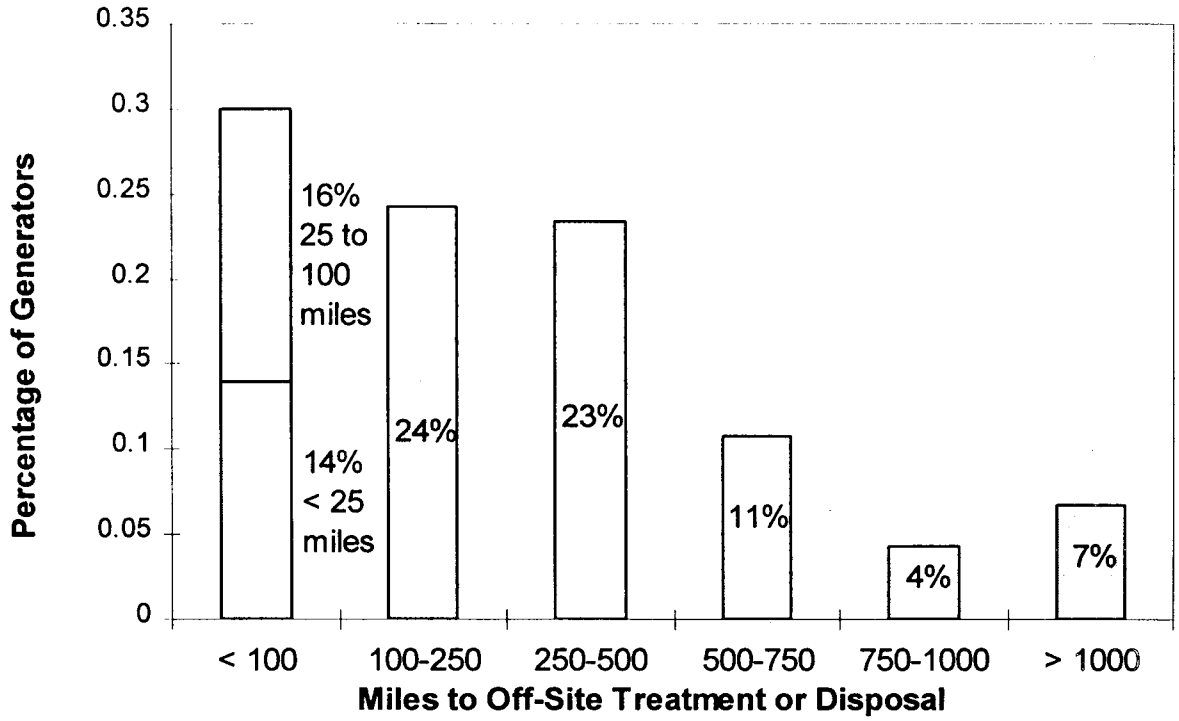
Exhibit 2-4: Distance To Off-Site Management For Non-CERCLA/RCRA/UST Hazardous Remediation Waste



Source: 1995 BRS data.

reporting to the BRS. For example, over 75 percent of hazardous waste generators transport their waste less than 500 miles.

To calculate a weighted average per-ton transport distance, the Agency multiplied the tonnage generated at each site by the distance to the receiving facility and divided by the total number of tons generated. The Agency eliminated transport distances reported by generators located in Alaska and Hawaii to facilities in the continental United States because the analysis assumes that truck transport will be used to transport the wastes and these facilities are not expected will most likely use ships to transport their wastes to treatment and disposal facilities. Excluding these Alaskan and Hawaiian facilities, the average per ton distance traveled to treatment and disposal was calculated to be 210 miles.[7]

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[7] Because transporting large volumes of hazardous waste long distance is often prohibitively expensive, sites generating large volumes of remediation waste may treat such wastes off site only if there is a treatment/disposal facility nearby. Because this analysis uses a weighted average of *all* non-CERCLA/RCRA/UST contaminated soil generators in the BRS as opposed to a weighted average of just the five to 10 percent of the highest volume generators, EPA was concerned about overestimating transport distances for sites expected to switch to

(continued...)

