



U.S. Department
of Transportation

**Federal Highway
Administration**

Memorandum

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From	Director, Office of Environmental Policy Washington, D.C. 20590	Reply to Attn of	HEV-20
To	Regional Federal Highway Administrators Direct Federal Program Administrator (HDF-1)		

We are forwarding the subject guidance for your use and distribution. As mentioned in our transmittal of the draft in May, this guidance is a composite from the Offices of Environmental Policy, Right-of-Way, Chief Counsel, Engineering, Highway Operations, and Planning, with review and input from the Headquarters Hazardous Waste Task Force and several field specialists. We also greatly appreciate the contributions of the Regions in the development of this guidance.

This guidance supersedes our earlier hazardous waste guidance dated June 25, 1984, in Section 22 of the Environmental Guidebook. Any recommendations for revision of the interim guidance and examples of State experiences in dealing with hazardous substances/wastes are welcome. For further information or discussion, please contact Messrs. Bob Falkenstein or Harry Bridges at (202) 366-2070/2072.

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Attachment

INTERIM GUIDANCE

Hazardous Waste Sites Affecting Highway Project Development

FHWA HEADQUARTERS OFFICES:

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Planning

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Interim Guidance - Hazardous Waste Sites Affecting Highway Project
Development

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I. Purpose

The State highway agencies are confronted with increasing problems in dealing with properties that have been, or are being, contaminated with hazardous substances/wastes. At best, such sites or structures are identified early in project development when many options remain and time remains to consider and address the complex issues involved. At worst, the full impact of hazardous waste involvement is realized when sites are discovered during right-of-way acquisition or project construction. Once contaminated property is purchased, the current owner (among others including previous owners and contaminators) is responsible and liable for all of the impacts of past, improper hazardous substance/waste disposal and for the total cost of finding and implementing an acceptable, permanent remedy. Discovery of hazardous wastes has great potential to delay project development or stop construction until a lengthy, complex, and costly process of investigation, coordination, and analysis produces acceptable measures to control, contain, treat, monitor, and dispose of the hazardous material. The nature and extent of contamination as well as associated soils, geology, and surface/subsurface hydrology often must be analyzed in detail. The costs of project delays are often dwarfed by the typically high costs of specialized control, treatment, and disposal measures, many of which represent new and rapidly evolving technologies. The U.S. Environmental Protection Agency (EPA) and many State/local regulating agencies control hazardous substance/waste issues under relatively new laws, untested regulations, and with less than desirable experience.

This guidance is intended to provide a framework around which effective processes for dealing with hazardous substances/wastes can be built. Procedures are presented which incorporate the successful practices of many SHAs and the recommendations of highway program and hazardous waste management specialists. However, due to the highly site-specific nature of most hazardous waste problems, detailed information on particular waste types/sites, assessment procedures, or testing/treatment/disposal techniques are not included. More detailed information is addressed in the NCHRP guidance manual on hazardous waste in highway project development, in periodic "Hazardous Waste Info Exchange" packages distributed by the Office of Environmental Policy, and in the upcoming NHI course "Hazardous Waste Impacts on Highway Project Development."

(Note: This guidance does not address hazardous materials transportation and spills, or details of hazardous materials storage/use/disposal during construction and maintenance.)

II. Background - Laws and Legal Interpretations

Federal Laws

The Resource Conservation and Recovery Act (RCRA 1976), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C.A. Sections 6901-6987 (1983 and West Supp. 1987) regulates the ongoing manufacture, storage, use, treatment, transportation, and disposal of hazardous substances/wastes under programs administered by USEPA and State environmental agencies. It is designed to track and regulate hazardous substances/wastes from manufacture to final disposal, and to ensure that the disposal is effective and permanent so that there will be no escape of the materials into the environment. RCRA regulates all active waste disposal facilities. Its provisions apply to any "person" (defined to include a State or political subdivision of a State) that is a generator or transporter of hazardous substances/wastes or is the owner or operator of a facility where such materials are treated, stored or disposed of. Accordingly, a State or local governmental agency that generates hazardous substances/wastes or owns or operates a facility that treats, stores, or disposes of hazardous wastes would be covered by RCRA. Those hazardous substances/wastes that are covered by RCRA are described in 40 CFR Part 261 (other Federal regulations identify hazardous substances in 40 CFR 116, 300, 302, 355, and 372). The SHAs may use, generate, or need to dispose of hazardous substances/wastes from their own facilities, such as maintenance yards or materials testing laboratories, or they may need to dispose of such materials discovered/generated during project development or construction, at an EPA-approved RCRA waste disposal facility.

RCRA authorizes EPA to bring suit against any "person" to prevent "imminent and substantial endangerment to health or the environment" if it receives evidence that past or present handling, storage, treatment, transportation, or disposal of any hazardous waste may cause such endangerment. (42 U.S.C.A. Section 6973 (1983 and West Supp. 1987)).

