision to approve or disapprove a Category 2 program revision. Immediate final rules, which are published in the Federal Register, provide a 30-day public comment period, and go into effect 60 days after publication unless significant adverse comment is received. An example of

significant adverse comment would be comments demonstrating that the cited State authorities do not provide for an equivalent program. EPA believes that immediate final rules would typically be the most efficient way to publish and seek comments on its proposed program revision authorization decisions; however, the Agency and a State could agree to use a proposed/final Federal Register notice (as provided for under 40 CFR 271.21(b)(4)), if they believed such notice would be more appropriate to their circumstances.

EPA's goal is to authorize State program revisions in a timely way. EPA is committed to working with State agencies to address any deficiencies or areas of confusion in State applications, and to support States as they develop their programs. EPA emphasizes that, when processing program revision applications, it would give great deference to the State in: (1) interpretation of State laws and regulations and the judgement that such laws and regulations provide for an equivalent State program; and (2) certifications of State intent and capability. As always, EPA encourages States to work closely with the Agency when developing revision applications. The Agency has found that this "up front" investment is often the most effective way to streamline authorization.

*c. Clarification of the meaning of the term "Equivalent" (§ 271.21(j)).* EPA is taking this opportunity to clarify that the term "equivalent" means that the proposed State program is no less stringent than the Federal program. EPA hopes that this clarification allows States and Regions to efficiently focus authorization applications and review on the ability of the proposed State programs to meet the minimum national standards, rather than on line-by-line comparisons of State and Federal regulations. One of EPA's guiding principles in developing streamlined authorization procedures for program revisions was that State programs do not have to be exactly the same as the Federal program to be equivalent, and that EPA should focus its authorization review on environmental results.

EPA is considering applying the definition of "equivalent" discussed above to all authorization decisions, including authorization of Category 1 program revisions, authorization of program revisions using the existing regulations, and final authorization as defined in 40 CFR 271.3. If EPA decided to apply the definition of equivalent to all authorization decisions, the definition would be finalized in 40 CFR 270.2. EPA requests comments on

whether or not the definition of "equivalent" discussed above should be applied to all authorization decisions and, if commenters believe that the clarification should be applied to all authorization decisions, whether or not the definition should be finalized in 40 CFR 271.21(j) or 40 CFR 270.2.

*d. Table of Authorization Categories (§ 271.21 Table 1).* EPA is proposing to record rules or parts of rules eligible for Category 2 authorization procedures and any prerequisite requirements in Table 1 of 40 CFR 271.21. EPA believes that tabulating the different Category 2 rules and their prerequisite requirements is the most effective and efficient way to present and maintain this information. If the procedures for Category 1 proposed in the LDR Phase IV proposal are finalized, the information proposed in § 271.28(a) of that proposed rule, and any future Category 1 rules and prerequisite requirements, would be also presented in table form.

*e. Relationship of Category 1 and 2 procedures to existing authorization procedures for program revision, and request for comments on the need for a third Category.* EPA believes that all revisions to authorized State hazardous waste programs required in the future could be appropriately addressed using either the Category 1 authorization procedures proposed in the LDR Phase IV proposal, or the Category 2 authorization procedures proposed today. EPA believes that the Category 1 and Category 2 procedures would be appropriate for all program revisions since each retains a level of EPA review appropriate to the program revision at issue, and incorporates an opportunity for the public to comment on EPA's proposed authorization decisions. Under this scenario, the existing program revision procedures in 40 CFR 271.21(b)(1) would apply only to authorization of rules or parts of rules promulgated prior to finalization of the Category 1 and 2 authorization procedures discussed today.

Alternatively, EPA could retain the existing program revision procedures as Category 3, and use them to authorize major revisions to State hazardous waste programs (e.g., States authorized for the first time for land disposal restrictions). EPA requests comments on the need for a third authorization category and the types of revisions that might require that level of review. In addition, EPA is considering not changing the current program revision rules, and instead applying the streamlined authorization procedures discussed today and in the Phase IV proposal as guidance to authorization of existing rules. EPA requests comment on the degree to

which Category 1 and 2 authorization procedures should be used as guidance when implementing the current procedures for authorization of program revisions.

#### 4. Authorization for Revised Technical Standards for Hazardous Waste Combustion Facilities

Recently, EPA proposed Revised Technical Standards for Hazardous Waste Combustion Facilities published in the Federal Register on April 19, 1996 at (61 FR 17358). In this document, EPA requested comment on whether the streamlined authorization procedures that were proposed on August 22, 1995, (see 60 FR 43654, 43686) should apply to States seeking authorization for this rule. Note that in today's proposed rule, those procedures are classified as Category 1.

In requesting comment on the use of Category 1 procedures in the April 19, 1996 combustion standards proposal, EPA made a distinction among those States that would be approved to implement the final rule pursuant to 40 CFR Part 63, Subpart E (in the Clean Air Act (CAA) regulations), those States simply incorporating this rule into their RCRA regulations, and those States that would be seeking to implement the rule for the first time under RCRA authority. EPA continues to believe that the Category 1 procedures would be appropriate for those States that would be incorporating the combustion standards rule from an already approved State air program into the State RCRA program. However, EPA stated in the combustion proposal its belief that for all other States, the slightly more extensive authorization procedures developed as part of today's HWIR-media proposal would be most appropriate. This preference is based on the complexity and significance of the combustion standards rule, which substantially revises the performance standards for hazardous waste combustion facilities. EPA believes that the Category 2 procedures provide the benefits of streamlined authorization, while allowing a slightly longer period for EPA review.

Because the Category 2 authorization procedure had not been proposed before the combustion standards rule was developed, EPA was unable to request comments on whether the proposed Category 2 procedures should apply to the authorization of those States that did not incorporate by reference an approved State CAA program for the combustion standards rule. Thus, EPA is now taking the opportunity in today's notice to request this comment. EPA will consider comments made regarding

today's notice when developing the final combustion standards rule.

#### 5. Request for Comment on Application of Category 1 Procedures to Portions of HWIR-waste Proposal

In the recent proposal to establish self-implementing exit levels for listed hazardous wastes, waste mixtures, and derived-from wastes (the HWIR-waste rule), EPA announced that it was considering the possibility of using streamlined authorization procedures for some portions of the exit rule. (See 60 FR 66344, 66411-12, (December 21, 1995)). EPA has completed its initial evaluation of this issue, and is proposing today to apply the Category 1 procedures set forth in the LDR Phase IV rulemaking to major portions of the exit proposal.

Specifically, EPA is proposing to allow States to use Category 1 procedures for all portions of proposed 40 CFR 261.36 (the exit levels, requirements for qualifying for an exemption based on these levels, and the conditions for maintaining an exemption). However, EPA is proposing to restrict this option to States that have already obtained authorization for the pre-1984 base program, including the 1980 Extraction Procedure Toxicity Characteristic. (Authorization for the 1990 Toxicity Characteristic that replaced the EP rule would also be acceptable). The two toxicity characteristic rules closely resemble the exit proposal. All three rules require waste handlers to determine whether their wastes contain specified hazardous constituents in concentrations exceeding specified threshold levels. All three schemes also are self-implementing, requiring the waste handler to keep records but requiring no prior approval by Federal or State authorities. Thus, States that have been authorized for the base program have experience in drafting rules similar to the proposed exit rule. They also have significant experience in enforcing a self-implementing waste determination scheme that covers both organic and metallic waste constituents. Although the proposed exit scheme for listed waste involves many more constituents than either the EP or TC rule, EPA does not believe that increasing the number of constituents that waste handlers must evaluate would warrant, by itself, a detailed review of the State program.

Neither the base program nor the 1990 Toxicity Characteristic include any conditions for maintaining an exit. The conditions proposed in § 261.36, however, would be requirements for retesting, notification, and record keeping similar to requirements in the

base program and the TC. Moreover, they would be easy to understand, and relatively easy to detect, if violated. Accordingly, EPA believes that the Category 1 procedures would be appropriate for these conditions. EPA requests comments on its proposal to allow use of Category 1 procedures for all portions of § 261.36. The proposed Category 1 procedures are described in detail in the preamble to LDR Phase IV proposal at (60 FR 43654, 43687-88, August 22, 1995). Proposed regulatory text is set out at (60 FR 43654, 43698-99, August 22, 1995).

EPA is also proposing to allow States that have obtained authorization for the Third Third LDR rule to use Category 1 procedures for the alternative "minimize threat" treatment standards in proposed revisions to § 261.40 and proposed new § 268.49. States that are already authorized for the basic framework of the LDR program are familiar with the type of rule changes needed, have adopted all or most of the underlying LDR program, and have experience in implementing and enforcing the rules. The minimize threat levels would merely be different numerical alternatives to some of the existing BDAT standards. No change to any other portion of the LDR program would be required.

The December 1995 HWIR-waste proposal also contains an option for alternative, less restrictive exit levels based on constraining the type of management that the wastes will receive. Under this option, wastes with higher constituent concentrations would be exempted from Subtitle C control if they were not placed in land treatment units. EPA believes that this option may present significant new issues not previously addressed in the base program or any subsequent program revision. Consequently, EPA is not proposing to apply Category 1 procedures to this portion of the waste exit proposal. Rather, EPA is proposing to allow States that wish to adopt this option to use the Category 2 procedures proposed in today's proposed rule. EPA requests comments on this proposal, and the alternative of allowing States to use Category 1 procedures for this "management condition" option.

#### 6. HWIR-media Specific Authorization Considerations—§ 271.28

During the development of today's proposed rule, EPA considered a number of authorization alternatives before deciding to propose the Category 2 authorization procedures discussed above. One approach would have based eligibility for final HWIR-media authorization on whether a State was

authorized to implement the corrective action regulations under RCRA section 3004(u). Under this approach, all HWIR-media authorization applications would have been prepared, reviewed, and approved using streamlined procedures,<sup>30</sup> but States that were not authorized for corrective action would have been granted HWIR-media authorization for a two-year provisional period. During this period, States would have been required to demonstrate their ability to implement an equivalent program.

After careful consideration, EPA tentatively determined that lack of corrective action authorization should not prejudice a State's ability to receive prompt authorization for the HWIR-media program. Many States that are not authorized for corrective action nonetheless have highly-developed, sophisticated cleanup programs that they are using to address RCRA facilities, sometimes through work-sharing agreements with EPA Regions. EPA believes that it would be inefficient to require States to undergo a two-year provisional demonstration period, if EPA is already familiar with the State's program, and confident in the State's ability to make appropriate cleanup decisions. In addition, EPA was concerned that a provisional period approach would be cumbersome and confusing, because it would rely on two different procedures, and because it involved, for States authorized under this approach, a significant resource commitment. Instead, EPA decided to propose a single authorization approach using the streamlined Category 2 process discussed above—not only for States authorized for corrective action, but for all States that have received final authorization for the "base" RCRA program. (See footnote #28, (V)(E)(2) of this preamble for a definition of the base RCRA program). This would allow almost all States to be eligible to use the streamlined Category 2 authorization procedures to their applications for HWIR-media authorization. An alternative approach to HWIR-media eligibility, where States proposing to use authorized hazardous waste authorities to implement an HWIR-media program would be authorized using the Category 1 authorization procedures, and all other States would be authorized using the Category 2 authorization procedures, is discussed

in section (V)(E)(6)(a) of this preamble for today's proposed rule.

Although EPA did not decide to propose that State authorization for HWIR-media be based, in part, on a State's corrective action authorization status, the Category 2 procedures proposed today would incorporate many of the streamlined procedures contemplated by the HWIR FACA Committee. EPA solicits comments on whether the alternative discussed above (predicating authorization for HWIR-media on corrective action authorization, and requiring non-corrective action authorized States to undergo a two-year provisional period) would be more appropriate to HWIR-authorization and therefore should be finalized in lieu of the approach proposed today. The Agency also requests comment on other alternatives that would differentiate between States which are authorized for RCRA corrective action, and those which are not.

*a. Eligibility for HWIR-media authorization.* EPA proposes that authorization to administer an approved HWIR-media program would be made available only to those States that have received final authorization as defined in 40 CFR 270.2 to implement the base RCRA program (the base RCRA program is defined in footnote #28 in section (V)(E)(2) of today's preamble). Before granting a State final authorization, EPA would determine that the State in question had legal and administrative structures in place to implement an equivalent program, that the State program was consistent with the Federal program and other authorized State programs, and that the State had adequate enforcement authorities.

EPA believes that final authorization would be an essential prerequisite to HWIR-media authorization because States that have received final authorization are allowed to decide that solid wastes met the definition of hazardous wastes. This authority includes the authority to make contained-in decisions that are a central element of the HWIR-media program. EPA believes that experience making hazardous waste decisions would be essential to a State's ability to make contained-in decisions for media with concentrations of hazardous constituents that are below the Bright Line. In addition, States that have received final authorization would have demonstrated capability in permitting, ground water protection, oversight, and enforcement of hazardous waste management requirements.

States seeking authorization to implement the new HWIR-media LDR

treatment standards and treatment variances must first have received final or interim authorization for the LDR program through the Third Third LDR rule (55 FR 22520, June 1, 1990). As discussed in the Phase IV proposal, EPA believes that the LDR Third Third rule established the general framework and infrastructure of the LDR program. Since the new LDR treatment standards and treatment variances rely on the existing infrastructure of the LDR program, EPA believes that it would be necessary for States to be authorized for the LDR Third Third rule before they could be authorized to implement those portions of the HWIR-media program. EPA requests comments on whether the Third Third LDR rule would be the appropriate prerequisite requirement for authorization of the changes to the LDR program proposed today. If commenters believe that the Third Third LDR rule is not appropriate, EPA requests suggestions for an alternative prerequisite (e.g., the LDR Solvents and Dioxins Rule, (51 FR 40572, November 7, 1986)).

States that have not received final authorization or LDR authorization could seek HWIR-media authorization concurrently with, or subsequent to, those authorizations. Unauthorized States could work with EPA under cooperative agreements to implement the HWIR-media program, if interested.

Alternative proposal for HWIR-media eligibility. Alternatively, EPA could allow States that are planning to use authorized hazardous waste authorities to implement the HWIR-media program to use the generic procedures for Category 1 for HWIR-media authorization, and reserve the generic Category 2 procedures for States proposing to implement the HWIR-media with non-authorized authorities (e.g., State Superfund-like authorities). This approach would allow streamlined authorization procedures to apply to almost all States by retaining the prerequisite of final RCRA base program authorization (rather than corrective action authorization), and would provide States proposing to use authorities familiar to EPA with the most streamlined procedures available.

EPA requests comments on this alternative to HWIR-media authorization eligibility, and whether or not this approach should be finalized in lieu of the eligibility approach discussed above. EPA also requests general comments on the feasibility of determining authorization categories based on the type of authority a State proposes to use, rather than on the impact or significance of the program revision at issue.

<sup>30</sup> Although considered prior to development of the streamlined Category 1 and 2 authorization procedures discussed today, the streamlined procedures considered for HWIR-media authorization most closely resembled those proposed as Category 1 in the LDR Phase IV proposal.

Authorization of tribes. EPA is currently developing a proposal to clarify the eligibility of tribes to receive authorization to administer their own hazardous waste programs. The proposal would discuss in detail existing RCRA authorities that EPA believes allow tribes to seek full or partial hazardous waste program authorization. If this proposal is finalized, any tribe that wishes to obtain final base RCRA program authorization would likewise be eligible for HWIR-media authorization. Tribes that choose to receive only partial authorization would not be eligible to obtain HWIR-media authorization, since the scope of such a partial program would be limited. EPA believes that in order to adequately implement the HWIR-media program, a tribe (like a State) should receive final authorization to implement the base RCRA program.

b. HWIR-media essential elements (§ 271.28(a)). EPA may choose to establish essential elements for any Category 2 rule. As discussed above (see preamble section (V)(E)(3)(b)(i)), the purpose of essential elements is to focus State and EPA resources on critical program components.

EPA believes that essential elements would be especially important when authorizing States to implement the HWIR-media program because it anticipates that many States would seek authorization for HWIR-media using existing, non-RCRA, State authorities. For example, some States could choose to rely on State Superfund-like authorities that could address a broader universe of sites and/or wastes than the RCRA corrective action or HWIR-media programs, and provide considerable flexibility and discretion to State agencies in specification of cleanup requirements. Alternatively, some States could choose to rely, in part, on a program that is less comprehensive than the Federal HWIR-media program. For example, a State could choose to rely on its pesticide management authorities to implement the HWIR-media program for media that were contaminated with pesticides. EPA believes that the HWIR-media essential elements would help State and Federal staff efficiently determine if these non-RCRA State authorities provide for equivalent State programs. EPA believes that the States' reliance on broad or flexible authority should not make approval of HWIR-media revision applications more difficult, as long as the State clearly provided for implementation of the HWIR-media program essential elements.

EPA has identified the following essential elements for the HWIR-media program:

(i) Authority to address all media that contain hazardous wastes listed in Part 261, Subpart D of this chapter, or that exhibit one or more of the characteristics of hazardous waste defined in Part 261, Subpart C of this chapter.

(ii) Authority to address the hazards associated with media that are managed as part of remedial activities and that the Director has determined do not contain hazardous wastes (according to Part 269), but would otherwise be subject to Subtitle C regulation. States that choose to make contained-in decisions only when concentrations of hazardous constituents in any given media are protective of human health and the environment, absent any additional management standards (i.e., eatable, drinkable concentrations), may receive HWIR-media authorization without certifying their ability to impose management standards on media that no longer contain hazardous waste.

(iii) Authority to include, in the definition of media, materials found in the natural environment such as soil, ground water, surface water, and sediments, or a mixture of such materials with liquids, sludges, or solids that are inseparable by simple mechanical removal processes and made up primarily of media.

(iv) Authority to exclude debris (as defined in § 268.2) and non-media remediation wastes from the requirements of Part 269 (except those for Remediation Management Plans).

(v) Authority to use the contained-in principle (or equivalent principles) to remove contaminated media from the definition of hazardous wastes only if they contain hazardous constituents at concentrations at or below those specified in Appendix A.

(vi) Authority to require compliance with LDR requirements listed in § 269.30 through § 269.34.

(vii) Authority to issue, modify and terminate (as appropriate) permits, orders, or other enforceable documents to impose management standards for media as described in essential elements 1-6 and 8 and 9.

(viii) Requirements for public involvement in management decisions for hazardous and non-hazardous media as described in § 269.43(e).

(ix) Authority to require that data from treatability studies and full scale treatment of media that contain hazardous waste be submitted to EPA for inclusion in the NRMRL treatability database.

The essential elements of HWIR-media programs are proposed in 40 CFR 271.28(a).

The preceding essential elements were developed for the proposed options included in today's proposed rule. If EPA chooses to finalize the alternatives discussed in this proposal, rather than the proposed options, then the essential elements will be revised to represent the final version of today's rule more accurately.

The Agency requests comments on the essential elements proposed for HWIR-media authorization. The Agency also requests comments on whether essential elements in general should be promulgated as rules, or suggested as guidance only.

Specifically, the Agency requests comment on the essential element (viii) for public participation. Many cleanups, particularly if they were short term, or involved wastes that would not remain on site, could warrant less public participation. For example, if a State agency were cleaning up spilled petroleum in soil, which exhibited the hazardous TC characteristic for benzene, and the remedy called for digging it up immediately for off-site treatment or disposal, should the Agency wait to clean up the site until it was in compliance with the public participation requirements described above? Should the final rule allow for different degrees of public participation depending on the nature of the activities being performed? Should EPA allow decisions to be made on a site-specific or case-specific basis about the level of public participation necessary?

c. *Monitoring of State HWIR-media programs and program withdrawal* (§ 271.28(b)). The Agency is not proposing requirements for monitoring of State HWIR-media programs; however, a discussion of how EPA expects this monitoring should take place is included below. The procedures for partial program withdrawal discussed below were developed by the HWIR-media workgroup to complement the streamlined authorization procedures anticipated for HWIR-media.

A number of changes have occurred since these procedures were developed. First, EPA has chosen to propose generic, streamlined authorization procedures rather than establish authorization procedures specific to the HWIR-media rule. (See the above discussion of Category 1 and 2 program revision authorization procedures in section (V)(E)(3)). Second, the authorization procedures for the HWIR-media rule, while significantly streamlined from the existing procedures for authorization of program

revisions, include a level of EPA review not anticipated by the workgroup when monitoring and partial program withdrawal procedures were developed.

EPA has also addressed the oversight and monitoring of authorized State programs more generally through a number of Agency workgroups and initiatives. EPA requests comments on the degree to which the monitoring procedures discussed below should be considered for application beyond the HWIR-media rule. In addition, EPA requests comments on whether partial program withdrawal would be feasible, and whether such a provision would be necessary.

i. Monitoring of State HWIR-media programs. EPA believes that some monitoring of State programs is necessary to ensure that the considerable flexibility provided by today's proposed rule would be implemented in a way that is protective of human health and the environment. This was a particular concern to stakeholders during the development of today's proposed rule because it allows a more streamlined authorization for program revisions. For this reason, stakeholders were concerned that State programs might not receive sufficient up-front review prior to authorization to ensure that the program would be conducted protectively.

EPA currently conducts routine monitoring of State programs in order to identify conflicting EPA and State priorities, or areas where the State program seems to be significantly at variance with Federal rules or guidance. The purpose of routine monitoring is not to direct the priorities or site-specific implementation decisions of any given State program, but to identify problematic trends in the program. Typically, the procedures for routine State program monitoring are specified in the State/EPA Memorandum of Agreement, the annual or biannual State/EPA Grant Workplan, or other written State/EPA agreements. Often, routine State program monitoring will include mid- and end-of-year State/EPA meetings, periodic oversight inspections, and review of State files or enforcement cases.

EPA believes that most concerns regarding a State's implementation of its authorized HWIR-media program could be resolved through routine State program monitoring activities. If concerns regarding a State's HWIR-media program implementation cannot be resolved during routine monitoring, EPA would identify those concerns and propose options for resolution. Depending on the degree of EPA's concerns, the Agency would increase its

monitoring of the State program accordingly. When serious concerns are identified, and when a State's failure to address these concerns adequately would cause significant risk to human health or the environment, EPA would warn the State, in writing, that the State's HWIR-media authorization could be withdrawn.

Decisions to increase the monitoring of State programs could be made by EPA based on the Agency's own information, or based on information submitted by independent third parties who allege poor or inadequate performance by the State HWIR-media program. (See proposed 40 CFR 271.28(d)). EPA would consider such allegations when making decisions about the level of program monitoring necessary in an HWIR-media authorized State. Third party allegations are also discussed in the section of this preamble that addresses withdrawal of authorized State HWIR-media programs.

ii. Program withdrawal (§ 271.28(b)). In the event that EPA and the State could not resolve their differences during program monitoring, EPA could choose to withdraw the State's HWIR-media program authorization. Program withdrawal would be for the HWIR-media portion of the State's authorization program only.

EPA would not withdraw HWIR-media authorization without first providing the State an opportunity to address EPA's concerns using the monitoring discussed above. In addition, EPA would not withdraw HWIR-media authorization without first giving the State clear, written warning that program withdrawal was imminent.

EPA proposes that, in addition to program withdrawal initiated for cause by EPA, any person could petition EPA at any time to withdraw a State's HWIR-media program authorization based on allegations that the program fails to meet the minimum national standards for an HWIR-media program as set forth in 40 CFR 271.28(a), and discussed in today's proposal. Whenever such petitions are received, EPA would provide copies of the petition and all supporting documentation to the State and allow the State at least 30 days to respond. Following the State's response and any independent EPA investigation, EPA would respond to all third-party allegations in writing.

When EPA determines that a State's HWIR-media program authorization should be withdrawn, EPA will publish its tentative decision to withdraw the State's HWIR-media program in the Federal Register, and provide the public, including the State, at least 60 days to review and comment on the tentative program withdrawal

determination. If requested, EPA would also hold an informal public hearing. At the close of the review and comment period, EPA would publish its final decision regarding withdrawal of the State's HWIR-media program in the Federal Register. EPA's notice of final decisions would include responses to any significant comments received during the public review and comment period.

Following withdrawal of a State's HWIR-media program, EPA would administer the HWIR-media program in that State using the Federal standards for HWIR-media, and Federal enforcement authorities. (See § 271.28(c)). EPA believes it is important for HWIR-media program implementation to continue even in States that lose their HWIR-media program authorization because reverting to existing RCRA Subtitle C hazardous waste management requirements would disrupt and delay the cleanup process. In addition, since States that receive HWIR-media authorization would expect that management standards for contaminated media would be tailored to specific cleanup sites through the HWIR-media process, EPA believes that it would be appropriate to continue implementation of the program for new cleanups even if a State's HWIR-media program authorization is withdrawn. Otherwise, management standards could revert to the existing RCRA standards for hazardous waste once a State's authorization for HWIR-media was withdrawn; then, the State would no longer be able to approve Remediation Management Plans (RMPs) or make contained-in decisions for contaminated media. Remediation Management Plans that were approved by the State prior to the withdrawal of its HWIR-media program would remain in effect. However, EPA could use Federal enforcement authorities to impose additional management requirements in these RMPs as necessary to ensure protection of human health and the environment.

d. *HWIR-media authorization in States that can be no more stringent Than the Federal Program.* Some States' statutes prohibit the promulgation of any rules that are more stringent than Federal RCRA regulations. EPA does not believe that such statutes would prohibit States from adopting and implementing any portion of Part 269, including decisions to continue regulation of media with constituent concentrations below Bright Line concentrations as hazardous. As proposed, this media management decision would be completely discretionary with the overseeing

agency. Consequently, it would be impossible to argue that a State that chooses to continue regulation of contaminated media under Subtitle C would be "more stringent" than the Federal RCRA program. As proposed, the Bright Line would not automatically reclassify media, even under the Federal RCRA program. Rather, it would act as a "ceiling" below which an agency overseeing cleanup of a site would have the authority and discretion to determine whether the media should continue to be managed as hazardous waste.

States that could be no more stringent than the Federal program might, however, be required to adopt regulations equivalent to the new regulations for LDR treatment standards and media treatment variances and remediation piles. Since these new requirements would be less stringent than the existing requirements, a State that is prohibited from having more stringent regulations might be required to provide equivalent flexibility.

#### 7. Effect in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. Following authorization, EPA retains enforcement authority under section 3008, 3013, and 7003 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final RCRA authorization administered the State hazardous waste program, in lieu of EPA administering the Federal program in that State. When new, more stringent, Federal requirements were promulgated or enacted, authorized States were required to update their hazardous waste programs within specified time frames to remain equivalent to the Federal program, as revised. States were not required to update their hazardous waste programs to conform to new Federal requirements that were less stringent than the authorized State program. New Federal requirements did not take effect in authorized States until the State adopted the requirements as State law and received authorization to implement the new requirements (in lieu of the Federal program).

