Formerly Utilized Sites Remedial
Action Program (FUSRAP)

Maywood Chemical Company Superfund Site

ADMINISTRATIVE RECORD

Document Number

MISS- 098.

US Army Corps
of Engineers®

141911

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

May 6 12 36 PM '96

MAY - 1 1996

Ms. Susan Cange, Site Manager
Former Sites Restoration Division
U.S. Department of Energy
Oak Ridge Operations Field Office
P.O. Box 2001
Oak Ridge, TN 37831-8723

Re: Maywood Site Properties - Interstate 80 Right of Way Excavation

Dear Ms. Cange:

The Environmental Protection Agency (EPA) is in receipt of the Department of Energy's (DOE) March 29, 1996 proposal to use supplemental standards for the inaccessible soils located beneath Interstate 80 (I-80). While EPA concurs that the approach outlined in this letter is appropriate for these soils, the development of supplemental standards would not eliminate the five-year review requirement as set forth in Section 300.430(f)(4)(ii) of the National Contingency Plan which states:

> "If a remedial action is selected that results in hazardous substances, pollutants, or contaminant 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."

This is further clarified in OSWER Directive 9355.7-02 (copy enclosed) which indicates that:

> "EPA will ensure that all remedies requiring any engineering controls, or access or land-use restrictions or controls are reviewed, including remedies that attain protective levels for the current use, but which include restrictions on activities due to limits on possible future exposure."

Thus unless the level of contaminants remaining on any of the site properties allows for unlimited and unrestricted use the five-year review would be required. Since the materials located beneath I-80 would most likely be handled in the same manner as those located beneath State Route 17, I recommend that the decision on the management of contamination under I-80 be deferred until such time as DOE is ready to address State Route 17. At that time EPA and DOE can evaluate the application of supplemental standards/hazard assessments for both highways.

Please feel free to contact me at (212) 637-4433 if you wish to discuss this further.

Sincerely,

Angela Carpenter

Angela Carpenter, Project Manager
Federal Facilities Section

Enclosure

cc: N. Marton, NJDEP

141911

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 23 1991

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE
OSWER Directive 9355.7-02

MEMORANDUM

SUBJECT: Structure and Components of Five-Year Reviews

FROM: Henry L. Longest II, Director
Office of Emergency and Remedial Response

TO: ADDRESSEES

I. PURPOSE

The purpose of this Directive is to provide guidance for planning and conducting five-year reviews.[1] The Directive focuses primarily on the implementation of five-year reviews and the issues associated with implementation. These include: triggering points for reviews, responsibilities and funding, content, and results of reviews. The goal of the Directive is to assure that reviews are implemented in a consistent manner nationally, with appropriate consideration of local concerns and widely varying site conditions.

II. BACKGROUND

The Directive provides guidance on periodic reviews EPA plans to implement consistent with section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and section 300.430(f)(4)(ii) of the National Contingency Plan (hereinafter referred to as "Statutory Reviews"). The Directive also governs five-year reviews EPA plans to implement as a matter of policy ("Policy Reviews"). This Directive includes two attachments: (1) an explanation of

[1] The policies set forth in this Directive are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this Directive, or to act at variance with the directive, on the basis of an analysis of specific circumstances. The Agency also reserves the right to change this Directive at any time without public notice.

the five-year review policy, and (2) a matrix which outlines the components of a five-year review.

III. IMPLEMENTATION

A. Purpose of Reviews

Five-year reviews are intended to evaluate whether the response action remains protective of public health and the environment.

The focus of the five-year review will depend on the original goal of the response action. If protectiveness is being assured through exposure protection (e.g., containment with a cap) and institutional controls, the review should focus on whether the cap remains effective and the controls remain in place. For a Long-term Remedial Action (LTRA) (i.e., an ongoing remedial action which has not yet achieved the cleanup standards set in the record of decision (ROD)), the review should focus on both the effectiveness of the technology, and on the specific performance levels established in the ROD (e.g., performance of an extraction and treatment system for groundwater).

