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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

JUN 05 1992

Mr. Donald Gerson
Hickory Hills West
Route 940, HCR Box 113
Pocono Summit, PA 18346

Re: C&D Recycling Site
Hickory Hills West CLP Laboratory Analytical Methods

Dear Mr. Gerson:

My sincere apologies for not responding sooner to your letter of April 14, 1992 concerning the analytical results of soil sampling conducted near the C&D Recycling Superfund Site and on property owned by Hickory Hills West. However, I waited for expert information from our Central Regional Laboratory to ensure that my response to your letter was technically accurate since I do not profess to truly understand the analytical issue.

The soil samples collected in November 1991 on and near the C&D Recycling Site, including those collected on Hickory Hills West property, were analyzed for many metallic elements, including lead. Typically the samples are analyzed by a method called Inductively Coupled Plasma, or "ICP", which is able to accurately determine lead concentrations over a broad range of possible concentrations. However, the ICP method is best suited to "high" concentrations of lead, e.g., greater than 100 parts of lead per million parts of soil (100 ppm), and thus, loses its reliability at low detection limits required by EPA's laboratories. If the analyzing laboratory suspects that low lead concentrations are present, the sample will be analyzed using the graphite furnace atomic absorption (Furnace) method. The furnace method is able to detect low lead concentrations, but only after the sample is diluted. Unfortunately, the dilution of the sample could result in significant error in the analysis since the sample in fact no longer is similar to its original condition.

Since both analytical methods are valid and acceptable to EPA, the two sets of analytical results must be evaluated with caution. The analytical results for the November 1991 samples as portrayed in the left column of the attachment to this letter are reliable ICP results and should be used in EPA's decision making process. The furnace results are also valid, but were obtained only after the sample was modified.

It is EPA's opinion that the ICP results are reliable and should be relied upon in the Agency's decision-making process.

While EPA does not dispute the accuracy of the Furnace data, the alteration of the sample may introduce error in the results, e.g., matrix interferences.

I have no knowledge of the reasons for cancellation of the proposed April 10, 1992 meeting between Congressman Paul Kanjorski, EPA, Concerned Citizens of Foster Township (CCFT), and Foster Township officials. The meeting was rescheduled and held April 16, 1992 in Mr. Kanjorski's Wilkes-Barre office. Foster Township officials declined to participate in the April 16, 1992 meeting. Instead, Foster Township officials and CCFT conducted a meeting on April 21, 1992.

I have no knowledge of an EPA policy for preference for on-site vs. off-site disposal of waste. Although EPA has a preference against transport and disposal of untreated waste, there is no such preference once the material is treated properly. Once the lead-containing soil at the C&D Recycling Site is treated, e.g., stabilized by a mixture of cement and water, the soil is considered a residual waste by Pennsylvania regulation and may be disposed into an approved residual waste landfill or equivalent facility.

EPA chooses its Superfund Site remedies based upon a balance of nine criteria. These criteria are:

1) Overall Protection of Human Health and the Environment
2) Compliance with Applicable or Relevant and Appropriate environmental Requirements
3) Long-term Effectiveness and Performance of Remedy
4) Short-term Effectiveness
5) Reduction of toxicity, mobility & volume through treatment
6) Implementability
7) Cost
8) State Acceptance
9) Community Acceptance.

I have enclosed the relevant portions of EPA's regulations, the National Oil and Hazardous Substances Pollution Contingency Plan and the relevant portions of the Superfund laws which deal with EPA's remedy selection duties.

Thank you for your past cooperation and your continuing concern about the progress of the cleanup of the C&D Recycling Site. Please contact me at (215) 597-8309 if you have any questions about the information contained in this correspondence.

Sincerely,

Michael Towle
Remedial Project Manager

cc: Foster Twp 6-11-92

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Mike —

COMMENTS: Here are the ICP calculations from the CLP lab raw data. They correlate fairly well with the outside lab data. QC was within criteria. I would recommend using the ICP data from both labs + "trash" the furnace data.