RCRA provides that an individual, organization, or State may file suit to enforce the provisions of RCRA. However, it does not provide for private suits to recover monetary damages.

The Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C.A. Sections 9601-9657 (1983 and West Supp. 1987) (CERCLA) is designed to control, cleanup, and designate liability for abandoned, uncontrolled or inactive waste sites and deal with hazardous waste releases and emergencies. Such unidentified or insufficiently studied sites are of great concern to the Federal and Federal-aid highway programs. CERCLA addresses major hazardous waste sites which are placed on the "National Priorities List" (NPL) as well as minor sites from which a release or threat of release may occur. Release of hazardous substances in amounts equal to or greater than "reportable quantities" set for all hazardous substances (40 CFR 302 and 355) must be reported to State and local authorities and the

National Response Center (NRC Duty Officer, Headquarters, U.S. Coast Guard, Washington, D.C., telephone 800-424-8802).

Subject to certain defenses, CERCLA provides that all "persons" that own a hazardous waste site (i.e., a site contaminated with hazardous substances/wastes), own or operate a hazardous waste facility, arrange for the disposal or treatment of such waste, or cause a release or threat of release of hazardous substance are liable under CERCLA for costs of removal or remedial action incurred by Federal or State government, necessary costs incurred by others, and damages to natural resources (42 U.S.C.A Section 9607 (1983 and West Supp. 1987)). Liability is strict (not dependent on fault), joint and several (any or all current and previous owners may be held totally liable), and retroactive. Federal and State governments are included in CERCLA's definition of "persons" (42 U.S.C.A. Section 9601(21) (West Supp. 1987)). An SHA can be liable as an owner of a hazardous waste or releaser of hazardous substance/waste if it purchases property which has been or is being contaminated with such substance, or discovers/releases such substances during construction. The SHAs can also be held liable for the actions of leasees on SHA property resulting in contamination or release.

CERCLA provides that parties responsible for hazardous waste are liable for:

"(A) all costs of removal or remedial action incurred by the United States Government, or a State or Indian tribe not inconsistent with the National Contingency Plan (the comprehensive Federal regulation with procedures and guidelines governing oil and hazardous substance release and response contained in 40 CFR 300);

(B) any other necessary costs of response incurred by any other person consistent with the National Contingency Plan as well as for damages to natural resources and for the costs of any health assessment (42 U.S.C.A. Section 9607(a) (West Supp. 1987)).

These provisions permit Federal, State, or local agencies that are required to cleanup/dispose of hazardous substances/wastes to seek the recovery of cleanup or response costs from other responsible private parties. This has been interpreted to mean that, where recovery is sought from a private party rather than from the Federal Superfund, prior EPA concurrence/involvement in cost recovery is not required. The requirement relating to consistency with the National Contingency Plan means that costs cannot be recovered for actions that are inconsistent with the response methods outlined in the National Contingency Plan. Traditional common law remedies, discussed later, might also be used by a State or local government to seek damages, or to halt the actions causing environmental harm.

The 1986 Amendments to CERCLA (Superfund Amendments and Reauthorization Act of 1986 (SARA) Public Law 99-499, 100 Stat. 1613) expanded the defenses to liability under CERCLA to provide a defense for both private and public "innocent landowners" of land upon which hazardous waste attributed to a previous owner (third party) is discovered. One such defense provides that a government entity is not liable under CERCLA if property on which hazardous waste is located was acquired by the government entity "through the exercise of eminent domain authority by purchase or condemnation" after the hazardous waste was placed on the property by a previous owner, and the governmental body "exercised due care with respect to the hazardous substance concerned, taking into consideration the characteristics of such hazardous substance in light of all relevant facts and circumstances, and . . . took precautions against foreseeable acts or omissions of any . . . third party and the consequences that could foreseeably result from such acts or omissions." (42 U.S.C.A. Sections 9601(35)(A) (West Supp. 1987) 42 U.S.C. 9607(B)(3)(A) AND (B) (1983)). This defense would shield local, State, or Federal agencies that acquire land pursuant to the power of eminent domain from direct liability under CERCLA/SARA for a contaminated site that is acquired under the above conditions.

A second defense, useful primarily to private parties, applies to "innocent landowners" who acquired property without knowing any hazardous substance/waste was present on or in the property (facility), provided the purchaser took due care with respect to the potential for hazardous waste contamination and took precautions against foreseeable acts of third parties (i.e., possible contamination by a previous owner). This defense would shield agencies if the record shows that adequate measures were taken to identify hazardous substances/wastes at the site prior to purchase. It assumes that if such materials are found prior to purchase, proper measures under CERCLA/SARA would be used to address the hazardous material. The utilization of these defenses depends on the purchaser utilizing any special knowledge and experience in dealing with hazardous substances/wastes, and the obviousness/ability to detect such substances by appropriate inspections.