Previous analyses done for EPA estimated that the cost of shipping solid hazardous waste by truck to be approximately $0.10 per ton-mile.[8] Since the Agency believes that over 90 percent of hazardous waste shipments travel by truck, the EPA used the estimated cost of truck transport in this analysis.[9] Applying the $0.10 per ton-mile estimate to the 50,000 to 280,000 tons switching to on-site management yields a total estimated transportation-related annual savings ranging from $1.1 million to $5.9 million ($0.10 per ton-mile x 210 miles x 50,000 to 280,000 tons).

In order to account for the administrative cost of obtaining the RAP, EPA subtracted from the transport-related savings an estimated $8,000 per site. This estimate accounted for facility time and money spent in developing and submitting the RAP and was obtained from ICR 1775.02, entitled "Hazardous Remediation Waste Management Requirements."[10] The overall administrative cost of obtaining RAPs was calculated by multiplying the per RAP cost by the number of sites expected to use a RAP (seven to 66 sites).

Subtracting the estimated administrative cost of obtaining the RAP from the transportation savings yields an overall annual savings for the switch from off-site to on-site management ranging from approximately $1,044,000 to $5,370,000 ($1,100,000-$56,000 to $5,900,000-$530,000), which is rounded to $1.0 million to $5.4 million per year.

Cost Savings From Switching from Ex-Situ to In-Situ Treatment

In previous steps, the Agency estimated that between 50,000 and 280,000 tons per year of contaminated soil generated at sites remediated under state superfund and voluntary cleanup programs are expected to switch from off-site to on-site management as a result of the new RAP provisions. Because these volumes will now be managed on site, remediation decisionmakers will have the option to treat them in or ex situ. As in-situ treatment methods are generally less expensive than ex-situ methods, EPA

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[7] (...continued)
on-site management. Further analysis of the BRS data, however, revealed that the largest five to 10 percent of generators, on average, ship their contaminated soil further than other generators.

[8] For further data about the cost of hazardous waste transport, see ICF Incorporated's memorandum to Jim O'Leary of EPA's Office of Solid Waste, "Results of Preliminary Research Under Task 7 Regarding Costs and Risks of Hazardous Waste Transportation," June 26, 1996.

[9] Ibid.

[10] ICR 1775.02, "Hazardous Remediation Waste Management Requirements," U.S. EPA, Office of Solid Waste, March 1998.

expects that remediation decisionmakers will sometimes use in-situ methods to reduce overall treatment costs.[11]

In order to estimate how much of the 50,000 to 280,000 tons projected to shift to on-site treatment will be treated in situ, EPA used a database and model initially developed for the *Phase IV Contaminated Media EA*. This source contains the following data obtained from 326 CERCLA Records of Decision (RODs):

- Overall site volume;
- Constituents found at the site; and
- Constituent concentration levels.

Using these data, EPA developed a model for the Phase IV analysis to predict how the contaminated volumes would be treated at each site. The model predicted the treatment technologies expected to be used based on site volume, type of constituent (e.g., VOCs, metals), and constituent concentration. In order to estimate each facility's cost of treatment, EPA reviewed treatment technology cost information from various sources. For more information about the development of the database and the model, see Chapter 2 of the *Phase IV Contaminated Media EA*.

The database and model predicted that across all CERCLA sites, approximately 50 percent of the contaminated soil generated would be treated ex situ, at a cost of approximately $400 per ton. The model predicted that the other 50 percent of the soil would be treated in situ, at a cost of approximately $200 per ton. Thus, EPA estimates that in-situ treatment is, on average, $200 per ton less expensive than ex-situ treatment.

While this approach relies on data for CERCLA remedial actions instead of state superfund and voluntary cleanups, EPA believes that this reliance, which also occurred for the Phase IV analysis, is reasonable for two major reasons. First, detailed data on state superfund and voluntary cleanups are not readily available. Second, the portion of contaminated soil treated in situ may be similar for state superfund and voluntary cleanup sites and CERCLA sites. On the one hand, CERCLA sites have larger volumes of contamination, on average, than state superfund and voluntary sites, which is a factor favoring use of in-situ treatment methods. On the other hand, CERCLA sites also are generally more highly contaminated than state superfund and voluntary sites, which is a reason for ex-situ treatment since such treatment is generally more effective than in-situ treatment. Nevertheless, the assumption that 50 percent of state superfund and voluntary remediation waste switching to on-site management will be managed in situ may be an overestimate because of the very large volumes at some

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[11] To the extent that in-situ treatment may currently be occurring without a RCRA permit, this analysis overestimates the savings related to a switch from ex-situ to in-situ treatment.