CH2M HILL QUALITY ANALYTICAL LABORATORIES, MONTGOMERY LABORATORY
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MW6
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C&D Recycling Pb Results

ICPES	CLP LAB RESULTS METHOD: FURNACE							OUTSIDE LAB RESULTS METHOD: ICP						
	EPA Spl #	Station Loc.	Pb Results	DF	Lab Qual	Valid Qual	Sample Texture	PRPs (CTM)	PRPs' Pb Results	DF	Lab Qual	Sample Texture	Comments
326.7	MCFZ25	SS-1A	405.0	100			Medium	H-300(0-1)	315.0	1	E	Medium	Large qty of roots
79.3	MCFZ26	SS-1B	122.0	50			Medium	H-300(1-6)	81.9	1	E	Medium	Pebbles
1172.3	MCFZ27	SS-2A	2,930.0	1000	W		Medium	H-600(0-1)	985.0	1	E	Medium	Small roots
153.8	MCFZ28	SS-2B	175.0	50			Medium	H-600(1-6)	123.0	1	E	Medium	Pebbles & roots
291.8	MCFZ29	SS-3A	322.0	100			Medium	F-1100(0-1)	217.0	1	E	Medium	Pebbles & plants
54.5	MCFZ30	SS-3B	80.7	50			Medium	F-1100(1-6)	66.0	1	E	Medium	Pebbles
324.6	MCFZ31	SS-4A	424.0	100			Medium	K-1100(0-1)	296.0	1	E	Medium	Roots
79.9	MCFZ32	SS-4B	134.0	75			Medium	K-1100(1-6)	88.4	1	E	Medium	Roots, pebbles
207.7	MCFZ33	SS-5A	305.0	100			Medium	HH-01(0-1)	204.0	1	E	Medium	Small pebbles
17.7	MCFZ34	SS-5B	34.9	25			Medium						
273.1	MCFZ35	SS-6A	559.0	200	S		Medium	HH02(0-1)	301.0	1	E	Medium	Pebbles,roots,black
18.9	MCFZ36	SS-6B	41.5				Medium	HH02(1-6)	32.3	1	E	Medium	Clay,pebbles,roots
269.3	MCFZ37	SS-7A	571.0	100	S		Medium	DA21W5(0-1)	246.0	1	E	Medium	Clay, small roots
204.5	MCFZ38	SS-7B	528.0	100	S		Fine	DA21W5(1-6)	183.0	1	E	Medium	Clay
37.3	MCFZ39	SS-8A	56.2	30			Medium	DA215(0-1)	42.9	1	E	Medium	Large qty of roots
28.3	MCFZ40	SS-8B	45.4	30			Medium	DA215(0-6)	34.1	1	E	Medium	Small roots
105.2	MCFZ41	SS-9A	2,080.0	100	S		Medium	L1300(0-1)	100.0	1	E	Medium	Roots -mostly
73.4	MCFZ42	SS-9B	88.6	50	W	L	Medium	L1300(0-6)	78.9	1	E	Medium	Small roots
319.9	MCFZ43	SS-10A	1,020.0	200	S		Medium	D1300(0-1)	296.0	1	E	Medium	Roots,pebbles,black
79.9	MCFZ44	SS-10B	117.0	50			Medium	D1300(0-6)	114.0	1	E	Medium	Small pebbles

Notes E = Estimated because ICP serial dilutions is 19% i.e. >10% and not because it exceeds linear range.
S = Values reported from MSA.
L = W = Poor post digestion spike recoveries.

99th Congress
2d Session

COMMITTEE PRINT

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THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (SUPERFUND) (P.L. 96-510)

AS AMENDED BY

THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (P.L. 99-499)

DECEMBER 1986

Printed for the use of the Senate Committee
on Environment and Public Works

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requirement of the Solid Waste Disposal Act (including corrective action requirements).