While there is an absence of case law or regulations in this area, it appears that liability could be revived if the government agency took action after acquiring the property to remove or disturb the hazardous waste and such action resulted in the release or substantial threat of release of the hazardous waste. This does not apply to approved cleanup actions unless negligent conduct is involved.

SARA also require the Occupational Safety and Health Administration (OSHA) to issue regulations to protect the health and safety of workers engaged in hazardous waste operations, including those involved in early site assessments and those who may be inadvertently exposed to such substances (e.g., highway drill crews/materials test teams). These regulations (29 CFR 1910) apply to RCRA/CERCLA operations and

address medical surveillance, protective equipment and clothing, engineering controls, air monitoring, maximum exposure limits, access controls, handling methods, decontamination procedures, emergency response and hazard communication, and worker training. For instance, workers on CERCLA sites must have an initial 40 hours of offsite health and safety training and a minimum of 3 days of onsite supervised field experience.

There is no provision in RCRA, CERCLA, SARA or other Federal law that would make a Federal or State agency that is only providing financial assistance (e.g., Federal-aid or State-aid) to some other State or local government, liable for the costs of treatment and/or disposal of hazardous waste discovered on land that the other State or local government acquires with such assistance.

Other Federal laws also have relevance to the production, management, release or detection of hazardous substances/wastes. These include the Clean Water Act 33 U.S.C. Section 1251-1376 (1982) and Safe Drinking Water Act 42 U.S.C. Sections 300f-300i (1982) which regulate the discharge or existence of hazardous substances in water, particularly drinking water; the Toxic Substances Control Act 15 U.S.C. Sections 2601-2629 (1982); the Clean Air Act 42 U.S.C. 7901 et seq. (1982); the Federal Insecticide, Fungicide and Rodenticide Act 7 U. S. C. Section 136-136y (1982); the National Environmental Policy Act (NEPA) 42 U.S.C. 4321-4347 (1982); the Occupational Safety and Health Act (OSHA) 29 U.S.C. 651-678 (1982) establishing worker protection requirements; and the Hazardous Materials Transportation Act, 49 U.S.C.A Sections 1801-1813 (1982 and West Supp. 1987) which governs the transportation of hazardous materials.

State Laws

Virtually every State has enacted some legislation and regulations that relate to the production, storage, transport, treatment or disposal of hazardous substances/wastes. RCRA encourages States to assume some of the Federal responsibilities under RCRA by operating their own hazardous waste programs (42 U.S.C.A. Section 6926 (1983 and West Supp. 1987)). CERCLA remains a Federal (EPA) responsibility, but States are not prevented from enacting their own laws (that do not conflict with and meet or exceed the requirements of CERCLA) to address hazardous substances/wastes (42 U.S.C. 9614 (1982)). In some States there may be several such statutes. (There may also be local laws/ordinances that address hazardous substances/wastes and may involve coordination and cooperation with local fire officials, health departments, public works, water, and air quality agencies, sanitation or waste management districts, and other local emergency response and planning officials.) These State and local laws vary considerably. Many of the State laws follow the language of RCRA or CERCLA. Some provide that States may impose a first-priority lien upon contaminated properties for the costs of clean up; that sellers of certain property must notify purchasers of the existence of hazardous waste; that sellers of commercial or

industrial property must remove hazardous substances/wastes before the property is sold; or that sellers must notify purchasers that criminal penalties apply to the unauthorized transportation or disposal of hazardous waste. In some cases, State laws can impose financial liability or other obligations on a State or local transportation agency. It is extremely unlikely that any of them could impose liability on a Federal or State agency that only provides financial assistance to another agency.

Federally-owned land is subject to the same requirements as privately-owned or State-owned land for purposes of RCRA, CERCLA, and corresponding State and/or local laws. Accordingly, a Federal agency is likely to be responsible for any hazardous waste it actually produces, releases (or causes threat of release), or removes (or allows/causes to occur) on or from federally-owned land (42 U.S.C. Section 6961 (1982), 42 U.S.C.A. Section 9620 (West Supp. 1987)). In addition, any Federal agency (e.g., Direct Federal) that is itself engaged in or allows/causes the production, disposal, transport, or management of hazardous substances/wastes would be subject to applicable State and local laws that implement the goals and objectives of RCRA (42 U.S.C.A. Section 6961 (1982)) or CERCLA.

Common Law

Traditional legal principles generally recognized by courts give persons, organizations, or agencies the right to bring legal action seeking to halt, or to recover damages for, environmental harm. These common law remedies encompass complaints based on nuisance, negligence, assault, trespass, strict liability, or various water rights. In the hazardous waste context, anyone who is adversely affected by the existence or disposal of hazardous waste could pursue common law remedies, in addition to CERCLA/RCRA--driven actions and settlements.