CERCLA sites that are infeasible to treat ex situ. To the extent of any such overestimation, the cost savings associated with the RAPs also are overestimated.

In order to determine the tonnage switching from ex-situ to in-situ treatment as a result of this rule, EPA applied the CERCLA percentages from the Phase IV model to the volume of state superfund and voluntary soils that are expected to switch from off-site to on-site management. Assuming that 50 percent of the 50,000 to 280,000 tons per year expected to switch to on-site management will be treated in situ, EPA estimates that between 25,000 to 140,000 tons will switch to in-situ treatment. In order to estimate the overall cost savings from this shift to in-situ treatment, EPA applied the $200 difference between in-situ and ex-situ treatment costs to the 25,000 to 140,000 tons per year expected to switch to in-situ treatment, yielding an additional annual cost savings ranging from $5 million to $28 million.

Exhibit 2-5 shows the summary of savings for the RAP provisions. Combining the savings from avoided transportation and from a switch to in-situ treatment yields a total savings to contaminated sites expected to be cleaned up under state superfund and voluntary programs of $6 million to $33 million per year. This total savings is rounded to represent uncertainty to $5 million to $35 million per year.

Exhibit 2-5: Summary of Remedial Action Plan (RAP) Cost Savings
($ in millions per year)

Cost Impacts from RAPs	Baseline Case	Post-Regulatory Case	Incremental Cost Savings
Avoided Transportation Costs	1.1 - 5.9	0.07 - 0.5	(1.0) - (5.4)
Switch from Ex-Situ to In-Situ Treatment	10 - 56	5 - 28	(5) - (28)
TOTAL	11.1 - 61.9	5.1 - 28.5	(6) - (33)

2.1.3 Effect of RAPs at Contaminated Sites Where Remediation Is Not Planned

Because RAPs are simpler and less expensive to obtain than Part B permits and do not come with facility-wide corrective action liability, the Agency believes that some remediation managers who are not planning to clean up their contaminated sites under the current requirements will be spurred to begin remediation as a result of the HWIR-Media rule. Thus, the Agency expects that the overall number of cleanups performed each year under state superfund and voluntary cleanup programs will increase as a result of the new RAP provisions.

The type of contaminated sites most likely to begin cleanup are those in states without RCRA permit waiver authority where the use of on-site, in-situ treatments will result in significant cost savings over off-site management options. Under a RAP, facilities will be able to use on-site, in-situ treatment methods without obtaining a RCRA permit or assuming corrective action liability. Therefore, EPA expects an overall increase in the number of contaminated sites remediated each year. EPA did not quantify the increased rate of remediation because the decision to begin cleanup is driven by many factors, including site risk factors, distance to off-site treatment and disposal facilities, the extent and type of contamination, and potential future site use. As EPA does not have extensive data about many sites where remediation is not planned, it is difficult to predict how many of these sites will likely begin cleanup because of the RAP provisions. EPA, however, believes that the pace of cleanup will be most affected in states that do not have RCRA permit waiver authority. The RAP provisions are expected to reduce site cleanup costs in these states, which will likely encourage some facilities to begin remediation. The rate of cleanup in states with permit waiver authority is not expected to change significantly because remediation managers can already manage remediation wastes on-site without a RCRA permit and corrective action liability.

The increased rate of treatment will increase the overall national costs and benefits of treating remediation waste. However, because cleanup remains voluntary, firms will independently decide to cleanup if their private benefits, including higher land values and avoidance of escalating cleanup costs, exceed their private costs. The social benefits from accelerated cleanup of increased protection of human health and the environment will likely exceed the private and other social costs of cleanup. EPA was unable to estimate any costs or benefits because of inherently limited data on cleanups that are not currently planned.