In the HSWA amendments of 1984, Congress specified that the new requirements enacted in the amendments and all implementing regulations promulgated by EPA would take effect immediately in authorized and non-authorized States. (See RCRA section 3006(g); 42 U.S.C. 6926(g)).

While States are still required to update their authorized hazardous waste programs to remain equivalent to the Federal program, EPA is directed to carry out HSWA requirements in authorized States until the State modifies its program, and receives final or interim authorization.

Since EPA modifies portions of the Federal hazardous waste program enacted prior to the HSWA amendments and portions of the Federal program enacted by the HSWA amendments, there are different time frames by which revisions to the Federal RCRA program become effective in authorized States. New, more stringent, Federal regulations that are promulgated pursuant to the pre-HSWA program do not take effect in authorized States until the State modifies and updates its hazardous waste program. New, more stringent, Federal regulations promulgated pursuant to the HSWA amendments take effect immediately in authorized and non-authorized States, and are implemented by EPA until the State adopts the new requirements and revises its authorized program. New Federal regulations (HSWA and pre-HSWA program) that are considered less stringent than the existing Federal or authorized State programs are optional for States to adopt and do not go into effect unless and until States adopt them, and are authorized to implement the provisions in lieu of EPA (except for less stringent HSWA requirements that are in effect and implemented by EPA in unauthorized States, such as Alaska). To ensure that authorized State programs accurately reflect the Federal program, States are required to update their authorized hazardous waste programs to incorporate all more stringent Federal regulations within the time frames specified in 40 CFR 271.21(e).

Today's proposal is promulgated in part pursuant to pre-HSWA authority, and in part pursuant to HSWA. The following sections of this proposed rule are proposed pursuant to pre-HSWA authority: (1) Codification of the contained-in policy for constituents lacking Bright Line concentrations; (2) Bright Line concentrations and decisions that media no longer contain hazardous waste; and (3) RMP issuance for management of remediation wastes that contain hazardous wastes. The following elements of today's proposal are proposed pursuant to HSWA and would be modifications to the existing HSWA program that would cause the Federal program to become less stringent: (1) LDR treatment requirements for hazardous contaminated soil addressed under new

Part 269; (2) new regulations for remediation piles; (3) media treatment variances; and (4) interpretations that RCRA section 3004 (u) and (v) do not apply to cleanup-only facilities. In today's proposal, revocation of the CAMU regulations would be more stringent than existing HSWA regulations.

In general, today's proposal is less stringent than the existing Federal hazardous waste program and, therefore, optional for States to adopt. The sole exception is the proposed revocation of the CAMU regulations, which would be considered more stringent, and would thus require adoption by States within the time frames set forth in 40 CFR 271.21(e). These time frames would provide that State modifications be made within one year of the date of the Federal program change, or within two years if State statutory amendments are necessary.

Since the bulk of the HWIR-media program proposed today is less stringent than the existing Federal RCRA program, it would not be effective in authorized States unless and until the State chose to adopt it and become authorized. EPA believes that the relief provided by the HWIR-media program would significantly increase the speed and efficiency of cleanups. Therefore, States seeking authorization for a HWIR-media program would be encouraged to use their existing State enforcement authorities to provide for HWIR-media style relief while their authorization applications were being reviewed.

*a. Pre-HSWA requirements.* The pre-HSWA requirements proposed today would be less stringent than the existing RCRA requirements. Because they would be less stringent, they would be optional for States to adopt, and would not take effect in authorized States unless and until the State adopted and became authorized for them. States with final authorization (or States seeking final authorization concurrently with this rule), that choose to obtain authorization for today's HWIR-media rule, would have to adopt requirements that were no less stringent than the requirements specified in Part 269. States that seek final program authorization after finalization of HWIR-media regulations could choose to apply for final program authorization without the HWIR-media program.

*b. HSWA Requirements.* The HSWA requirements proposed today (with the exception of CAMU revocation) would relate to the Land Disposal Restriction (LDR) program, and would be less stringent than existing LDR requirements. They would be, therefore, optional in HSWA authorized States



and would not go into effect unless and until a State adopted and became authorized for them. Normally, less stringent HSWA requirements automatically take effect in non-HSWA authorized States. However, the Part 269 LDR treatment requirements would not take effect because they apply only to cleanup wastes addressed under a Part 269 program. Thus, they would become effective in non-HSWA authorized States only when such States obtain authorization to run a Part 269 program. States authorized for the LDR program that choose to obtain HWIR-media authorization, would have to adopt requirements that would be at least as stringent as the LDR requirements specified in Part 269. States that seek LDR authorization after promulgation of final HWIR-media regulations would have to adopt requirements no less stringent than the existing (non-Part 269) Federal LDR program, if they chose not to seek authorization for today's HWIR-media requirements.

Media treatment variances. Under current regulations at 40 CFR 268.44, EPA may grant waste- or site-specific variances from treatment standards in cases where it can be demonstrated that the treatment standard is inappropriate for the waste, or that the waste cannot be treated to specified levels, or treated by specified methods. Today's proposed rule would retain the availability of treatment variances in the implementation of the HWIR-media program, and establish HWIR-media specific treatment variance procedures for media managed under Part 269. The Agency is clarifying today that States could seek authorization for both the site-specific treatment variance procedures in 40 CFR 268.44, and the HWIR-media specific treatment variance procedures proposed in Part 269. EPA is aware that some States, especially States that chose to adopt the Federal LDR program by reference, could have already received authorization to issue site-specific LDR treatment variances under 40 CFR 268.44. Because there has been some confusion about this issue, and because EPA's current proposal would encourage States to become authorized for treatment variances, EPA requests the States to note in their HWIR-media program revision application, or other authorization application, or in official correspondence, whether or not they believe that they have been authorized for site-specific LDR treatment variances under 40 CFR 268.44. EPA would then evaluate that aspect of a State submittal to confirm the State's authorization for treatment variances. EPA requests

comments on this proposal, especially from States that believe they are already authorized to approve LDR treatment variances.

CAMU revocation. EPA is proposing today to revoke the CAMU regulations at 40 CFR 264.552 and to "grandfather" CAMUs approved prior to the publication date of the final HWIR-media rule. Since revocation of the CAMU regulations would remove that option at the Federal level, even States that have adopted CAMU regulations as a matter of State law and/or become authorized for CAMUs would be blocked from approving new CAMUs by this date, when these more stringent Federal rules would go into effect. Of course, States could still use their CAMU regulations for non-hazardous wastes at their discretion, or for media that do not contain hazardous wastes (and that are not subject to LDRs).

In order to ensure that requirements for "grandfathered" CAMUs remain enforceable, States that have already been authorized for the CAMU regulations, and that choose to grandfather CAMUs, should retain their CAMU regulations (for those grandfathered CAMUs) until those CAMUs have expired or are terminated. States would be required, however, to make clear that existing State CAMU regulations would not be used to grant any new CAMUs for management of Federally hazardous waste after the date of publication of the final HWIR-media rule.

*c. Examples.* The following examples illustrate the effect of today's proposed rule in authorized States.

*Example One:* The State has received final base program authorization but has not yet been authorized for the land disposal restriction program.

Because the State has received final base program authorization, and the pre-HSWA HWIR-media regulations proposed today are less stringent than the existing program, the pre-HSWA HWIR-media regulations would not be effective in the State unless and until the State adopted and became authorized for them.

Since EPA would still be implementing the LDR program in the State, the Part 269 LDR treatment requirements for hazardous contaminated media and treatment variances for contaminated media would be effective immediately upon approval of the State's HWIR-media program, and would be implemented by EPA until the State received the necessary LDR program authorization. On the other hand, the new remediation pile provisions would become effective immediately in non-HSWA authorized States, because they are HSWA requirements that are not specific to the Part 269 program.

*Example Two:* The State has received final base program authorization, and is also authorized for the land disposal restriction program through the Third Third LDR rule.

Since the State has received final authorization and the pre-HSWA HWIR-media regulations proposed today are less stringent than the existing program, the pre-HSWA HWIR-media regulations would not be effective unless and until the State adopted and became authorized for them, as discussed in example one. Similarly, since the State would be authorized for the land disposal restriction program, and the remediation pile provisions (which are considered HSWA provisions because they affect LDRs) proposed today are considered less stringent than the existing LDR program, the remediation pile provisions proposed today would not be effective in the State unless and until the State adopted and became authorized for them.

For the less stringent Part 269 treatment standards, as explained in example one, these would not become effective in the State until the State chose to adopt a Part 269 program. Because the State would already be authorized for a sufficient LDR program, the State could also be authorized to run the LDR program of the HWIR-media program.

*Example Three:* The State is authorized for the corrective action management unit rule.

The CAMU revocation provision proposed today is the only provision that is more stringent than the existing Federal RCRA program and, therefore, mandatory for States to adopt. In addition, because revocation of the CAMU regulations would remove that option at the Federal level, even States that have adopted CAMU regulations as a matter of State law would be blocked from implementing those regulations when more stringent Federal rules take effect (date of publication of final HWIR-media rule).

## 8. Request for Comment on EPA's Approach to Authorization

EPA requests general comments on the approach to authorization outlined in today's proposal. In addition, as discussed above, EPA specifically requests comments that address the following issues and areas:

a. The use of differential authorization procedures for State program revisions, and whether the Category 2 authorization procedures discussed today would sufficiently recognize the sophistication of State programs while maintaining an appropriate level of EPA review. EPA is specifically interested in the ability of these procedures to adequately address evaluation of a State's capability to implement any given program revision;

b. The effect of differential authorization procedures, if any, on State's and EPA's ability to cluster authorization applications (i.e., the ability to prepare and review program revision applications that address more than one rule at the same time);

c. Whether the Category 2 procedures discussed today would be appropriate for authorization of the HWIR-media regulations, and other types of

regulations which these procedures should address;

d. The degree to which the authorization approach proposed today would, in practice, streamline and make preparation, review, and approval of State program revision applications more efficient;

e. The use of essential elements to target authorization applications and review and whether essential elements should be specified in regulations or discussed in preambles as guidance;

f. The need for a third authorization Category to address major revisions to State programs, the types of program revisions a third Category might address, and the potential requirements and procedures for a third Category;

g. The degree to which the Category 1 and 2 authorization procedures discussed today should be applied as guidance when authorizing existing rules using the current program revision procedures;

h. The clarification of the definition of equivalent, and whether the proposed definition should be used for all authorization decisions, or only for the Category 2 authorization decisions discussed in today's proposal;

i. The use of Category 2 authorization procedures for authorization of those States not incorporating an approved State CAA program for the combustion standards rule by reference (as discussed in section (V)(E)(4) of today's preamble);

j. The alternative approach to HWIR-media authorization discussed in section (V)(E)(6)(a);

k. Whether final base-program authorization is the appropriate prerequisite requirement for authorization of the general HWIR-media program;

l. Whether authorization for the LDR Third Third rule is the appropriate prerequisite requirement for authorization of the LDR portion of the HWIR-media rule;

m. The alternative approach to HWIR-media eligibility that would allow States proposing to use previously authorized authorities to implement an HWIR-media program to use the Category 1 authorization procedures, discussed in section (V)(E)(6)(a);

n. The approach to authorization of LDR treatment variances discussed in section (V)(E)(7)(b);

o. The degree to which the monitoring procedures discussed today would conform to the program monitoring procedures currently in place;

p. Whether the monitoring procedures discussed today are necessary, whether they should be codified for the HWIR-media rule, and whether they should be

considered for application beyond the HWIR-media rule;

q. The feasibility of partial program withdrawal and the necessity for such a provision;

r. The proposed and alternative approaches to HWIR-media implementation following program withdrawal;

s. The effect today's proposed approach to authorization might have on a State's desire to seek authorization for a State HWIR-media program; and

t. Other suggestions for improvements to the authorization process.

#### *F. Corrective Action Management Units—§ 264.552*

Today's proposed rule, at § 264.552, would withdraw the existing regulations for Corrective Action Management Units (CAMUs), which were promulgated on February 16, 1993 (58 FR 8658). Today's proposal for Part 269 would replace much of the flexibility under the current CAMU regulations as they apply to contaminated media. EPA does not intend to withdraw the CAMU regulations without, at the same time, substituting one of today's options in its stead.

States with existing CAMU regulations would need to come in for program revisions, to make their programs as stringent as the Federal program. Today's proposal would also grandfather CAMUs that have already been approved by EPA and the States, by the publication date of the final HWIR-media rule. The original CAMU rulemaking also included provisions for temporary units to be used for management of cleanup wastes. These provisions would not be affected under today's proposal, thus the Agency is not reopening these requirements for comment at this time.

The CAMU rule was the Agency's initial attempt to resolve many of the problems that have been encountered by EPA and State cleanup programs in applying the prevention-oriented Subtitle C regulations (specifically, the land disposal restrictions (LDRs) and minimum technology requirements (MTRs)) to the management of cleanup wastes. The rule has allowed regulators to designate an area at a facility as a CAMU, and has specified that placement of cleanup wastes into a CAMU does not trigger LDR or MTR requirements that would otherwise apply. Because the rule was designed to provide flexibility to regulators for prescribing site-specific management requirements for cleanup wastes, the regulations do not prescribe specific standards for design or operation of CAMUs, or generic national treatment

standards for cleanup wastes that are managed in CAMUs. Since its promulgation, the final CAMU rule has been used by EPA's Superfund program, the RCRA corrective action program, and other State cleanup programs. However, the actual number of CAMUs that have been approved to date is relatively small. EPA is aware of fewer than twenty CAMUs that have been approved.

Some parties have argued that the CAMU rule allows regulators too much discretion in determining appropriate, site-specific management requirements for cleanup wastes. Those parties support the idea of having some type of minimum national LDR treatment standards for cleanup wastes (especially for sludges and other non-media wastes), rather than allowing regulators to specify treatment requirements on a case-by-case basis.

When the HWIR-FACA Committee was initiated, EPA, and most of the State participants on the committee, agreed to consider whether the CAMU regulations should be modified or replaced with a different regulatory approach.

The Agency is proposing to replace the existing CAMU regulations with today's proposed rule, except that it would retain existing CAMUs approved prior to publication of the final HWIR-media rule. The Agency believes that much of the site-specific flexibility provided in the CAMU rule has been preserved in this proposal, especially for less-contaminated media. Further, the proposal would modify the minimum LDR treatment standards specified in the Part 269 regulations specifically to be more compatible with the realities of treating contaminated media. Today's proposal should also minimize potential disruptions to site cleanups that are planned or underway, since existing CAMUs approved prior to the publication date of a final HWIR-media rule could continue to operate until their cleanup activities are complete. (See discussion below.)

At the same time, the Agency believes that the CAMU rule has been used successfully to expedite cleanups, and that it has provided much needed flexibility for remedial actions at RCRA corrective action and Superfund. Furthermore, replacing the CAMU regulations with today's HWIR-media rules could have a significant impact in some situations, particularly in remedies involving sludges and other non-media wastes. The proposal would cover only contaminated media, whereas all types of cleanup wastes can be managed in CAMUs. Actually, a number of the CAMUs that have already

been approved will be managing sludges from cleanups. Thus, the flexibility provided under the proposed HWIR-media rule would apply to a more limited spectrum of cleanup wastes. Sludges and other non-media cleanup wastes would be subject to the traditional hazardous waste regulations, including LDRs and MTRs. (See discussion in section (V)(A)(2) of this preamble.)

Therefore, the Agency requests comments on what benefits might accrue if the CAMU rule were retained. (See letter from M. L. Mullins, Vice President-Regulatory Affairs, Chemical Manufacturers Association, to Michael Shapiro, Director, Office of Solid Waste, EPA (August 22, 1995).) Specifically, the Agency requests comments on what the ramifications may be of failing to provide the degree of relief that the CAMU rule has provided. The Agency is also interested in ways that the CAMU might be modified to target the CAMU provisions on wastes that pose lower risks. For example, the Agency could incorporate a Bright Line approach in CAMU.

Today's proposed rule would grandfather CAMUs that were approved before the publication date of this rule. Thus, an owner/operator who was conducting a cleanup that involved an approved CAMU would be able to continue using the unit until the cleanup is complete, under the terms of the permit or order. EPA believes that this provision is reasonable and would help avoid delays and disruptions to ongoing cleanup actions. In addition, EPA believes that not providing this type of grandfathering would raise important questions of fairness because they were approved according to the regulations in effect at the time, and because EPA has encouraged the use of CAMUs when the flexibility they provide is necessary to selecting and implementing sensible, protective remedies.

EPA considered various grandfathering options for CAMUs, such as establishing a certain time limit (e.g., one year) for operating existing CAMUs after the Part 269 rules were promulgated. EPA does not believe that such a limitation would be necessary or desirable. Some remedies require several years to fully implement, and could be adversely affected if an existing CAMU had to cease operations. For example, risks of exposure to highly contaminated sites could continue for several more years while the regulators, owners, and operators negotiate a new site remedy, instead of implementing the CAMU remedy they had already agreed upon and determined would be

protective. The CAMUs that have been approved to date have been a key factor in accelerating the cleanup process and allowing protective remedies to be implemented at considerable cost savings.

If today's rule is finalized as proposed, States that have adopted the CAMU regulations would be required to revise these regulations after the publication of final HWIR-media regulations in order to remain as stringent as the Federal program. (Except when the State CAMU rules are as stringent as the current Federal program, for example, in requiring wastes to be treated to LDRs before being placed in a CAMU.) Of course, States would still be allowed to use the Area of Contamination (AOC) concept, which would not be changed by today's proposal (55 FR 8666, 8758-8760, March 8, 1990; and also the memorandum from Michael Shapiro, Director, Office of Solid Waste, Stephen D. Luftig, Director, Office of Emergency and Remedial Response, and Jerry Clifford, Director, Office of Site Remediation Enforcement, EPA to RCRA Branch Chiefs and CERCLA Regional Managers, (March 13, 1996)). More discussion on State authorization for these HWIR-media rules is presented in section (V)(E) of this preamble.

#### *G. Remediation Piles—§§ 260.10 and 264.554*

Today's rulemaking proposal would establish a new type of unit—remediation piles—that would preserve needed flexibility for conducting certain types of cleanup activities. Proposed § 260.10 specifies the following definition:

*Remediation Pile* means a pile that is used only for the temporary treatment or storage of remediation wastes, including hazardous contaminated media (as defined in § 269.3), during remedial operations.

This definition would appear in § 260.10, where most of the RCRA hazardous waste regulatory definitions are codified, rather than in § 269.3, which defines terms specific to the Part 269 regulations. This is because remediation piles would be able to accept all types of remediation wastes, rather than only hazardous contaminated media. As a result, remediation piles could be approved for remedial actions that are not regulated by Part 269.

The primary reason for creating this new type of unit is that under current regulations, waste piles are considered land disposal units, and all hazardous wastes must be treated to LDR standards before being placed into the pile.

Remediation piles, however, would not be considered land disposal units under this proposed rule; they are not listed in section 3004(k), (see discussion below); and these regulations clearly specify that they may be used only for temporary treatment or storage of cleanup wastes. For reasons noted below, the Agency believes that this type of unit, which would not trigger LDRs, would provide necessary flexibility in situations where application of the LDRs would create obstacles to common sense remedies.

One of the principal goals of this proposed rule is to achieve a net environmental benefit by facilitating the cleanup of as many contaminated sites as possible. The Agency also believes that remediation piles would be necessary to facilitate the cleanup of many previously contaminated sites. The physical, economic, and technical limitations on the operation of a cleanup program could dictate that remediation wastes be temporarily stored and/or concentrated in a centralized location onsite prior to completion of the remedial activity. Similarly, once the wastes had been placed in a remediation pile it could be advantageous to begin some form of treatment or pretreatment to reduce the level of threat posed by the wastes prior to its ultimate disposal.

Because of the potentially large volumes of contaminated media encountered during remedial action, prohibiting such wastes from being temporarily treated or stored in onsite piles (unless it met LDR standards) would be counterproductive since it would be a disincentive to the cleanup activities. The Agency believes that the temporary existence of a controlled activity using a remediation pile would be preferable to the continuing, unmanaged presence of contaminated media, and the resulting threat against human health and the environment, for an indefinite period of time. In endorsing the idea of remediation piles, the Agency is in no way authorizing the indefinite operation of the piles, or the use of them for permanent disposal. The obligatory, temporary nature of remediation piles is the primary difference between the piles and the previously used CAMUs.

The design and operating requirements for remediation piles are specified in proposed § 264.554. Although these provisions are being proposed in § 264.554, remediation piles could also be approved under orders, and at interim status facilities. As explained above, placement of remediation wastes into a remediation pile would not trigger RCRA land

disposal restrictions, because such placement would not constitute "land disposal" according to RCRA § 3004(k)'s definition of land disposal. For a further discussion of the Agency's position that would be reasonable to interpret § 3004(k) to exclude placement of remediation wastes into units used solely for cleanup purposes. (See 58 FR 8658, 8662, (February 16, 1993)). The unit would also not be subject to minimum technology requirements (MTRs) under section 3004(o), since the pile would not be considered a land disposal unit subject to those requirements.

Other types of piles (e.g., piles not used for cleanup purposes) would remain subject to the Subpart L requirements of Parts 264 and 265, and wastes placed into such piles would be subject to LDRs. Additionally, the use of a remediation pile does not allow remediation wastes to be entirely exempt from the LDR requirements. Since remediation piles are temporary and not intended for disposal, all wastes being held in remediation piles must eventually meet LDRs at the time of their ultimate disposal.

EPA's objective in proposing the concept of remediation piles in Part 264 rather than in Part 269 with the rest of the HWIR-media provisions is that the Agency wishes to encourage remedial action of contaminated sites by making the use of these units more widely available for those cleanups that are not mandated by RMPs under Part 269, or include remediation wastes other than contaminated media.

Remediation piles are intended to preserve flexibility for decision makers in situations where site cleanup involves the temporary storage or treatment of remediation wastes prior to disposal. Unlike CAMUs, remediation piles could not be used for disposal of wastes; remediation piles would be required to close by removal of wastes (i.e., "clean close"), as do tanks, containers, and other types of hazardous waste storage and treatment units. As with the existing CAMU regulations, remediation piles would have to be located at the cleanup site, and could not be used to manage any wastes other than remediation wastes.

The flexibility that would be provided by the proposal for remediation piles is currently available through use of the CAMU concept; such units would currently be considered CAMUs for regulatory purposes, and would be subject to the requirements of § 264.552. The net effect of this proposal for remediation piles would thus be to preserve the existing flexibility and regulatory relief from LDRs and MTRs

in situations involving the temporary placement of remediation wastes in piles. Although today's Part 269 proposal would provide some relief for these types of situations (particularly for below the Bright Line wastes), EPA believes that remediation piles would be useful in facilitating cleanups at a large number of sites.

Because wastes and media volumes, and the expected duration of cleanup activities at cleanup sites all vary, EPA believes that the Director is best able to determine the site-specific conditions for the safe and effective operation of a remediation pile on a site-specific basis. Therefore, today's proposal for remediation piles does not prescribe any specific design or operating standards; the Director would establish such requirements on a case-by-case basis, using the decision factors specified for Temporary Units. (See § 264.553(c)).

EPA considered a more prescriptive approach that would have established certain minimum standards for remediation piles. For example, standards for liners could be specified in the regulation, as could standards for covers or other methods for controlling air emissions, and wind and water dispersal, or other design and operating standards. Comments are requested as to whether more national uniformity is necessary in the design and operation of remediation piles, or whether such decisions are more appropriately made on a site-specific basis. Comments are also requested as to the types of minimum standards that should be applied to remediation piles (assuming such national standards are necessary), whether certain time limits or renewable time limits should be set for operating such units, and whether creating this new type of unit would be necessary at all.

#### *H. Dredged Material Exclusion—§ 261.4*

In addition to the media management requirements discussed above, today's proposed rule contains a provision to clarify the relationship of RCRA Subtitle C to dredged material. Specifically, EPA today proposes to establish that dredged material disposed in waters of the United States in accordance with a permit issued under section 404 of the Clean Water Act (CWA) or in ocean waters in accordance with a permit issued under section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA),<sup>31</sup> would not be subject to Subtitle C of the Resource Conservation

and Recovery Act (RCRA) (§ 261.4(h)). This approach is authorized under RCRA section 1006, which calls for the Agency, in implementing RCRA, to avoid duplication with other Federal statutes.

At present, if dredged material proposed for disposal in the aquatic environment is contaminated or suspected of being contaminated, the potential application of both RCRA Subtitle C regulations, and dredged material regulations under CWA or MPRSA, complicates efficient assessment and management of potential environmental impacts. Today's proposal would eliminate the potential overlap of RCRA Subtitle C with the CWA and MPRSA programs by establishing an integrated regulatory scheme for dredged material disposal that ensures an accurate and environmentally sound evaluation of any potential impacts to the aquatic environment.

#### *Dredged Material Regulation Under CWA and MPRSA*

Section 404 of the CWA establishes a permit program to regulate the discharge of dredged or fill material into waters of the United States that is jointly administered by the U. S. Army Corps of Engineers (Corps) and EPA. Proposed discharges must comply with the environmental criteria provided in 40 CFR Part 230 in order to be authorized. The EPA and Corps regulations under section 404 define dredged material as "material that is excavated or dredged from waters of the United States." Dredged material can be mechanically or hydraulically dredged, and disposed of by barges or pipelines into river channels, lakes, and estuaries. Today's proposal does not address "fill material," such as that discharged to replace portions of the waters of the United States with dry land.

In addition to such discharges as open water disposal from a barge, the section 404 regulations specifically identify the runoff or return flow from a contained land or water disposal area into waters of the United States as a discharge of dredged material. In most cases, this type of discharge occurs from a weir and outfall pipe to drain water from a confined disposal facility (CDF), including the water entrained with the solid portion of the dredged material discharged at the site and from rainwater runoff. Impacts to uplands, as well as groundwater, air, and other endpoints, can be addressed within the section 404 permitting process as potential impacts of a discharge of dredged material into waters of the U.S. However, in those cases where upland-

<sup>31</sup> "Permit" also includes the administrative equivalent, a finding of compliance with the substantive requirements of the CWA or MPRSA, for U. S. Army Corps of Engineers' civil works projects authorized by Congress.

disposed dredged material has no return flow to waters of the United States, as defined by section 404, the dredged material is not regulated under the CWA, and therefore may be subject to RCRA Subtitle C, even under today's proposed regulatory revision.

The MPRSA regulates the transportation of material, including dredged material, that will be dumped into ocean waters. Section 102 of the MPRSA requires that EPA, in consultation with the Corps, develop environmental criteria for reviewing and evaluating applications for ocean dumping permits. Section 103 of the MPRSA assigns to the Corps the responsibility for authorizing the ocean dumping of dredged material, subject to EPA review and concurrence. In evaluating proposed ocean dumping activities, the Corps is required to determine whether such proposals comply with EPA's ocean dumping criteria (40 CFR Parts 220-228).