Indemnification, hold harmless, or contingency agreements cannot shield a person from liability under CERCLA. However, outside of CERCLA liability determinations, such agreements remain effective between the parties who enter into them (42 U.S.C. Section 9607 (e)(1982)) for recovery of costs or settlement of claims and suits. Use of such provisions and agreements are recommended, if appropriate and useful, in particular hazardous waste site purchase or cleanup situations.

Cleanup Standards

As discussed above, the effect of Federal hazardous substance/waste laws has been to encourage the States and local governments to enact their own laws regulating the manufacture, use, storage, transport, and disposal of these materials. State laws and standards are required to be equivalent to or more stringent than Federal requirements. As a result, there is variation from State-to-State as well as some inconsistencies in the application and interpretation of tests and standards. Despite this, RCRA/CERCLA/SARA require cleanups which are in accordance with the response provisions of the National Contingency

Plan (40 CFR 300), protect human health and the environment, and are cost-effective. Remedial actions which permanently and significantly reduce the volume, toxicity, or mobility of the substance/waste are to be preferred.

CERCLA/SARA do not establish cleanups standards, but refer to "(i) any standard, requirement, criteria, or limitation under any Federal environmental law including, but not limited to, the Toxic Substance Control Act, the Safe Drinking Water Act, the Clean Air Act, the Clean Water Act, the Marine Protection, Research and Sanctuaries Act, or the Solid Waste Disposal Act, or (ii) any promulgated standard, criteria, or limitation under a State environmental or facility siting law that is more stringent . . . contained in a program approved, authorized, or delegated by EPA." Such Federal and/or State cleanup standards are referred to as "legally applicable or relevant and appropriate requirements" or ARARs. Examples include the Federal water quality standards (40 CFR 131) under the Clean Water Act according to the beneficial uses of the water involved, the safe drinking water standards (40 CFR 141-143) for drinking water, or other ARARs under the above or other Federal and/or State-counterpart laws. CERCLA/SARA also allow modification of the Clean Water Act water quality criteria under certain conditions demonstrating lesser risk. The type and degree of cleanup is likely to be influenced by the type and extent of contamination, hazards to people or the environment, public reaction, the availability of effective remedial measures, cleanup costs, and the ability of responsible parties to pay.

(See Section V for discussion of Federal-aid participation in cleanup).

III. Planning/Project Development/Construction Guidance

Because of the complexity of most hazardous substance/waste issues and the severity of cost overruns and project delays associated with late discovery of such materials, FHWA strongly endorses the following procedures to help identify and avoid hazardous waste sites and establish the "innocent landowner defense" discussed earlier.

1. Planning - Prior to the development of the SHA's program of projects, the SHA (FHWA for Direct-Federal managed projects) should consult with other agencies and review the lists of known hazardous waste sites scheduled for cleanup by EPA and the State/local regulatory agencies. For urbanized areas, the SHAs and MPOs should establish procedures for consulting regulatory agencies and the lists of known hazardous waste sites during systems planning and program development activities. The EPA's National Priorities List (NPL) of heavily contaminated sites represents those sites scheduled for priority cleanup eligible for Superfund money. Information on these sites is maintained in EPA files and on the CERCLIS (CERCLA Information System) data base. The EPA uses a hazard ranking system (HRS) (40 CFR 300 Appendix A) to determine the relative severity of problems at these sites and to decide if they should be listed on the NPL. The HRS can also be used by the SHA to screen non-NPL sites to weigh the severity of problems and judge probable cleanup requirements. State and local regulatory/response agencies maintain additional lists of known lesser sites or potential sites (e.g., State Superfund List, list of registered underground storage tanks). These sites are still subject to RCRA/CERCLA/SARA as well as State/local requirements. Known NPL sites should obviously be avoided, if possible, due to the severity/costs of their problems. Other known sites should also be avoided unless other environmental or engineering considerations dictate that the risks and costs of involvement with such sites are warranted.

2. Location/Environmental Studies - Keys to success in dealing with hazardous waste sites are early identification and assessment of all potential right-of-way properties which could be contaminated with hazardous substances/wastes (also adjacent properties from which contamination could migrate); early coordination with Federal/State/local agencies to assess the likely degree of contamination and the scope of treatment and disposal measures needed; and early determination and use of measures to avoid or minimize involvement with such properties or to cause responsible parties to undertake appropriate cleanup of the properties to be acquired. Again, avoidance is stressed as the preferred option unless the risks of proceeding with contaminated property can be justified. (It is noted that many SHAs are developing sufficient experience and procedures to effectively deal with particular kinds of hazardous substance/waste problems of limited extent and risk. The SHAs are encouraged to develop and follow their own written procedures to manage and control hazardous substance/wastes issues during project planning, development, and construction.)