B. Sites at which Reviews will be Conducted

EPA will conduct a Statutory Review of any site at which a post-SARA remedy, upon attainment of the ROD cleanup levels, will not allow unlimited use and unrestricted exposure; and a Policy Review of (1) sites where no hazardous substances will remain above levels that allow unlimited use and unrestricted exposure after completion of the remedial action, but the cleanup levels specified in the ROD will require five or more years to attain (e.g., LTRA sites); and (2) sites addressed pre-SARA at which the remedy, upon attainment of the ROD cleanup levels, will not allow unlimited use and unrestricted exposure. In addition, EPA will examine previously deleted sites, as a matter of policy, to determine the appropriateness of five-year reviews.

C. Timing of Reviews

Statutory five-year reviews are required no less often than each five years after the initiation of the remedial action.

D. Termination of Reviews

EPA may terminate Statutory five-year reviews when no hazardous substances, pollutants or contaminants remain at the site above levels that allow for unrestricted use and unlimited exposure.

E. Responsibilities for Conduct of Reviews

EPA will retain final review and approval authority for five-year reviews. However, through contracts and/or other agreements, EPA

reviews. However, through contracts and/or other agreements, EPA may authorize other parties to perform portions of the reviews (e.g., studies, investigation and analysis) and identify alternatives to assure protection of human health and the environment.

F. Funding of Reviews

Five-year reviews are response actions selected under section 121, and as such, expenditures for review activities are authorized uses of the Fund under CERCLA section 111(a).

G. Public Participation

EPA will inform the public when it determines that either a Statutory or Policy five-year review is appropriate, describe the planned scope of such reviews, identify the location of the report on the review (see section V below), and describe actions taken based on any review.

H. Level of Review

EPA contemplates that a Level I analysis will be appropriate in all but a relatively few cases where site-specific circumstances suggest another level either at the outset of the review, or if findings during the course of the review indicate the need for further analysis. (See Attachment I for a description of the levels of review.)

IV. FIVE-YEAR REVIEW MATRIX

EPA has developed the attached five-year review matrix to explain the activities that should be considered in determining the scope of reviews proposed in future RODs and in developing work plans for five-year reviews. Additionally, the matrix may be useful in explaining the scope, structure and available components of five-year reviews to the public.

V. REPORTS ON FIVE-YEAR REVIEWS

EPA will develop and issue a report on each review conducted pursuant to this Directive. OERR will issue additional guidance on the form and substance of such reports later this year.

VI. CONDUCT OF FIVE-YEAR REVIEWS

This policy is effective immediately. Regions should initiate their development of work plans and proceed with reviews to assure completion within five years of initiation of the remedial action. OERR will issue more detailed supplementary guidance on five-year review model work plans, agreements, and sample reports later this year.

Questions regarding this Directive should be directed to Bill Ross (FTS 398-8335) of my staff.

ATTACHMENTS

ADDRESSEES

Directors, Waste Management Division
Regions I, IV, V, VII, VIII
Director, Emergency and Remedial Response Division
Region II
Directors, Hazardous Waste Management Division
Regions III, VI
Director, Toxics and Waste Management Division
Region IX
Director, Hazardous Waste Division
Region X

cc: Regional Superfund Branch Chiefs
Offices of Regional Counsel - Regional Branch Chiefs
Bruce Diamond, Office of Waste Programs Enforcement
Earl Salo, Office of General Counsel
William White, Office of Enforcement
Gordon Davidson, Office of Federal Facilities Enforcement

ATTACHMENT I

EXPLANATION OF FIVE-YEAR REVIEW POLICY

I. PURPOSE

This Directive establishes a "Five-Year Review Level of Effort Matrix" that is recommended for use by EPA Regional personnel and other officials responsible for such reviews. The matrix sets forth a three-tier, flexible approach to five-year reviews to accommodate varied circumstances and site conditions. The Matrix sets forth the structure and the range of components for reviews and establishes a minimum level of review (i.e., Level I) to evaluate whether remedies remain protective of human health and the environment.

As described below, EPA will determine the level of each review based on site-specific considerations, including the nature of the response action, the status of on-site response activities, proximity to populated areas and sensitive environmental areas, and the interval since the last review was conducted.