#### Dredged Material Regulation Under RCRA

RCRA (42 U.S.C. 6901 *et seq.*) regulates the assessment, cleanup, and disposal of solid and hazardous wastes under Subtitles D and C, respectively. A solid waste is considered hazardous for regulatory purposes if it is listed as hazardous in RCRA regulations or exhibits any of four hazardous waste characteristics: ignitability, corrosivity, reactivity, or toxicity. Dredged material could trigger RCRA's Subtitle C requirements by exhibiting any of the four characteristics or by containing a listed hazardous waste.

EPA regulations at 40 CFR Parts 270 and 124 set forth application requirements and procedures for issuing RCRA hazardous waste permits under RCRA Subtitle C. In developing a permit, the permitting authority considers the potential pathways of human and ecological exposures to hazardous wastes resulting from releases at the unit, and the potential magnitude and nature of those exposures. Permit conditions are established as necessary to achieve compliance with the standards and restrictions set forth in Parts 264 and 266 through 268 (and proposed 269) (or the authorized State program). In addition, RCRA section 3005(c)(3) authorizes the permit writer, on a site-specific basis, to add conditions to a permit that go beyond the applicable regulations where such additional requirements are necessary to protect human health and the environment (42 U.S.C. § 6925(c)(3)).

The specific requirements of RCRA Subtitle C that would otherwise apply to

the disposal of dredged materials in the aquatic environment would differ depending on whether these activities were considered to be acts of "land disposal" as defined in RCRA § 3004(k). If considered to be "land disposal," a more extensive set of requirements under RCRA Subtitle C would apply, including land disposal restrictions treatment standards (§ 3004(m)) and minimum technology requirements (§ 3004(o)).

#### Clarification of Regulatory Jurisdiction

EPA proposes to revise the RCRA regulations to provide that the discharge of dredged material to waters of the United States pursuant to a permit under section 404 of the CWA or to ocean waters pursuant to a permit under section 103 of the MPRSA would not be subject to RCRA Subtitle C requirements. Specifically, 40 CFR 261.4, which lists exclusions from the hazardous waste provisions of RCRA, would be amended by adding dredged material discharges covered by CWA or MPRSA permits (or authorized administratively in the case of Corps civil works projects) to the list of exclusions.

This proposal would exclude dredged material disposal only from the requirements of Subtitle C, and would not exclude it from the requirements of Subtitle D. This exclusion would not diminish the authority of the Administrator to take action under section 7003 of RCRA to address situations of imminent hazard to human health or the environment. As noted above, upland disposal of dredged material with no return flow to waters of the United States (i.e., not regulated under section 404 of CWA) would not be subject to the exclusion, and therefore would still be subject to the requirements of RCRA Subtitle C as appropriate. Finally, management of dredged material not disposed of in waters of the United States in accordance with a permit issued under section 404 of the Clean Water Act (CWA), or not disposed of in ocean waters in accordance with a permit issued under section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA), (e.g., dredged material managed for purposes of cleanup under RCRA corrective action or CERCLA), would not be eligible for this exclusion, and therefore, could be subject to RCRA Subtitle C requirements.

Today's proposed rule would establish an integrated approach to the regulation of dredged material disposal that would avoid duplicative regulatory processes, while ensuring an accurate, appropriate, and environmentally sound

evaluation of potential impacts to the aquatic environment. This approach is authorized under section 1006(b) of RCRA, which states that "the Administrator \* \* \* shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of \* \* \* the Federal Water Pollution Control Act (CWA), \* \* \* the Marine Protection, Research and Sanctuaries Act, \* \* \*, and such other Acts of Congress as grant regulatory authority to the Administrator." Section 1006(b) of RCRA calls for the provisions of RCRA to be integrated with other statutes, including the CWA and the MPRSA, to avoid duplication when such integration "can be done in a manner consistent with the goals and policies expressed" in RCRA and the other Acts.

The Agency believes that the CWA and MPRSA programs described above fully protect human health and the environment from the consequences of dredged materials disposal. These programs incorporate appropriate biological and chemical assessments to evaluate potential impacts on water column and benthic organisms, and the potential for human health impacts caused by food chain transfer of contaminants. They also make available appropriate control measures for addressing contamination in each of the relevant pathways. These programs are more fully described in support documents that are included in the record for this proposal and are available in the docket for today's proposed rule.

The Agency believes that RCRA Subtitle C coverage of dredged materials disposal in the aquatic environment, whether or not this disposal is considered to be "land disposal" under RCRA, is duplicative and unnecessary when considered alongside the CWA and MPRSA coverage of these activities. The overriding goal of each of the three statutory programs is to protect human health and the environment, and the CWA and MPRSA programs fully achieve this goal by addressing the proposed aquatic disposal of dredged material.

Moreover, applying the RCRA Subtitle C program together with the CWA and MPRSA permitting programs might be unduly burdensome and cause unnecessary procedural difficulties—e.g., by requiring duplicate permit applications and procedures. It is also possible that the duplicative nature of the programs could in fact increase environmental risks by causing delays in proper disposal. The Agency believes that today's proposal, which would divide coverage, would therefore be

appropriate and consistent with the goals and policies in each of these statutes. Accordingly, under RCRA § 1006(b), today's regulatory proposal would be an appropriate way to integrate the CWA and MPRSA permitting schemes with the RCRA Subtitle C program.

#### VI. Alternative Approaches to HWIR-media Regulations

EPA believes that the specific regulatory proposal that is presented in today's proposed rule is consistent with the objectives that EPA and the States had in mind for the HWIR-media rule. Those objectives are discussed in section III of this preamble. However, alternative approaches may offer significant advantages as well as disadvantages compared to today's proposed rule; some might be quite different from the proposal. EPA will continue to examine such alternatives, and invites commenters to address these fundamental issues in addition to providing comments on the specifics of the rule as proposed.

As explained previously in this preamble, today's proposed rule was created expressly to reflect the concepts and directions identified in the "Harmonized Approach" developed by the FACA Committee. Thus, although a number of alternatives were identified and considered by EPA and other parties throughout the process of developing this proposal, adhering to the Harmonized Approach in many cases precluded certain alternative concepts from being included. In addition, not all controversial issues were resolved by the FACA Committee. In fact, some issues central to the framework of today's proposed rule provoked strong disagreement. The Agency specifically requests comments on alternatives in the areas where agreement was not reached.

In EPA's view, a critical element both within the proposal and in the other alternatives identified in the preamble (e.g., the Unitary Approach) is the rationale used for exempting wastes from Subtitle C. Under today's proposed rule, implementing agencies would be able to allow lower-risk contaminated media to generally exit the Subtitle C system based on the contained-in principle (i.e., Subtitle C doesn't apply if EPA or a State determines that a medium doesn't contain wastes that present a hazard (hazardous wastes) based on site-specific circumstances or controls in a RMP). The legal theory supporting "conditional exclusions" is broader than the contained-in theory, and need not be limited to contaminated media. The "conditional exclusion"

theory is based upon EPA's understanding that RCRA provides EPA and the States the discretion to determine that a waste need not be defined as "hazardous" where restrictions are placed on management such that no improper management could occur that might threaten human health or the environment. (See definition of hazardous waste at RCRA section 1004(5)(B)). The HWIR-waste proposal included a full discussion of the legal basis for this position (60 FR 66344-469, Dec. 21, 1995). This theory is also discussed in section (V)(A)(4)(a). For the sake of clarity, it is repeated below.

EPA's original approach to determining whether a waste should be listed as hazardous focused on the inherent chemical composition of the waste and assumed that mismanagement would occur causing people or organisms to come into contact with the waste's constituents. (See 45 FR 33113, (May 19, 1980)). Based on more than a decade of experience with waste management, EPA believes that it is inappropriate to assume that worst-case mismanagement will occur. Moreover, EPA does not believe that worst-case assumptions are compelled by statute.

In recent hazardous waste listing decisions, EPA identified some likely "mismanagement" scenarios that are reasonable for almost all wastewaters or non-wastewaters, and looked hard at available data to determine if any of these are unlikely for the specific wastes being considered, or if other scenarios are likely, given available information about current waste management practices. (See the Carbamates Listing Determination (60 FR 7824, (February 9, 1995)) and the Dyes and Pigments Proposed Listing Determination (59 FR 66072, (December 22, 1994)). Further extending this logic, EPA believes that when a mismanagement scenario is not likely, or has been adequately addressed by other programs, the Agency need not consider the risk from that scenario in deciding whether to classify the waste as hazardous.

EPA believes that the definition of "hazardous waste" in RCRA section 1004(5) permits this approach to hazardous waste classification. Section 1004(5)(B) defines as "hazardous" any waste that may present a substantial present or potential hazard to human health or the environment "when improperly \* \* \* managed." EPA reads this provision to allow it to determine the circumstances under which a waste may present a hazard and to regulate the waste only when those conditions occur. Support for this reading can be

found by contrasting section 1004(5)(B) with section 1004(5)(A), which defines certain inherently dangerous wastes as "hazardous" no matter how they are managed. The legislative history of Subtitle C of RCRA also appears to support this interpretation, stating that "the basic thrust of this hazardous waste title is to identify what wastes are hazardous in what quantities, qualities, and concentrations, and the methods of disposal which may make such wastes hazardous." H.Rep. No. 94-1491, 94th Cong., 2d Sess. 6 (1976), reprinted in "A Legislative History of the Solid Waste Disposal Act, as Amended," Congressional Research Service, Vol. 1, 567 (1991) (emphasis added).

EPA also believes that section 3001 gives it flexibility in order to consider the need to regulate as hazardous those wastes that are not managed in an unsafe manner (section 3001 requires that EPA decide, in determining whether to list or otherwise identify a waste as hazardous waste, whether a waste "should" be subject to the requirements of Subtitle C.) EPA's existing regulatory standards for listing hazardous wastes reflect that flexibility by allowing specific consideration of a waste's potential for mismanagement. (See § 261.11(a)(3) (incorporating the language of RCRA section 1004(5)(B)) and § 261.11(c)(3)(vii) (requiring EPA to consider plausible types of mismanagement)). Where mismanagement of a waste is implausible, the listing regulations do not require EPA to classify a waste as hazardous, based on that mismanagement scenario.

The Agency believes, therefore, that it may be appropriate for EPA and the States to consider site-specific management controls when making decisions that media and remediation wastes, managed pursuant to a RMP or RAP under the various alternatives to today's proposed rule, are exempt from Subtitle C. EPA believes that this approach may be especially appropriate in the Part 269 context, because of the significant level of oversight generally given to cleanup actions. State or EPA oversight of cleanup activities, and the requirements set out in the RMP for management controls that are tailored to site-specific circumstances, could ensure that the site-specific management controls that the Director used as a basis for the "conditional exclusion" decision would continue to be implemented. EPA or States could specify that media exempted under "conditional exclusions" would only be considered nonhazardous so long as they were managed in the manner specified by the Director in the RAP or

RMP. Deviations (any, or specific ones) would result in a reversion to Subtitle C regulation.

Using this legal theory could have several advantages in the context of an HWIR-media rule. For one, allowing all contaminated media or remediation wastes to exit from Subtitle C could avoid many of the complexities that come with regulation within the hazardous waste regulatory system. Overseeing agencies would have much more flexibility to prescribe inclusive, site-wide solutions for contaminated media, rather than a limited series of separate approaches. In particular, more types of cleanup wastes, such as old sludges, could be covered under the HWIR-media system. This would provide significantly greater relief, because many corrective actions address old wastes as well as contaminated media.

Under the proposed rule, it would be entirely possible that cleanup wastes at the same site could be subject to as many as three different sets of regulatory requirements (for example, "base" Subtitle C regulations for non-media, modified Subtitle C regulations for media above the Bright Line, and site-specific requirements for media below the Bright Line). Using a conditional exclusion theory without dividing remediation wastes and media, and without dividing media above and below the bright line, could allow all cleanup wastes at a site to be covered under a single regulatory regime that would be more straightforward to implement, and easier to comply with and understand.

A specific alternative, introduced earlier in this proposal, called the Unitary Approach, would take a different approach on a number of key elements from the proposed approach. The following sections present detailed discussions of (1) the Unitary Approach, (2) a hybrid conditional exclusion approach which would combine elements of both the Unitary Approach and the proposed approach and, (3) some of the key elements of these several alternatives that deserve careful consideration.

#### A. The Unitary Approach

##### 1. Overview of Unitary Approach

Under the Unitary Approach suggested by Industry (see letter from James R. Roewer, USWAG Program Manager, Utilities Solid Waste Activities Group, to Michael Shapiro, Director, Office of Solid Waste, EPA (September 15, 1995) in the docket to today's proposal) and discussed previously in section IV of this

preamble, management of remediation wastes would proceed according to requirements set forth in an enforceable remedial action plan (RAP) approved by EPA or an authorized State. The RAP could be part of another document, for example, a CERCLA ROD, corrective action RFI workplan, etc. The non-RAP portions of the document might deal with other aspects of the investigation and cleanup not addressed in this proposed rule, such as the cleanup goals to be achieved, the extent of materials to be excavated during the cleanup, or the scope of the pre-cleanup investigation. This would be intended to avoid duplication and overlap with existing cleanup program requirements, while assuring that the RAP adequately described how remediation wastes will be managed protectively. In that manner, the RAP would be similar to the RMP in today's proposed rule.

More than one RAP might be used during the course of a remediation. For example, one document might govern management of wastes from the investigation or pilot study phase, while another might be employed for the remediation phase. A RAP might also be prepared and submitted for approval to allow subsequent management as remediation wastes, of materials that were originally produced as "hazardous wastes" during remediation and that had previously been staged as such, for example, drill cuttings or produced ground water.

Remediation wastes that would otherwise be hazardous wastes would not be subject to regulation as hazardous wastes when managed in accordance with an approved RAP. All hazardous remediation wastes managed during the cleanup, including during the investigation phases, would be eligible for management under a RAP. This is consistent with today's proposed approach for RMPs.

Management standards for the remediation wastes would be set forth in the approved RAP. The management standards would be tailored to be protective of human health and the environment, as determined by the overseeing Agency. EPA or the authorized State could employ such standards as it deemed appropriate for the specific remediation wastes involved, the location where the remediation wastes would be managed, and the site-specific risk posed by the contemplated management approach. For example, the substantive standards of the RCRA containment building regulations might be suitable in a given situation, or local ground water considerations might make it advisable for particular treatment tanks to have

secondary containment. In setting the standards for a given RAP, the overseeing agency could turn to existing State or federal standards or remediation waste management practice or experience appropriate for the wastes as managed during the remedial activities contemplated by the RAP.

The RAP would have to describe how the wastes to be managed under it would be aggregated and stored, both on-site, and if applicable, off-site. The nature and effectiveness of any treatment methodologies to be used would need to be described as well. The specific method and location for disposal of any wastes or treatment residuals that would otherwise be required to be managed as hazardous waste would also be addressed. Of course, the option of simply managing a particular remediation waste as a hazardous waste would remain available and, in such an instance, that aspect of remediation waste management would not be addressed in the RAP subject to review and approval pursuant to this Part.

In the Unitary Approach proposed by industry, RCRA treatment requirements and the land disposal restrictions would not apply to remediation wastes, and there would be no Bright Line concept ensuring that higher-concern wastes were managed under Subtitle C-like standards. EPA and overseeing States would have the authority to prescribe in RAPs whatever management and treatment standards they deemed appropriate; the only specific regulatory standard would be that remedies be protective of human health and the environment. EPA recognizes that this approach would give program implementers much needed flexibility in overseeing cleanups. In its economic analysis supporting today's rulemaking (discussed later in this preamble), EPA assumed that the costs of waste treatment would be comparable under both the proposed and the Unitary approaches, because the overseeing agencies in both cases would generally require some level of treatment where a remedy involved management of highly contaminated waste. EPA acknowledges that the specific language of the Unitary Approach, as proposed by industry, does not provide guidance on when treatment might be needed. EPA solicits comments on whether the Unitary Approach (if adopted) should include specific direction in this area, and what language might be appropriate. One approach would be to include a Bright Line with a presumption for treatment of wastes above the Bright Line. This approach, however, would raise the implementation difficulties discussed

elsewhere. Another approach would be to capture the same intent through more general and flexible regulatory language. For example, the rule might specify that the overseeing agency consider, and as appropriate require, waste treatment before land disposal, where the remediation waste might present a substantial risk, either because of high concentrations of hazardous constituents or because it could not be contained reliably over time. This language would not prescribe a specific approach in any given situation, but it would ensure that treatment was seriously considered where wastes presented significant risks and effective treatment was available.

## 2. Legal Authority for the Unitary Approach

As discussed above (introduction to section VI), EPA believes that RCRA provides the Agency with the discretion to determine that wastes should not be defined as "hazardous" when mismanagement of the waste is not likely.

If EPA were to finalize a rule similar to the one suggested in the Unitary Approach, which is based upon a "conditional exclusion" or "conditional exemption" theory, the Agency would base the finding that mismanagement of the covered wastes and media is unlikely on the Agency's belief that States that are authorized for the HWIR-media program will set appropriate management standards, and provide an appropriate level of oversight of remedial actions, so as to ensure that such wastes are managed protectively. Specifically, EPA's conclusion that mismanagement is not likely would be based primarily on the rule's provisions for prior State program approval, public notice and comment on all RAPs, and "streamlined" State program withdrawal where a State is found not to be operating its HWIR-media program in a protective manner.

The Agency requests comment on whether this conclusion would be appropriate.

## 3. LDRs Under the Unitary Approach

Earlier in today's proposal, EPA discussed the applicability of the land disposal restrictions (LDRs) to contaminated media and requested comments on alternatives to the approach to the LDRs taken today. Under the Unitary Approach, remediation wastes (including contaminated media) addressed in a RAP would, as a general matter, be excluded from all RCRA Subtitle C requirements, including LDRs. The proponents of the Unitary Approach

have not put forth a legal rationale to explain why LDRs would not continue to apply to hazardous wastes that are determined not to be hazardous after their point of generation. As was discussed in section (V)(A)(4) of this preamble, following the logic of the court in *Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C. Cir. 1992), elimination of a waste's "hazard" designation does not necessarily eliminate LDR obligations. Thus, for wastes that have entered the Subtitle C system, and for which LDRs have attached, a finding that such wastes are conditionally exempt from RCRA may not eliminate LDR obligations.

If EPA were to promulgate a program modeled after the Unitary Approach, the Agency would likely address the residual LDR issue by applying the "new treatability group" approach to LDRs [instead of the approach proposed today]. As discussed earlier, changes in treatability group can result when the properties of a waste that affect treatment performance change enough so that the waste is no longer considered similar to the wastes EPA evaluated when it established the applicable LDR treatment standards. Each change in treatability group is a new point of generation for purposes of determining whether a waste is hazardous under RCRA Subtitle C. Therefore, if contaminated media were, by definition, considered a new treatability group under the LDR program, and, as discussed in the Unitary Approach, media addressed in a RAP is, by definition, not considered hazardous waste, media addressed in a RAP would not be subject to the LDR treatment standards. This would typically remove contaminated media addressed in a RAP from the duty to comply with the LDR requirements.<sup>32</sup>

For remediation wastes other than media, as long as the wastes were not prohibited from land disposal when first placed (i.e., when first land disposed), the land disposal restrictions do not attach unless these wastes are still considered hazardous when they are removed from the land. Therefore, if, due to issuance of a RAP, such wastes were determined to be non-hazardous before they were removed from the land, the land disposal restrictions would not apply. This approach would remove most non-media remediation wastes

<sup>32</sup> The exception would be media that are still considered hazardous (e.g., because a RAP has not been issued) when removed from the land. In this case, the applicable LDRs would attach and the media would have to attain compliance with the standards of RCRA section 3004(m) even if it were later made subject to a RAP and therefore determined to no longer be hazardous.

addressed in a RAP from the duty to comply with LDR requirements.<sup>33</sup>

As discussed above, EPA has struggled with the application of LDR requirements in developing today's proposal. The Agency requests comments on alternative approaches to the LDR requirements which would support a program modeled after the Unitary Approach consistent with the requirements of RCRA section 3004(m). For example, since a program modeled after the Unitary Approach would not automatically release all remediation wastes from the duty to comply with the LDRs, should the Agency concurrently promulgate the other approaches to the LDRs proposed today?

## 4. The RAP Process Under the Unitary Approach

To initiate the RAP process, the owner or operator of a facility at which the remediation would be conducted, would submit the proposed RAP to the Director. Upon receipt of the RAP, the Director would give public notice via local newspapers of the availability of the RAP and the opening of a minimum thirty-day comment period. If significant written opposition that also requested a hearing on the RAP were received during the comment period, an informal hearing might be held at a location in the vicinity of the facility at which the remediation would be conducted. Fifteen days advance notice of the hearing would have to be given. Not later than thirty days after the close of the public comment period or the conclusion of any informal hearing, whichever were later, the Director would have to inform the applicant in writing of whether the RAP satisfied the appropriate criteria. In the case of a denial, the Director must include a written statement of the reasons for denial. The Director's decision would be final Agency action for purposes of judicial review.

Major modifications and terminations of RAPs would follow the same procedures. The Director could terminate the RAP for cause at any time. A "for cause" event could include noncompliance with RAP provisions, failure of a remediation waste treatment methodology to perform as expected, or some unexpected negative impact of a treatment technology, for example.

<sup>33</sup> The exception would be non-media hazardous remediation wastes (e.g., sludges, hazardous debris) which were first land-disposed (placed) after the effective date of the applicable land disposal prohibition.



#### 5. State Authorization for the Unitary Approach

The Unitary Approach presented a proposal for State Authorization which was based on self-certification by States. EPA is not soliciting comment on this aspect of the Unitary Approach as proposed by Industry, because the Agency believes that there are statutory limitations to authorizing States by self-certification. If the Agency were to finalize the Unitary Approach, EPA would likely authorize States according to the process described in section (V)(E) of this proposal. EPA would adjust the essential elements described in that section in order to reflect the essential elements of the Unitary Approach, as opposed to today's proposed approach.

#### 6. Enforcement Authorities Under the Unitary Approach

As with the proposed approach, EPA would retain its remedial and enforcement authorities with respect to solid wastes and hazardous substances that are not hazardous wastes (e.g., section 7003 of RCRA and sections 104 and 106 of CERCLA). Furthermore, EPA would have authority to revoke a State's authorization for this program without revoking any other Subtitle C program authorization held by the State, in which case EPA would then oversee completion of any ongoing activities under RAPs previously approved by the State in question. In any instance where a remediation waste was not managed in accordance with the approved RAP an appropriate enforcement response could be initiated by the authorized State, or if the State was dilatory in that respect, by EPA. (As in the proposed approach, remediation wastes that were managed out of compliance with the RAP could lose their exemption from Subtitle C.)

#### 7. State Jurisdiction Under the Unitary Approach

Once a State has obtained authorization for this program, it would have authority to issue and oversee the contents and implementation of RAPs. Of course, that authority would extend only to management of remediation wastes within the authorized State. A State's authority with regard to RAP approval, however, would not run to wastes that would be managed in full accord with otherwise applicable hazardous waste management requirements. In other words, in the same way as in the proposed approach, if the owner or operator elected to manage hazardous wastes produced during remediation in full accord with otherwise applicable hazardous waste

management requirements, there would simply be no need to seek redundant approval for such activities by means of RAP submission.

Of course, a State's authority would not extend beyond its borders. Accordingly, if an entity managing remediation wastes wished to manage remediation wastes in a RAP in a State other than that in which the remediation would be conducted, it would be required to get approval from the other State for that portion of the RAP addressing management in that other State. If the entity managing the remediation wastes wished to manage them in accordance with the otherwise applicable hazardous waste management requirements of the other State, no RAP approval would be necessary from that State for those activities. (In this respect, the Unitary Approach is similar to today's proposed approach.)

As described above, all remediation wastes (including contaminated media, debris and non-media wastes) would be eligible for management under a RAP. Remediation waste might be defined, consistent with § 260.10, as "all solid and hazardous wastes, and all media (including groundwater, surface water, soils and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous characteristic, that are managed for the purpose of implementing cleanup. For a given facility or media remediation site, remediation wastes may originate only from within the facility or site boundary, but may include waste managed in implementing RCRA sections 3004(v) or 3008(h) for releases beyond the facility boundary." This Unitary Approach would not have a Bright Line. Nor would this approach use a contained-in theory, but rather a conditional exclusion theory for excluding remediation wastes from the definition of hazardous wastes under Subtitle C.

The Agency requests comments on the approach outlined above. In particular, the Agency requests comments on whether the Unitary Approach should be adopted as described, or whether some combination of the several approaches discussed in today's preamble would be more appropriate.

#### *B. Hybrid Approach*

The Unitary Approach (discussed above) as an alternative to today's proposed rule would use a conditional exclusion theory to exempt all remediation wastes from Subtitle C regulation (except, in some cases, LDRs).

A more limited use of a conditional exemption for the HWIR-media rule would be compatible with (i.e., would not preclude) most of today's proposed rule. There are, in fact, a variety of ways in which one might combine important features of today's proposed rule with the Unitary Approach. For example, the rule could retain a Bright Line provision to distinguish between higher-risk and lower-risk media and wastes. Under this kind of an alternative, wastes above Bright Line concentrations could remain subject to modified Subtitle C requirements, similar to the approach proposed today. Another option would be to have all above and below the Bright Line wastes and media exempt from Subtitle C, but subject to different alternative management requirements. Either way, the rule could prescribe alternative management standards that might be very similar to "base" Subtitle C standards, or to the modified LDR standards specified in the proposal for above the Bright Line media.

The Agency also notes that a conditional exclusion approach could be implemented either on a national or site-specific basis. Specifically, as is urged by industry supporting the Unitary Approach, the Agency could make a generic determination that any remediation wastes managed according to a RAP that is issued by an approved program (subject to appropriate public participation requirements) would not be considered a hazardous waste under the RCRA program. Alternatively, the rule could leave that decision up to the overseeing agency on a site-specific basis, thus requiring the regulator explicitly to make the determination that, because of the management conditions imposed, all or some part of the media and wastes at the site do not present a "hazard" and thus should not be considered "hazardous" wastes. The Agency requests comment on which approach would be appropriate for implementing an HWIR-media rule based on a conditional exclusion theory.

For purposes of illustration, one such approach could use a conditional exclusion to exempt all remediation wastes below a Bright Line from Subtitle C. (This approach is presented as the hybrid contingent management option in Table 1.) Under this approach, the rule would define a Bright Line, either as constituent concentrations, or qualitatively. Then, the rule could specify that if EPA or an authorized State determined that remediation wastes were below a Bright Line at a specific site, and site-specific management requirements were written into a RAP or RMP, then those remediation wastes would be exempt

from Subtitle C so long as they were managed in accordance with the provisions of the RAP/RMP. In this type of a HWIR-media program, LDRs would be required for remediation wastes where LDR attached. (See (V)(C)). Also, a RMP for remediation wastes that were above the Bright Line would have to be the equivalent of a RCRA permit, because those remediation wastes would be subject to Subtitle C.