During project development, several project alternatives may be under consideration, each of which may have involvement with hazardous waste sites. Unless an alternative can be ruled out of consideration and unless all property required for right-of-way can be reliably prejudged** to have negligible potential for contamination, the following steps need to be taken to assure hazardous waste sites are identified, properly assessed, and avoided where possible. The assistance of trained, certified hazardous waste contractors may be desirable for some of the following functions:

- Classify all existing and past property uses according to the likelihood of hazardous waste contamination. To do this, existing land uses should be screened and past land uses reviewed to categorize each property according to hazardous waste risk. Some examples of high risk land uses include unregulated municipal or private dumps and landfills, waste segregation sites, waste piles, treatment plants and outfalls, oil/plastics/chemical/electrical/electronic/adhesives manufacturing plants, photo/printing/paint/plating/battery shops, automotive bone yards, metals and paper processing plants, mining/agriculture/medical supply facilities, service stations, dry cleaning and other cleaning operations, older buildings with structural asbestos or other contaminants, etc. Existing and past aerial photographs should be studied and compared (including computer-aided analysis) to assist in identifying contaminating uses and contaminated sites/structures (e.g., ponds and lagoons, pits, depressions, fills, drums, tanks, piping, incinerators, drainages and drainage structures, nearby streambeds). Title/deed histories and other appropriate records such as community-right-to-know records should be reviewed. Long-time local citizens and workers should be interviewed to obtain additional information about past land uses, potential contamination, and any history of hazardous wastes problems. The EPA and State/local regulating or response agencies should be consulted for license/permit actions and violation/enforcement/litigation actions against property owners and for general information about local hazardous waste problems such as midnight dumping, use of asbestos in buildings, and past contaminated water problems.

**There is much interest in developing screening criteria to determine appropriate levels of effort in identifying and assessing hazardous waste sites. There are no criteria by which projects/sites can, in every case, be prejudged to have no potential for hazardous waste involvement. Some examples of project circumstances which usually indicate low probability of hazardous waste involvement are projects in rural areas with no evidence of previous contaminating uses; projects involving no change of profile grade or significant earthwork or trenching; projects involving no new right-of-way where the existing right-of-way has been previously studied for hazardous waste. (Continue on next page)

- .. Confirm and supplement the above information with a visual site survey of all properties which could contain hazardous substances/wastes. Additional evidence could include surface or partially buried containers, discolored soil, seeping liquids, abnormal or dead vegetation or animals, suspect odors, dead-end pipes, abnormal grading, fills, or depressions. (Note: See the discussion in Section II concerning worker protection requirements and training for those involved in hazardous waste surveys and investigations.)
- Where appropriate, interview current owners of prospective right-of-way parcels to obtain additional information about current and past land uses and potential contamination. Close coordination with landowners is recommended in order to secure access for investigation if needed, and owner willingness to cleanup property prior to acquisition.
- Based on information gained from the above steps, determine if known or suspected hazardous waste contamination warrants more detailed assessment and sampling/testing of the substances/wastes, soil, surface water, or groundwater. This determination should be made in consultation with EPA and the State/local regulatory agencies to assure that any sampling/testing or monitoring plan is adequate. A quality assurance/quality control plan ensures proper and adequate handling, sampling chain-of-custody of samples, and testing protocols. If site avoidance is not feasible, the additional investigation and sampling/testing plan should proceed to obtain sufficient information to characterize the site, the type and extent of contamination, and develop alternative treatment/cleanup/disposal measures with associated costs. If landowners' approval for further site investigation cannot be obtained, further studies may have to be delayed until EPA or State/local agencies obtain access or until the SHA eventually obtains access. If further investigation is delayed until after right-of-way purchase, the SHA incurs significant risk of CERCLA liability for cleanup.

If project development includes consideration of an alternative(s) with hazardous waste involvement, the assessment and sampling/testing needed to adequately characterize the site and estimate costs need to be completed before a project alternative is selected. The type, extent, and cleanup costs of any substantial contamination are major factors in selecting an alternative.

****Caution should be used in applying such screening criteria. SHAs need to have the experience and procedures to recognize site-specific conditions indicating hazardous substances/wastes even when general project area circumstances do not so indicate.**

- When dealing with a hazardous waste site, the results of the above steps and subsequent steps through to completion of site cleanup/disposal need to be thoroughly documented in the project environmental documentation and files, as well as in the project administrative record, and in the administrative record maintained by the EPA/State/local agency. Development of more detailed design for some aspects of hazardous waste issues may be necessary for preparation of environmental documents, to evaluate remedial measures, or to address issues raised by other agencies or the public. The draft environmental document should provide 1) a map to clearly delineate the extent of the site(s) in relation to alternative project alignments, 2) information on the number and types of sites/structures and the extent of contamination and alternative treatment/disposal measures needed, 3) results of coordination with EPA and State/local agencies and the public including description of the agencies' previous plans, if any, for cleanup of the site(s), 4) sufficient information to allow a reasonable evaluation of alternatives, and 5) justification for not avoiding the site(s). The final environmental document should, for the preferred alternative, 1) describe the results of continuing coordination with EPA and State/local agencies and public, 2) document the resolution of hazardous waste issues, to the extent possible, and 3) to the extent possible, provide a detailed description of the site(s) and contamination, agreed upon treatment/disposal measures, and costs of the remedial plan.