(j) NATIONAL SECURITY.—

(1) SITE SPECIFIC PRESIDENTIAL ORDERS.—The President may issue such orders regarding response actions at any specified site or facility of the Department of Energy or the Department of Defense as may be necessary to protect the national security interests of the United States at that site or facility. Such orders may include, where necessary to protect such interests, an exemption from any requirement contained in this title or under title III of the Superfund Amendments and Reauthorization Act of 1986 with respect to the site or facility concerned. The President shall notify the Congress within 30 days of the issuance of an order under this paragraph providing for any such exemption. Such notification shall include a statement of the reasons for the granting of the exemption. An exemption under this paragraph shall be for a specified period which may not exceed one year. Additional exemptions may be granted, each upon the President's issuance of a new order under this paragraph for the site or facility concerned. Each such additional exemption shall be for a specified period which may not exceed one year. It is the intention of the Congress that whenever an exemption is issued under this paragraph the response action shall proceed as expeditiously as practicable. The Congress shall be notified periodically of the progress of any response action with respect to which an exemption has been issued under this paragraph. No exemption shall be granted under this paragraph due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation.

(2) CLASSIFIED INFORMATION.—Notwithstanding any other provision of law, all requirements of the Atomic Energy Act and all Executive orders concerning the handling of restricted data and national security information, including "need to know" requirements, shall be applicable to any grant of access to classified information under the provisions of this Act or under title III of the Superfund Amendments and Reauthorization Act of 1986.

SEC. 121. CLEANUP STANDARDS.

(a) SELECTION OF REMEDIAL ACTION.—The President shall select appropriate remedial actions determined to be necessary to be carried out under section 104 or secured under section 106 which are in accordance with this section and, to the extent practicable, the national contingency plan, and which provide for cost-effective response. In evaluating the cost effectiveness of proposed alternative remedial actions, the President shall take into account the total short- and long-term costs of such actions, including the costs of operation and maintenance for the entire period during which such activities will be required.

(b) GENERAL RULES.—(1) Remedial actions in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants

is a principal element, are to be preferred over remedial actions not involving such treatment. The offsite transport and disposal of hazardous substances or contaminated materials without such treatment should be the least favored alternative remedial action where practicable treatment technologies are available. The President shall conduct an assessment of permanent solutions and alternative treatment technologies or resource recovery technologies that, in whole or in part, will result in a permanent and significant decrease in the toxicity, mobility, or volume of the hazardous substance, pollutant, or contaminant. In making such assessment, the President shall specifically address the long-term effectiveness of various alternatives. In assessing alternative remedial actions, the President shall, at a minimum, take into account:

(A) the long-term uncertainties associated with land disposal;

(B) the goals, objectives, and requirements of the Solid Waste Disposal Act;

(C) the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous substances and their constituents;

(D) short- and long-term potential for adverse health effects from human exposure;

(E) long-term maintenance costs;

(F) the potential for future remedial action costs if the alternative remedial action in question were to fail; and

(G) the potential threat to human health and the environment associated with excavation, transportation, and redisposal, or containment.

The President shall select a remedial action that is protective of human health and the environment, that is cost effective, and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. If the President selects a remedial action not appropriate for a preference under this subsection, the President shall publish an explanation as to why a remedial action involving such reductions was not selected.

(2) The President may select an alternative remedial action meeting the objectives of this subsection whether or not such action has been achieved in practice at any other facility or site that has similar characteristics. In making such a selection, the President may take into account the degree of support for such remedial action by parties interested in such site.

(c) REVIEW.—If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section 104 or 106, the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

(d) DEGREE OF CLEANUP.—(1) Remedial actions selected under this section or otherwise required or agreed to by the President

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Part II

Environmental Protection Agency

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule

(iv) The extent to which the source can be adequately identified and characterized;

(v) Actual and potential exposure pathways through environmental media;

(vi) Actual and potential exposure routes, for example, inhalation and ingestion; and

(vii) Other factors, such as sensitive populations, that pertain to the characterization of the site or support the analysis of potential remedial action alternatives.

(3) The lead and support agency shall identify their respective potential ARARs related to the location of and contaminants at the site in a timely manner. The lead and support agencies may also, as appropriate, identify other pertinent advisories, criteria, or guidance in a timely manner (see § 300.400(g)(3)).