This hybrid option could have several advantages over the approach proposed today. This option would not set requirements for contaminated media that are different than those for other remediation wastes, which could simplify remedy decisions at cleanup sites. Also this option would eliminate the uncertainty of whether remediation

wastes below the Bright Line would be subject to Subtitle C. The proposed approach allows the overseeing Agency to determine whether contaminated media below the Bright Line should be exempted from Subtitle C or not. Under this alternative option, remediation wastes below the Bright Line would be exempt from Subtitle C as long as they were managed in accordance with the RAP or RMP. Also, RAPs for wastes below the Bright Line could be simpler because they would not have to meet all the procedural requirements for RCRA permits.

The Agency requests comments on this alternative approach, and on other alternatives that could be adopted to exempt remediation wastes, as appropriate, from Subtitle C regulation.

In doing so, the Agency is particularly interested in comments on the key elements of an HWIR-media rule discussed in the following section.

*C. Key Elements of an HWIR-media Rule*

EPA believes that many of the key elements of the different options and alternatives presented in this proposal could be combined in different ways to construct an effective HWIR-media program. The following is a discussion of those key elements, and a table illustrating three different combinations of the key elements. This table is intended to facilitate comparison of options. EPA requests comments on the combinations of key elements as presented, or on other combinations.

TABLE 1

Key elements	Proposed option	Hybrid contingent management option	Unitary approach
Legal Theory .....	Contained-in .....	Conditional Exclusion for below the Bright Line.	Conditional Exclusion.
Scope .....	Media only .....	All remediation wastes .....	All remediation wastes.
Bright Line .....	Bright Line— $10^{-3}$ and Hazard index of 10.	Bright Line (a) (for media) same as proposal, or (b) qualitative Bright Line*.	No Bright Line.
Hazardous vs. Non-hazardous.	All media above Bright Line are subject to Subtitle C; below is site-specific decision.	All remediation wastes above Bright Line are subject to Subtitle C; below (when managed according to RAP or RMP) are not hazardous.	All remediation wastes managed according to RAP or RMP are not hazardous.
LDRs .....	LDRs required for media where LDRs attaches**	LDRs required for wastes where LDRs attaches**	LDRs required for wastes where LDRs attaches***.
Permitting .....	RMP serves as RCRA permit for media that remain subject to Subtitle C.	RMP serves as RCRA permit for wastes that are above the Bright Line; for wastes below the Bright Line, RMP does not have to serve as RCRA permit.	No requirement that RAP/RMP serve as RCRA permit, since wastes are not subject to Subtitle C.

\* See discussion of qualitative Bright Line below.

\*\* See discussion of applicability of LDRs in section (V)(C).

\*\*\* See discussion of alternative option for LDR applicability in section (VI)(A)(3).

1. Scope of the Rule (Regarding Non-media Remediation Wastes)

The proposed rule would apply only to contaminated media. Therefore, as discussed in section (V)(A)(2) of this preamble, hazardous cleanup wastes that are not media (such as sludges or other wastes that have not been mixed with soils or ground water), would only be eligible under the proposal for the limited regulatory relief provided by the provisions allowing management in remediation piles and through remediation management plans. Otherwise, these remediation wastes would be subject to existing Subtitle C requirements.

EPA recognizes that at many sites, cleanups involve excavating and managing large volumes of these non-media remediation waste materials. Therefore, the HWIR-media proposal is only a partial solution to the overall

problem of regulating cleanups under RCRA Subtitle C. The Agency recognizes that excluding non-media from the HWIR-media rule coverage would leave in place many of the Subtitle C problems that arise in the course of cleanup. This issue was the subject of much discussion during the HWIR FACA process. As discussed above, today's proposed approach for resolution of this issue is linked to the contained-in theory that is used for exempting wastes from Subtitle C jurisdiction. Since the contained-in theory only applies to media that "contain" or do not "contain" hazardous wastes, the theory cannot, by definition, be extended to non-media wastes. These wastes are regulated under Subtitle C not because they "contain" hazardous wastes, but because they are hazardous wastes.

A conditional exclusion approach, like the Unitary Approach discussed

above, would not make a distinction between media and non-media remediation wastes. All remediation wastes would be eligible for relief.

Because "pure" remediation wastes (i.e., those that have not been mixed with environmental media) are often similar—if not identical to—the "as generated" wastes for which the land disposal restrictions and other Subtitle C requirements were originally created, it has been argued that existing LDR and other requirements are more appropriate for management of these wastes than the HWIR-media requirements. To address this concern for the more concentrated wastes, the Agency could retain the concept of the Bright Line, for example, but determine that all remediation wastes above the Bright Line would be subject to the current national Subtitle C LDR standards, and all remediation wastes below the Bright Line would be eligible for a "conditional exclusion"

from Subtitle C requirements under a site-specific RAP or RMP. This alternative would be identical to today's proposed approach, except that it would include non-media remediation wastes, and rely on a conditional exclusion theory (see discussion below) to exclude wastes below the Bright Line from Subtitle C as opposed to the contained-in theory. The Agency requests comments on this and any other alternative approaches for the scope of today's proposed rule.

Commenters should also review section (V)(A)(2) of today's preamble and § 269.2 of today's proposed rule for a further discussion of the scope of the proposal, including a discussion of whether and how contaminated debris should be included in the rule.

## 2. The Bright Line

The Bright Line concept originated as a compromise between those on the FACA Committee who favored setting uniform national standards for most, if not all, contaminated media, and those who favored a large degree of site-specific flexibility in the rule. In essence, the Bright Line serves to provide certainty that higher-risk media (if they are land disposed) would be treated to established national standards, while overseeing agencies would have considerable discretion in prescribing management standards for lower-risk media. This is conceptually similar to the "principal threat" concept that has been used in the Superfund program for several years ("A Guide to Principal Threat and Low Level Threat Wastes" EPA/Superfund Publication: 9380.3-06FS (November 1991) and 40 CFR 300.430(a)).

In any case, distinguishing between higher- and lower-risk remediation wastes, and ensuring that the higher-risk wastes are handled according to certain minimum standards, has a number of positive aspects that are consistent with established Agency policies. However, reaching consensus on exactly how to calculate Bright Line concentrations is a considerable challenge. The Bright Line concept has something of a "philosophical lightning rod" among the various stakeholders.

The Agency has proposed one method of calculating the Bright Line, but has analyzed three alternative methods for calculating the Bright Line in the "Economic Assessment." The Agency used the Soil Screening Levels (SSLs) from Superfund as the basis for calculating the proposed Bright Line. The SSLs are set using a residential exposure scenario. The Agency has already received comments from stakeholders that the residential

exposure setting is not an appropriate basis for calculating the Bright Line at many remediation sites. The Agency acknowledges that, by using certain exposure assumptions in determining the Bright Line, especially residential exposure assumptions, the actual risks posed by remediation wastes at the site could be, in some circumstances, significantly lower than the  $10^{-3}$  implied by the Bright Line. However, as discussed in section (V)(A)(4) the Bright Line is not intended to be an indication of actual risk, but is intended to reflect relative risks. Nonetheless, it is possible that setting the Bright Line in this way could lead to confusion, for example, in communicating to the public the actual risks posed by the site, and other similar problems. The  $10^{-3}$  level is used to determine which wastes would typically receive stringent oversight, including treatment according to national treatment standards, but it does not reflect actual risks at actual sites. An alternative approach would be to use industrial land use assumptions in setting Bright Line levels. At this time, however, EPA does not believe that there is enough consensus around a methodology for non-residential exposure scenarios (e.g., industrial exposure scenarios) that could be used as the basis for a national rulemaking. The Agency requests suggestions of widely accepted methodologies for determining non-residential exposure scenarios (e.g., industrial exposure scenarios). The Agency also requests comments on whether the Bright Line should be based on different exposure scenarios (e.g., industrial). If so, how should the appropriate scenarios for a site be determined? How should the methodology for assessing alternative exposure scenarios be developed or used? Finally, the Agency has received comments from stakeholders that  $10^{-3}$  may be too high of a risk for the Bright Line. The Agency requests comments on using alternative risk levels (such as  $10^{-4}$ ) to set the Bright Line.

The Agency also requests comment on the alternative of setting a qualitative Bright Line. The rule could describe qualitatively what should constitute "above the Bright Line" wastes and "below the Bright Line wastes." The overseeing agency approving the RMP or RAP could determine for each specific site whether wastes were above or below the Bright Line, and specify that in the RMP or RAP. For example, the rule could define "above the Bright Line wastes" as wastes that have unusually high concentrations compared to the rest of the remediation waste at the site, or wastes that are

highly mobile, or highly toxic. If the overseeing agency evaluated those criteria and determined that remediation wastes at that site met those criteria, then those wastes would be required to be managed as "above the Bright Line wastes." The Agency requests comments on the merits of promulgating a qualitative Bright Line.

The combination of the Bright Line with the contained-in principle was of particular concern to the States. Although the Bright Line (as originally designed by the HWIR FACA Committee) was supposed to be a "bright," clear distinction between media regulated under national standards and media subject to site-specific requirements, the Agency (at the request of the States), decided to propose the Bright Line not as an automatic contained-in concentration, but as an upper limit (or "ceiling") for contained-in determinations.

The Agency requests comments on whether the Bright Line concept should be retained, or whether all contaminated media (or all remediation wastes) should be subject to the same set of standards.

## 3. RAPs, RMPs, and RCRA Permits

The final key element of an HWIR-media program is whether the RAP or RMP must serve as a RCRA permit. Substantively, RAPs (discussed under the Unitary Approach) and RMPs (discussed under the proposed approach) serve the same purpose, but they differ in certain procedural respects. Under the proposed approach, some contaminated media and remediation wastes managed under RMPs would remain subject to Subtitle C. In those cases, RMPs must serve as RCRA permits for those wastes and media. Because all remediation wastes managed under RAPs under the Unitary Approach would be exempt from Subtitle C, RAPs need not serve as RCRA permits. Therefore, RMPs are proposed as meeting the minimum statutory requirements for public participation for RCRA permits, while RAPs are discussed as requiring even more simplified public participation requirements. Although neither the proposed approach nor the Unitary Approach propose to require it, it is EPA's expectation that in cases of extensive cleanups or significant on-site treatment, public participation procedures under either option would be more extensive than the statutory minimum. At the same time, the RAP approach would allow simplified procedures for routine responses (for example, removals) involving low concentration wastes.

#### 4. Request for Comments

EPA requests comments on all of these key elements of an HWIR-media rule. EPA also requests comments on different combinations of these elements, including, but not limited to, the combinations discussed in this proposal as the proposed approach, the Unitary approach and the hybrid option.

#### VII. Effective Date of Final HWIR-Media Rule

Regulations promulgated pursuant to RCRA Subtitle C generally become effective six months after promulgation. RCRA section 3010 provides, however, for an earlier, or immediate, effective date in three circumstances: (1) Where the industry regulated by the rule at issue does not need six months to come into compliance; (2) the regulation is in response to an emergency situation; or (3) for other good cause.

Most of the rule proposed today would become effective within six months after promulgation. EPA is proposing, however, to make the CAMU rule withdrawal and "grandfathering" provisions, discussed in section (V)(F) above, effective upon publication. The basis for this decision is that the Agency does not believe that the regulated community requires six months to come into compliance with the CAMU withdrawal. Since all CAMUs approved at the time of publication of the final rule are "grandfathered," withdrawal of the rule would not require any action on the part of those with approved CAMUs.

The Agency requests comments on whether it would be appropriate to make the CAMU withdrawal immediately effective.

#### VIII. Regulatory Requirements

##### A. Assessment of Potential Costs and Benefits

##### 1. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether this regulatory action is "significant." Significant regulatory actions must be assessed in detail and are subject to full OMB review under Executive Order 12866 requirements. The order defines "significant regulatory action" as one that is likely to result in a rule that may:

(a) Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(b) Create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency;

(c) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or

(d) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The Agency has determined that today's proposed rule is a "significant regulatory action" under part (a) and possibly part (d) above. These parts are discussed fully in Executive Order 12866. This proposed rulemaking action is subject to full OMB review under the requirements of the Executive Order. The Agency has prepared an "Economic Assessment of the Proposed Hazardous Waste Identification Rule for Contaminated Media," in support of today's action. A summary of this assessment is presented under section 4 below.

##### 2. Background

As discussed in section (V)(A)(4)(a) of this preamble, the Agency has determined that media which "contain" hazardous waste must be managed as hazardous waste until they no longer contain such waste. Under this approach, EPA Regions and authorized States determine, on a case-by-case basis, what media "contain" hazardous waste, and therefore must be managed as hazardous waste.

RCRA Subtitle C regulatory requirements may be applied to contaminated media generated during several different types of site cleanups, including CERCLA remedial actions, State Superfund actions, RCRA corrective actions, RCRA closures, and voluntary cleanups. If contaminated media containing hazardous wastes are excavated in the process of site cleanup, they are required to be managed according to RCRA Subtitle C standards. These stringent requirements for excavated media, which often contain low levels of hazardous waste, have resulted in site cleanup decisions that effectively leave in place large volumes of contaminated media. As discussed in section (II)(A), EPA and the States have recognized that there are fundamental differences in the incentives and objectives for prevention-orientated versus cleanup-orientated waste management programs. Today's proposal seeks to alleviate many of the disincentives currently associated with the application of traditional RCRA Subtitle C requirements to cleanup programs.

##### 3. Need for Regulation

Traditional RCRA Subtitle C management requirements for all excavated media containing any level of hazardous waste have resulted in less than optimal resource allocation. From a social perspective, too many resources are required to be devoted to the management of very low-risk media. This misallocation restricts availability of limited resources for use in other investments, including effective management of high-risk media and wastes. In addition, this disconnect between risk and management requirements creates disincentives for cleanup, impedes ongoing cleanup processes, and restricts the protective cleanup options available for consideration by the stakeholders. These unanticipated market distortions resulting from traditional RCRA Subtitle C management requirements for all excavated media containing any level of hazardous waste has convinced the Agency that reform is necessary. Through many discussions with stakeholders, particularly State and Federal cleanup programs, the Agency has determined that such reforms should provide meaningful regulatory structure and guidance designed to ensure safe management while, at the same time, providing site-specific flexibility that will help facilitate accelerated cleanups around the country. Particularly, as this proposal was designed specifically for the cleanup scenario, EPA believes that it will be better suited to the situations encountered at typical cleanup sites than some of the current regulations which are more appropriate for as-generated wastes. Specifically, EPA believes that reforms presented in today's proposal will facilitate more timely and less costly cleanups while maintaining protection of human health and the environment.

##### 4. Assessment of Potential Costs and Benefits

The Agency has prepared an "Economic Assessment" to accompany today's proposed rulemaking. This "Economic Assessment" has been submitted to the Office of Management and Budget in accordance with Executive Order 12866.

*a. Description of the HWIR-media proposal.* HWIR-media will address an important limitation of the current RCRA Subtitle C program. The Subtitle C regulatory framework was designed primarily to ensure the safe cradle-to-grave management of currently generated hazardous wastes. Furthermore, the Subtitle C program

seeks to prevent releases, minimize generation, and maximize the legitimate reuse and recycling of hazardous waste. Subtitle C regulations contain detailed procedural and substantive management requirements that, when applied to the cleanup of contaminated media, often create incentives to leave this material in place or to select remedies that otherwise minimize the applicability of RCRA regulations. In addition, the level of regulation is not always commensurate with the risks posed by contaminated media. For example, media having very low levels of contamination are often regulated as hazardous waste under RCRA Subtitle C as a result of the contained-in policy.

The proposed rule would revise existing RCRA Subtitle C regulations by creating a new decision process for identifying and managing contaminated media. Under this framework, a set of hazardous constituent concentration levels would constitute a "Bright Line" for separating higher and lower levels of contaminated media. One Bright Line is proposed for soil and a second Bright Line for ground water and surface water.

The proposed rule does not include a Bright Line for sediments; instead, site-specific decisions alone would determine whether sediment contains hazardous waste. Media that contain levels of contamination above the Bright Line would be managed as "hazardous contaminated media" under revised Subtitle C standards. Contaminated media with all constituent concentrations below the Bright Line would be eligible for a determination by the EPA, or authorized State agency overseeing the cleanup, that the media do not contain hazardous waste.

Today's proposal would also replace and withdraw the requirements for Corrective Action Management Units (CAMUs), simplify the state authorization procedures for RCRA program revisions, and streamline the permitting requirements for management of all types of remediation waste. Furthermore, the proposal would exempt from RCRA Subtitle C, dredged material permitted under the Clean Water Act or the Marine Protection, Research and Sanctuaries Act (MPRSA).

*b. HWIR-media options analyzed.* Executive Order 12866 requires and assessment of reasonably feasible alternatives to the proposed regulatory option. The Agency analyzed several options for this "Economic Assessment." These options vary in two dimensions:

(i) *types of remediation waste* eligible for exclusion from Subtitle C.<sup>34</sup> The options include either:

- Contaminated media only (soils, non-navigational sediments, ground water, surface water), or
- All remediation waste (the above contaminated media plus old waste and debris); and

(ii) *partial or complete exclusion* of such wastes from Subtitle C. The options include potential exclusion from Subtitle C regulation of either:

- Media with all constituent concentrations below a proposed Bright Line, or
- All media, regardless of the extent of contamination.

The primary options analyzed are identified in Exhibit A below.

EXHIBIT A.—PRIMARY OPTIONS ANALYZED

Remediation wastes eligible for exclusion	Levels of contamination potentially excluded from subtitle C regulation	
	Lower risk (bright line)*	Lower and higher risk (No bright line)
Contaminated Media Only .....	Proposed Bright Line Option (Proposed Rule).	Conditional Exemption Option.
All Remediation Waste .....	Expanded Bright Line Option .....	Expanded Conditional Exemption Option** (Unitary Approach).

\* Three other Bright Line options were examined applying alternative Bright Line concentrations. These findings are present in the Appendix to the full Economic Assessment, located in the RCRA Docket materials for this Action.

\*\* This option is similar to the "Unitary Approach" proposed by industry.

NOTE: The Proposed Option contains no Bright Line for sediments. Only site-specific determination is proposed for the cleanup of contaminated sediments.

The Bright Line for contaminated soil under the proposed and expanded Bright Line options is defined for approximately one hundred hazardous constituents for which EPA has calculated Soil Screening Levels (SSLs). These SSLs are based on potential human health risk and were developed using risk equations and exposure assumptions specified in EPA's "Risk Assessment Guidance for Superfund (RAGS)." A lifetime cancer risk of 10<sup>-6</sup> for carcinogens and a hazard quotient of one for non-carcinogens was applied to determine the Soil Screening Levels (SSLs). The HWIR-media soil Bright

Line levels were derived from the inhalation and ingestion pathways of the SSLs, and correspond to an excess lifetime cancer risk of 10<sup>-3</sup> for carcinogens and a hazard quotient of 10.

The levels from the inhalation and ingestion pathways from the Superfund SSLs are multiplied by 10 if the constituent is a non-carcinogen, and by 1,000 if the constituent is a carcinogen to achieve the target risk levels (referred to as the "risk adjustment"). The Bright Line concentration is the lower of the risk-adjusted inhalation or soil ingestion-based levels. All Bright Line levels are capped at 10,000 ppm and the

lead Bright Line is set at 4,000 ppm. The Conditional Exemption Options (base and expanded) do not rely on Bright Line constituent contamination levels. All contaminated media or all remediation waste would be exempt from RCRA Subtitle C under these options. Rather than using the Bright Line to determine management regimes, site-specific Remediation Management Plans would specify the management standards.

The Agency examined three alternative Bright Lines for the "Economic Assessment." The findings are presented in Appendix C to the full

<sup>34</sup> Although, throughout this analysis, the Agency characterizes media determined to no longer contain, or wastes no longer considered hazardous, to be excluded or otherwise not subject to RCRA Subtitle C, as discussed in section (V)(C) of this Preamble, those wastes may nevertheless continue to be subject to LDRs.

“Economic Assessment,” which is located in the docket for this action. The Bright Line for Alternative One (1) matches the proposed Bright Line but includes ground water leachate as an additional exposure pathway. The Alternative Two (2) Bright Line is based upon a compilation of the most stringent levels combining numbers from the Multipathway Analysis, constituent-specific ground water levels, and Exemption Quantitation Criteria (EQCs) for constituents without adequate analytical methods, or for which exit levels are below detection. The Alternative Three (3) Bright Line multiplies Soil Screening Levels for both carcinogens and non-carcinogens by 1,000, corresponding to a  $10^{-3}$  cancer risk and a hazard quotient of 1,000, respectively. Appendix A of the full “Economic Assessment” provides the Bright Line levels for each constituent for the proposed Bright Line and the three alternative Bright Lines. Appendix C of the “Economic Assessment” discusses the findings for Alternatives 1, 2, and 3.

*c. Data sources and methodology.* The “Economic Assessment” of this proposed action analyzes the impact of HWIR-media options on the following types of remediation wastes: soils, sediments, ground water, old waste, and debris. Soils, sediments, and ground water are analyzed under the contaminated media only options (see Exhibit A), while old waste and debris are included under the all remediation waste options. Sludges at remediation sites frequently are found to be mixed with soil and sediment. These sludges are generally inseparable and occasionally indistinguishable from their host media. Such mixtures are included in the soil volumes analyzed under all options. Sludges were also found to be occasionally classified as old waste. Sludges identified in this manner are included in the old waste volumes examined under the all remediation waste options. The vast majority of media-like sludges, however, are believed to be generated from operating Subtitle C and Subtitle D surface impoundments and managed as hazardous waste. A sensitivity analysis presented in the Economic Assessment examines potential cost savings of applying the proposed Bright Line to sludges from these facilities. Data and analytical limitations have prevented an analysis of surface water impacts under the HWIR-media options.

The “Economic Assessment” projects a full range of potential cost savings from HWIR-media options; it does not attempt to estimate the actual cost savings. EPA used this approach

because of the substantial uncertainties affecting the implementation of HWIR-media, including (1) the extent of State adoption of the rule; (2) the impact of the existing corrective action management unit (CAMU) rule, which has been disrupted by litigation; and (3) the extent of voluntary use of the HWIR-media flexibility by remediation decision-makers. To simplify the analysis, the Economic Assessment first estimates high-end potential cost savings by assuming that (1) all States quickly adopt HWIR-media; (2) the CAMU rule is ineffective; and (3) less expensive management methods are chosen when available under HWIR-media. Sensitivity analyses are then developed that address the impacts of these assumptions, resulting in a broad range of potential economic impacts. The Agency recognizes that HWIR-media may stimulate a certain degree of accelerated cleanup activity and corresponding cost impacts immediately following promulgation but has not developed a sensitivity analysis for this potential scenario.

For soil and sediment, EPA’s analysis of potential cost savings of HWIR-media was conducted in six steps: (1) Develop an HWIR-media database of a sample of CERCLA remedial action and RCRA corrective action contaminated soil and sediment sites, detailing the amount of contaminated soil and sediment at each site and the maximum concentration of each hazardous constituent in each volume; (2) develop a basis for predicting the management technologies and costs for each site in the database under both the baseline and the HWIR-media options; (3) project the methods and costs of managing contaminated soil and sediment under the baseline of current Subtitle C requirements for the sample of sites in the HWIR-media database; (4) project the methods and costs of managing soil and sediment under the HWIR-media options for the sites in the database; (5) estimate the annual volume of soil and sediment to be remediated at all CERCLA remedial action, RCRA corrective action, RCRA closure, State superfund, and voluntary cleanup sites; and (6) estimate potential high-end aggregate cost savings by multiplying the changes in weighted average management costs under Steps 3 and 4 by the annual volumes from Step 5.

The Agency compiled a soil and sediment database using available data reported in CERCLA Records of Decision (RODs) signed in Federal fiscal years 1989 through 1993, the Corrective Action Regulatory Impact Analysis, and supporting research. Management methods were assigned to particular

volumes of contaminated soil and sediment in the HWIR-media database based on the type of hazardous constituents in the contaminated media, the concentration of these hazardous constituents, and the volume to be remediated. The baseline and HWIR-media contaminated soil and sediment volumes reflect the amount of contaminated media planned to be managed at cleanup sites under current regulations. This analysis assumes a baseline site characterization cost that remains unchanged under HWIR-media. Beyond this, the HWIR-media analysis assumes that the unit or general area of contamination initially identified as containing constituents above the Bright Line will incur the cost of additional sampling and analysis costs. This is necessary to refine estimates of “hot spot” volumes and to distinguish between volumes above and below the Bright Line at specific sites. These incremental sampling and analysis costs are estimated at two dollars per ton for all soils and sediments. Volumes below the Bright Line will not incur these new costs. The Agency has not estimated the difference in implementation costs between the Bright Line and Expanded Bright Line options. The Expanded Bright Line option may result in lower incremental implementation costs because it avoids the need to separately characterize and manage contaminated media and other remedial wastes that are mixed together. Additional sampling and analysis costs are not incurred for volume partitioning under the no Bright Line option.

The media volume and cost estimates developed in Steps 1 through 4 above apply to a sample of RCRA and CERCLA facilities included in the HWIR-media database. The HWIR-media proposal, as written, will affect additional soil and sediment volumes from other actions, including RCRA closures, State Superfund sites, and voluntary cleanups. The baseline rate of contaminated soil and sediment generation for all potentially affected actions is estimated at 8.1 million tons annually for the period from 1996 through 2000. The results of the HWIR-media database analysis for the sample of sites were used to determine the fraction of annual contaminated soil and sediment volumes above and below the Bright Line and corresponding net cost impacts.

The methodology used to estimate ground water volumes, costs, and cost savings differs from the methodology for contaminated soil and sediment because of the lack of site-specific data on volumes of contaminated ground water. The ground water analysis used data on

the hazardous constituents present at actual CERCLA ground water cleanup sites (contained in the HWIR-media database) combined with randomly generated ground water volume estimates that reflect the national distribution of contaminated ground water plume volumes. Cleanup cost data were based on an analysis using a modified version of EPA's Cost of Remedial Action (CORA) Model. For estimating potential ground water cleanup cost savings under HWIR-media, EPA developed a methodology consisting of two major components: (1) A Monte Carlo simulation that generates hypothetical sites and estimates cleanup volumes associated with different target contaminant concentrations; and (2) a costing component based on EPA's CORA Model.

For the analyses conducted under the "expanded" options, old waste is defined as waste generated prior to the enactment of RCRA. The nationwide baseline volume generation of old waste under both RCRA and CERCLA is estimated at 1.8 million tons annually. This volume was estimated based on a comparison of the results of RCRA Corrective Action RIA analysis, HWIR-database results for RCRA soil, and database results for old waste at RCRA sites. Experts indicate that management methods for old wastes are typically

similar to those for contaminated soil. Cost savings from HWIR-media, therefore, are estimated by applying the approach used for contaminated soils. Only the expanded options, which incorporate all remediation wastes into the HWIR-media analysis, address old waste.