II. BACKGROUND

Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, provides that:

> 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 five 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.

Section 300.430(f)(4)(ii) of the National Contingency Plan (NCP) states that:

> 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.

For purposes of this Directive, five-year reviews that EPA plans to implement consistent with CERCLA section 121(c) and the NCP are referred to as "Statutory Reviews." Such reviews will be conducted at least every five years or until contaminant levels allow for unlimited use and unrestricted exposure. The Directive also refers to "Policy Reviews," which are five-year reviews that the Agency believes should be conducted, as a matter of policy,

although they are not required by CERCLA section 121(c). While most Policy Reviews are of remedies selected prior to the enactment of the Superfund Amendments and Reauthorization Act of 1986 (SARA), some are of post-SARA remedies (e.g., response actions where upon completion of the remedial action, no hazardous substances will remain, but five or more years are required to reach that point).

Consistent with the NCP, Statutory Reviews are conducted of sites at which hazardous substances, pollutants, or contaminants remain above levels that allow for unlimited use and unrestricted exposure following completion of all remedial action. Consequently, EPA will ensure that all remedies requiring any engineering controls, or access or land-use restrictions or controls are reviewed, including remedies that attain protective levels for the current use, but which include restrictions on activities due to limits on possible future exposure. For purposes of implementing five-year reviews, EPA shall primarily consider "hazardous substances, pollutants, or contaminants" that are identified in the Record of Decision (ROD) as "contaminants of concern."

Deletion of a site from the NPL does not affect the site's potential need for a five-year review. For information on the relationship between five-year reviews and the deletion of sites from the NPL, consult OSWER Directive No. 9320.2-3 ("Procedures for Completion and Deletion of National Priorities List Sites").

III. IMPLEMENTATION

A. Purpose of Reviews

Five-year reviews are intended to evaluate whether the response action remains protective of public health and the environment.

The more specific purpose of the reviews is two-fold: (1) to confirm that the remedy as spelled out in the ROD and/or remedial design remains effective at protecting human health and the environment (e.g., the remedy is operating and functioning as designed, institutional controls are in place and are protective), and (2) to evaluate whether original cleanup levels remain protective of human health and the environment.

The focus of the five-year review will depend on the original goal of the response action. If protectiveness is being assured through exposure protection (e.g., containment with a cap) and institutional controls, the review should focus on whether the cap remains effective and the controls remain in place and are sufficient to assure protection. For a Long-term Remedial Action (LTRA) (i.e., an on-going remedial action which has not yet achieved the cleanup standards set in the ROD), the review should focus on both the effectiveness of the technology,

and on the specific performance levels established in the ROD (e.g., performance of an extraction and treatment system for groundwater).

The first purpose of a five-year review may be accomplished primarily through a review of documented operation and maintenance of the site, a site visit and limited analysis of site conditions. The second purpose requires an analysis of newly promulgated or modified requirements of Federal and State environmental laws to determine if they are applicable or relevant and appropriate requirements (ARARs) and to determine if they call into question the protectiveness of the remedy. NCP section 300.430(f)(1)(ii)(B)(1). For example, a new Federal or State maximum contaminant level (MCL) may be promulgated at a more stringent level calling into question the protectiveness of a groundwater cleanup at the former MCL. The State should be requested to identify State ARARs promulgated or modified since ROD signature which may have a bearing on the protectiveness of the remedy.

In exceptional cases, reviews may also consider whether ARARs for substances not addressed under contaminants of concern have changed such that the remedy is no longer protective. The review may also consider pending changes in zoning or land-uses that would undermine institutional controls established as a part of the remedy. If appropriate, EPA would notify the local government that the proposed change would compromise the protectiveness of the remedy.