2.1.4 Major Limitations

Modeling the impact of the changes in the RCRA Subtitle C permitting requirements for remediation wastes is inherently difficult because remediation decisions reflect a range of critical factors in addition to the federal RCRA permitting regulations. Unlike hazardous process wastes, hazardous contaminated media that were contaminated prior to the land disposal restrictions are not required to be treated unless the media are excavated. Thus, remediation decisionmakers may decide, based on site-specific factors, whether to remediate the contamination and, if so, whether to conduct the remediation in a manner that requires a RCRA permit (or RAP under the HWIR-Media final rule).

Modeling these site-specific decisions also is difficult because a wide range of factors are important. These factors include the contamination (e.g., type and concentration of the hazardous constituents, volume), the local environment (e.g., hydrogeology, climate, land-use patterns), available management technologies, costs,

and facilities, state remediation programs and requirements, and public desires. Taking all these factors into account in the modeling is not feasible; instead, the modeling must focus on the most important factors for which data are readily available.

In addition to these general concerns, the analysis of RAPs is qualified by several major data and methodological limitations, which are described below.

Five-year Analysis Horizon. The analysis addresses the impact of the HWIR-Media rule over the five-year period following its adoption. This limited horizon is used because longer-term projections about the nature and pace of remediation activities are subject to substantial uncertainties, such as government remediation and enforcement budgets, potential changes in statutes governing contaminated site cleanup, improvements in treatment technologies, and the demand for restoring economically valuable contaminated properties (e.g., Brownfields).

Focus on Soil Contamination. While RAPs apply to all types of hazardous remediation waste (e.g., contaminated soil, sediment, groundwater, sludge, and debris), this analysis estimates savings for only contaminated soil at state superfund and voluntary cleanup sites. EPA focused on soil contamination for several reasons:

- Few data are available on the generation, composition, and management of other remediation wastes at state superfund and voluntary cleanup sites.

- Previous analyses showed that hazardous sediments were rarely generated in volumes sufficient to justify on-site management at state superfund and voluntary sites.

- Significant amounts of groundwater are unlikely to shift from off-site to on-site treatment under RAPs. Currently, groundwater is typically treated on site because of the cost, logistical limitations, and other difficulties of transporting and treating large volumes of liquid wastes off site. Thus, contaminated groundwater generated at state superfund and voluntary cleanup sites is not expected to recognize significant savings from RAPs.

- The nature of debris will prevent it from recognizing significant savings from a shift to in-situ treatment. Debris is most amenable to ex-situ treatment technologies; it is difficult to treat materials such as metal, glass, rubber, concrete, or cloth in situ.

To the extent that hazardous remediation waste other than contaminated soil are generated at state superfund and voluntary cleanup sites and can recognize savings

from avoided transportation and from a shift to in-situ treatment, this analysis underestimates the savings of the RAP provisions.

Percent of Sites in Switching to On-site Treatment. The analysis assumes that 10 to 50 percent of state superfund and voluntary cleanup sites are located in states with the authority to waive RCRA permit requirements for on-site management of hazardous remediation wastes. The five to 10 percent of these sites with the largest volumes of remediation waste are projected to switch from off-site to on-site treatment. These assumptions are critical determinants of the estimated savings. They reflect the input of state and EPA corrective action experts. The wide range of the estimate (10 to 50 percent) illustrates the considerable uncertainty about the existence of these waivers. Nevertheless, given the lack of readily available information on these issues, EPA believes that its methodology is reasonable.

Percent of Sites Switching to On-site Treatment that Treat Wastes In Situ. The estimated cost savings for RAPs reflect the assumption that 50 percent of state superfund and voluntary remediation waste switching to on-site management will be managed in situ. This estimate is based on the experience of CERCLA sites. It may, however, overestimate the extent of in-situ treatment for state superfund and voluntary cleanup sites because of the Superfund estimate is heavily influenced by some very large volumes CERCLA sites, where ex-situ treatment is infeasible. To the extent of any such overestimation, the cost savings associated with the RAPs also are overestimated

Average Cost Savings from In-situ Instead of Ex-Situ Treatment. The analysis projects a cost savings of $200 per ton for contaminated soil that shifts from off-site, ex-situ management to on-site, in-situ management. This estimate relies on analysis performed for the Phase IV soil treatment standards using data for a sample of CERCLA remedial actions. Whether the types and concentrations of hazardous constituents and other determinants of treatment costs are different at state and voluntary cleanup sites and CERLCA remedial action sites, however, is unclear because of the absence of detailed site-specific data on the contamination and management practices at state and voluntary cleanup sites. Thus, it remains unclear whether the methodology overestimates or underestimates the difference between ex-situ and in-situ treatment costs.