The expanded options, which incorporate all remediation waste, also address hazardous debris. EPA gathered information on the current and projected management of hazardous debris from past regulatory and cost impact analyses, supplemented by expert opinion and best professional judgment. Total baseline contaminated debris generation is estimated at 0.36 million tons annually. The cost and economic impact analysis prepared for the Phase I Land Disposal Restrictions (LDR) rule for hazardous debris provided information on the amount of debris generated from cleanup activities, technologies used to manage the debris, and the projected average cost of treating debris under the baseline. EPA contacted several industry experts to discuss potential management practices under HWIR-media. The Agency also used the Corrective Action RIA for costs of Subtitle C and on-site disposal units, while the Subtitle D cost was derived from published sources.

*d. Findings.* This section presents the key findings of the "Economic Assessment." The volumes of remediation wastes affected and associated net cost savings for the proposed option are presented. Findings for the primary alternatives are also presented. In addition, this section briefly summarizes key sensitivity analyses, non-monetary effects (both positive and negative), and industry impacts.

*i. Volume Impacts and Cost Savings Proposed and Expanded Bright Line Options.* Exhibit B identifies the portion of remediation waste that is estimated to be above and below the Proposed Bright Line Option (Proposed Rule) and the Expanded Bright Line Option. Ground water is excluded from this summary because the volume of ground water treated under the baseline and under HWIR-media is a function of the treatment duration required to achieve target constituent concentrations. Therefore, the total volume of contaminated ground water cannot be simply divided into volumes above and below the HWIR-media Bright Line. The Agency, however, estimates that only about 5 percent of CERCLA ground water sites contaminated with HWIR-media constituents have constituent concentrations that are all below the Bright Line.

EXHIBIT B.—REMEDIATION WASTES ABOVE AND BELOW THE PROPOSED AND EXPANDED BRIGHT LINE OPTIONS  
[Million tons per year]

Media type	Baseline	Above bright line		Below bright line	
		Volume	Percent	Volume	Percent
Soil—CERCLA, State, and Voluntary .....	3.08	1.23	40	1.85	60
Soil—RCRA .....	4.56	0.46	10	4.10	90
Sediment—CERCLA .....	0.14	0.04	25	0.10	75
Sediment—RCRA .....	0.32	0.03	10	0.29	90
Proposed Bright Line Option .....	8.10	1.76	22	6.34	78
Old Waste—CERCLA .....	0.65	0.24	37	0.41	63
Old Waste—RCRA .....	1.14	0.42	37	0.72	63
Debris .....	0.36				
Expanded Bright Line Option .....	10.25	2.42	24	7.47	76

NOTE: The above and below bright line estimates exclude debris. Representative constituent concentration data for debris were unavailable.

The total annual volume of soil and sediment subject to RCRA Subtitle C jurisdiction may decline by up to 78 percent under the proposed option. Subtitle C volume under the proposed option drops from the baseline of 8.10 million tons to 1.76 million tons annually. The addition of old waste and debris under the expanded Bright Line option increases the total annual Subtitle C baseline volume to 10.25 million tons annually, an increase of 27 percent. The total volume eligible for exclusion from Subtitle C increases 18

percent, going from 6.34 million tons to 7.47 million tons annually.

The potential reduction in the volume of remediation waste managed under Subtitle C is the major reason for the cost savings of the Proposed HWIR-media Rule. Management procedures for remediation wastes below the Bright Line are substantially less costly due to less stringent requirements. In addition, treatment requirements for volumes above the Bright Line are modified, resulting in additional cost savings. The "Economic Assessment" estimates that

about 84 percent of the potential cost savings of the proposed rule are from volumes below the Bright Line; the remaining savings are from volumes above the Bright Line.

Exhibit C presents point estimates for high-end total cost savings potentially resulting from the HWIR-media Proposal. These estimates are presented by remediation waste type, for the Proposed and the Expanded Bright Line Options. The potential high-end aggregate nationwide cost savings under the Proposed Bright Line Option are

estimated at \$1.2 billion, annually. This estimate is derived from an annual baseline management cost estimate of \$2.4 billion, covering soil, sediment, and groundwater. Most of the savings under the proposed option, \$1.1 billion, result from reduced RCRA and CERCLA soil management costs. The Expanded Bright Line Option has a baseline management cost estimate of \$3.2

billion, annually. The management costs under this HWIR-media option are reduced to \$1.6 billion, resulting in net cost savings of approximately \$1.6 billion per year. All estimated cost savings are net of implementation costs for the affected volumes, as discussed under section (4)(c) above. Actual nationwide cost savings may be significantly less than high-end

estimates presented here. As noted earlier, several factors may contribute to reduced savings, including: the extent of State adoption, the impact of existing CAMU rule, and the extent to which remediation decision-makers adopt the less expensive media management technologies available under HWIR-media.

EXHIBIT C.—ESTIMATED HIGH-END COST SAVINGS UNDER THE PROPOSED AND EXPANDED BRIGHT LINE OPTIONS

Media type	Annual total cost		Net annual cost savings
	Baseline	HWIR-media options	
<b>Million Dollars</b>			
Soil—CERCLA, State, and Voluntary .....	1,152	522	630 (55%)
Soil—RCRA .....	670	251	419 (63%)
Sediment—CERCLA .....	47	19	28 (63%)
Sediment—RCRA .....	52	22	30 (57%)
Ground Water—CERCLA .....	223	169	54 (24%)
Ground Water—RCRA Corrective Action .....	281	213	68 (24%)
Proposed Bright Line Option .....	2,425	1,196	1,229 (51%)
Old Waste—CERCLA .....	165	85	80 (49%)
Old Waste—RCRA .....	290	149	141 (49%)
Debris .....	294	203	91 (31%)
Expanded Bright Line Option .....	3,174	1,633	<sup>35</sup> 1,541 (49%)

<sup>35</sup> Inclusion of sludges increases this total to \$1,732 million annually.

*Conditional Exemption and Expanded Conditional Exemption (no Bright Line) Options.* Volume impacts and potential net cost savings under the Conditional Exemption Options are difficult to estimate because these options do not establish specific Bright Line levels for contaminant concentrations, or any minimum treatment standards. Instead, the management of contaminated media (Conditional Exemption) or contaminated media and other remediation wastes (Expanded Conditional Exemption) would be determined by individual States or oversight agencies based on site-specific cleanup plans. Because of the lack of cleanup management standards or detailed guidance, States or oversight authorities may continue to follow current standards and cleanup decisions may be delayed or continue to be delayed. Thus, the conditional exemption options, despite increased flexibility, may actually achieve fewer cost savings than the Proposed Bright Line Option in the near term.

Over time, however, States are likely to develop their own explicit standards and guidelines for cleanup decisions that may be roughly equivalent to the Bright Line scenario. Conversations with various State officials have indicated that contaminated media containing concentrations close to the

proposed Bright Line levels would likely be managed as if it were above the Bright Line. Eventually, therefore, State standards may likely be set similar to the proposed Bright Line levels. This would result in similar cost savings for the Conditional Exemption Options, over the longer term. The Conditional Exemption Options do, however, allow more management flexibility than the Bright Line Options. The Agency is not able to predict how various factors will affect State selection of cleanup remedies under the Conditional Exemption Options. EPA, therefore, has no basis to believe that, over the long term, cost savings under the Conditional Exemption Options are likely to be significantly different compared to the Bright Line Options.

ii. Sensitivity analyses. The “Economic Assessment” contains several sensitivity analyses, including analyses of three major analytical assumptions used to develop the baseline:

- all States quickly adopt and implement the HWIR-media Proposal;
- corrective action management units (CAMUs) and temporary units (TUs) are not used at any cleanup sites; and
- cleanup waste containing only a hazardous characteristic, in addition to media contaminated with listed hazardous wastes, are affected by HWIR-media.

The Agency has also developed a table designed to illustrate the distinctions between the baseline and corresponding management costs and cost savings under alternative policy options and implementation scenarios. This table is presented under “Other Sensitivity Analyses” at the end of this section.

*State adoption.* The options analyses presented above assume all States adopt, receive EPA authorization, and implement HWIR-media upon promulgation of the Final Rule. This scenario may not be completely realistic. Some States may not develop HWIR-media programs. Furthermore, programs that are developed are not likely to become effective immediately after the final rule is promulgated. These State programs will likely receive EPA authorization over a few years. In addition, States that do not adopt HWIR-media may influence program development and cleanup decisions in other States because of such factors as industry pressures, local or regional environmental issues, or public concerns and perceptions.

California, Illinois, New Jersey, New York, and Pennsylvania are the major generators of contaminated media in the United States. These States, combined, generate roughly 35 percent of the total annual volume of contaminated media managed ex-situ in the nation. These



States may be more likely to develop HWIR-media programs than other States for several reasons. For example, generators located in these States may be large potential beneficiaries from the rule. In addition, these States are likely to have larger and better developed cleanup programs and resources, allowing for protective site-specific cleanup decisions, and oversight. If only these States adopt HWIR-media, total annual cost savings may be reduced by approximately 60 to 70 percent. This assumes the remediation waste types and contaminants in these States are representative of the national total.

Another method for estimating the potential impacts of State adoption is a phased-in approach. Previous Agency-State interaction experience under RCRA indicates roughly 33 percent of the impacts of HWIR-media may begin accruing within one year after promulgation, 67 percent after two years, and 100 percent after three years. Total cost savings under HWIR-media may correspond to such a phased-in scenario.

*Corrective Action Management Units (CAMUs).* On February 16, 1993, the Agency published final regulations for corrective action management units (CAMUs) and temporary units (TUs). Under this action, placement of remediation wastes in an approved CAMU would not trigger land disposal restriction (LDR) requirements or minimum technology requirements (MTRs). Critics of this action brought suit against the Agency, challenging both the legal and policy basis for the CAMU Rule. The Agency has agreed to reexamine the CAMU regulations in the context of HWIR-media. Because of the litigation, the resulting limited use of CAMUs and the likely CAMU phase-out, the HWIR-media analysis assumed that CAMUs do not, and have never existed. Some CAMUs, however, currently exist and are grandfathered into the HWIR-media proposal. The Agency has conducted a sensitivity analysis, assuming the final "expanded" CAMU is effective in the baseline, in an effort to analyze the potential maximum impact of the CAMU provision.

There are some differences in the types of benefits achieved by CAMU and HWIR-media rules. This analysis assumes that the two rules achieve similar benefits for contaminated soils and sediments. The Agency's analysis in support of the final expanded CAMU Rule ("Regulatory Impact Analysis of the Final Rulemaking on Corrective Action Management Units and Temporary Units," Office of Solid Waste, U.S. EPA, January 11, 1993) estimated that the rule would reduce the

volume of contaminated soil and sediment subject to LDR standards by 57 percent for CERCLA volumes and 72 percent for RCRA volumes. Based on these percentages, the Agency estimates that potential soil and sediment cost savings HWIR-media would decline by approximately \$640 million or 52 percent if the final "expanded" CAMU rule was fully effective.

*Listed versus characteristic contaminated media.* The proposed rule does not distinguish between media contaminated with listed hazardous wastes, and media that must be managed as hazardous waste because it exhibits a characteristic. In both cases, the concentration levels of individual hazardous constituents in the media determine how the media will be regulated under HWIR-media. Early HWIR-media discussions focused only on media contaminated with listed hazardous waste. A sensitivity analysis was conducted for CERCLA and RCRA contaminated soil volumes. This analysis indicates the potential net savings from the Proposed Bright Line Option may be reduced by up to 10 percent if characteristic only media volumes were removed from HWIR-media consideration.

*Other sensitivity analyses.* Previous sensitivity analyses independently examined potential impacts on cost savings associated with limited state adoption, fully effective expanded CAMU, and characteristic contaminated media. This discussion compares the effects of limited state adoption, CAMU impacts under alternative implementation scenarios, and extends the analysis to the expanded Bright Line and no Bright Line (Unitary Approach) option. The purpose of this discussion is to present a direct comparison of impacts potentially associated with alternative policy options and implementation scenarios relevant to CAMU and HWIR-media.

The HWIR-media analysis is difficult to compare to the CAMU cost savings analysis. There is wide variation in assumptions related to baseline treatments, affected facilities, remediation waste types and volumes, and the projected remediation time frame for each analysis. The relationship between CAMU and alternative HWIR-media options presented in this section should be considered for general comparative purposes only.

Limited implementation of HWIR-media, as defined in this analysis, assumes HWIR-media adoption by the five states listed above. Limited implementation of CAMUs implies that only grand fathered CAMUs will

operate. Aggressive implementation assumes 100 percent state adoption of HWIR-media and the final "expanded" CAMU rule. Total annual baseline management costs for HWIR-media affected remediation wastes, assuming full LDR compliance, are estimated at \$3.52 billion (Exhibit D). This estimate covers RCRA and CERCLA soils and sediments, groundwater, old waste, debris, and sludges. Aggressive implementation of the expanded CAMU rule, covering all remediated waste except groundwater, would reduce this estimate to \$2.67 billion, resulting in annual cost savings of approximately \$0.84 billion. These savings were estimated to range from \$1.20 to \$2.00 billion in the January 11, 1993 Regulatory Impact Analysis for CAMU. A significant reduction in the level of incineration applied in the baseline accounts for the majority of this difference. Furthermore, CAMU assumed accelerated clean-up (remediation) levels in the years immediately following rule promulgation. Data available to the Agency since completion of the CAMU analysis in 1993 have proven both of these factors to be significantly overestimated. Cost savings attributable to only the current in-place (grand fathered) CAMUs are estimated at \$0.04 billion annually.

The HWIR-media proposal and options reflect annual aggregate cost savings above and beyond the revised estimate for expanded CAMU. Aggressive implementation of the HWIR-media proposal, without CAMU consideration, is estimated to result in high-end cost savings of \$1.23 billion beyond the baseline for soils, sediments, and groundwater. These savings are reduced to approximately \$0.43 billion under the limited implementation scenario. Annual cost savings with the inclusion of old waste, debris, and sludges under the Expanded Bright Line and Unitary options may range anywhere from \$0.61 to \$2.07 billion, depending upon the option and extent of state adoption.

The Agency also examined the potential aggregate cost savings assuming both promulgation of HWIR-media, and retaining the expanded CAMU rule. Annual cost savings assuming full state adoption increase by approximately \$0.59 billion beyond the HWIR-media proposal without CAMU. These incremental savings are derived from the inclusion of additional facilities previously unaffected by CAMU, plus an expanded media scope covering soils, sediments, and groundwater. With limited state adoption of HWIR-media, savings

increase by about \$0.04 billion annually, derived only from groundwater. While not presented in Exhibit D, full implementation of the HWIR-media Unitary Approach option was found to provide no incremental savings beyond the expanded CAMU rule. The extent of implementation of

both CAMU and HWIR-media has a significant impact on incremental and aggregate cost savings. Aggressive implementation of the HWIR-media proposal, combined with the final "expanded" CAMU, results in aggregate annual cost savings of \$1.44 billion, or approximately 17 percent beyond the

HWIR-media only scenario. Aggregate savings, while significantly lower overall, increase from \$0.43 to \$0.88 billion when the HWIR-media limited implementation scenario is combined with the final "expanded" CAMU.

**EXHIBIT D.—ESTIMATED REMEDIATION WASTE MANAGEMENT COSTS UNDER ALTERNATIVE POLICY OPTIONS AND IMPLEMENTATION SCENARIOS**

Remediation waste baseline and policy option	Implementation Scenario			
	Aggressive Implementation		Limited Implementation	
	Remediation waste management costs	Cost savings	Remediation waste management costs	Cost savings
	<b>Billion Dollars Per Year</b>			
Baseline <sup>36</sup> management costs: (no CAMU, no HWIR-media, all remediation waste) ....	3.52	.....	3.52	.....
Policy option and impact from baseline: Corrective Action Management Units (CAMU)	2.67	<sup>37</sup> 0.84	3.48	0.04
HWIR-media bright-line Proposal: (no CAMU consideration) .....	2.29	1.23	3.09	0.43
Aggregate Cost Savings: HWIR-Media Bright-Line proposal with expanded CAMU .....	2.08	1.44	2.63	0.88
HWIR-media expanded bright-line option: (no CAMU consideration) .....	1.79	1.73	2.91	0.61
HWIR-media expanded no bright-line option (unitary approach): (no CAMU consideration) .....	1.45	2.07	2.79	0.73

<sup>36</sup> This baseline includes CERCLA cleanup volumes managed under the Area of Contamination (AOC) concept. Current AOC management of RCRA volumes is believed to be negligible and is not included in this baseline.

<sup>37</sup> Updated data leading to significant revisions in baseline treatment methods, costs, volumes affected, and remediation schedule have led the Agency to adjust this figure from earlier estimates.

iii. Nonmonetary positive and negative effects. Currently, cleanup activities generating contaminated media containing a listed hazardous waste or exhibiting a hazardous characteristic are subject to the LDRs and MTRs when they involve placement of waste upon the land. When LDRs are triggered, contaminated media are subject to stringent and often costly treatment standards. Cleanup decision-makers, therefore, often prefer remedies that leave contaminated media in place in an effort to avoid triggering the LDRs. When MTRs are triggered by the

creation, expansion, or replacement of landfills and surface impoundments managing hazardous waste, contaminated media are subject to technical standards for liner, cover, and leachate collection systems. Thus, cleanup decision-makers have, in the past, avoided consolidating or otherwise moving contaminated media during cleanup to bypass the MTRs.

When the costs resulting from LDRs and MTR are incorporated into a cleanup decision many cleanups become economically infeasible. The Agency believes, however, that with the

increased flexibility and corresponding cost savings under the HWIR-media Proposed Rule, facility and site managers will conduct more cleanups than are currently being performed. Several factors would provide incentives to perform cleanups if excessive LDR and MTR costs were not incurred. For example, cleaning up a site reduces future potential liability, increases the salability of the land, and may generate public good will. Exhibit E summarizes the anticipated changes in management methods under HWIR-media.

**EXHIBIT E.—ANTICIPATED INCENTIVES CREATED BY HWIR-MEDIA**

Baseline management plans	HWIR-media incentives for non-hazardous media	Reason for change or no change
No excavation or treatment (e.g., containment).	Manage in-situ or ex-situ .....	LDRs either would not apply or would be more flexible and therefore a less costly ex-situ method may be chosen. Could also encourage in-situ or on-site ex-situ management because HWIR-media lets a facility operate under a Remediation Management Plan instead of a more costly Part B permit for in-situ or ex-situ treatment.
Manage in-situ .....	Manage ex-situ .....	LDRs either would not apply or would be more flexible and therefore a less costly (non-LDR) ex-situ method may be chosen.
Manage ex-situ .....	None; would still choose ex-situ treatment.	Previously preferred ex-situ to in-situ or no treatment; ability to select a less costly ex-situ method under HWIR-media will not cause shift from ex-situ management. May, however, choose a less expensive ex-situ method.

Although HWIR-media will reduce the stringency of regulation for some media currently managed as hazardous waste, EPA does not expect any of the options to significantly increase risks to human health and the environment for two reasons. First, there is a built-in process to minimize these risks under the HWIR-media proposal, namely State or EPA oversight of cleanups through Remediation Management Plan review, approval, and oversight. Second, under all of the options considered, active management of contaminated media is likely to eliminate possible exposure pathways. Thus, the Agency believes that the potential for negative benefits, that is, potential increases in risk, is negligible. Thus, EPA's selection of a regulatory option is driven primarily by balancing option protectiveness, improved long-term effectiveness of cleanups, implementation issues, and overall cost savings.

*iv. Industry impacts.* The economic impacts of HWIR-media will be distributed across industries that generate contaminated media and other remediation waste, as well as the environmental services industry which helps manage such contamination. All regulatory options will result in cost savings for generating industries and revenue losses, to some extent, for the commercial environmental services industry.

Petroleum and coal products (SIC 29), chemicals and allied products (SIC 28), and fabricated metals products (SIC 34), are the major industries generating contaminated media that will be affected by HWIR-media. Firms in these industries will be the main beneficiaries of cost savings from changes in cleanup practices. Total potential cost savings by industry, however, are estimated to represent less than 0.1 percent of each industry's aggregate annual revenues. Firm level impacts within affected industries are likely to be more diverse, depending upon the nature and extent of individual facility/firm cleanup responsibilities. Potential remedial action cost savings for an affected "typical firm" in the chemicals or fabricated metals industry are estimated to represent less than 2.0 percent of annual revenues.

The initial HWIR-media cost savings associated with a particular cleanup or set of cleanups could range from a one-time event (for firms with a single unit), to a continuous stream over the next 15 to 20 years for firms with multiple units/sites. These cost savings may help stimulate productive efficiencies, both on a micro- and macroeconomic level, depending upon how the cost savings are managed. Investment of the savings

in the form of increased capital reserves, new capital purchases, or increased research and development may have long-term positive economic impacts on affected firms, and the general economy. Furthermore, much of the cost of most cleanup activities often falls on insurance companies. A reduction in projected remedial action costs as a result of HWIR-media may stimulate competitive insurance companies to lower premiums in an effort to expand market share.

Unlike in the case of generators, the effect of any cost savings associated with this rule will be to reduce the revenue stream to firms in the commercial environmental services industry. These firms work for a variety of generators who schedule cleanups at different times in the future. HWIR-media will not, however, have a uniform impact on the entire industry. Instead, the impacts will vary across three distinct industry segments: (1) the solid waste management industry segment, which provides transportation and disposal services for non-hazardous waste and contaminated media, (2) the hazardous waste management industry segment, which provides transportation and disposal services for hazardous waste and contaminated media, and, (3) the cleanup services industry segment, which provides engineering and technical advice for management of hazardous wastes.

The demand for the services of the solid waste management industry segment will increase under HWIR-media as more remediation wastes are disposed of in Subtitle D landfills. In contrast, the hazardous waste management industry segment could face a reduction in their revenue streams as smaller volumes are likely to be managed at commercial Subtitle C facilities. In addition, volumes that continue to be managed at such facilities may require less extensive treatment. The cleanup services industry segment is likely to incur reductions in their revenue streams under HWIR-media because over 95 percent of hazardous wastes and media are managed on-site. This implies that a large portion of projected cost savings to generators may translate into reduced revenues for this industry.

These industry segments are not mutually exclusive. Many of the larger firms in the environmental services industry operate in more than one segment of the industry. In addition, the analysis does not consider the impact of HWIR-media in increasing the speed of cleanup and stimulating new cleanups, which will offset revenue losses.

A decrease in demand for the services of the environmental services industry under HWIR-media will lower prices in the short-run as firms compete for the lower demand. At a lower price, however, services may be offered at a loss. Consequently, environmental services firms may exit the industry, consolidate, or decrease in size, and the supply of services may decline, until a new long-run equilibrium is reached.

## 5. Regulatory Issues

Regulatory issues most pertinent to this proposed action include environmental justice and Federal unfunded mandates. Both of these issues are discussed below.

*a. Environmental Justice.* Under Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," as well as through EPA's April 1995, "Environmental Justice Strategy, OSWER Environmental Justice Task Force Action Agenda Report," and National Environmental Justice Advisory Council, EPA has undertaken to incorporate environmental justice into its policies and programs. To address this goal, EPA examined the impacts of HWIR-media on low-income populations and minority populations. EPA concluded that HWIR-media will advance environmental justice, as follows:

- By encouraging the use of innovative treatment techniques, HWIR-media will reduce the number of hazardous waste incinerators that need to be located throughout the nation. This, in turn, will reduce the likelihood of an incinerator being sited in a low-income or minority community, thereby avoiding the negative public perceptions associated with incinerators.
- HWIR-media will assist in expediting site cleanups across the nation, by reducing the need for time-consuming permitting of on-site cleanup activities, increasing the flexibility of decision-makers to respond to site-specific conditions, and lessening administrative and regulatory complications and delays. This may free Superfund and other remediation resources to address additional sites. By encouraging excavation of contaminated media, the HWIR-media proposal will expedite the restoration of sites and lead to their beneficial use, which may result in new jobs and increased economic activity in low-income or minority communities. This economic activity could take the form of increased employment of local community members at the

cleanup sites; the sale and redevelopment of sites for new economic activities; and new beneficial uses for remediated properties, such as parks, transportation facilities, and even hospitals.

—HWIR-media's public participation provisions will enable local residents and other members of the public to participate in the development and approval of Remediation Management Plans.

The Agency believes that the oversight restrictions required under the HWIR-media proposal will ensure that increased human health risks to local communities are highly unlikely.

b. *Unfunded mandates.* The Agency also evaluated the proposed HWIR-media rule for compliance with the Unfunded Mandates Reform Act of 1995. Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal Mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate or to the private sector, of \$100 million or more in one year. Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising

small governments on compliance with the regulatory requirements.

Today's rule contains no Federal mandates (under the regulatory provisions of Title II of the UMRA) for State, local, or tribal governments or the private sector because the UMRA generally excludes from the definition of "Federal intergovernmental mandate" duties that arise from participation in a voluntary Federal program. Rather, State and tribal organizations are under no obligation to participate in the Part 269 program. In addition, promulgation of the HWIR-media rule, because it is considered generally less stringent than current requirements, is not expected to result in mandated costs estimated at \$100 million or more to any State, local, or tribal governments, in any one year. Thus, today's proposal is not subject to the requirements of sections 202 and 205 of the UMRA. Finally, EPA has determined that the proposed HWIR-media rule contains no regulatory requirements that might significantly or uniquely affect small governments. Specifically, the program is generally less stringent than the existing program and makes no distinctions between small governments and any potentially regulated party.

#### *B. Regulatory Flexibility Analysis*

The Regulatory Flexibility Act of 1980 requires Federal agencies to assess whether proposed regulations will have a significant economic impact on a substantial number of small entities. EPA's "Guidelines for Implementing the Regulatory Flexibility Act" (May 1992), have determined that a Regulatory Flexibility Analysis (RFA) is required for all rulemakings, unless no impact is expected on any small entity. These guidelines further require the Agency to develop and consider alternatives that mitigate the impact of the rule on small entities. Furthermore, the Agency reserves the flexibility to tailor the level of effort devoted to an RFA based on the severity of a rule's anticipated impacts on small entities.

The Agency has determined that today's proposed rule will not have a significant adverse economic impact on a substantial number of small entities. HWIR-media confers remediation waste management cost savings on the regulated community while imposing implementation costs in cases where firms voluntarily seek cost savings. Therefore, in cases where remediation wastes are managed in the same manner under any option as under the baseline, no additional costs will be incurred under HWIR-media. If a different management method is used, a generator may have to incur additional

implementation costs to obtain management cost savings. An economically rational generator, however, will change the management method and incur these additional implementation costs only if it is confident of obtaining net benefits, such as savings on remediation waste management.