A further objective of the five-year review is to consider the scope of operation and maintenance (O&M), the frequency of repairs, changes in monitoring indicators, costs at a site, and how this relates to protectiveness. If O&M activities either grow unexpectedly over time or are simply much greater than had been estimated at the time of remedy selection, the reviewer should analyze O&M activities and cost increases in an effort to determine if such increases are an early indicator of deterioration of the remedy. Rising efforts or costs may indicate that excessive attention or activity is required to ensure that a remedy functions properly. This might be due to the deterioration or inefficiency of the remedy. In this case, repair or further actions may be necessary to protect against a higher than acceptable potential for remedy failure. Based on such an analysis, EPA, in consultation with the State, would consider whether further actions should be taken to reduce increasing O&M activities. As appropriate, potentially responsible parties may also propose additional response actions to reduce O&M activities or contain rising O&M costs.

B. Sites at which Reviews will be Conducted

EPA will conduct a Statutory Review of any site at which a post-

SARA remedy, upon attainment of the ROD cleanup levels, will not allow unlimited use and unrestricted exposure; and a Policy Review of (1) sites where no hazardous substances will remain above levels that allow unlimited use and unrestricted exposure after completion of the remedial action, but the cleanup levels specified in the ROD will require five or more years to attain (e.g., LTRA sites); and (2) sites addressed pre-SARA at which the remedy, upon attainment of the ROD cleanup levels, will not allow unlimited use and unrestricted exposure. In addition, EPA will examine previously deleted sites, as a matter of policy, to determine the appropriateness of five-year reviews.

A statutory five-year review will be conducted of remedies selected, after the passage of SARA, that "result" in any hazardous substances remaining at the site above levels for unlimited use and unrestricted exposure. Thus, such reviews are required only of remedies that upon attainment of the cleanup goals will result in a hazardous substance, pollutant, or contaminant remaining at a site above levels that allow unlimited use and unrestricted exposure. Accordingly, even if a period of 30 years is required to attain such levels, and assuming that the cleanup goals will be met, a five-year review is not required by EPA's interpretation of the statute.

However, EPA acknowledges that especially for long-term remedial actions, there is a potential that remediation goals of unlimited exposure will not be attained. Therefore, EPA has determined, as a matter of policy, that policy reviews should be conducted of any ongoing remedial action which will not allow for unlimited use and unrestricted exposure within five years of initiation of the remedial action (sites where hazardous substances will remain above these levels for five years or longer). EPA will also conduct policy reviews of sites for which the remedy was selected prior to the passage of SARA and that remedy results in any hazardous substances remaining at the site above levels that allow unlimited use and unrestricted exposure.

Also as a matter of policy, EPA will examine previously deleted sites concerning the appropriateness of five-year reviews at those sites which were not cleaned to levels that allow unlimited use and unrestricted exposure.

C. Timing of Reviews

Statutory five-year reviews are required no less often than each five years after the initiation of the remedial action.

Statutory reviews should be commenced in sufficient time to assure completion of the review within 5 years of initiation of the remedial action (i.e., award of the contract for remedial action). Initiation of the first remedial action will trigger a five-year review. In the event that EPA selects an interim

remedy, such as the provision of alternative water supplies, ground water plume control, or temporary source containment measures, the five-year review of that remedy will be limited in scope. In this case, the purpose of the review will be to determine whether the specific action(s) implemented is serving the protective purpose for which the interim remedy was intended (e.g., the water supply remains in place, the plume is still controlled, the hazardous substances remain contained). Implementation of a more permanent remedy (e.g., source control or ground water remediation) will result in a Level I, II or III review as appropriate (see section H below for a description). Review of any subsequent response actions (e.g., operable units) generally should be incorporated into the schedule following the first review and will occur at least every five years after completion of the first review.

Examples of factors affecting the estimated duration of a review (due to the comprehensiveness of the review) might include: the size of the site, the number of operable units, the number of contaminants addressed by the remedy, the length of time since construction of the remedy, reliability of the remedy, and the vulnerability of the remedy to stress, wear, or other physical deterioration.

D. Termination of Reviews

EPA may terminate statutory five-year reviews when no hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unlimited exposure.

Statutory reviews will be conducted at least every five years unless or until contaminant levels allow for unlimited use and unrestricted exposure. Once begun, reviews should be discontinued only if levels of contaminants of concern are reported, based on the appropriate period of monitoring, at levels that would allow unlimited use and unrestricted exposure, and ARARs promulgated or modified after ROD signature do not result in a determination that the remedy is no longer protective.