2.2 Cost Savings of Staging Piles

Large volumes of remediation wastes are often excavated during cleanups. The physical, economic, and technical limitations of site cleanup activities often dictate that facilities temporarily store these remediation wastes prior to the completion of the remedial activity. For example, remediation managers store wastes in order to accumulate sufficient material for cost-effective treatment or off-site shipment. Under the current rules, facilities can use temporary units (TUs), waste piles, the AOC policy,

or CAMUs to store these wastes temporarily. The HWIR-Media rule, as explained in Chapter 1, includes provisions for staging piles in which facilities can temporarily store hazardous remediation waste for up to two years (with an additional six-month extension) without meeting the LDR or minimum technology requirements (MTRs) typically associated with land-based units.

For a number of reasons discussed in the following section, EPA believes that staging pile use will not be widespread and the accompanying cost savings will be relatively small. The provision, however, will not impose any costs since the use of staging piles is voluntary. The remainder of this section:

- Compares the different options available for temporary storage;
- Discusses the potential frequency of staging pile use; and
- Describes the estimated cost savings associated with staging piles.

Temporary Storage Options For Hazardous Remediation Waste

As explained above, sites wanting to store hazardous remediation waste temporarily can use TUs, waste piles, AOCs, or CAMUs. As allowed by 40 CFR 264.553, TUs can be used to store hazardous remediation waste in temporary tanks and container storage areas for up to one year. For the temporary storage of hazardous remediation waste for longer than one year, current options include waste piles, AOCs, and CAMUs. Facilities typically will not use waste piles for such storage because waste piles must meet extensive MTRs and material placed in them must meet LDR standards prior to placement. AOCs and CAMUs can be used to store hazardous remediation waste with no storage time limits, but getting an AOC or a CAMU approved takes significant resources and is seldom worth the cost for temporary storage. Thus, staging piles may provide facilities with a cost-effective, protective, and reliable mechanism for temporarily storing hazardous remediation waste for up to two years.

Frequency of Staging Pile Use

While EPA believes that staging piles will be useful in certain situations, the Agency does not expect that their use will be widespread for two main reasons. First, staging piles cannot be used for treatment because they are designed for temporary storage. The Agency believes that treatment is more appropriate in TUs or CAMUs which would have design and operating standards appropriate for a treatment or disposal unit. As treatment generally creates more possibility for exposure risks than short-term storage, additional safeguards in the form of TU or CAMU design or operating criteria are needed. Second, as explained in the preamble of the HWIR-Media rule, the Agency prefers storage in temporary units when tank and container storage is a practical and time-efficient alternative because tanks and containers

provide a protective, solid, and non-land based structure for accumulating remediation waste.

As stated, the Agency expects that staging piles will be useful in a number of situations. For example, facilities will be able to accumulate hazardous remediation waste for up to two years in staging piles, as opposed to one year in TUs (under 40 CFR 264.553), in order to make a full container shipment to a TSD facility or to facilitate cost-effective on-site treatment. Staging piles will also aid in situations where a site has non-contiguous areas of contaminated soil, because staging piles will allow for consolidation of wastes without triggering RCRA LDRs or MTRs. Finally, staging piles could be used to accumulate remediation waste in a location that is more suitable than the point of generation from a risk standpoint. For example, if the contaminated site is located on a flood plain, it may be more appropriate to accumulate the remediation waste at a nearby location outside the flood plain; such arrangements will reduce the risk of hazardous releases to the environment.

Cost Savings of Staging Piles

EPA believes that when used, staging piles will facilitate cleanups and reduce cleanup costs. Because their use is voluntary, the Agency expects that site owners and operators will only use the new units if they expect to recognize cost savings from the accumulation of waste for cost-effective off-site shipment and/or on-site treatment that are higher than the incremental costs related to designing and permitting the new units. While some savings are expected, EPA does not believe that the savings due to staging piles will be significant because of limits on their use and the availability of other storage options. The Agency did not quantify these savings because they are expected to be relatively small.