In summary, the rule will confer net benefits in situations where the generator changes the management method under HWIR-media or impose zero net costs in situations where the generator uses baseline management methods. Because HWIR-media is not expected to impose net costs on any small entities, the Agency has not considered options to mitigate the impacts of the proposed rule on such entities. A full discussion of HWIR-media in the context of small entities is presented in Chapter 6 of the "Economic Assessment."

#### *C. Paperwork Reduction Act*

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1775.01) and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 260-2740. This Information Collection Request is titled "Hazardous Waste Identification Rule for Contaminated Media" (or "HWIR-media").

The Agency has estimated the burden associated with complying with the requirements of this proposed rule. Included in that burden are estimates for industry respondents for complying with the specific requirements for: reading the regulations; media treatment variances; review of treatment results; content of RMPs; treatability studies; approval of RMPs; and expiration, termination and revocation of RMPs. For State respondents, the burden was estimated for interstate movement of contaminated media; and procedures for authorization of State hazardous waste programs.

The Agency has determined that this collection of information is necessary to determine compliance with the requirements of this proposal. In addition, the Agency will use the data collected to determine if Federal treatment standards are appropriate and whether they should be revised in the future. Responses to the collection of

information will be required to obtain or retain a benefit. For industry respondents, that benefit would be the more flexible requirements for management of hazardous contaminated media proposed in this proposal, instead of having to comply with the current Subtitle C standards. For State respondents, adoption of this regulation is optional, and the benefit would be for receiving authorization for this regulation. Section 3007(b) of RCRA and 40 CFR Part 2, Subpart B, which define EPA's general policy on the public disclosure of information, contain provisions for confidentiality. EPA has tried to minimize the burden of this collection of information on respondents.

The universe of respondents is expected to be sites conducting cleanup under: RCRA corrective action and closure; State and Federal CERCLA (or CERCLA-like) removal and remedial actions; and State voluntary cleanup programs which involve approval of RMPs. EPA estimates that the industry sites most likely to be affected by these requirements will be associated with the following SIC codes: 28 (Chemical and Allied Products); 2911 (Petroleum Refining); 34 (Fabricated Metal Products); and 3568 (Power Transmission Equipment).

EPA estimates that the annual respondent burden hours will be: for industry 259,165; for States 3,058; for a total of 262,223. The annual costs will be: for industry \$63,661,186; for States \$88,387; for a total of \$63,749,573. The average per response for industry respondents would be 121.2 hours, and the average per response for state respondents would be 174.3 hours. The frequency of response would be once. The number of industry respondents would be 2,139 per year, and State respondents would be 16 per year.

EPA estimates total capital and start-up annualized over expected useful life to be: for industry \$0.00; for states \$0.00; total operation and maintenance to be: for industry \$8.00; for States \$8.00; and purchases of services to be: for industry \$61,497; for States \$0.00.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and

requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the "ICR for HWIR-media" to the Director, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs; Office of Management and Budget; 725 17th Street, N.W., Washington, D.C. 20503; marked "Attention: Desk Officer for EPA." Include the ICR No. 1775.01 in any correspondence.

Since OMB is required to make a decision concerning the ICR between 30 and 60 days after April 29, 1996, a comment to OMB is best assured of having its full effect if OMB receives it by May 29, 1996. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

#### List of Subjects

##### 40 CFR Part 260

Hazardous Waste.

##### 40 CFR Part 261

Hazardous Waste.

##### 40 CFR Part 264

Hazardous Waste.

##### 40 CFR Part 269

Administrative practice and procedures, Hazardous Waste, reporting and record keeping requirements.

##### 40 CFR Part 271

Administrative practice and procedure and Intergovernmental relations.

Authority: These regulations are proposed under the authority of sections 2002(a), 3001, 3004, 3005, 3006, and 3007 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 [RCRA], as amended by the Hazardous and Solid Waste Amendments of

1984 [HSWA], 42 U.S.C. 6912(a), 6921, 6924, 6926, and 6927.

Dated: April 12, 1996.

Carol M. Browner,  
Administrator.

For the reasons set out in the preamble, 40 CFR Parts 260, 261, 262, 264, 268, 270 and 271 are proposed to be amended, and Part 269 is proposed to be added as follows:

## PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

### Subpart A—General

1. The authority citation for part 260 continue to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921–6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

1a. Section 260.1 is amended by revising paragraphs (a), (b) introductory text, (b)(1), (b)(2), (b)(3) and (b)(4) to read as follows:

#### § 260.1 Purpose, scope, and applicability.

(a) This part provides definitions of terms, general standards, and overview information applicable to Parts 260 through 269 of this chapter.

(b) In this part:

(1) Section 260.2 sets forth the rules that EPA will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or operators of treatment, storage, or disposal facilities must follow to assert claims of business confidentiality with respect to information that is submitted to EPA under Parts 260 through 269 of this chapter.

(2) Section 260.3 establishes rules of grammatical construction for Parts 260 through 269 of this chapter.

(3) Section 260.10 defines the terms which are used in Parts 260 through 269 of this chapter.

(4) Section 260.20 establishes procedures for petitioning EPA to amend, modify, or revoke any provision of parts 260 through 269 of this chapter and establishes procedures governing EPA's action on such petitions.

\* \* \* \* \*

2. Section 260.2 is amended by revising paragraph (a) and the first sentence of paragraph (b) to read as follows:

#### § 260.2 Availability of information; confidentiality of information.

(a) Any information provided to EPA under Parts 260 through 269 of this chapter will be made available to the public to the extent and in the manner authorized by the Freedom of

Information Act, 5 U.S.C. section 552, section 3007(b) of RCRA and EPA regulations implementing the Freedom of Information Act and section 3007(b), part 2 of this chapter, as applicable.

(b) Any person who submits information to EPA in accordance with parts 260 through 269 of this chapter may assert a claim of business confidentiality covering part or all of that information by following the procedures set forth in § 2.203(b) of this chapter. \* \* \*

3. Section 260.3 is amended by revising the introductory text to read as follows:

#### § 260.3 Use of number and gender.

As used in parts 260 through 269 of this chapter:

\* \* \* \* \*

#### Subpart B—Definitions

4. Section 260.10 is amended by revising the first sentence, by removing the second sentence, and by adding paragraph (3) to the definition for "facility" and adding the definition for "remediation pile" to read as follows:

#### § 260.10 Definitions.

When used in Parts 260 through 273 of this chapter, the following terms have the meanings given below:

\* \* \* \* \*

Facility \* \* \*

\* \* \* \* \*

(3) Notwithstanding paragraphs (1) and (2) of this definition, a media remediation site, as defined in § 269.3, does not constitute a facility for the purposes of § 264.101.

\* \* \* \* \*

*Remediation Pile* means a pile that is used only for the temporary treatment or storage of remediation wastes, including hazardous contaminated media (as defined in 40 CFR 269.3), during remedial operations.

\* \* \* \* \*

#### Subpart C—Rulemaking Petitions

5. Section 260.20(a) is amended by revising the first sentence to read as follows:

#### § 260.20 General.

(a) Any person may petition the Administrator to modify or revoke any provisions in Parts 260 through 273 of this chapter.

\* \* \* \* \*

## PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

### Subpart A—General

6. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6933. 6a. Section 261.1(a)(1) is revised to read as follows:

#### § 261.1 Purpose and scope.

(a) \* \* \*

(1) Subpart A defines the terms "solid waste" and "hazardous waste," identifies those wastes which are excluded from regulation under Parts 262 through 270 of this chapter and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

\* \* \* \* \*

7. Section 261.4 is amended by adding paragraphs (g) and (h) to read as follows:

#### § 261.4 Exclusions.

\* \* \* \* \*

(g) Non-hazardous contaminated media. Media that are managed as part of remedial activities and that the Director has determined do not contain hazardous wastes (according to 269.4), but would otherwise be hazardous contaminated media, are not hazardous wastes.

(h) Dredged material discharged in accordance with a permit issued under section 404 of the Federal Water Pollution Control Act [33 U.S.C. § 1344] or in accordance with a permit issued for the purpose of transporting material for ocean dumping under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 [33 U.S.C. 1413] is not a hazardous waste. For purposes of this subsection, the following definitions apply:

(1) The term "dredged material" has the same meaning as defined in 40 CFR 232.2.

(2) The term "dredged material discharged" has the same meaning as discharge of "dredged material" as defined in 40 CFR 232.2.

(3) The terms "ocean" and "dumping" have the same meaning as defined in 40 CFR 220.2.

(4) The term "permit" means a permit issued by the U.S. Army Corps of Engineers (Corps) or approved State under section 404 of the Federal Water Pollution Control Act [33 U.S.C. § 1344]; and/or a permit issued or by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 [33 U.S.C. 1413]; or in the

case of a Corps civil-works project, the administrative equivalent of a permit, as provided for in Corps regulations (e.g., see 33 CFR 336.1(b), 33 CFR 336.2(d), and 33 CFR 337.6).

### Subpart C—Characteristics of Hazardous Wastes

8. Section 261.20(b) is revised to read as follows:

#### § 261.20 General.

\* \* \* \* \*

(b) A hazardous waste which is identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subpart. This number must be used in complying with the notification requirements of section 3010 of the Act and all applicable record-keeping and reporting requirements under parts 262 through 265 and parts 268 through 270 of this chapter.

\* \* \* \* \*

### Subpart D—Lists of Hazardous Wastes

9. Section 261.30(c) is revised to read as follows:

#### § 261.30 General.

\* \* \* \* \*

(c) Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of section 3010 of the Act and certain record-keeping and reporting requirements under parts 262 through 265 and parts 268 through 270 of this chapter.

\* \* \* \* \*

## PART 262—STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

10. The authority citation for part 262 continues to read as follows:

Authority: 42 U.S.C. 6906, 6912, 6922, 6923, 6925, 6937, and 6938.

10a. Section 262.11(d) is revised to read as follows:

#### § 262.11 Hazardous waste determination.

\* \* \* \* \*

(d) If the waste is determined to be hazardous, the generator must refer to parts 261, 264 through 269 and part 273 of this chapter for possible exclusions or restrictions pertaining to management of the specific waste.

**PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES**

11. The authority citation for part 264 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6924, and 6925.

11a. Section 264.552 is amended by redesignating paragraphs (a) through (h) as paragraphs (c) through (j); and by adding new paragraphs (a) and (b) to read as follows:

**§ 264.552 Corrective Action Management Units (CAMU).**

(a) Corrective Action Management Units may not be approved under this subpart after (date of publication of final rule).

(b) A Corrective Action Management Unit that was approved according to the provisions of the subpart prior to (date of publication of final HWIR-media rule) remains subject to the requirements of this part.

\* \* \* \* \*

12. Part 264 is amended by adding new § 264.554 to subpart S to read as follows:

**§ 264.554 Remediation piles.**

(a) For piles that are used only for the temporary treatment or storage of remediation waste (including hazardous contaminated media as defined in 40 CFR 269.3) during remedial operations that are conducted in accordance with an approved permit or order, the Director may prescribe on a case-by-case basis design and operating standards for such units that are protective of human health and the environment. In establishing case-by-case standards for remediation piles, the Director shall consider the decision factors for temporary units, as specified in § 264.553.

(b) Placement of remediation waste (including hazardous contaminated media) into a remediation pile designated in an approved permit or order shall not constitute placement in a land disposal unit for the purposes of section 3004(k) of RCRA.

(c) Any remediation pile to which site-specific requirements are applied in accordance with paragraph (a) of this section shall be:

(1) Located within the boundary of the facility or media remediation site (as defined in 40 CFR 269.3); and

(2) Used only for the temporary treatment or storage of remediation wastes (as defined in 40 CFR 260.10).

(d) The Director shall specify in the permit or order the design, operating,

and closure requirements for any remediation pile, the length of time the remediation pile will be allowed to operate, and any requirements for control of cross-media contaminant transfer. Remediation piles shall not be permitted to operate beyond the time that remedial operations are completed.

**PART 268—LAND DISPOSAL RESTRICTIONS**

13. The authority citation for part 268 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, and 6924.

**Subpart A—General**

13a. Section 268.1(b) is revised to read as follows:

**§ 268.1 Purpose, scope and applicability.**

\* \* \* \* \*

(b) Except as specifically provided otherwise in this part, Part 261 of this chapter, or in cases where hazardous contaminated media are subject to treatment standards under Part 269 in this chapter, the requirements of this part apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

\* \* \* \* \*

14. 40 CFR is amended by adding part 269 to read as follows:

**PART 269—REQUIREMENTS FOR MANAGEMENT OF HAZARDOUS CONTAMINATED MEDIA**

**Subpart A—General Provisions**

Sec.

269.1 Scope.

269.2 Purpose and applicability.

269.3 Definitions.

269.4 Identification of media not subject to regulation as hazardous wastes.

**Subpart B—Other Requirements Applicable to Management of Hazardous Contaminated Media**

269.10 Applicability of other requirements.

269.11 Intentional contamination of media prohibited.

269.12 Interstate movement of contaminated media.

**Subpart C—Treatment Requirements**

269.30 Minimum LDR treatment requirements for media.

269.31 Media treatment variances.

269.32 More stringent treatment standards.

269.33 Review of treatment results.

269.34 Management of treatment residuals.

**Subpart D—Remediation Management Plans (RMPs)**

269.40 General requirements.

269.41 Content of RMPs.

269.42 Treatability studies.

269.43 Approval of RMPs.

269.44 Modification of RMPs.

269.45 Expiration, termination, and revocation of RMPs.

Appendix A to Part 269—HWIR-Media Bright Line Numbers

Appendix A-1 to Part 269—Bright Line Numbers

Appendix A-2 to Part 269—Bright Line Numbers for Ground Water

Appendix B to Part 269—Submittal of Treatability Data

Authority: 42 U.S.C. 6912(a), 6921, 6924, 6925, and 6926.

**Subpart A—General Provisions**

**§ 269.1 Scope.**

(a) The provisions of this part apply only to contaminated media that would otherwise be subject to regulation as hazardous wastes under RCRA Subtitle C regulations. The only exception is Subpart D of this part, which applies to all remediation wastes, including contaminated media.

(b) The provisions of this part modify and replace only certain specific Subtitle C regulations as they apply to the management of hazardous contaminated media. Other Subtitle C regulations that are not specifically addressed under this part will continue to apply to the management of hazardous contaminated media.

(c) The provisions of this part apply only to the treatment, storage, transportation and disposal of hazardous contaminated media that is conducted pursuant to site remediation activities. This part is not intended to affect remedy selection decisions. This part is intended to affect only decisions regarding the management of hazardous contaminated media as part of cleanup activities.

(d) The constituent concentration levels specified in Appendix A to this part are not cleanup levels, and the Environmental Protection Agency does not support their use as cleanup levels under Federal or State cleanup programs.

(e) The provisions of this part are not self-implementing. They may be applied to specific remedial actions only as approved by EPA, or a State authorized for this part.

**§ 269.2 Purpose and applicability.**

(a) The purpose of this part is to establish standards for management of hazardous contaminated media that are generated as part of remedial activities.

(b) The provisions of this part apply to treatment, storage and disposal of hazardous contaminated media which is conducted in accordance with a Remediation Management Plan (RMP) approved by EPA or a State program authorized for this part.

(c) The provisions of this part do not apply to non-media hazardous remediation wastes (except Subpart D) or to hazardous contaminated media that are not managed in a way that would otherwise subject the media to the requirements of this chapter.

### § 269.3 Definitions.

For the purposes of this part, the following definitions apply:

*Bright Line constituent* means any constituent found in media that is listed in Appendix A of this part, and that is:

(1) The basis for listing of a hazardous waste (as specified in Appendix VII of 40 CFR Part 261) found in that media; or

(2) A constituent that causes the media to exhibit a hazardous characteristic.

*Hazardous contaminated media* means media that contain hazardous wastes listed in Part 261 Subpart D of this chapter, or that exhibit one or more of the characteristics of hazardous waste defined in Part 261 Subpart C of this chapter, except media which the Director has determined do not contain hazardous wastes pursuant to § 269.4 of this part (non-hazardous contaminated media).

*Media* means materials found in the natural environment such as soil, ground water, surface water, and sediments, or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes and is made up primarily of media. This definition does not include debris (as defined in 40 CFR 268.2).

*Media remediation site* means an area contaminated with hazardous waste that is subject to cleanup under State or Federal authority, and areas in close proximity to the contaminated area at which remediation wastes are being or will be managed pursuant to State or Federal remediation authorities (such as RCRA corrective action or CERCLA). A media remediation site is not a facility for the purpose of implementing corrective action under 40 CFR 264.101, but may be subject to such corrective action requirements if the site is located within such a facility (as defined in 40 CFR 260.10).

*Non-hazardous contaminated media* means media that are managed as part of remedial activities and that the Director has determined do not contain hazardous wastes (according to § 269.4), but would otherwise be subject to Subtitle C regulation.

*Remediation Management Plan* means the plan that describes specifically how hazardous contaminated media will be managed in accordance with this part.

Such a plan may also include, where appropriate, requirements for other remediation wastes and any other (non-Part 269) requirements applicable to hazardous contaminated media.

Sediment is the mixture of assorted material that settles to the bottom of a water body. It includes the shells and coverings of mollusks and other animals, transported soil particles from surface erosion, organic matter from dead and rotting vegetation and animals, sewage, industrial wastes, other organic and inorganic materials and chemicals.

*Soil* means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles (sizes as classified by the U.S. Soil Conservation Service), or a mixture of such materials with liquids, sludges, or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil.

### § 269.4 Identification of media not subject to regulation as hazardous wastes.

(a) The Director may, as appropriate, determine that media which are generated and managed as part of remedial activities, and which would otherwise be subject to regulation under this chapter, do not contain hazardous wastes, provided that:

(1) There are no Bright Line constituents (as defined in § 269.3) in the media in concentrations equal to or greater than those specified in Appendix A of this part;

(2) The basis for the decision that the media do not contain hazardous wastes is documented in a Remediation Management Plan (RMP) approved in accordance with Subpart D of this part; and

(3) Appropriate requirements for the management of the media are specified in such RMP. Such materials will be considered non-hazardous contaminated media (as defined in § 269.3).

(b) [Reserved]

### Subpart B—Other Requirements Applicable to Management of Hazardous Contaminated Media

#### § 269.10 Applicability of other requirements.

(a) Except where expressly indicated, for hazardous contaminated media that are regulated under this part, the applicable requirements of 40 CFR Parts 262–267 and 270 continue to apply to the treatment, storage, and disposal of hazardous contaminated media.

(b) For hazardous contaminated media and non-hazardous contaminated

media that remain subject to LDRs, the provisions of 40 CFR Part 268 do not apply, except for the following: 40 CFR 268.2 through 268.7 (definitions, dilution prohibition, surface impoundment treatment variance, case-by-case extensions, no migration petitions, and waste analysis and recordkeeping), and 40 CFR 268.50 (prohibition on storage prior to land disposal). Compliance with these provisions of Part 268, and with the provisions of Subpart C of this part, shall constitute compliance with the provisions of section 3004(m) of RCRA.

#### § 269.11 Intentional contamination of media prohibited.

No generator, transporter, or owner or operator of a treatment, storage, or disposal facility shall in any way deliberately combine media and hazardous waste so as to become subject to the provisions of this part.

#### § 269.12 Interstate movement of contaminated media.

(a) Hazardous contaminated media and non-hazardous contaminated media that are transported out of the State in which they are generated are subject to the requirements of 40 CFR parts 262–268 and 270 outside of the originating State, unless:

(1) The receiving State and any State through which the waste will be transported has been authorized to implement this part (or EPA is implementing this part in that State); and

(2) The generating State notifies the authority implementing Part 269 in the receiving State and any State through which the material will be transported of the plans to transport such media into or through that State and provides an opportunity to comment on the draft RMP setting out the basis for the classification of such media.

(b) If a receiving State or a State through which such media are transported is authorized for this part 269, that State may determine that media originating in other States:

(1) Contains hazardous waste and must be managed under Parts 261–268 and 270 when in that State; or

(2) Contains hazardous waste and must be managed under this part when in that State; or

(3) Contains solid waste and must be managed under that State's solid waste or other applicable authorities; or

(4) Contains no waste.



**Subpart C—Treatment Requirements****§ 269.30 Minimum LDR treatment requirements for media.**

(a) The requirements of this subpart apply to the following materials when they are removed from the land, except as identified in paragraph (b) of this section:

(1) Media subject to the requirements of this part as identified by § 269.1(a), (including media that have been determined, pursuant to § 269.4, to no longer contain hazardous wastes) when the waste contaminating the media was prohibited from land disposal at the time it was placed.

(2) Media subject to the requirements of this part as identified by § 269.1(a), (including media that have been determined, pursuant to § 269.4, to no longer contain hazardous wastes) when the waste contaminating the media is prohibited from land disposal at the time the media is removed from the land. To identify the effective date of applicable land disposal prohibitions, see 40 CFR part 268, Appendix VII.

(b) The requirements of this subpart do not apply to media identified by paragraph (a)(2) of this section when they are determined, pursuant to § 269.4, not to contain hazardous wastes before they are removed from the land.

(c) Media treatment standards must be specified in each RMP for all media identified by paragraph (a) of this section.

(d) Prior to land disposal, media identified in paragraph (a) of this section must be treated according to the applicable treatment requirements specified in paragraphs (e) and (f) of this section unless a variance is given according to § 269.31 (Media Treatment Variances), or the Director requires more stringent treatment standards according to § 269.32.

(e) (1) For soils, treatment must achieve the following standards for all constituents subject to treatment that are present in the soils at concentrations greater than 10 times the Universal Treatment Standard for the constituent(s):

(i) For non-metals, 90 percent reduction in total constituent concentrations, except as provided by paragraph (e)(2) of this section.

(ii) For metals, 90 percent reduction in constituent concentrations as measured in leachate from the treated media (tested according to the TCLP) or 90 percent reduction in total constituent concentrations, except as provided by paragraph (e)(2) of this section.

(2) When treatment of any constituent subject to treatment to a 90 percent reduction standard would result in a

concentration less than 10 times the Universal Treatment Standard for that constituent, 10 times the Universal Treatment Standard shall be the treatment standard. Universal Treatment Standards are identified in 40 CFR 268.48 Table UTS.

(3) In addition to the treatment required by paragraph (e)(1) of this section, soils that exhibit the characteristic of ignitability, corrosivity, or reactivity must be treated by deactivation technologies which eliminate these characteristics.

(4) In addition to the treatment requirements of paragraphs (e)(1) and (3) of this section, the following treatment is required for soils that contain nonanalyzable constituents:

(i) Where the soil also contains analyzable constituents, treatment of those analyzable constituents to the levels specified in paragraph (e)(1) of this section; and

(ii) For soils containing only nonanalyzable constituents, treatment by the method specified in § 268.42 for the waste contained in the media.

(f) For media other than soils, such as ground water and sediments, treatment must achieve the applicable part 268 treatment standard(s) for each constituent subject to treatment.

(g) Constituents subject to treatment are:

(1) For media identified by paragraph (a) of this section because they contain or contained wastes listed under part 261, subpart D of this chapter, the constituents identified as regulated hazardous constituents in the table "Treatment Standards for Hazardous Wastes" in § 268.40 of this chapter for such waste; and

(2) For media identified by paragraph (a) of this section because it exhibits a characteristic of hazardous wastes as defined by part 261, subpart C of this chapter, any constituent listed in 40 CFR 268.48, Table UTS—Universal Treatment Standards that is present in the media, except zinc and vanadium.

(h) Treatment technologies employed in meeting these treatment standards must be designed and operated in a manner that controls the transfer of contaminants to other media.

**§ 269.31 Media treatment variances.**

(a) The Director may approve a variance from a treatment standard(s) specified in § 269.30, if the owner/operator demonstrates to the satisfaction of the Director that:

(1) Compliance with the standard(s) is technically impracticable; or

(2) Compliance with the standard(s) would require the use of a technology which is inappropriate for the media to

be treated because the physical or chemical properties of media differ significantly from the media EPA examined in establishing the standard, or the standard is otherwise inappropriate for the hazardous contaminated media; or

(b) For media containing all constituents at levels below those specified in Appendix A of this part, the Director may approve a variance from a treatment standard specified in § 269.30 by specifying a level or method of treatment, if any, which substantially diminishes the toxicity of the waste or substantially reduces likelihood of migration of hazardous constituents from the waste so that short- and long-term threats to human health and the environment are minimized based on site-specific considerations.

(c) The Director may request any additional information, including additional sampling and analysis, if necessary to evaluate a media treatment variance demonstration.

(d) The Director may specify a media treatment variance as a numerical standard or as a specified treatment method or technology.

(e) Technologies used to comply with media treatment variances must optimize efficiency, result in substantial reductions in toxicity or mobility of constituents, and control cross media transfer.

(f) Proposed media treatment variances must be identified in RMPs and shall, at a minimum, be subject to the public participation requirements for RMPs specified in § 269.43.

**§ 269.32 More stringent treatment standards.**

For soil, the Director may require that constituents subject to treatment be treated to achieve standards more stringent than the standards specified in § 269.30, if s/he determines that the treatment required under § 269.30(e) and (f) would not substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized, based on site-specific circumstances.

**§ 269.33 Review of treatment results.**

If data indicate that the treatment standards specified in a RMP have not been met, the owner/operator shall:

(a) Submit a new or modified RMP containing procedures for treating the media subject to treatment to compliance with the specified treatment standard; or

(b) Submit an application for a media treatment variance under § 269.31(a) (1) or (2); or

(c) If appropriate, request that the Director specify a level or method of treatment, if any, that would meet the requirement of § 269.31(b).

#### **§ 269.34 Management of treatment residuals.**

(a) Treatment residuals from treating media identified by § 269.30(a) shall be managed as follows:

(1) Media residuals shall be subject to the standards of this part;

(2) Non-media residuals shall be subject to the RCRA Subtitle C or D standards applicable to the waste contaminating the media before treatment.

#### **Subpart D—Remediation Management Plans (RMPs)**

##### **§ 269.40 General requirements.**

(a) Before hazardous contaminated media may be managed according to the provisions of this part, the owner/operator must receive approval by the Director of a Remediation Management Plan (RMP), in accordance with the procedures in § 269.43.

(b) A RMP must be an enforceable document, and shall specify requirements for management of hazardous and non-hazardous contaminated media at a media remediation site, according to the provisions of this part and according to other applicable requirements of Subtitle C, including 40 CFR part 264 (except subparts B and C). A RMP may also incorporate requirements for the management of other remediation wastes at a media remediation site, in compliance with applicable provisions of part 264 of this chapter.

(c) For remedial activities involving treatment, storage or disposal of remediation wastes that would require a RCRA permit under 40 CFR 270.1, a RMP approved by the Director, and containing the necessary 40 CFR part 264 substantive requirements, shall constitute a RCRA permit for those activities, for the purposes of section 3005(c) of RCRA.