It is important for FHWA and the SHA to be aware of and contribute to the EPA/State/local agency administrative record documenting the actions, negotiations, agreements, and determinations regarding the site(s) since this record is the only basis for legal review of liability actions under CERCLA/SARA.

3. Design/Right-of-Way - Design of the sampling/testing or monitoring plans needed to characterize a site may require early design or right-of-way input such as hydrologic/hydraulic analysis, earthwork estimates, refinement of right-of-way purchase requirements, consideration of purchase agreement provisions, early contact with landowners and arrangements with landowners and agencies for early access to private property with suspected contamination. If the project involves a hazardous waste site that cannot be avoided, the project design stage typically includes development of a detailed cleanup plan (remedial design) in coordination with the EPA/State/local agency. In the most complex cases, such a plan may first require waste modeling, environmental fate analyses, risk determinations, treatability studies, or bench/pilot scale tests. In some cases, an expert hazardous waste consultant may be needed to address complex analysis techniques, treatment measures, offsite transport, and cost estimates involved in a cleanup plan. For minor hazardous waste involvement, coordination with the EPA/State/local agency may suffice to develop an acceptable removal/remedial plan. A site safety and health

plan, quality assurance/quality control plan, emergency contingency plan, and public involvement/information plan are important components of the overall cleanup plan.

(More detailed right-of-way procedural guidance is provided in Section IV.)

4. Construction/Maintenance - Hazardous substance/waste issues can impact construction and maintenance activities in four ways:
- 1) unanticipated discovery of sites/structures during construction,
 - 2) oversight of contracts containing mitigation requirements,
 - 3) handling and disposal of wastes generated by SHA activities such as sampling and testing and bridge painting, and 4) cleanup of spills of hazardous materials.
- Procedures for dealing with hazardous substance/waste issues encountered on construction may involve activities and constraints not found during normal highway construction and may require specialized assistance from knowledgeable sources or specialty contractors. However, normal highway contract administration and monitoring procedures have the flexibility to effectively incorporate and address hazardous substance/waste requirements. Legal and participation issues are complex and should be carefully addressed. The EPA and State/local agencies should be consulted as appropriate. Hazardous substances/wastes can impact construction/maintenance as follows:

- Unanticipated Discovery During Construction - By using procedures described earlier, discovery of sites during construction should be minimized. When hazardous sites are discovered during construction, work should cease on that portion of the project affected by the discovery until the EPA and State/local authorities are consulted to determine the action required. The affected area should be cordoned off and protected until the contaminants are identified and a safety plan is put into effect. A thorough record should be kept of all circumstances and actions taken including coordination with authorities, worker/public safety plan actions, and step-by-step remedial measures to deal with the problem. Contractual and contract administration problems, such as extra costs and time extensions for delays caused by the changed condition, should be handled like any other changed condition problem. Federal-aid participation, if any, in the remediation should be handled in accordance with guidance provided herein.
- Oversight of Contractual Obligation - When the PS&E includes remediation plans and/or compliance requirements for handling, treatment, disposal or transportation of hazardous waste, oversight by FHWA should be the same as any other contract requirement. Inspections of construction projects should include coverage as determined appropriate by FHWA in accordance with its construction monitoring program. The SHA's and Direct Federal should have an adequate monitoring plan to assure that regulatory requirements are being met. Due to the

complex and unique nature of the materials involved, specialized assistance may be needed to assure compliance with quality assurance details of remedial requirements.

- Handling of Wastes Generated by Materials Testing and Maintenance Activities - These issues, as they pertain to SHA operations, are not usually Federal-aid program issues. When activities such as bridge painting are part of a Federal-aid or a Direct Federal managed project and involve hazardous materials, the above guidance under "Oversight of Contractual Obligation " is applicable. The FHWA is involved with RD&T activities including funding research, technology transfer, and working with groups such as the American Association of State Highway and Transportation Officials and the Transportation Research Board Committees to address such issues. For Direct Federal projects managed by FHWA, FHWA is responsible for the proper treatment and disposal of hazardous substances/wastes generated by construction or materials testing.

- Cleanup of Hazardous Waste Spills - This is not a Federal-aid activity except as it might occur in relation to a construction project. There are existing plans for this activity handled by other agencies, and these plans should be followed by the SHAs and Direct Federal.

IV. Right-of-Way Procedural Guidance

States are increasingly faced with the realization that property contaminated with hazardous substances/wastes has been acquired or with the necessity of acquiring such property for right-of-way purposes. In such instances, it may be necessary to control, treat, and/or dispose of existing wastes, contaminated soil, or other material in accordance with EPA or other State or local Government regulations. Generally, the property owner is responsible for this effort and must bear the costs.