(4) Using the data developed under paragraphs (d) (1) and (2) of this section, the lead agency shall conduct a site-specific baseline risk assessment to characterize the current and potential threats to human health and the environment that may be posed by contaminants migrating to ground water or surface water, releasing to air, leaching through soil, remaining in the soil, and bioaccumulating in the food chain. The results of the baseline risk assessment will help establish acceptable exposure levels for use in developing remedial alternatives in the FS, as described in paragraph (e) of this section.

(e) *Feasibility study.* (1) The primary objective of the feasibility study (FS) is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision-maker and an appropriate remedy selected. The lead agency may develop a feasibility study to address a specific site problem or the entire site. The development and evaluation of alternatives shall reflect the scope and complexity of the remedial action under consideration and the site problems being addressed. Development of alternatives shall be fully integrated with the site characterization activities of the remedial investigation described in paragraph (d) of this section. The lead agency shall include an alternatives screening step, when needed, to select a reasonable number of alternatives for detailed analysis.

(2) Alternatives shall be developed that protect human health and the environment by recycling waste or by eliminating, reducing, and/or controlling risks posed through each pathway by a site. The number and type of alternatives to be analyzed shall be determined at each site, taking into account the scope, characteristics, and complexity of the site problem that is being addressed. In developing and, as appropriate, screening the alternatives, the lead agency shall:

(i) Establish remedial action objectives specifying contaminants and media of concern, potential exposure pathways, and remediation goals. Initially, preliminary remediation goals are developed based on readily available information, such as chemical-specific ARARs or other reliable information. Preliminary remediation goals should be modified, as necessary, as more information becomes available during the RI/FS. Final remediation goals will be determined when the remedy is selected. Remediation goals shall establish acceptable exposure levels that are protective of human health and the environment and shall be developed by considering the following:

(A) Applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws, if available, and the following factors:

(*1*) For systemic toxicants, acceptable exposure levels shall represent concentration levels to which the human population, including sensitive subgroups, may be exposed without adverse effect during a lifetime or part of a lifetime, incorporating an adequate margin of safety;

(*2*) For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6} using information on the relationship between dose and response. The 10^{-6} risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at a site or multiple pathways of exposure;

(*3*) Factors related to technical limitations such as detection/quantification limits for contaminants;

(*4*) Factors related to uncertainty; and

(*5*) Other pertinent information.

(B) Maximum contaminant level goals (MCLGs), established under the Safe Drinking Water Act, that are set at levels above zero, shall be attained by remedial actions for ground or surface waters that are current or potential sources of drinking water, where the MCLGs are relevant and appropriate under the circumstances of the release based on the factors in § 300.400(g)(2). If an MCLG is determined not to be relevant and appropriate, the corresponding maximum contaminant level (MCL) shall be attained where relevant and appropriate to the circumstances of the release.

(C) Where the MCLG for a contaminant has been set at a level of zero, the MCL promulgated for that contaminant under the Safe Drinking Water Act shall be attained by remedial actions for ground or surface waters that are current or potential sources of drinking water, where the MCL is relevant and appropriate under the circumstances of the release based on the factors in § 300.400(g)(2).

(D) In cases involving multiple contaminants or pathways where attainment of chemical-specific ARARs will result in cumulative risk in excess of 10^{-4}, criteria in paragraph (e)(2)(i)(A) of this section may also be considered when determining the cleanup level to be attained.

(E) Water quality criteria established under sections 303 or 304 of the Clean Water Act shall be attained where relevant and appropriate under the circumstances of the release.

(F) An alternate concentration limit (ACL) may be established in accordance with CERCLA section 121(d)(2)(B)(ii).

(G) Environmental evaluations shall be performed to assess threats to the environment, especially sensitive habitats and critical habitats of species protected under the Endangered Species Act.

(ii) Identify and evaluate potentially suitable technologies, including innovative technologies;

(iii) Assemble suitable technologies into alternative remedial actions.