(d) The corrective action requirements of sections 3004 (u) and (v) of RCRA do not apply to persons engaging in treatment, storage, or disposal of hazardous wastes solely as part of a cleanup action pursuant to a RMP.

(e) A RMP may be:

(1) A stand-alone document that addresses only the requirements of this part, and does not address other remedial activities or units; or

(2) Included as part of a more comprehensive document that specifies

requirements for compliance with this part, in addition to requirements for other remedial activities for the site. Such documents must be approved by the Director according to procedures that allow equivalent or greater opportunities for public involvement than those prescribed in § 269.43. Examples of such documents may include enforcement orders (that meet the minimum notice requirements of § 269.43), RCRA permits or permit modifications issued to hazardous waste management facilities, or other similar remedial documents approved by the Director.

(f) Approval of a RMP does not convey any property rights of any sort, or any exclusive privilege.

(g) Approval of a RMP does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

##### **§ 269.41 Content of RMPs.**

(a) A draft RMP submitted to the Director for approval must contain sufficient information to demonstrate to the Director that the proposed management activities for contaminated media at the site will comply with the requirements of this part. If a draft RMP is submitted as part of a more comprehensive document(s) (in accordance with § 269.40(e)(2)), it may simply reference or otherwise identify where the information pertaining to part 269 requirements can be found in such document(s).

(b) If a RMP will be used only for the management of investigation derived wastes or for treatability studies, the RMP need only include the relevant information necessary to determine that the investigation or treatability study will be conducted in accordance with applicable requirements. It may not be necessary to include all the information specified in paragraph (c) of this section.

(c) The following information must be included in any RMP (except as specified in paragraph (b) of this section):

(1) Information demonstrating that the materials to be managed in accordance with this part are media, as defined in § 269.3.

(2) If applicable, information identifying hazardous remediation wastes (other than hazardous contaminated media) which will be managed according to the RMP but not under the requirements of 40 CFR part 269, and specifying that management of those wastes will comply with the applicable requirements of 40 CFR parts 260 through 268.

(3) If applicable, information identifying non-hazardous contaminated media, and specifying how such media will be managed.

(4) Description of the remediation wastes to be managed in accordance with the RMP, including information on constituent concentrations, and other properties of media and wastes that may affect how such materials should be treated and/or otherwise managed.

(5) Estimates of volumes of the hazardous contaminated media to be managed according to the provisions of this part;

(6) Plans or proposals specifying the technology(s), handling systems, design and operating parameters to be used in treating remediation wastes prior to disposal, in accordance with applicable LDR standards of §§ 269.30 through 269.34, or 40 CFR part 268, as applicable.

(7) Information which demonstrates to the Director that any proposed treatment system will be designed and operated in a manner that will adequately control the transfer of pollutants to other environmental media.

(8) Information which describes planned sampling and analysis procedures necessary to characterize the wastes or media to be managed, to ensure effective treatment of the materials has occurred, and to demonstrate compliance with the treatment standard, including quality assurance and quality control procedures.

(9) Agreement to submit data as specified in Appendix B of this part regarding treatment information from both treatability studies and full scale implementation of treatment systems conducted for the remedial activities under this RMP. Data from treatability studies shall be submitted as soon as the treatability study (or studies) has been completed. Full scale implementation data shall be submitted every three years, or after cleanup has been completed, whichever is first.

(10) Other information determined by the Director to be necessary for demonstrating compliance with the provisions of this part.

##### **§ 269.42 Treatability studies.**

(a) If the Director determines that a treatability study is necessary to determine the efficacy of a proposed treatment technology, and if conduct of the study requires a RCRA permit, the study may be approved under a RMP. In addition to the other requirements of this part, such RMPs shall specify how the study(s) will be conducted, including relevant data on system design and operating parameters, waste

characteristics, sampling, and, analytical procedures.

(b) Upon conclusion of a treatability study conducted according to an approved RMP, data shall be submitted to (EPA Headquarters) in the manner specified in appendix B of this part.

#### § 269.43 Approval of RMPs.

(a) Draft RMPs shall be reviewed and approved according to the procedures specified in paragraphs (b) through (f) of this section. Alternative procedures which provide the same or greater opportunities for public review and comment may also be used, including the RCRA permit procedures of 40 CFR part 270, or the permit modification procedures of 40 CFR 270.41.

(b) A proposed RMP shall be signed in accordance with 40 CFR 270.11.

(c) The Director may, if necessary, add provisions to a draft RMP specifying the conditions under which media will be managed pursuant to the RMP, and concentration levels below which media will be determined not to contain hazardous waste. Such provisions may not be necessary when:

(1) The Director has established applicable State-wide contained-in concentration levels; or

(2) All media to be managed at the site will be managed as hazardous contaminated media, therefore making contained-in levels unnecessary.

(d) The Director may, if necessary, add provisions to a draft RMP specifying when threats to human health and the environment will be considered to have been minimized.

(e) When the Director determines that a draft RMP is complete and adequately demonstrates compliance with applicable requirements, the RMP shall be approved according to the following minimum procedures. If appropriate, the Director may require additional review and comment procedures.

(1) A notice of the Director's intention to approve the RMP shall be:

(i) Published in a major local newspaper of general circulation and broadcast over a local radio station, according to the procedures of 40 CFR 124.10(d); and

(ii) Sent to each unit of local government having jurisdiction over the area in which the site is located, and to each State agency having any authority under State law with respect to any construction or operations at the site. The notice shall provide an opportunity for the public to submit written

comments on the RMP within no fewer than 45 days.

(2) If within the comment period the Director receives written notice of opposition to the Director's intention to approve the RMP and a request for a hearing, the Director shall hold an informal hearing (including an opportunity for presentation of written and oral views) to discuss issues relating to the approval of the RMP. The Director may also determine independently that an informal hearing on the RMP is appropriate. Whenever possible, the Director shall schedule such hearing at a location convenient to the nearest population center to the site and give notice in accordance with paragraph (i)(1) of this section, of the date, time and subject matter of such hearing.

(3) The Director shall consider and respond to any significant written or oral comments received by the comment deadline on the proposed RMP, and may modify the RMP based on those comments as appropriate.

(4) When the Director determines that the RMP adequately demonstrates compliance with all applicable requirements, s/he shall notify the owner/operator, and all other commenters on the proposed RMP, in writing, that the RMP has been approved. The Director's approval of a RMP shall constitute final Agency action (not subject to the administrative appeals in 40 CFR 124.19).

(f) For remedial actions involving on-site combustion of hazardous remediation wastes, the procedural requirements for issuance of RCRA permits (specified in 40 CFR Parts 124 and 270 shall at a minimum be followed for review and approval of RMPs.

#### § 269.44 Modification of RMPs.

(a) The Director shall specify in the RMP procedures for modifying the RMP. Such procedures must provide adequate opportunities for public review and comment on any modification that would result in a major or significant change in the management of contaminated media at the site, or which otherwise merits public review and comment.

(b) The Director may unilaterally modify an approved RMP, through appropriate procedures for public review and comment, based on new information which indicates that such modification may be necessary to ensure

the effective implementation of remedial actions at the site.

#### § 269.45 Expiration, termination, and revocation of RMPs.

The Director shall specify in an approved RMP the procedures under which the RMP will expire, be terminated or revoked. RMPs that pursuant to § 269.40(c) constitute RCRA permits for the purposes of section 3005(c), shall be for a fixed term, not to exceed 10 years, although they may be renewed. In addition, any such RMP for a hazardous waste land disposal facility shall be reviewed five years after date of issuance or reissuance and shall be modified as necessary to assure that the facility continues to comply with currently applicable requirements of RCRA sections 3004 and 3005. All RMPs which constitute RCRA permits must be renewed at least every 10 years (if they will remain in effect longer than that).

#### Appendix A to Part 269—HWIR-Media Bright Line Numbers

Appendix A-1 presents the Bright Lines for soil for the 107 HWIR-media constituents with Soil Screening Levels (SSLs). Appendix A-2 presents the Bright Lines for groundwater ingestion for 211 HWIR-media constituents.<sup>1</sup> The Bright Lines for both soil and groundwater exposures are calculated using a target risk of  $10^{-3}$  for carcinogens and  $RfD \times 10$  for non-carcinogens. For constituents that have both carcinogenic and non-carcinogenic health effects, the lower of the two Bright Lines is reported.

#### Appendix A-1 to Part 269—Bright Line Numbers for Soil

The Bright Lines for soil in Appendix A-1 are based upon SSLs presented in the Superfund Soil Screening Guidance, which is available in the docket for this proposed rule. SSLs have been developed for 107 HWIR-media constituents and are calculated using risk equations presented in EPA's "Risk Assessment Guidance for Superfund (RAGS)." SSLs are either based on exposure by direct soil ingestion or by inhalation of volatiles from soil. The SSLs for these two exposure pathways are calculated using different risk equations. In addition, since carcinogens and non-carcinogens pose different kinds of health effects, there are two separate equations for each exposure pathway, depending upon the carcinogenicity of the constituent. These equations for each pathway are presented below:

#### *Inhalation of Soil Contaminants*

For cancer health effects:

<sup>1</sup> EPA was unable to develop ground water Bright Lines for nine constituents that lacked both an oral reference dose and an oral slope factor.

$$SSL = \frac{TR \times AT \times 365 \text{ days/yr}}{URF \times 1000 \text{ ug/mg} \times EF \times ED \times \left[ \frac{1}{VF} + \frac{1}{PEF} \right]}$$

For non-cancer health effects:

$$SSL = \frac{THQ \times AT \times 365 \text{ days/yr}}{EF \times ED \times \left[ \frac{1}{RfC} + \left( \frac{1}{VF} + \frac{1}{PEF} \right) \right]}$$

The exposure assumptions used in the above risk equations for inhalation of soil contaminants are presented in Exhibit 1.

**Ingestion of Soil Contaminants**

For cancer health effects:

$$SSL = \frac{TR \times AT \times 365 \text{ days/yr}}{SF \times 10^{-6} \text{ kg/mg} \times EF \times IF}$$

For non-cancer health effects:

$$SSL = \frac{THQ \times BW \times AT \times 365 \text{ days/yr}}{\left( \frac{1}{RfD} \right) \times 10^{-6} \text{ kg/mg} \times EF \times ED \times IR}$$

The exposure assumptions used in the above risk equations for ingestion of soil contaminants are presented in Exhibit 2.

The calculated soil screening values for both the inhalation and ingestion pathways correspond to a cancer risk level of 10<sup>-6</sup> for carcinogens and a non-cancer hazard quotient of one for non-carcinogens. The SSLs for cancerous and non-cancerous constituents are, therefore, multiplied by 1,000 and 10 respectively, so that the

reported Bright Lines correspond to a target risk of 10<sup>-3</sup> for carcinogens and RfD × 10 for non-carcinogens. All Bright Lines for soil are capped at 10,000 parts per million (ppm).

The soil saturation limit (Csat) for a constituent is reported as the inhalation pathway SSL if the Csat is lower than the calculated SSL. Csats are not risk-adjusted (i.e., they are not multiplied by a factor of 10 or 1,000) when calculating Bright Lines. When the Csat is lower than the risk-adjusted SSL for the soil ingestion pathway, the Bright Line is set at the Csat. The soil Bright Lines for 17 constituents are set at their Csat.

**Exhibit 1.—EXPOSURE ASSUMPTIONS USED TO CALCULATE SOIL INHALATION**

[Soil Screening Levels]

	Corresponding HWIR-media assumptions	
	Cancer	Non-cancer
SSL=soil screening level .....	calculated .....	calculated.
TR=target excess lifetime cancer .....	(mg/kg) .....	(mg/kg).
THQ=risk .....	10 <sup>-6</sup> .....	
AT=target hazard quotient .....		1.
URF=averaging time .....	70 years .....	30 years.
RfC=inhalation unit risk factor .....	constituent .....	
EF=inhalation reference .....	specific .....	constituent
ED=concentration .....	(ug/m <sup>3</sup> ) <sup>-1</sup> .....	specific.
VF=exposure frequency .....		(mg/m <sup>3</sup> ).
PEF=exposure duration .....	350 days/yr .....	350 days/yr.
soil-to-air volatilization .....	30 years .....	30 years.
factor .....	constituent .....	constituent.
particulate emission factor .....	specific .....	specific.
	m <sup>3</sup> /kg .....	m <sup>3</sup> /kg.
	6.79×10 <sup>8</sup> .....	6.79×10 <sup>8</sup> .
	m <sup>3</sup> /kg .....	m <sup>3</sup> /kg.

**EXHIBIT 2.—EXPOSURE ASSUMPTIONS USED TO CALCULATE SOIL INGESTION**

[Soil Screening Levels]

	Corresponding HWIR-media assumptions	
	Cancer	Non-Cancer
SSL = soil screening level .....	calculated .....	calculated.
TR = target excess lifetime cancer .....	(mg/kg) .....	(mg/kg).
THQ = risk .....	10 <sup>-6</sup> .....	
AT = target hazard quotient .....		1.
BW = averaging time .....	70 years .....	6 years.
SF = body weight .....		15 kg.
RfD = oral slope factor .....	constituent .....	
IF = oral reference dose .....	specific .....	constituent.
IR = age-adjusted soil ingestion .....	(mg/kg/day) <sup>-1</sup> .....	specific.
EF = factor .....		(mg/kg/day).
ED = soil ingestion rate .....	114 mg-yr/kg-day ...	
exposure frequency .....		200 mg/day.
exposure duration .....		350 days/yr.
	350 days .....	6 years.

## APPENDIX A-1.—BRIGHT LINE NUMBERS FOR SOIL

CAS No.	Constituent	Bright Line for soil (ppm)	Path	Basis
630-20-6	1,1,1,2-Tetrachloroethane			
71-55-6	1,1,1-Trichloroethane	980	Inhal	Csat.
79-34-5	1,1,2,2-Tetrachloroethane	400	Inhal	Cancer.
79-00-5	1,1,2-Trichloroethane	800	Inhal	Cancer.
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane			
75-34-3	1,1-Dichloroethane	9800	Inhal	Non-Cancer.
75-35-4	1,1-Dichloroethylene	40	Inhal	Cancer.
96-18-4	1,2,3-Trichloropropane			
95-94-3	1,2,4,5-Tetrachlorobenzene			
120-82-1	1,2,4-Trichlorobenzene	2400	Inhal	Non-Cancer.
96-12-8	1,2-Dibromo-3-chloropropane			
107-06-2	1,2-Dichloroethane	300	Inhal	Cancer.
78-87-5	1,2-Dichloropropane	110	Ingest	Cancer.
122-66-7	1,2-Diphenylhydrazine			
542-75-6	1,3-Dichloropropene	100	Inhal	Cancer.
99-65-0	1,3-Dinitrobenzene			
123-91-1	1,4-Dioxane			
99999-04-0	12378 PeCDFuran			
58-90-2	2,3,4,6-Tetrachlorophenol			
95-95-4	2,4,5-Trichlorophenol	10000	Cap	Non-Cancer.
93-76-5	2,4,5-Trichlorophenoxyacetic acid			
88-06-2	2,4,6-Trichlorophenol	10000	Cap	Cancer.
120-83-2	2,4-Dichlorophenol	2400	Ingest	Non-Cancer.
94-75-7	2,4-Dichlorophenoxyacetic acid (2,4-D)			
105-67-9	2,4-Dimethylphenol	10000	Cap	Non-Cancer.
51-28-5	2,4-Dinitrophenol	1600	Ingest	Non-Cancer.
121-14-2	2,4-Dinitrotoluene	1600	Ingest	Non-Cancer.
95-80-7	2,4-Toluenediamine			
606-20-2	2,6-Dinitrotoluene	780	Ingest	Non-Cancer.
823-40-5	2,6-Toluenediamine			
57117-31-4	23478 PeCDFuran			
99999-03-0	2378 HpCDDioxins			
99999-06-0	2378 HpCDFurans			
99999-02-0	2378 HxCDDioxins			
99999-05-0	2378 HxCDFurans			
99999-01-0	2378 PeCDDioxins			
1746-01-6	2378 TCDDioxin			
51207-31-9	2378 TCDFuran			
95-57-8	2-Chlorophenol	3900	Ingest	Non-Cancer.
126-99-8	2-Chloro-1,3-butadiene			
110-80-5	2-Ethoxyethanol			
91-59-8	2-Naphthylamine			
79-46-9	2-Nitropropane			
88-85-7	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)			
91-94-1	3,3'-Dichlorobenzidine	1000	Ingest	Cancer.
119-90-4	3,3'-Dimethoxybenzidine			
119-93-7	3,3'-Dimethylbenzidine			
107-05-1	3-Chloropropene			
56-49-5	3-Methylcholanthrene			
57-97-6	7,12-Dimethylbenz(a)anthracene			
83-32-9	Acenaphthene	10000	Cap	Non-Cancer.
67-64-1	Acetone (2-propanone)	10000	Cap	Non-Cancer.
75-05-8	Acetonitrile (methyl cyanide)			
98-86-2	Acetophenone			
107-02-8	Acrolein			
79-06-1	Acrylamide			
107-13-1	Acrylonitrile			
309-00-2	Aldrin	40	Ingest	Cancer.
319-84-6	alpha-HCH	100	Ingest	Cancer.
62-53-3	Aniline (benzeneamine)			
7440-36-0	Antimony (and compounds N.O.S.)	310	Ingest	Non-Cancer.
140-57-8	Aramite			
7440-38-2	Arsenic (and compounds N.O.S.)	400	Ingest	Cancer.
7440-39-3	Barium (and compounds N.O.S.)	10000	Cap	Non-Cancer.
71-43-2	Benzene	500	Inhal	Cancer.
92-87-5	Benidine			
98-07-7	Benzotrichloride			
50-32-8	Benzo(a)pyrene	90	Ingest	Cancer.
205-99-2	Benzo(b)fluoranthene	900	Ingest	Cancer.
100-51-6	Benzyl alcohol			

## APPENDIX A-1.—BRIGHT LINE NUMBERS FOR SOIL—Continued

CAS No.	Constituent	Bright Line for soil (ppm)	Path	Basis
100-44-7	Benzyl chloride			
56-55-3	Benz[a]anthracene	900	Ingest	Cancer.
7440-41-7	Beryllium (and compounds N.O.S.)	100	Ingest	Cancer.
319-85-7	beta-HCH	400	Ingest	Cancer.
111-44-4	Bis(2-chloroethyl) ether	300	Inhal	Cancer.
39638-32-9	Bis(2-chloroisopropyl) ether			
117-81-7	Bis(2-ethylhexyl) phthalate	210	Inhal	Csat.
75-27-4	Bromodichloromethane	1800	Inhal	Csat.
74-83-9	Bromomethane	20	Inhal	Non-Cancer.
71-36-3	Butanol	9700	Inhal	Csat.
85-68-7	Butyl benzyl phthalate	530	Inhal	Csat.
7440-43-9	Cadmium (and compounds N.O.S.)	390	Ingest	Non-Cancer.
75-15-0	Carbon disulfide	110	Inhal	Non-Cancer.
56-23-5	Carbon tetrachloride	200	Inhal	Cancer.
57-74-9	Chlordane	500	Ingest	Cancer.
108-90-7	Chlorobenzene	940	Inhal	Non-Cancer.
510-15-6	Chlorobenzilate			
124-48-1	Chlorodibromomethane	1900	Inhal	Csat.
67-66-3	Chloroform	200	Inhal	Cancer.
74-87-3	Chloromethane			
7440-47-3	Chromium (and compounds N.O.S.)	3900	Ingest	Non-Cancer.
218-01-9	Chrysene	10000	Cap	Cancer.
156-59-2	cis-1,2-Dichloroethene	1500	Inhal	Csat.
10061-01-5	Cis-1,3-Dichloropropene			
7440-50-8	Copper			
1319-77-3	Cresols			
98-82-8	Cumene			
57-12-5	Cyanide (amenable)	10000	Cap	Non-Cancer.
72-54-8	DDD	3000	Ingest	Cancer.
72-55-9	DDE	2000	Ingest	Cancer.
50-29-3	DDT	2000	Ingest	Cancer.
2303-16-4	Diallate			
53-70-3	Dibenz(a,h)anthracene	90	Ingest	Cancer.
74-95-3	Dibromomethane (methylene bromide)			
75-71-8	Dichlorodifluoromethane			
75-09-2	Dichloromethane (Methylene Chloride)	7000	Inhal	Cancer.
60-57-1	Dieldrin	40	Ingest	Cancer.
84-66-2	Diethyl phthalate	520	Inhal	Csat.
56-53-1	Diethylstilbestrol			
60-51-5	Dimethoate			
131-11-3	Dimethyl phthalate	1600	Inhal	Csat.
122-39-4	Diphenylamine			
298-04-4	Disulfoton			
84-74-2	Di-n-butyl phthalate	1100	Inhal	Csat.
117-84-0	Di-n-octyl phthalate	10000	Cap	Non-Cancer.
115-29-7	Endosulfan	40	Ingest	Non-Cancer.
72-20-8	Endrin	230	Ingest	Non-Cancer.
106-89-8	Epichlorohydrin			
141-78-6	Ethyl acetate			
60-29-7	Ethyl ether			
97-63-2	Ethyl methacrylate			
62-50-0	Ethyl methanesulfonate			
100-41-4	Ethylbenzene	260	Inhal	Csat.
106-93-4	Ethylene dibromide			
96-45-7	Ethylenethiourea			
52-85-7	Famphur			
206-44-0	Fluoranthene	10000	Cap	Non-Cancer.
86-73-7	Fluorene	10000	Cap	Non-Cancer.
50-00-0	Formaldehyde			
64-18-6	Formic acid			
110-00-9	Furan			
58-89-9	gamma-HCH (Lindane)	500	Ingest	Cancer.
76-44-8	Heptachlor	100	Ingest	Cancer.
1024-57-3	Heptachlor epoxide (a,b,g isomers)	70	Ingest	Cancer.
118-74-1	Hexachlorobenzene	400	Ingest	Cancer.
608-73-1	Hexachlorocyclohexane			
77-47-4	Hexachlorocyclopentadiene	20	Inhal	Non-Cancer.
67-72-1	Hexachloroethane	10000	Cap	Cancer.
70-30-4	Hexachlorophene			
87-68-3	Hexachloro-1,3-butadiene	1000	Inhal	Cancer.

## APPENDIX A-1.—BRIGHT LINE NUMBERS FOR SOIL—Continued

CAS No.	Constituent	Bright Line for soil (ppm)	Path	Basis
193-39-5	Indeno(1,2,3-cd)pyrene	900	Ingest	Cancer.
78-83-1	Isobutyl alcohol			
78-59-1	Isophorone	3400	Inhal	Csat
143-50-0	Kepone			
7439-92-1	Lead (and compounds N.O.S.)	4000	Fixed.	
108-31-6	Maleic anhydride			
7439-97-6	Mercury (and compounds N.O.S.)	70	Inhal	Non-Cancer.
126-98-7	Methacrylonitrile			
67-56-1	Methanol			
72-43-5	Methoxychlor	3900	Ingest	Non-Cancer.
78-93-3	Methyl ethyl ketone			
108-10-1	Methyl isobutyl ketone			
80-62-6	Methyl methacrylate			
298-00-0	Methyl parathion			
7439-98-7	Molybdenum			
108-39-4	m-Cresol			
91-20-3	Naphthalene-			
7440-02-0	Nickel (and compounds N.O.S.)	10000	Cap	Non-Cancer.
98-95-3	Nitrobenzene	390	Ingest	Non-Cancer.
62-75-9	N-Nitrosodimethylamine			
86-30-6	N-Nitrosodiphenylamine	10000	Cap	Cancer.
621-64-7	N-Nitrosodi-n-propylamine	90	Ingest	Cancer.
10595-95-6	N-Nitrosomethylethylamine			
100-75-4	N-Nitrosopiperidine			
930-55-2	N-Nitrosopyrrolidine			
55-18-5	N-Nitroso-diethylamine			
924-16-3	N-Nitroso-di-n-butylamine			
3268-87-9	OCDD			
99999-07-0	Octachlorodibenzofuran (OCDF)			
152-16-9	Octamethyl pyrophosphoramidate			
95-48-7	o-Cresol	10000	Cap	Non-Cancer.
95-50-1	o-Dichlorobenzene	300	Inhal	Csat.
95-53-4	o-Toluidine			
56-38-2	Parathion			
608-93-5	Pentachlorobenzene			
82-68-8	Pentachloronitrobenzene (PCNB)			
87-86-5	Pentachlorophenol	3000	Ingest	Cancer.
108-95-2	Phenol	10000	Cap	Non-Cancer.
25265-76-3	Phenylenediamine			
298-02-2	Phorate			
85-44-9	Phthalic anhydride			
1336-36-3	Polychlorinated biphenyls	1000	Ingest	Cancer.
23950-58-5	Pronamide			
129-00-0	Pyrene	10000	Cap	Non-Cancer.
110-86-1	Pyridine			
106-47-8	p-Chloroaniline	3100	Ingest	Non-Cancer.
106-44-5	p-Cresol			
106-46-7	p-Dichlorobenzene	10000	Cap	Cancer.
106-49-0	p-Toluidine			
94-59-7	Safrole			
7782-49-2	Selenium (and compounds N.O.S.)	3900	Ingest	Non-Cancer.
7440-22-4	Silver (and compounds N.O.S.)	3900	Ingest	Non-Cancer.
93-72-1	Silvex (2,4,5-TP)			
57-24-9	Strychnine and salts			
100-42-5	Styrene	1400	Inhal	Csat.
99-35-4	sym-Trinitrobenzene			
127-18-4	Tetrachloroethylene	10000	Cap	Cancer.
3689-24-5	Tetraethyl dithiopyrophosphate			
7440-28-0	Thallium			
108-88-3	Toluene	520	Inhal	Csat.
8001-35-2	Toxaphene	600	Ingest	Cancer.
156-60-5	trans-1,2-Dichloroethene	3600	Inhal	Csat.
10061-02-6	Trans-1,3-Dichloropropene			
75-25-2	Tribromomethane (Bromoform)	10000	Cap	Cancer.
79-01-6	Trichloroethylene	3000	Inhal	Cancer.
75-69-4	Trichlorofluoromethane			
126-72-7	Tris(2,3-dibromopropyl)phosphate			
7440-62-2	Vanadium	5500	Ingest	Non-Cancer.
75-01-4	Vinyl chloride (Chloroethene)	2	Inhal	Cancer.
1330-20-7	Xylenes	320	Inhal	Csat.

APPENDIX A-1.—BRIGHT LINE NUMBERS FOR SOIL—Continued

CAS No.	Constituent	Bright Line for soil (ppm)	Path	Basis
7440-66-6 .....	Zinc (and compounds N.O.S.) .....	10000	Cap .....	Non-Cancer.