Appraisal Process

Necessary cleanup or waste disposal costs are normally reflected in a property's salability, and thus, in the market value. Therefore, in appraising such property for Federal-aid purposes, the impact of any hazardous substances/wastes affecting the property and the level of treatment needed to control/cleanup the property needs to be considered and reflected in the appraised market value.

Caution must be exercised against assuming that a single appraisal methodology is possible or even desirable given the unique problems presented by each specific case and the variability of Federal and State options to deal with hazardous substances/wastes.

The scope of the appraisal problem must be remembered: hazardous substance/waste is another factor that must be considered by the appraiser in determining the "highest and best use" and marketability of the property in the analysis of its effect on the market value of the property. This can be routinely done and presents no problem when the appraiser is provided with the estimated control/cleanup cost and/or there are comparable sale properties available that have been similarly impacted by hazardous substances/wastes and have been cleared. If an estimate of control/cleanup costs is necessary and cannot be provided, the appraisal process should be delayed until such time as the information is available or the appraiser is provided with alternate instructions relative to the consideration of the hazardous substance/waste on the affected site.

Normally, the valuation of property impacted by contaminated material will occur under three (3) situations or variations thereof. These are as follows:

1. The property contained hazardous substances/wastes which has been cleaned up and disposed of by the owner prior to acquisition by the public agency, in accordance with applicable Government requirements and in a manner acceptable to the regulating agency(s). In such cases, the property is to be appraised and valued as if exposed for sale on the open market without regard to costs incurred for cleaning up/disposing of the material.

2. The property contains hazardous substances/wastes, but cleanup/disposal may be delayed until a future date. That date may be a defined calendar date established by the Government regulating agency at which time the cleanup must take place, or a date when a change in property use is contemplated. In such instances, the property is to be valued as though cleared of the hazardous substances/wastes, less the present worth of the estimated cost to cleanup at a future date. Full consideration must be given to the influence any contaminated material may have upon the value of the property in both the "before" and "after" situations.
3. The hazardous substance/waste must be cleaned up/disposed of before any further use or activity, existing or otherwise, can be carried out on the property. In these instances, where the State acquires the property prior to cleanup/disposal, the appraised value must be made on the potential highest and best use less the cost of cleanup/disposal in accordance with existing regulations and requirements.

Administrative Settlements

In the relatively few, but more complex cases, where the cost of cleanup equals or exceeds the estimated market value "as clean," the appraisal value may be zero or a negative value. In such cases, the cost of cleanup/disposal should be estimated in accordance with existing regulations and requirements and an appraisal made on the contaminated property as if no hazardous substances/wastes existed. These two figures will serve as a guide to assist the acquiring agency in determining the compensation to be offered. It remains the responsibility of the acquiring agency to use whatever mechanisms available to it under State law, including administrative settlements, to reach settlement.

V. General Eligibility and Participation Policy Guidance

Federal-aid highway funds, as a general rule, should only be used as a last resort to cleanup or dispose of hazardous substances/wastes located on proposed or existing project sites. Contaminated sites should be avoided if at all possible. When they cannot be avoided, every effort should be made to identify other responsible parties to bear the costs of cleanup or disposal. If, however, this cannot be done, Federal-aid highway funds can participate in the cleanup and/or disposal of hazardous substances/wastes on Federal-aid projects, at the agreed prorata share for other work on the project, if one of the following conditions is met:

- o Federal laws and/or regulations clearly establish an SHA responsibility to cleanup and/or dispose of hazardous substances/wastes on a Federal-aid project in-order to meet certain standards, and the FHWA, having worked closely with the SHA in the development of the project and having formally or informally approved key decisions at every important juncture, has an obligation as partners with the SHA to participate in cleanup/disposal costs necessary to complete the project (including unforeseen costs that could not reasonably have been anticipated), or
- o The FHWA and SHA knowingly agree to accept the responsibility of others for the cleanup and/or disposal of hazardous substances/wastes from a Federal-aid project in order to expedite the completion of a much needed project, with the understanding that the necessary efforts will be pursued to recover the costs of cleanup and/or disposal from the responsible parties and that any costs recovered will be promptly credited to eligible work items.

(Note: At present, no Federal laws or regulations establish an FHWA responsibility to cleanup/dispose of, or participate in the cleanup/disposal of, hazardous substances/wastes on a Federal-aid project.)

This general eligibility and participation policy opens the door to a number of associated questions. Some of these questions will be addressed in the next section using a question and answer format.

Questions and Answers

1. Can the FHWA participate in costs to cleanup and/or dispose of hazardous substances/wastes discovered during the construction of a Federal-aid project?