(3) For source control actions, the lead agency shall develop, as appropriate:

(i) A range of alternatives in which treatment that reduces the toxicity, mobility, or volume of the hazardous substances, pollutants, or contaminants is a principal element. As appropriate, this range shall include an alternative that removes or destroys hazardous substances, pollutants, or contaminants to the maximum extent feasible, eliminating or minimizing, to the degree possible, the need for long-term management. The lead agency also shall develop, as appropriate, other alternatives which, at a minimum, treat the principal threats posed by the site but vary in the degree of treatment employed and the quantities and characteristics of the treatment residuals and untreated waste that must be managed; and

(ii) One or more alternatives that involve little or no treatment, but provide protection of human health and

the environment primarily by preventing or controlling exposure to hazardous substances, pollutants, or contaminants, through engineering controls, for example, containment, and, as necessary, institutional controls to protect human health and the environment and to assure continued effectiveness of the response action.

(4) For ground-water response actions, the lead agency shall develop a limited number of remedial alternatives that attain site-specific remediation levels within different restoration time periods utilizing one or more different technologies.

(5) The lead agency shall develop one or more innovative treatment technologies for further consideration if those technologies offer the potential for comparable or superior performance or implementability; fewer or lesser adverse impacts than other available approaches; or lower costs for similar levels of performance than demonstrated treatment technologies.

(6) The no-action alternative, which may be no further action if some removal or remedial action has already occurred at the site, shall be developed.

(7) As appropriate, and to the extent sufficient information is available, the short- and long-term aspects of the following three criteria shall be used to guide the development and screening of remedial alternatives:

(i) *Effectiveness.* This criterion focuses on the degree to which an alternative reduces toxicity, mobility, or volume through treatment, minimizes residual risks and affords long-term protection, complies with ARARs, minimizes short-term impacts, and how quickly it achieves protection. Alternatives providing significantly less effectiveness than other, more promising alternatives may be eliminated. Alternatives that do not provide adequate protection of human health and the environment shall be eliminated from further consideration.

(ii) *Implementability.* This criterion focuses on the technical feasibility and availability of the technologies each alternative would employ and the administrative feasibility of implementing the alternative. Alternatives that are technically or administratively infeasible or that would require equipment, specialists, or facilities that are not available within a reasonable period of time may be eliminated from further consideration.

(iii) *Cost.* The costs of construction and any long-term costs to operate and maintain the alternatives shall be considered. Costs that are grossly excessive compared to the overall effectiveness of alternatives may be considered as one of several factors used to eliminate alternatives. Alternatives providing effectiveness and implementability similar to that of another alternative by employing a similar method of treatment or engineering control, but at greater cost, may be eliminated.

(8) The lead agency shall notify the support agency of the alternatives that will be evaluated in detail to facilitate the identification of ARARs and, as appropriate, pertinent advisories, criteria, or guidance to be considered.

(9) *Detailed analysis of alternatives.* (i) A detailed analysis shall be conducted on the limited number of alternatives that represent viable approaches to remedial action after evaluation in the screening stage. The lead and support agencies must identify their ARARs related to specific actions in a timely manner and no later than the early stages of the comparative analysis. The lead and support agencies may also, as appropriate, identify other pertinent advisories, criteria, or guidance in a timely manner.

(ii) The detailed analysis consists of an assessment of individual alternatives against each of nine evaluation criteria and a comparative analysis that focuses upon the relative performance of each alternative against those criteria.

(iii) *Nine criteria for evaluation.* The analysis of alternatives under review shall reflect the scope and complexity of site problems and alternatives being evaluated and consider the relative significance of the factors within each criteria. The nine evaluation criteria are as follows:

(A) *Overall protection of human health and the environment.* Alternatives shall be assessed to determine whether they can adequately protect human health and the environment, in both the short- and long-term, from unacceptable risks posed by hazardous substances, pollutants, or contaminants present at the site by eliminating, reducing, or controlling exposures to levels established during development of remediation goals consistent with § 300.430(e)(2)(i). Overall protection of human health and the environment draws on the assessments of other evaluation criteria, especially long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs.

(B) *Compliance with ARARs.* The alternatives shall be assessed to determine whether they attain applicable or relevant and appropriate requirements under federal environmental laws and state environmental or facility siting laws or provide grounds for invoking one of the waivers under paragraph (f)(1)(ii)(C) of this section.