Appendix A-2 to Part 269—Bright Line Numbers for Ground Water

The Bright Lines for ground water in Appendix A-2 were calculated directly from risk equations in RAGS. Since carcinogens and non-carcinogens pose different kinds of health effects, two sets of risk equations and exposure assumptions are used to calculate Bright Lines for groundwater: For cancer health effects:

$$C = \frac{TR \times AT \times BW \times 365 \text{ days}}{SF \times IR \times EF \times ED}$$

For non-cancer health effects:

$$C = \frac{RfD \times 10 \times BW \times AT \times 365 \text{ days}}{IR \times EF \times ED}$$

The exposure assumptions used in the above risk equations are presented in Exhibit

3. These exposure assumptions are consistent with those used to develop the SSLs. For constituents with calculated Bright Lines for ground water less than the detection limit, the groundwater Bright Line is set at the detection limit, as defined by the Exemption Quantitation Criteria (EQC). The ground water Bright Lines for 15 constituents are set at their EQC's.

EXHIBIT 3.—EXPOSURE ASSUMPTIONS USED TO CALCULATE GROUND WATER BRIGHT LINES

		Corresponding HWIR-media assumptions	
		Cancer	Non-Cancer
C	= Constituent concentration in groundwater .....	Calculated (mg/l) .....	Calculated (mg/l).
TR	= Target excess lifetime cancer risk .....	10 <sup>-3-1</sup> 70 years .....	—30 years.
AT	= Averaging time .....	70 kg .....	70 kg.
BW	= Body weight .....	Constituent .....	
SF	= Oral cancer slope factor .....	Specific .....	Constituent.
RfD	= Oral reference dose .....	(mg/kg/day) <sup>-1</sup> .....	Specific.
IR	= Groundwater ingestion rate .....		(mg/kg/day).
EF	= Exposure frequency .....	2 liters/day .....	2 liters/day.
ED	= Exposure duration .....	350 days, 30 years .....	350 days, 30 years.

TABLE TO APPENDIX A-2.—BRIGHT LINES FOR GROUNDWATER

CAS No.	Constituent	Groundwater Bright Line (mg/l)	Basis
630-20-6 .....	1,1,1,2-Tetrachloroethane .....	3	Cancer.
71-55-6 .....	1,1,1-Trichloroethane .....	( <sup>1</sup> )	
79-34-5 .....	1,1,2,2-Tetrachloroethane .....	0.4	Cancer.
79-00-5 .....	1,1,2-Trichloroethane .....	1	Non-Cancer.
76-13-1 .....	1,1,2-Trichloro-1,2,2-trifluoroethane .....	10000	Non-Cancer.
75-34-3 .....	1,1-Dichloroethane .....	0.9	Cancer.
75-35-4 .....	1,1-Dichloroethylene .....	0.1	Cancer.
96-18-4 .....	1,2,3-Trichloropropane .....	2	Non-Cancer.
95-94-3 .....	1,2,4,5-Tetrachlorobenzene .....	0.1	Non-Cancer.
120-82-1 .....	1,2,4-Trichlorobenzene .....	4	Non-Cancer.
96-12-8 .....	1,2-Dibromo-3-chloropropane .....	0.06	Cancer.
107-06-2 .....	1,2-Dichloroethane .....	0.9	Cancer.
78-87-5 .....	1,2-Dichloropropane .....	1	Cancer.
122-66-7 .....	1,2-Diphenylhydrazine .....	0.1	Cancer.
542-75-6 .....	1,3-Dichloropropene .....	0.1	Non-Cancer.
99-65-0 .....	1,3-Dinitrobenzene .....	0.04	Non-Cancer.
123-91-1 .....	1,4-Dioxane .....	8	Cancer.
99999-04-0 .....	12378 PeCDFuran .....	0.00001	Cancer.
58-90-2 .....	2,3,4,6-Tetrachlorophenol .....	10	Non-Cancer.
95-95-4 .....	2,4,5-Trichlorophenol .....	40	Non-Cancer.
93-76-5 .....	2,4,5-Trichlorophenoxyacetic acid .....	4	Non-Cancer.
88-06-2 .....	2,4,6-Trichlorophenol .....	8	Cancer.
120-83-2 .....	2,4-Dichlorophenol .....	1	Non-Cancer.
94-75-7 .....	2,4-Dichlorophenoxyacetic acid (2,4-D) .....	4	Non-Cancer.
105-67-9 .....	2,4-Dimethylphenol .....	7	Non-Cancer.
51-28-5 .....	2,4-Dinitrophenol .....	0.7	Non-Cancer.
121-14-2 .....	2,4-Dinitrotoluene .....	0.1	Cancer.
95-80-7 .....	2,4-Toluenediamine .....	0.03	Cancer.
606-20-2 .....	2,6-Dinitrotoluene .....	0.1	Cancer.
823-40-5 .....	2,6-Toluenediamine .....	70	Non-Cancer.
57117-31-4 .....	23478 PeCDFuran .....	0.000001	Cancer.
99999-03-0 .....	2378 HpCDDioxins .....	0.00005	Cancer.
99999-06-0 .....	2378 HpCDFurans .....	0.00005	Cancer.



TABLE TO APPENDIX A-2.—BRIGHT LINES FOR GROUNDWATER—Continued

CAS No.	Constituent	Groundwater Bright Line (mg/l)	Basis
99999-02-0	2378 HxCDDioxins	0.000005	Cancer.
99999-05-0	2378 HxCDFurans	0.000005	Cancer.
99999-01-0	2378 PeCDDioxins	0.000001	Cancer.
1746-01-6	2378 TCDDioxin	0.0000005	Cancer.
51207-31-9	2378 TCDFuran	0.000005	Cancer.
95-57-8	2-Chlorophenol	2	Non-Cancer.
126-99-8	2-Chloro-1,3-butadiene	(1)	
110-80-5	2-Ethoxyethanol	100	Non-Cancer.
91-59-8	2-Naphthylamine	0.1	Cancer.
79-46-9	2-Nitropropane	(1)	
88-85-7	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	0.4	Non-Cancer.
91-94-1	3,3'-Dichlorobenzidine	0.2	Cancer.
119-90-4	3,3'-Dimethoxybenzidine	6	Cancer.
119-93-7	3,3'-Dimethylbenzidine	0.01	EQC Floor.
107-05-1	3-Chloropropene	(1)	
56-49-5	3-Methylcholanthrene	0.01	EQC Floor.
57-97-6	7,12-Dimethylbenz(a)anthracene	0.01	EQC Floor.
83-32-9	Acenaphthene	20	Non-Cancer.
67-64-1	Acetone (2-propanone)	40	Non-Cancer.
75-05-8	Acetonitrile (methyl cyanide)	2	Non-Cancer.
98-86-2	Acetophenone	40	Non-Cancer.
107-02-8	Acrolein	7	Non-Cancer.
79-06-1	Acrylamide	0.1	EQC Floor.
107-13-1	Acrylonitrile	0.2	Cancer.
309-00-2	Aldrin	0.005	Cancer.
319-84-6	alpha-HCH	0.01	Cancer.
62-53-3	Aniline (benzeneamine)	10	Cancer.
7440-36-0	Antimony (and compounds N.O.S.)	0.1	Non-Cancer.
140-57-8	Aramite	3	Cancer.
7440-38-2	Arsenic (and compounds N.O.S.)	0.05	Cancer.
7440-39-3	Barium (and compounds N.O.S.)	30	Non-Cancer.
71-43-2	Benzene	3	Cancer.
92-87-5	Benzidine	0.03	EQC Floor.
98-07-7	Benzotrichloride	0.007	Cancer.
50-32-8	Benzo(a)pyrene	0.01	Cancer.
205-99-2	Benzo(b)fluoranthene	0.1	Cancer.
100-51-6	Benzyl alcohol	100	Non-Cancer.
100-44-7	Benzyl chloride	0.5	Cancer.
56-55-3	Benz[a]anthracene	0.2	Cancer.
7440-41-7	Beryllium (and compounds N.O.S.)	0.02	Cancer.
319-85-7	beta-HCH	0.05	Cancer.
111-44-4	Bis(2-chloroethyl) ether	0.08	Cancer.
39638-32-9	Bis(2-chloroisopropyl) ether	1	Cancer.
117-81-7	Bis(2-ethylhexyl) phthalate	6	Cancer.
75-27-4	Bromodichloromethane	0.7	Cancer.
74-83-9	Bromomethane	0.5	Non-Cancer.
71-36-3	Butanol	40	Non-Cancer.
85-68-7	Butyl benzyl phthalate	70	Non-Cancer.
7440-43-9	Cadmium (and compounds N.O.S.)	0.2	Non-Cancer.
75-15-0	Carbon disulfide	40	Non-Cancer.
56-23-5	Carbon tetrachloride	0.3	Non-Cancer.
57-74-9	Chlordane	0.02	Non-Cancer.
108-90-7	Chlorobenzene	7	Non-Cancer.
510-15-6	Chlorobenzilate	0.3	Cancer.
124-48-1	Chlorodibromomethane	1	Cancer.
67-66-3	Chloroform	4	Non-Cancer.
74-87-3	Chloromethane	(1)	
7440-47-3	Chromium (and compounds N.O.S.)	2	Non-Cancer.
218-01-9	Chrysene	1	Cancer.
156-59-2	cis-1,2-Dichloroethene	4	Non-Cancer.
10061-01-5	Cis-1,3-Dichloropropene	0.1	Non-Cancer.
7440-50-8	Copper	10	Non-Cancer.
1319-77-3	Cresols	20	Non-Cancer.
98-82-8	Cumene	10	Non-Cancer.
57-12-5	Cyanide (amenable)	7	Non-Cancer.
72-54-8	DDD	0.4	Cancer.
72-55-9	DDE	0.3	Cancer.
50-29-3	DDT	0.2	Non-Cancer.
2303-16-4	Diallate	1	Cancer.
53-70-3	Dibenz(a,h)anthracene	0.002	Cancer.

TABLE TO APPENDIX A-2.—BRIGHT LINES FOR GROUNDWATER—Continued

CAS No.	Constituent	Groundwater Bright Line (mg/l)	Basis
74-95-3	Dibromomethane (methylene bromide)	4	Non-Cancer.
75-71-8	Dichlorodifluoromethane	70	Non-Cancer.
75-09-2	Dichloromethane (Methylene Chloride)	10	Cancer.
60-57-1	Dieldrin	0.005	Cancer.
84-66-2	Diethyl phthalate	300	Non-Cancer.
56-53-1	Diethylstilbestrol	0.02	EQC Floor.
60-51-5	Dimethoate	0.07	Non-Cancer.
131-11-3	Dimethyl phthalate	4000	Non-Cancer.
122-39-4	Diphenylamine	9	Non-Cancer.
298-04-4	Disulfoton	0.01	Non-Cancer.
84-74-2	Di-n-butyl phthalate	40	Non-Cancer.
117-84-0	Di-n-octyl phthalate	7	Non-Cancer.
115-29-7	Endosulfan	0.02	Non-Cancer.
72-20-8	Endrin	0.1	Non-Cancer.
106-89-8	Epichlorohydrin	0.7	Non-Cancer.
141-78-6	Ethyl acetate	300	Non-Cancer.
60-29-7	Ethyl ether	70	Non-Cancer.
97-63-2	Ethyl methacrylate	30	Non-Cancer.
62-50-0	Ethyl methanesulfonate	0.02	EQC Floor.
100-41-4	Ethylbenzene	40	Non-Cancer.
106-93-4	Ethylene dibromide	0.001	Cancer.
96-45-7	Ethylenethiourea	0.03	Non-Cancer.
52-85-7	Famphur	0.02	EQC Floor.
206-44-0	Fluoranthene	10	Non-Cancer.
86-73-7	Fluorene	10	Non-Cancer.
50-00-0	Formaldehyde	70	Non-Cancer.
64-18-6	Formic acid	700	Non-Cancer.
110-00-9	Furan	0.4	Non-Cancer.
58-89-9	gamma-HCH (Lindane)	0.07	Cancer.
76-44-8	Heptachlor	0.02	Cancer.
1024-57-3	Heptachlor epoxide (alpha, beta, gamma)	0.005	Non-Cancer.
118-74-1	Hexachlorobenzene	0.05	Cancer.
608-73-1	Hexachlorocyclohexane	0.05	Cancer.
77-47-4	Hexachlorocyclopentadiene	3	Non-Cancer.
67-72-1	Hexachloroethane	0.4	Non-Cancer.
70-30-4	Hexachlorophene	0.1	Non-Cancer.
87-68-3	Hexachloro-1,3-butadiene	1	Cancer.
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	Cancer.
78-83-1	Isobutyl alcohol	100	Non-Cancer.
78-59-1	Isophorone	70	Non-Cancer.
143-50-0	Kepone	0.02	EQC Floor.
7439-92-1	Lead (and compounds N.O.S.)	(1)	
108-31-6	Maleic anhydride	40	Non-Cancer.
7439-97-6	Mercury (and compounds N.O.S.)	0.1	Non-Cancer.
126-98-7	Methacrylonitrile	0.04	Non-Cancer.
67-56-1	Methanol	200	Non-Cancer.
72-43-5	Methoxychlor	2	Non-Cancer.
78-93-3	Methyl ethyl ketone	200	Non-Cancer.
108-10-1	Methyl isobutyl ketone	20	Non-Cancer.
80-62-6	Methyl methacrylate	30	Non-Cancer.
298-00-0	Methyl parathion	0.09	Non-Cancer.
7439-98-7	Molybdenum	2	Non-Cancer.
108-39-4	m-Cresol	20	Non-Cancer.
91-20-3	Naphthalene	10	Non-Cancer.
7440-02-0	Nickel (and compounds N.O.S.)	7	Non-Cancer.
98-95-3	Nitrobenzene	0.2	Non-Cancer.
62-75-9	N-Nitrosodimethylamine	0.01	EQC Floor.
86-30-6	N-Nitrosodiphenylamine	20	Cancer.
621-64-7	N-Nitrosodi-n-propylamine	0.01	EQC Floor.
10595-95-6	N-Nitrosomethylethylamine	0.01	EQC Floor.
100-75-4	N-Nitrosopiperidine	0.02	EQC Floor.
930-55-2	N-Nitrosopyrrolidine	0.04	Cancer.
55-18-5	N-Nitroso-diethylamine	0.02	EQC Floor.
924-16-3	N-Nitroso-di-n-butylamine	0.02	Cancer.
3268-87-9	OCDD	0.0005	Cancer.
99999-07-0	Octachlorodibenzofuran (OCDF)	0.0005	Cancer.
152-16-9	Octamethyl pyrophosphoramidate	0.7	Non-Cancer.
95-48-7	o-Cresol	20	Non-Cancer.
95-50-1	o-Dichlorobenzene	30	Non-Cancer.
95-53-4	o-Toluidine	0.4	Cancer.

TABLE TO APPENDIX A-2.—BRIGHT LINES FOR GROUNDWATER—Continued

CAS No.	Constituent	Groundwater Bright Line (mg/l)	Basis
56-38-2	Parathion	2	Non-Cancer.
608-93-5	Pentachlorobenzene	0.3	Non-Cancer.
82-68-8	Pentachloronitrobenzene (PCNB)	0.3	Cancer.
87-86-5	Pentachlorophenol	0.7	Cancer.
108-95-2	Phenol	200	Non-Cancer.
25265-76-3	Phenylenediamine	2	Non-Cancer.
298-02-2	Phorate	0.07	Non-Cancer.
85-44-9	Phthalic anhydride	700	Non-Cancer.
1336-36-3	Polychlorinated biphenyls	0.01	Cancer.
23950-58-5	Pronamide	30	Non-Cancer.
129-00-0	Pyrene	10	Non-Cancer.
110-86-1	Pyridine	0.4	Non-Cancer.
106-47-8	p-Chloroaniline	1	Non-Cancer.
106-44-5	p-Cresol	( <sup>1</sup> ).	
106-46-7	p-Dichlorobenzene	4	Cancer.
106-49-0	p-Toluidine	0.4	Cancer.
94-59-7	Safrole	0.5	Cancer.
7782-49-2	Selenium (and compounds N.O.S.)	2	Non-Cancer.
7440-22-4	Silver (and compounds N.O.S.)	2	Non-Cancer.
93-72-1	Silvex (2,4,5-TP)	3	Non-Cancer.
57-24-9	Strychnine and salts	0.1	Non-Cancer.
100-42-5	Styrene	70	Non-Cancer.
99-35-4	sym-Trinitrobenzene	0.02	Non-Cancer.
127-18-4	Tetrachloroethylene	4	Non-Cancer.
3689-24-5	Tetraethyl dithiopyrophosphate	0.2	Non-Cancer.
7440-28-0	Thallium	( <sup>1</sup> )	
108-88-3	Toluene	70	Non-Cancer.
8001-35-2	Toxaphene	0.08	Cancer.
156-60-5	trans-1,2-Dichloroethene	7	Non-Cancer.
10061-02-6	Trans-1,3-Dichloropropene	0.1	Non-Cancer.
75-25-2	Tribromomethane (Bromoform)	7	Non-Cancer.
79-01-6	Trichloroethylene	( <sup>1</sup> )	
75-69-4	Trichlorofluoromethane	100	Non-Cancer.
126-72-7	Tris(2,3-dibromopropyl)phosphate	0.2	EQC Floor.
7440-62-2	Vanadium	3	Non-Cancer.
75-01-4	Vinyl chloride (Chloroethene)	0.04	Cancer.
1330-20-7	Xylenes	700	Non-Cancer.
7440-66-6	Zinc (and compounds N.O.S.)	100	Non-Cancer.

<sup>1</sup> No Data.

**Appendix B to Part 269—Submittal of Treatability Data**

Both treatability data and full-scale operating data shall be submitted to EPA for entry into the National Risk Management Research Laboratory (NRMRL) treatability database system. Data from treatability studies shall be submitted as soon as the treatability study (or studies) has been completed. Full-scale operating data shall be submitted every three years, or after the cleanup has been completed, whichever is first.

Data shall be submitted to: Chief, Site Management Support Branch, National Risk Management Research Laboratory, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268.

A copy of the entire treatability/performance study should be submitted if possible. No particular format is required for presentation of the data; however, the following information must be included:

- Site/laboratory name and address
- Point of contact
- Technology (or technologies) used
- Chemicals of contamination

—Size of study (i.e., bench top, pilot plant, full scale)

- Volumes treated
- Description of study/abstract
- Beginning and ending concentrations
- Percent removal
- Analytical method
- Source matrix
- Any important operational parameters
- Any other information that the site feels is important

Sites should be aware that any data submitted will be available to the general public through the NRMRL treatability database. Sites should not submit confidential business information (CBI) material.

**PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM**

**Subpart A—General Information**

15. The authority citation for part 270 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912, 6924, 6925, 6927, 6939, and 6974.

15a. Section 270.1 (a)(1) is revised to read as follows:

**§ 270.1 Purpose and scope of these regulations.**

(a) Coverage. (1) These permit regulations establish provisions for the Hazardous Waste Permit Program under Subtitle C of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (RCRA), (Pub. L. 94-580, as amended by Pub. L. 95-609 and by Pub. L. 96-482; 42 U.S.C. 6091 et seq.). They apply to EPA and to approved States to the extent provided in part 271 of this chapter. Other requirements can be found in Part 269 of this chapter.

\* \* \* \* \*

**PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS**

16. The authority citation for part 271 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a) and 6926.

16a. Section 271.21 is amended by revising paragraph (b) introductory text, (b)(1), (b)(2) and (e)(2) introductory text; by reserving paragraph (h) and by adding paragraphs (i), (j) and (k) and by adding a table to the end of the section to read as follows:

**§ 271.21 Procedures for revision of State programs.**

\* \* \* \* \*

(b) Revision of a State program shall be accomplished as follows:

(1) The State shall submit a modified program description, Attorney General's Statement, Memorandum of Agreement, or such other documents as EPA determines to be necessary under the circumstances. Submittals to support Category 1 and Category 2 program revisions (as listed in Table 1) shall be in accordance with paragraph (i) of this section.

(2) The Administrator shall approve or disapprove program revisions based on the requirements of this part and of the Act. In approving or disapproving program revisions, the Administrator shall follow the procedures of paragraph (b) (3) or (4) of this section. Procedures for review and approval of Category 1 and Category 2 program revisions (as listed in Table 1) shall be in accordance with paragraph (i) of this section.

\* \* \* \* \*

(e) \* \* \*

(2) Federal program changes are defined for purposes of this section as promulgated amendments to 40 CFR parts 124, 270, 260–269 and any self-implementing statutory provisions (i.e., those taking effect without prior implementing regulations) which are

listed as State program requirements in this subpart. States must modify their programs to reflect Federal program changes and must subsequently submit the modifications to EPA for approval.

\* \* \* \* \*

(h) (Reserved).

(i) Category 2 program revisions. Category 2 program revisions and prerequisite requirements are identified in Table 1 of this section. The procedures for authorization of Category 2 program revisions are as follows:

(1) The State shall submit an application for authorization of Category 2 program revision(s). The State application shall include:

(i) A certification by the State Attorney General (or the attorney for the State agency(ies) which have independent legal counsel) that the laws and regulations of the State provide adequate authority to implement a State program equivalent to the Federal program as listed in Table 1;

(ii) A certification by the Director (as "Director" is defined in 40 CFR 270.2) that the State intends to and has the capability to implement a State program equivalent to the Federal program. EPA may establish essential program elements for any Category 2 rule. When established, the Director's certification shall address each essential element individually.

(iii) An update to the State/EPA Memorandum of Agreement (MOA) provided in § 271.8 or a certification by the Director stating that the current MOA provides for adequate implementation of the program revision(s).

(iv) An update to the Program Description provided in § 271.6 or a certification by the Director stating that the current Program Description adequately addresses implementation of the program revision(s).

(v) Copies of all cited State laws and regulations showing that the cited State laws and regulations are lawfully

adopted and fully effective at the time the certifications are signed.

(vi) At the State's discretion, any additional information which the State believes will support the application.

(2) Within 30 days of receipt of a Category 2 program revision application, EPA will review the application to determine if it is complete. If EPA determines that the application is not complete, EPA will provide the State a concise written Statement of the deficiencies of the application.

(3) Within 60 days of determining a Category 2 application is complete, EPA will review the application to determine whether the application describes a State program equivalent to the Federal program and follow the procedures of paragraph (b)(3) of this section for an immediate final rule to publish its decision to authorize or deny authorization of the program revision. The State and EPA may agree to a longer or shorter review period. The State and EPA may agree to use the procedures of paragraph (b)(4) of this section for a proposed/final rule.

(j) For purposes of Category 2 program revisions, State programs will be considered equivalent to the Federal program if the laws and regulations cited by the State provide for a program no less stringent than the analogous Federal program.

(k) For purposes of Category 2 program revisions, State certifications will be considered incomplete when:

(1) Copies of cited statutes or regulations were not included;

(2) The statutes or regulations cited by the State are not in effect;

(3) The State is not yet authorized for certain RCRA rules specified as necessary before seeking authorization of the program revision at issue, as identified in Table 1;

(4) The certification contains significant errors or omissions.

TABLE 1 to § 271.21

Program revision	Prerequisite regulations	Category
HWIR-media rule 40 CFR Part 269 (except 40 CFR 269.30–26934) .....	Final authorization as defined in § 270.2	2
LDR treatment requirements for media 40 CFR 269.30–26934 .....	LDR Third Third Rule, 55 FR 22520 Jun. 1, 1990.	2
Site-specific LDR treatment variances 40 CFR 268.44 .....	LDR Third Third, 55 FR 22520 Jun. 1, 1990.	2
HWIR-waste rule (60 FR 66344–663469, December 21, 1995) .....	Final authorization as defined in § 270.2	2
Revised Technical Standards for Hazardous Waste Combustion Facilities April 19, 1996.	Final authorization as defined in § 270.2	2

17. Add a new § 271.28 to subpart A to read as follows:

**§ 271.28 Specific authorization provisions for an HWIR-media program.**

(a) The essential elements of an HWIR-media program are:

(1) Authority to address all media that contain hazardous wastes listed in Part 261, Subpart D of this chapter, or that exhibit one or more of the characteristics of hazardous waste defined in part 261, subpart C of this chapter.

(2) Authority to address the hazards associated with media that are managed as part of remedial activities and that the Director has determined do not contain hazardous wastes (according to 40 CFR 269.4), but would otherwise be subject to Subtitle C regulation. States that choose to make contained-in decisions only when the concentrations of hazardous constituents in any given media are protective of human health and the environment, absent any additional management standards (i.e., eatable, drinkable concentrations), may receive HWIR-media authorization without certifying their ability to impose management standards on media that no longer contain hazardous waste.

(3) Authority to include, in the definition of media, materials found in the natural environment such as soil, ground water, surface water, and sediments, or a mixture of such materials with liquids, sludges, or solids that are inseparable by simple mechanical removal processes and made up primarily of media.

(4) Authority to exclude debris (as defined in 40 CFR 268.2) and non-media cleanup wastes from the requirements of 40 CFR part 269 (except the requirements for Remediation Management Plans).

(5) Authority to use the contained-in principle (or equivalent principles) to remove contaminated media from the definition of hazardous waste only if they contain hazardous constituents at concentrations at or below those specified in appendix A of part 269 of this chapter.

(6) Authority to require compliance with LDR requirements listed in 40 CFR 269.30 through 269.34.

(7) Authority to issue, modify and terminate (as appropriate) permits, orders, or other enforceable documents to impose management standards for media as described in essential elements 1–6 and 8 and 9.

(8) Requirements for public involvement in management decisions for hazardous and non-hazardous media as described in 40 CFR 269.43(e).

(9) Authority to require that data from treatability studies and full scale treatment of media that contain hazardous waste be submitted to EPA for inclusion in the National Risk Management Research Laboratory treatability database.

(b) EPA may withdraw authorization of a State HWIR-media program whenever:

(1) The State has failed to adequately address EPA concerns; or

(2) The State's HWIR-media program does not provide authority for all of the HWIR-media program essential elements as set forth in this section; or

(3) The State's HWIR-media program meets any one of the criteria for general program withdrawal as set forth in § 271.22. When withdrawing a State's HWIR-media program authorization, EPA will use the procedures of § 271.21(b)(4) for a proposed/final rule to provide notice of the proposed authorization decision.

(c) Following withdrawal of a State's HWIR-media program, the State is barred from making contained-in decisions or from approving RMPs and EPA will implement the Federal HWIR-media program in the State. RMPs issued by a State pursuant to its HWIR-media program prior to program withdrawal will remain in effect; however, EPA may use its enforcement authorities to impose additional requirements on media managed pursuant to such RMPs, as necessary to protect human health and the environment.

(d) Any person may, at any time, submit written information to EPA alleging inadequate State performance of an authorized HWIR-media program and EPA will consider such information when making decisions about the appropriate phase of monitoring for a State HWIR-media program. EPA will provide copies of all such written information to the Director and give the State at least 30 days to respond. Following receipt of the State's response, EPA will respond to all such information in writing. EPA and the State may agree to waive the opportunity for State response.

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