The FHWA can participate in costs to cleanup and/or dispose of hazardous substances/wastes discovered during the construction of a Federal-aid project under the conditions discussed above in the general policy statement. Inherent in the project development process is a clear need to reasonably investigate all possible

conditions which are likely to be encountered and which may significantly affect the planned project. These investigations should be reasonable and thorough. The findings should be considered in the various project development decisions. This would include an assessment of responsibility and liability for corrective actions. However, it is understood that even the best investigative processes may not always uncover all adversely impacting conditions. Where such conditions are encountered after the project is underway, the SHA generally handles them as project related activities to the extent necessary to enable the project to proceed to completion. Where these activities are clearly attributable to and essential to the project completion, they are considered project costs to the extent the SHA pays for the work. The FHWA approval of location, design and PS&E is based upon the assumption of the adequacy of the investigations and is an indication that the FHWA is willing to participate in all essential and properly attributable project costs actually incurred by the SHA. This would include those unavoidable costs the SHA is required to incur to cleanup hazardous waste sites on Federal-aid projects. However, in those cases where the SHA failed to adequately investigate project site conditions, FHWA's participation in handling the conditions encountered may be limited.

2. Can the FHWA participate in costs to cleanup and/or dispose of hazardous substances/wastes in order to achieve State standards that are stricter than EPA or other Federal standards?

If the FHWA can participate in costs to cleanup and/or dispose of hazardous substances/wastes on Federal-aid projects for the reasons discussed in the general policy statement above, participation should be limited to those activities minimally necessary to clear the right-of-way and construct the project in accordance with accepted EPA or other applicable Federal standards. Exceptions should be evaluated and supported on a special need basis through the project environmental process. The FHWA may approve participation in stricter State standards where warranted and special conditions exist. A situation where a SHA is required under State law to conform with standards that are stricter than EPA or other Federal standards is not, by itself, considered to be a special warranting condition. Nor is a situation where stricter State standards are contained in a program approved by EPA which allows the State to assume Federal responsibilities. Participation in cleanup to a stricter State standard is warranted, for example, where the difference between the Federal and State standard is not substantial, and participation in cleanup to the State standard is, therefore, more cost-effective and efficient for Federal-aid processing purposes.

3. Can the FHWA participate in long-term monitoring or operation/maintenance of containment/treatment onsite or in authorized offsite disposal facilities? (The EPA and many States require the generator, which may be a SHA, to remain responsible for long-term remedies if materials cannot be neutralized or destroyed).

The FHWA should not participate in long-term monitoring or operation/maintenance of onsite or offsite containment/treatment. If it is necessary to transport contaminated materials to designated hazardous waste disposal sites, the FHWA, if it can participate in costs to cleanup and/or dispose of hazardous substances/wastes from Federal-aid projects for the reasons discussed in the general policy statement above, can participate but only for the costs associated with approved removal and transportation of the hazardous substances/wastes to the disposal site. Once the materials have been placed at the site, FHWA's participation should cease. Limited participation in required monitoring after treatment/disposal or operation/maintenance may be approved by FHWA on a case-by-case basis for overriding reasons.

4. Can the FHWA participate in costs which grow substantially during project development due to unforeseen site developments or test/treatment methods that were uncertain early-on?

If the FHWA can participate in the costs of cleaning up and/or disposal of hazardous substances/waste from a Federal-aid project site for the reasons discussed in the general policy statement above, it generally can also participate in growing costs created by unforeseen developments or situations that were uncertain at earlier stages of the project development. However, this should be considered on a project-by-project basis. There may be good reasons to consider not participating in escalating costs, such as questionable preliminary investigations or newly developed, more restrictive State standards.

5. Can the FHWA participate in costs to cleanup and/or dispose of hazardous substances/wastes from a Federal-aid project site if avoidance of the site was possible but not chosen by the SHA due to other considerations (e.g., safety, traffic, other environmental concerns, other costs, etc.)?

If the FHWA can participate in the costs of cleaning up and/or disposing of hazardous waste from a Federal-aid project site for the reasons discussed in the general policy statement above, the SHA's should be expected to balance all social, economic, and environmental concerns in selecting locations and designs including the waste site concerns, and to avoid waste sites entirely if there are any other practicable alternatives. However, if an SHA decides there are no practicable alternatives, and FHWA agrees, then FHWA

can participate fully in the associated costs. (If a project alternative or cleanup/disposal alternative is available which would substantially limit the costs of hazardous substance/waste cleanup and/or disposal, FHWA may choose to participate only in this limited cost of cleanup/disposal, even though a different project alternative, with its associated cleanup/disposal action, is implemented by the SHA.)

6. Is FHWA responsible for required cleanup and/or disposal of hazardous substances/wastes on Direct Federal projects?

The FHWA is responsible to arrange for or to effect the cleanup/disposal of hazardous substances/wastes required by Federal and/or State and local regulations on Direct Federal projects managed by FHWA. As with Federal-aid projects, sites contaminated with hazardous substances/wastes should be avoided if at all possible and every effort should be made to identify other responsible parties to bear the costs of cleanup/disposal. The owner(s) of the land containing the hazardous substances/wastes or those responsible for the previous generation, transport, or placement of these materials are responsible parties under CERCLA for cleanup/disposal.