(C) *Long-term effectiveness and permanence.* Alternatives shall be assessed for the long-term effectiveness and permanence they afford, along with the degree of certainty that the alternative will prove successful. Factors that shall be considered, as appropriate, include the following:

(*1*) Magnitude of residual risk remaining from untreated waste or treatment residuals remaining at the conclusion of the remedial activities: The characteristics of the residuals should be considered to the degree that they remain hazardous, taking into account their volume, toxicity, mobility, and propensity to bioaccumulate.

(*2*) Adequacy and reliability of controls such as containment systems and institutional controls that are necessary to manage treatment residuals and untreated waste. This factor addresses in particular the uncertainties associated with land disposal for providing long-term protection from residuals; the assessment of the potential need to replace technical components of the alternative, such as a cap, a slurry wall, or a treatment system; and the potential exposure pathways and risks posed should the remedial action need replacement.

(D) *Reduction of toxicity, mobility, o volume through treatment.* The degree which alternatives employ recycling o treatment that reduces toxicity, mobili or volume shall be assessed, including how treatment is used to address the principal threats posed by the site. Factors that shall be considered, as appropriate, include the following:

(*1*) The treatment or recycling processes the alternatives employ an materials they will treat;

(*2*) The amount of hazardous substances, pollutants, or contamina that will be destroyed, treated, or recycled;

(*3*) The degree of expected reduct in toxicity, mobility, or volume of the waste due to treatment or recycling and the specification of which reduction(s) are occurring;

(*4*) The degree to which the treatment is irreversible;

(*5*) The type and quantity of residuals that will remain following treatment, considering the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous substances and their constituents; and

(*6*) The degree to which treatment reduces the inherent hazards posed by principal threats at the site.

(E) *Short-term effectiveness.* The short-term impacts of alternatives shall be assessed considering the following:

(*1*) Short-term risks that might be posed to the community during implementation of an alternative;

(*2*) Potential impacts on workers during remedial action and the effectiveness and reliability of protective measures;

(*3*) Potential environmental impacts of the remedial action and the effectiveness and reliability of mitigative measures during implementation; and

(*4*) Time until protection is achieved.

(F) *Implementability.* The ease or difficulty of implementing the alternatives shall be assessed by considering the following types of factors as appropriate:

(*1*) Technical feasibility, including technical difficulties and unknowns associated with the construction and operation of a technology, the reliability of the technology, ease of undertaking additional remedial actions, and the ability to monitor the effectiveness of the remedy.

(*2*) Administrative feasibility, including activities needed to coordinate with other offices and agencies and the ability and time required to obtain any necessary approvals and permits from other agencies (for off-site actions);

(*3*) Availability of services and materials, including the availability of adequate off-site treatment, storage capacity, and disposal capacity and services; the availability of necessary equipment and specialists, and provisions to ensure any necessary additional resources; the availability of services and materials; and availability of prospective technologies.

(G) *Cost.* The types of costs that shall be assessed include the following:

(*1*) Capital costs, including both direct and indirect costs;

(*2*) Annual operation and maintenance costs; and

(*3*) Net present value of capital and O&M costs.

(H) *State acceptance.* Assessment of state concerns may not be completed until comments on the RI/FS are received but may be discussed, to the extent possible, in the proposed plan issued for public comment. The state concerns that shall be assessed include the following:

(*1*) The state's position and key concerns related to the preferred alternative and other alternatives; and

(*2*) State comments on ARARs or the proposed use of waivers.

(I) *Community acceptance.* This assessment includes determining which components of the alternatives interested persons in the community support, have reservations about, or oppose. This assessment may not be completed until comments on the proposed plan are received.

(f) *Selection of remedy*—(1) Remedies selected shall reflect the scope and purpose of the actions being undertaken and how the action relates to long-term, comprehensive response at the site.

(i) The criteria noted in paragraph (e)(9)(iii) of this section are used to select a remedy. These criteria are categorized into three groups.

(A) *Threshold criteria.* Overall protection of human health and the environment and compliance with ARARs (unless a specific ARAR is waived) are threshold requirements that each alternative must meet in order to be eligible for selection.