2.3 Impacts of the Dredged Navigational Sediments Exclusion

The dredged material exclusion (40 CFR 261.4(g)) exempts most dredged materials from regulation as hazardous waste under RCRA Subtitle C. Specifically, the exclusion applies to dredged material managed in accordance with permits issued under:

- Section 404 of the CWA, which regulates the discharge of dredged materials into the waters of the United States; or

- Section 103 of the MPRSA, which is the primary Federal statute regulating the transportation and disposal of dredged material to the ocean.

The purpose of the dredged material exclusion is to clarify regulatory roles within EPA and avoid potential overlaps between RCRA regulation of dredged material disposal and activities carried out in compliance with CWA and MPRSA.

EPA does not expect the exclusion to significantly alter dredged material management practices. CWA and MPRSA permits typically govern dredging for construction and maintenance of navigational channels and structures, not contaminated site cleanups, and the material s dredged are rarely if ever are identified and managed as RCRA hazardous wastes. By one estimate, between 1 three and 12 million (one to three percent) of the 400 million cubic yards of sediment dredged each year from the Nation's harbors and waterways is contaminated such that special handling or treatment is required.[12] In most cases, special handling consists of placement in non-RCRA confined disposal facilities regulated under the CWA.

Because dredged material management practices will not change significantly, EPA did not prepare quantitative estimates of the economic and environmental impacts of the dredged material exclusion. Instead, this section qualitatively discusses the potential impacts of the exclusion, which will occur only to the limited extent that dredged materials are currently managed as RCRA hazardous wastes. Sections 2.3.1 and 2.3.2 examine potential reductions in compliance costs for generators of contaminated dredged materials and the potential environmental impacts.

2.3.1 Potential Reductions in Compliance Costs

No adverse economic impacts are expected from the dredged material exclusion. Possible benefits include reductions in the costs of testing and treatment or disposal. These benefits would occur only for dredged materials that, without the dredged material exclusion, would be managed as RCRA hazardous wastes.

Testing Costs

The dredged material exclusion may reduce testing costs for some dredging project by eliminating RCRA toxicity testing. EPA does not expect these cost savings to be significant, as described below.

Under RCRA, hazardous wastes are defined as solid wastes that exhibit one of four characteristics (i.e., ignitability, corrosivity, reactivity, or toxicity) of a hazardous waste or that are hazardous wastes listed in 40 CFR Part 261. Dredged materials are not wastes themselves, but sometimes are managed as hazardous waste because they contain a hazardous waste. To determine whether a dredged material is hazardous, the generator may use knowledge of the waste or test for a characteristic of a

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[12] U.S. Environmental Protection Agency, "EPA's Contaminated Sediment Management Strategy." EPA 823-R-94-001. August 1994, Chapter 9.

hazardous waste. Sediments generally are not tested because they are not suspected to be hazardous. Occasionally, dredged materials are tested for the toxicity characteristic (TC) using the toxicity characteristic leaching procedures (TCLP).

Materials dredged and managed under CWA and MPRSA permits are tested with guidance procedures contained in the Inland Testing Manual[13] and Ocean Testing Manual,[14] respectively. Both testing manuals use a tiered system of analysis, including physical and chemical characterizations for sediment and water, and acute bioassay and bioaccumulation tests, to determine suitable disposal options for the dredged material. Unlike the RCRA TCLP, these testing procedures are designed specifically to assess the potential for contaminant releases from sediments disposed of in aquatic settings. This testing will not be affected by the dredged material exclusion.

The dredged material exclusion will reduce testing costs for sediments that currently are subjected to the TCLP. Because little dredged material is managed as RCRA hazardous waste, the potential cost savings would be small. Sediments that are managed as hazardous waste under current rules are likely to be highly contaminated, such as those generated during CERCLA remedial actions or RCRA corrective actions. EPA expects that most highly-contaminated cleanup sediments will continue to be tested and managed as hazardous waste (i.e., treated or disposed of at RCRA Subtitle C permitted facilities) even with the dredged material exclusion.