As noted above, LTRAs may present complications and uncertainties not found in other remedial actions. Thus, a decision to discontinue policy five-year reviews at such sites should await attainment of the cleanup levels specified in the ROD, assuming that these levels allow for unlimited use and unrestricted exposure.

EPA will describe in subsequent guidance the circumstances for discontinuing policy reviews, and the nature of any public notice and the documentation appropriate to support a decision to discontinue reviews.

E. Responsibilities for Conduct of Reviews

EPA will retain final review and approval authority for five-year reviews. However, through contracts and/or other agreements, EPA may authorize other parties to perform portions of the reviews (e.g., studies, investigations and analysis) and identify alternatives to assure protection of human health and the environment.

CERCLA section 121(c) provides that "the President" shall conduct five-year reviews. Section 2(g) of Executive Order 12580 (E.O. 12580) provides that the lead Federal agency (generally EPA) is responsible for ensuring the conduct of five-year reviews. EPA may, pursuant to section 104(d)(1), enter into a contract or cooperative agreement (CA) with a State or political subdivision, or Indian tribe to carry out portions of five-year reviews (e.g., data collection, studies, investigations). Additionally, EPA may elect to implement five-year reviews through an interagency agreement with another Federal agency (e.g., a Federal facility agreement pursuant to CERCLA section 120, a response agreement with the U.S. Corp of Engineers), or any of a number of national contracts (e.g., ARCS). EPA may authorize parties to settlement agreements with the United States to conduct studies and investigations to enable EPA to conduct reviews. OERR will develop additional guidance to enable the Regions to utilize these options, with appropriate oversight, under varying site-specific circumstances. This guidance will include model agreement language and work plans.

F. Funding of Reviews

Five-year reviews are response actions under section 121, and as such, expenditures for review activities are authorized uses of the Fund under CERCLA section 111(a).

Due to the authority of section 104(d)(1) to enter into cooperative agreements for response activities, including studies and investigations in support of five-year reviews, the Regions may enter into a cooperative agreement with the State pursuant to 40 CFR Part 35, Cooperative Agreements and Superfund State Contracts for Response Actions (55 FR 22994). As appropriate, a State may satisfy any cost share requirement through its expenditures for in-kind activities. EPA may elect to fund reviews in a given State annually through multi-site cooperative agreements (MSCAs). Wherever possible, settlement agreements should provide for the reimbursement of the costs of five-year reviews directly to the agency responsible for such reviews (including States, if applicable). In the absence of such language in a settlement agreement, the costs of five-year reviews should be recovered through a cost recovery action pursuant to CERCLA section 107.

EPA Regions should reflect plans to conduct five-year reviews in their annual Superfund Comprehensive Accomplishment Plan (SCAP) or other appropriate strategic planning and budgeting system. The fiscal year 1992 Program Management Manual and other planning documents will address the level of activity associated with such reviews. The Regions must also capture the site-specific costs associated with five-year reviews and reflect them in the Software Package for Unique Reports (SPUR) or other Regional cost summaries.

G. Public Participation

EPA will inform the public when it determines that either a Statutory or Policy five-year review is appropriate, describe the planned scope of such reviews, identify the location of the report on the review (see section V below), and describe actions taken based on any review.

Beginning in fiscal year 1990, each ROD attempts to identify whether a statutory or policy five-year review is appropriate for the site based on the nature of the remedy. A discussion of the five-year reviews in subsequent proposed plans will afford the public an opportunity for comment on whether a five-year review is appropriate for the remedy and the general scope and timing of such reviews. In conducting reviews, EPA Regions should inform local communities of pending reviews and consult with the community in developing a communication strategy. As stated below, the Five-Year Review Report should be made available to the public through the administrative record file.

H. Level of Review

EPA contemplates that a Level I analysis will be appropriate in all but a relatively few cases where site-specific circumstances suggest another level either at the outset of the review, or if findings during the course of the review indicate the need for further analysis.