(B) *Primary balancing criteria.* The five primary balancing criteria are long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost.

(C) *Modifying criteria.* State and community acceptance are modifying criteria that shall be considered in remedy selection.

(ii) The selection of a remedial action is a two-step process and shall proceed in accordance with § 300.515(e). First, the lead agency, in conjunction with the support agency, identifies a preferred alternative and presents it to the public in a proposed plan, for review and comment. Second, the lead agency shall review the public comments and consult with the state (or support agency) in order to determine if the alternative remains the most appropriate remedial action for the site or site problem. The lead agency, as specified in § 300.515(e), makes the final remedy selection decision, which shall be documented in the ROD. Each remedial alternative selected as a Superfund remedy will employ the criteria as indicated in paragraph (f)(1)(i) of this section to make the following determination:

(A) Each remedial action selected shall be protective of human health and the environment.

(B) On-site remedial actions selected in a ROD must attain those ARARs that are identified at the time of ROD signature or provide grounds for invoking a waiver under § 300.430(f)(1)(ii)(C).

(*1*) Requirements that are promulgated or modified after ROD signature must be attained (or waived) only when determined to be applicable or relevant and appropriate and necessary to ensure that the remedy is protective of human health and the environment.

(*2*) Components of the remedy not described in the ROD must attain (or waive) requirements that are identified as applicable or relevant and appropriate at the time the amendment to the ROD or the explanation of significant difference describing the component is signed.

(C) An alternative that does not meet an ARAR under federal environmental or state environmental or facility siting laws may be selected under the following circumstances:

(*1*) The alternative is an interim measure and will become part of a total remedial action that will attain the applicable or relevant and appropriate federal or state requirement;

(*2*) Compliance with the requirement will result in greater risk to human health and the environment than other alternatives;

(*3*) Compliance with the requirement is technically impracticable from an engineering perspective;

(*4*) The alternative will attain a standard of performance that is equivalent to that required under the otherwise applicable standard, requirement, or limitation through use of another method or approach;

(*5*) With respect to a state requirement, the state has not consistently applied, or demonstrated the intention to consistently apply, the promulgated requirement in similar circumstances at other remedial actions within the state; or

(*6*) For Fund-financed response actions only, an alternative that attains the ARAR will not provide a balance between the need for protection of human health and the environment at the site and the availability of Fund monies to respond to other sites that may present a threat to human health and the environment.

(D) Each remedial action selected shall be cost-effective, provided that it first satisfies the threshold criteria set forth in § 300.430(f)(1)(ii) (A) and (B). Cost-effectiveness is determined by evaluating the following three of the five balancing criteria noted in § 300.430(f)(1)(i)(B) to determine overall effectiveness: long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, and short-term effectiveness. Overall effectiveness is then compared to cost to ensure that the remedy is cost-effective. A remedy shall be cost-effective if its costs are proportional to its overall effectiveness.

(E) Each remedial action shall utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum

extent practicable. This requirement shall be fulfilled by selecting the alternative that satisfies paragraph (f)(1)(ii) (A) and (B) of this section and provides the best balance of trade-offs among alternatives in terms of the five primary balancing criteria noted in paragraph (f)(1)(i)(B) of this section. The balancing shall emphasize long-term effectiveness and reduction of toxicity, mobility, or volume through treatment. The balancing shall also consider the preference for treatment as a principal element and the bias against off-site land disposal of untreated waste. In making the determination under this paragraph, the modifying criteria of state acceptance and community acceptance described in paragraph (f)(1)(i)(C) of this section shall also be considered.