Treatment or Disposal Costs

Dredged material disposal permitted under the CWA and MPRSA is significantly less expensive than RCRA-compliant treatment or disposal. For example, treatment and disposal of contaminated dredged materials in a commercial RCRA Subtitle C facility costs an estimated $100 to $,1100 per cubic yard,[15] excluding transportation costs. In contrast, dredged material management costs under CWA or MPRSA are significantly lower, in part because these materials are seldom treated prior to disposal. Placement of the dredged material in a confined disposal facility under a CWA permit costs an estimate $5 to $50 per cubic yard, and disposal in a contained aquatic

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[13] U. S. Environmental Protection Agency and U.S. Army Corps of Engineers, 1994. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. Testing Manual. Draft. EPA 823-B-94-002.

[14] U. S. Environmental Protection Agency and U.S. Army Corps of Engineers, 1991. Evaluation of Dredged Material Proposed for Ocean Disposal. Testing Manual. EPA-503/8/91/001.

[15] U. S. Environmental Protection Agency, *Application of the Phase IV Land Disposal Restriction to Contaminated Media: Costs, Cost Savings, and Environmental Impacts*, February, 1998.

disposal site costs an estimated $3 to $20 per cubic yard.[16] Unrestricted ocean disposal pursuant to an MPRSA permit involves transportation cost only.

Because dredged material management practices will be affected for only small volumes of contaminated sediment, the reductions in total management costs will not be significant.

2.3.2 Environmental Impacts

The dredged material exclusion will likely not result in significant environmental impacts because potential contaminant releases from dredged material disposal will remain regulated and controlled by the CWA and MPRSA, which are fully protective of human health and the environment. For example, CWA and MPRSA testing procedures, which were developed jointly the EPA and the U.S. Army Corps of Engineers, assess potential human health and ecological risk posed by aquatic disposal scenarios. These testing procedures were developed specifically to evaluate dredged material disposal.

The dredged material exclusion may benefit environmental protection in some cases by facilitating prompt dredging of contaminated sediments. In particular, EPA believes that the unnecessary overlap of RCRA with the CWA and MPRSA may cause confusion and delay some dredging projects. Such delays have the potential to prolong human and environmental health risks.

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[16] U. S. Environmental Protection Agency. "Assessment and Remediation of Contaminated Sediments (ARCS) Program, Remediation Guidance Document." Great Lakes National Program Office, Chicago, IL. EPA 905-B94-003. October 1994.

CHAPTER 3: OTHER REGULATORY REQUIREMENTS

This chapter evaluates the HWIR-Media rule with respect to:

- Regulatory flexibility;
- Unfunded mandates; and
- Environmental justice.

3.1 Regulatory Flexibility Act

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 final rule will not have a significant adverse economic impact on a substantial number of small entities because the rule is estimated to provide regulatory relief and will not impose any costs on the regulated community. As the provisions in the rule are voluntary, each individual facility is expected to evaluate the rule in relation to its specific situation and take advantage of those items they find beneficial. Therefore, no RFA has been prepared.

3.2 Unfunded Mandates Reform Act of 1995

Under Section 202 of the Unfunded Mandates Reform Act of 1995 (the Act), P.L. 104-4, which was signed into law on March 22, 1995, EPA generally must prepare a written statement for rules with federal mandates that may result in estimated costs to state, local, and tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. When such a statement is required for EPA rules, Section 205 of the Act requires EPA to identify and consider alternatives, including the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. EPA must select that alternative, unless the Administrator explains in the final rule why it was not selected, or if the alternative is inconsistent with law. Before EPA establishes regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, Section 203 of the Act requires it to develop a small government agency plan. The plan must provide for notifying potentially affected small governments, giving them meaningful and timely input in

development of EPA regulatory proposals with significant federal intergovernmental mandates, and informing, educating, and advising them on compliance with the requirements.

The Act generally excludes from the definition of "federal intergovernmental mandate" (in Sections 202, 203, and 205) duties that arise from participation in a voluntary federal program. Each state's and tribal organization's request for authorization to implement the HWIR-Media rule will be voluntary, and therefore will impose no federal intergovernmental mandate within the meaning of the Act. Rather, by having HWIR-Media authorized, each state or tribal government will gain the authority to implement the rule with respect to remedial activities within its jurisdiction.