EPA will determine the level of the review based on site-specific considerations, including the nature of the response action, the status of on-site response activities, proximity to populated areas and sensitive environmental areas, and the interval since the last review was conducted. Level I is the lowest level of evaluation of protectiveness, Level II is the intermediate level, and Level III is the highest level of evaluation of protectiveness. EPA contemplates that a Level I analysis will be appropriate in all but a relatively few cases where site-specific circumstances suggest another level. A Level II review would be appropriate only if warranted by site conditions. For example, the absence of expected change in the level of contaminants, as monitored, might suggest additional

source control or migration system sampling, or increased evaluation of remedial components. It is unlikely that a Region will propose a Level III review before the review is underway. Regions should document fully their reasons where they believe a Level II or Level III review is necessary.

In the event that further analysis is indicated by site conditions during a review, the reviewer is not required to consider all of the higher level matrix activities described below, but may select only those related to a specific component of the review, due to a specific finding. For example, the matrix does not contemplate the recalculation of the risk (i.e., Level II) or a new risk assessment (i.e., Level III) for a containment remedy, unless a site-specific finding calls into question the protectiveness of the remedy.

It is important that EPA retain flexibility in planning and conducting five-year reviews. However, the reviews should be sufficient to evaluate whether a remedy remains protective of human health and the environment. All reviews will examine information such as: monitoring data, ARARs and cleanup levels, and new information or considerations relevant to an assessment of protectiveness.

All future RODs should contain a determination whether a Statutory or Policy Review is appropriate for the site and the proposed level (ordinarily Level I) of the first review based on site-specific conditions and the confidence level for the selected remedy. Due to the dynamic nature of this process, the level of review may be adjusted in subsequent years to account for new or revised health-related information, the failure of institutional controls, or the effectiveness of the remedy. Subsequent EPA guidance on RODs and proposed plans will incorporate this policy.

With the exception of five-year reviews of interim remedies, Level I is generally the minimum level of review. EPA will generally limit the scope of five-year reviews triggered by interim remedies to those activities necessary to determine whether the specific actions required by the ROD are serving the protective purpose for which the interim remedy was intended (e.g., the water supply remains in place, the plume is still controlled, the hazardous substances remain contained).

IV. FIVE-YEAR REVIEW ACTIVITIES MATRIX

The attached matrix explains the activities which generally should be considered in determining the scope of reviews proposed in future RODs and in developing work plans for five-year reviews. Additionally, the matrix may be useful in explaining to the public the scope, structure and possible components of five-year reviews. The matrix is designed to reflect the different

levels of review that may be appropriate depending on the site-specific circumstances or the status of the site with regard to completion of the response action. Reviews of ongoing remedial actions might focus on proper operation or implementation of the remedy, while reviews of completed and of deleted sites would be more extensive.

The matrix is organized into three sections: (1) documents and standards, (2) site visit, and (3) report. Section One focuses on the review of available information in advance of and in preparation for the site visit. Section Two, the site visit, consists of interviews of key personnel, the site inspection, and technology reviews. Section Three consists of the report and recommended actions on the basis of the review (e.g., no additional response action required or modification of the remedy or a new remedy pursuant to NCP section 300.435(c)(2)). The activities for each section from level-to-level are additive (i.e., activities and corresponding levels of effort (LOE) for Level I are conducted as a part of Level II, and Level III includes Level I and II activities). The estimated LOE, expressed in hours, for each section represents our best estimate. The dollar estimates supplied are in addition to the LOE and represent the Agency's best estimate of the costs of materials and services which require payment.

The matrix suggests that <u>all</u> reviews include a site visit. This is intended to assure the public that an authorized official will physically inspect the site at least every five years. Each level of review should determine whether the remedy remains operational and functional, and whether relevant standards or measures have been revised such that the protectiveness of the remedy is in doubt.

The matrix provides for a new risk assessment only at Level III. Such an assessment may be appropriate in order to address a new site condition such as a new pathway of exposure. At Level I, the reviewer will consider the ARARs and/or risk assessment information contained in the ROD and ROD summary. At Level II, the matrix proposes a recalculation of the original risk assessment, for example to recognize new toxicity data obtained during the review or for comparison to a changed chemical-specific ARAR.