(2) *The proposed plan.* In the first step in the remedy selection process, the lead agency shall identify the alternative that best meets the requirements in § 300.430(f)(1), above, and shall present that alternative to the public in a proposed plan. The lead agency, in conjunction with the support agency and consistent with § 300.515(e), shall prepare a proposed plan that briefly describes the remedial alternatives analyzed by the lead agency, proposes a preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative. The selection of remedy process for an operable unit may be initiated at any time during the remedial action process. The purpose of the proposed plan is to supplement the RI/FS and provide the public with a reasonable opportunity to comment on the preferred alternative for remedial action, as well as alternative plans under consideration, and to participate in the selection of remedial action at a site. At a minimum, the proposed plan shall:

(i) Provide a brief summary description of the remedial alternatives evaluated in the detailed analysis established under paragraph (e)(9) of this section;

(ii) Identify and provide a discussion of the rationale that supports the preferred alternative;

(iii) Provide a summary of any formal comments received from the support agency; and

(iv) Provide a summary explanation of any proposed waiver identified under paragraph (f)(1)(ii)(C) of this section from an ARAR.

(3) *Community relations to support the selection of remedy.* (i) The lead agency, after preparation of the proposed plan and review by the support agency, shall conduct the following activities:

(A) Publish a notice of availability and brief analysis of the proposed plan in a major local newspaper of general circulation;

(B) Make the proposed plan and supporting analysis and information available in the administrative record required under subpart I of this part;

(C) Provide a reasonable opportunity, not less than 30 calendar days, for submission of written and oral comments on the proposed plan and the supporting analysis and information located in the information repository, including the RI/FS. Upon timely request, the lead agency will extend the public comment period by a minimum of 30 additional days;

(D) Provide the opportunity for a public meeting to be held during the public comment period at or near the site at issue regarding the proposed plan and the supporting analysis and information;

(E) Keep a transcript of the public meeting held during the public comment period pursuant to CERCLA section 117(a) and make such transcript available to the public; and

(F) Prepare a written summary of significant comments, criticisms, and new relevant information submitted during the public comment period and the lead agency response to each issue. This responsiveness summary shall be made available with the record of decision.

(ii) After publication of the proposed plan and prior to adoption of the selected remedy in the record of decision, if new information is made available that significantly changes the basic features of the remedy with respect to scope, performance, or cost, such that the remedy significantly differs from the original proposal in the proposed plan and the supporting analysis and information, the lead agency shall:

(A) Include a discussion in the record of decision of the significant changes and reasons for such changes, if the lead agency determines such changes could be reasonably anticipated by the public based on the alternatives and other information available in the proposed plan or the supporting analysis and information in the administrative record; or

(B) Seek additional public comment on a revised proposed plan, when the lead agency determines the change could not have been reasonably anticipated by the public based on the information available in the proposed plan or the supporting analysis and information in the administrative record. The lead agency shall, prior to adoption of the selected remedy in the ROD, issue a revised proposed plan, which shall include a discussion of the significant changes and the reasons for such changes, in accordance with the public participation requirements described in paragraph (f)(3)(i) of this section.

(4) *Final remedy selection.* (i) In the second and final step in the remedy selection process, the lead agency shall reassess its initial determination that the preferred alternative provides the best balance of trade-offs, now factoring in any new information or points of view expressed by the state (or support agency) and community during the public comment period. The lead agency shall consider state (or support agency) and community comments regarding the lead agency's evaluation of alternatives with respect to the other criteria. These comments may prompt the lead agency to modify aspects of the preferred alternative or decide that another alternative provides a more appropriate balance. The lead agency, as specified in § 300.515(e), shall make the final remedy selection decision and document that decision in the ROD.

(ii) If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

(iii) The process for selection of a remedial action at a federal facility on the NPL, pursuant to CERCLA section 120, shall entail:

(A) Joint selection of remedial action by the head of the relevant department, agency, or instrumentality and EPA; or

(B) If mutual agreement on the remedy is not reached, selection of the remedy is made by EPA.

(5) *Documenting the decision.* (i) To support the selection of a remedial action, all facts, analyses of facts, and site-specific policy determinations considered in the course of carrying out activities in this section shall be documented, as appropriate, in a record of decision, in a level of detail appropriate to the site situation, for inclusion in the administrative record required under subpart I of this part. Documentation shall explain how the evaluation criteria in paragraph (e)(9)(iii) of this section were used to select the remedy.

(ii) The ROD shall describe the following statutory requirements as they relate to the scope and objectives of the action:

(A) How the selected remedy is protective of human health and the