In any event, promulgation of the HWIR-Media rule is not expected to result in estimated costs of $100 million or more to state, local, and tribal governments in the aggregate, or to the private sector, in any one year. The additional flexibility that the states and tribal governments can exercise is not expected to increase substantially the implementation costs of the remedial activities within their jurisdictions. Instead, the flexibility is expected to reduce, not increase, compliance costs for the private sector.

With regard to Section 203 of the Act, promulgation of the HWIR-Media rule will not significantly or uniquely affect small governments. Tribal governments will have received notice of the requirements of an authorized program, have had an opportunity for meaningful and timely input into the development of program requirements, and be fully informed about the requirements for obtaining and maintaining authorization to implement the HWIR-Media rule. Thus, any applicable requirements of Section 203 of the Act will have been satisfied.

3.3 Environmental Justice

As part of EPA's goal to incorporate environmental justice into its policies and programs, the Agency has examined the impacts of HWIR-Media on low-income populations and minority populations. The following section discusses how HWIR-Media addresses certain key environmental justice issues related to the nonmonetary and monetary benefits.

Non-Monetary Benefits

The HWIR-Media rule is expected to provide at least three types of non-monetary benefits for low-income and minority populations: improved facility siting, expedited cleanups, and opportunities for public involvement.

- *Improved Facility Siting.* Environmental justice advocates have expressed concern over the location of locally undesirable land uses, such as hazardous waste incinerators and landfills. They

argue that these land uses are disproportionately sited in low-income and minority communities. EPA believes that HWIR-Media will address some of these concerns by encouraging the use of on-site innovative treatment technologies. Because more waste will be treated on site rather than shipped to incinerators and landfills, the Agency believes that future need for additional incineration or landfill capacity will be reduced. Thus, EPA anticipates that HWIR-Media may result in fewer hazardous waste incinerators and landfills being sited across the nation.

- *Expedited Cleanups.* Environmental justice advocates have argued that EPA's remediation processes (e.g., under Superfund or RCRA Subtitles C and I) take too long to complete and that not enough sites are being remediated because of the administrative delays and legal complications. EPA expects that HWIR-Media will assist in expediting site cleanups across the nation by reducing the overall cost of hazardous remediation waste cleanup and eliminating delays associated with obtaining RCRA permits. Additionally, the Agency expects that the overall rate of remediation will increase because some facility owner/operators will be spurred to begin remediation as a result of the streamlined requirements. Finally, EPA expects that fewer firms will become insolvent from the high costs of remediation and be referred to the Superfund program, which will free up Superfund resources to address other sites.

- *Public Participation.* As required by the new Section 270.68(d), facilities using RAPs to address contamination must provide for public review and comment. These provisions will enable local residents and other members of the public to participate in the development and approval of RAPs.

Monetary Benefits

The HWIR-Media rule is expected to provide monetary benefits in the form of economic redevelopment and beneficial reuse of contaminated property. While the economic benefits attained under HWIR-Media are primarily measurable in terms of cost savings to facility owners and operators and other parties responsible for site remediation, the Agency believes there is potential for limited monetary benefits to minority and/or low-income communities surrounding sites affected by HWIR-Media. In many instances, remediated properties have been turned over to beneficial uses such as hospitals, metro stops, and parks. By fostering a regulatory environment that will expedite the cleanup of contaminated sites, HWIR-Media will foster the redevelopment and sale of remediated sites, spur growth within surrounding communities, and increase

property values of land surrounding remediation sites. In addition, because this rule is expected to decrease planning and litigation costs, HWIR-Media may increase the overall rate of cleanup and thus inject money into the local economy through increased employment of local community members at the remediation sites.

Interim Status Sites Cleaned Up Under RCRA

Interim status facilities wanting to treat remediation waste on site will have to obtain an approved RCRA permit, unless they treat the remediation waste in the unit(s) operating under interim status. However, these facilities will likely have already performed many of the activities associated with obtaining a RCRA permit while operating under interim status and assumed corrective action liability when they submitted their Part A permit application. Thus, it is likely that they will not recognize significant savings from the RAP provisions.