You should note that only reviews at Levels II and III contemplate new field sampling. Generally, monitoring or O&M data should be sufficient for conducting the review. However, reviews will consider whether relevant standards of protectiveness have become more stringent since completion of the remedial action. Data on O&M or other site-specific information may trigger new field sampling, if such sampling is necessary to determine the protectiveness of the remedy. New remedies and technologies should be considered by the reviewer only if the

review indicates that the remedy is no longer protective.

V. REPORTS ON FIVE-YEAR REVIEWS

EPA will develop and issue a report on each review conducted pursuant to this Directive. OERR will issue additional guidance on the form and substance of such reports later this year. The reports will be similar in format to the Site Close Out Report which provides a technical description of how the implemented remedy satisfies the completion requirements. Much of the information contained in the Close Out Report (e.g., site summary, description of the remedy, O&M and five-year review requirements) may be used to complete the Five-Year Review Report. Additionally, the Report will include the scope and nature of the current review, the results of the review, actions taken or proposed on the basis of the review, and the scope and nature of future reviews. EPA will notify communities of on-site review activities, actions proposed on the basis of the review, and the location of the administrative record file for the site. EPA will add the Five-Year Review Report to the file pursuant to section 300.825(a)(1) of the NCP.

VI. CONDUCT OF FIVE-YEAR REVIEWS

This policy is effective immediately. Regions should initiate their development of work plans and proceed with reviews to assure completion within five years of initiation of the remedial action. OERR will issue more detailed supplementary guidance on five-year reviews later this year. As additional guidance, model work plans and agreements, and sample reports are drafted, OERR will consult with the Regions and provide an opportunity for review and comment.

Questions regarding this Directive should be directed to Bill Ross (FTS 382-8335) of my staff.

The policies set forth in this Directive are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this Directive, or to act at variance with the Directive, on the basis of an analysis of specific circumstances. The Agency also reserves the right to change this Directive at any time without public notice.

141911

5-YEAR REVIEW LEVEL-OF-EFFORT MATRIX[1]

Information	Level I[2]	Level II[2]	Level III[2]
	Ia. DOCUMENTS AND STANDARDS: Document Review		
(Additive)		LEVEL I DOCUMENT REVIEW	LEVEL I & II DOCUMENT REVIEW
Background	ROD	RESPONSIVENESS SUMMARY	COOPERATIVE AGREEMENT
	ROD SUMMARY	STATE CONCURRENCE LETTER	STATE SUPERFUND AGREEMENT
	CONSENT DECREE (PRP LEAD SITES)	ADMINISTRATIVE RECORD INDEX	INTERAGENCY AGREEMENT
	CLOSE OUT REPORT		TRANSCRIPTS OF PUBLIC MEETINGS
		RI/FS	FEASIBILITY STUDY
Design		DETAILED DESIGN DOCUMENTS	RECORD AS-BUILT DRAWINGS
		CONCEPTUAL DESIGN REPORT	SHOP DRAWINGS
Maintenance and Monitoring	O&M MANUAL	HEALTH & SAFETY PLAN	
	O&M REPORTS	CONTINGENCY PLAN	
	GROUNDWATER MONITORING PLAN	QA/QC PLAN	
	MONITORING INFORMATION		
Subtotal LOE	**Level I Document Review (35-40 hrs)**	**Level II Document Review (85-90 hrs)**	**Level III Document Review (125-135 hrs)**
	Ib. DOCUMENTS AND STANDARDS: Standards (ARARs) Review		
(Additive)		LEVEL I STANDARDS REVIEW	LEVEL I & II STANDARDS REVIEW
Background	ROD AND ROD SUMMARY	REMEDIAL INVESTIGATION	RI/FS
Changing Standards	REGULATIONS	REGULATIONS TOXICOLOGY DATA	REGULATIONS TOXICOLOGY DATA
Risk Assessment	ROD ROD SUMMARY SEE ABOVE.	RECALCULATE RISK ASSESSMENT	NEW RISK ASSESSMENT
Subtotal LOE	**Level I Standards Review (25-30 hrs)**	**Level II Standards Review (160-210 hrs)**	**Level III Standards Review (570-650 hrs)**
	IIa. SITE VISIT: Interviews		
(Additive)		LEVEL I INTERVIEWS	LEVEL I & II INTERVIEWS
Background	PREVIOUS STAFF MANAGEMENT	CONSULTANT FOR ROD	RI/FS CONSULTANT
	NEAREST NEIGHBORS, PRPS	ACTIVE COMMUNITY GROUPS, PRPs	RD/RA CONSULTANT
Local Considerations	STATE CONTACTS	REGIONAL STATE PERSONNEL	
	LOCAL GOVERNMENT CONTACTS	ADDITIONAL LOCAL CONTACTS	
Operational Problems	PLANT SUPERINTENDENT		OVERSIGHT CONTRACTOR
	O&M CONTRACTORS		
Subtotal LOE	**Level I Interviews (35-45 hrs)**	**Level II Interviews (85-100 hrs)**	**Level III Interviews (96-115 hrs)**
	IIb. SITE VISIT: Site Inspection/Technology Review		
(Additive)		LEVEL I SITE REVIEW	LEVEL I & II SITE REVIEW
Performance and Compliance	VISUAL INSPECTION	SOURCE CONTROL COMPONENTS SAMPLING	STRUCTURAL REVIEW
		MIGRATION SYSTEM SAMPLING	CORROSION REVIEW
		ONSITE TREATMENT SYSTEMS SAMPLING	
		REGULATORY COMPLIANCE	
Offsite			OFFSITE REVIEW
			OFFSITE SAMPLING
Recommendations	RECOMMENDATIONS	RECOMMENDATIONS	RECOMMENDATIONS
Subtotal LOE	**Level I Site Review (25-35 hrs)**	**Level II Site Review (310-345 hrs)**	**Level III Site Review (625-695 hrs)**
	III. REPORT		
Background	INTRODUCTION	INTRODUCTION	INTRODUCTION
	REMEDIAL OBJECTIVES	REMEDIAL OBJECTIVES	REMEDIAL OBJECTIVES
	ARARS REVIEW	ARARS REVIEW	REGULATORY REVIEW
Site Conditions	SUMMARY OF SITE VISIT	SUMMARY OF SITE VISIT	SUMMARY OF SITE VISIT
	AREAS OF NONCOMPLIANCE	AREAS OF NONCOMPLIANCE	AREAS OF NONCOMPLIANCE
Risk Assessment		RECALCULATION OF RISK	RISK ASSESSMENT
Recommendations	RECOMMENDATIONS/TECHNOLOGY	RECOMMENDATIONS TECHNOLOGY	RECOMMENDATIONS TECHNOLOGY
	STATEMENT ON PROTECTIVENESS	STATEMENT ON PROTECTIVENESS	STATEMENT ON PROTECTIVENESS
	NEXT REVIEW	NEXT REVIEW	NEXT REVIEW
	IMPLEMENTATION REQUIREMENTS	IMPLEMENTATION REQUIREMENTS	IMPLEMENTATION REQUIREMENTS
Process	QA/QC, WP, AND EDITING	QA/QC, WP, AND EDITING	QA/QC, WP, AND EDITING
Subtotal LOE	**Level I Report Preparation (30-35 hrs)**	**Level II Report Preparation (60-65 hrs)**	**Level III Report Preparation (160-175 hrs)**
Total LOE	**TOTAL (160-170 hrs) plus $6,000 or less**	**TOTAL (725-790 hrs) plus $34,000 or less**	**TOTAL (1,620-1,730 hrs) plus $68,000 or less**

[1]Numbers in parentheses are LOE estimates based on ranges of potential activities for 5-year reviews. Estimates only include time for persons conducting the review. Estimates for outside services will be additional. LOE and cost estimates represent relative order of magnitude for three levels of review and should be used for comparative purposes only.

[2]Level I--Lowest level of evaluation of protectiveness.
Level II--Intermediate level of evaluation of protectiveness.
Level III--Highest level of evaluation of protectiveness.

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Attachment 2