Five-Year Reviews, Frequently Asked Questions (FAQs) and Answers
OSWER 9355.7-21

Background

The purpose of the Five-Year Review generally is to determine whether the remedy at a site is/remains protective of human health and the environment and to evaluate the implementation and performance of the selected remedy. The purpose of the frequently asked questions is to clarify EPA's *Comprehensive Five-Year Review Guidance* (OSWER No. 9355.7-03B-P), June 2001. This document supersedes the December 2004 "Five-Year Review – Questions and Answers" document.

Types of Five-Year Reviews

The following definitions are included for purposes of this guidance (See Section 1.2.1 and 1.2.2 of the guidance):

Statutory review

Pursuant to CERCLA and the NCP, five-year reviews are carried out where both of the following conditions are true:

- Upon completion of the remedial action, hazardous substances, pollutants, or contaminants will remain on site above levels that allow for unlimited use and unrestricted exposure; and
- The ROD for the site was signed on or after October 17, 1986 (the effective date of SARA) and the remedial action was selected under CERCLA §121.

Policy review

Five-year reviews generally should be conducted as a matter of policy for the following types of actions:

- A pre- or post-SARA remedial action that, upon completion, will not leave hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure, but requires five years or more to complete;
- A pre-SARA remedial action that leaves hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure; or
- A removal-only site on the NPL where a removal action leaves hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure and where no remedial action has or will take place.

Discretionary review

These Five-Year Reviews are not required by statute or policy. These Five-year Reviews may be done at the discretion of the Region or Federal Agency to help ensure the protectiveness of selected remedies.

Five-Year Review Addendum

A five-year review addendum is generally completed for remedies where the protectiveness determination was deferred in a prior five-year review report in order to collect further information When deferring protectiveness in the Five-Year Review report, EPA typically provides a timeframe for when the information will be obtained and a protectiveness statement can be made. This addendum should clarify the protectiveness determination. A five-year review addendum template is available on the following website: http://www.epa.gov/superfund/cleanup/postconstruction/5yr.htm

The FAQs have been divided into five categories:

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ROLES AND RESPONSIBILITIES
COMPONENTS OF THE FIVE-YEAR REVIEW PROCESS
FIVE-YEAR REVIEW ISSUES AND RECOMMENDATIONS
ASSESSING THE PROTECTIVENESS OF THE REMEDY

OVERVIEW

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2. **Can the type of five-year review change?**
3. **If the type of five-year review changes because there has been a change in the remedy decision, does the triggering action change if at least one five-year review has been completed for the site?**
4. **What is the five-year review trigger for a remedy that requires no on-site mobilization?**
5. **Can a five-year review be conducted at a site where one is not required by statute or policy?**
6. **If a review is completed before the first scheduled completion date for a statutory or policy review, can this review be considered a discretionary review?**
7. **What circumstances may warrant a discretionary five-year review?**
8. **How long does it take to conduct a five-year review?**
9. **How do five-year reviews apply to a site with a mix of removal and remedial actions that result in hazardous substances remaining on site above levels that allow for unlimited use and unrestricted exposure?**

10. **For removal only sites, does the need to conduct a five-year review differ if the site is a final or proposed site for the NPL?**
11. **Can a five-year review addendum completion date change the due date for a subsequent five-year review?**

1. If there is more than one Record of Decision (ROD) for a site, what remedial action would trigger a five-year review?

Normally, Regions should initiate a five-year review based on the first remedial action that leaves waste on-site above levels that allow for unlimited use and unrestricted exposure (UU/UE). A five-year review also may be initiated for remedial actions that require five years or more to reach UU/UE after construction completion. For example, a site may have multiple RODs where the first ROD selects a remedy that would remove all contaminated soil, while a second ROD selects a remedy that is expected to restore ground water. The first ROD typically would not trigger a five-year review because it would not leave any waste on site. However, the Region generally should initiate a five-year review based on the second ROD if the action is anticipated to take more than five years to achieve cleanup levels after construction is completed. (See sections 1.3 and 1.4 of the FYR guidance).

2. Can the type of five-year review change?

Regions should evaluate which type of review is appropriate at the time the remedy is selected. Subsequent remedy decisions may change the type of review. For example, if a ROD selects an interim groundwater containment remedy and does not select a final remedy to address ground water contamination, a statutory review normally should be done. If a subsequent ROD selects a final remedy to restore the ground water, this second remedial action generally would change the review type from a statutory review to a policy review if the remedy takes more than five years to achieve UU/UE.

3. If the type of five-year review changes because there has been a change in the remedy decision, does the triggering action change if at least one five-year review has been completed for the site?

Once a policy or statutory five-year review has been completed at a site, the signature date of the five-year review typically becomes the trigger for the next review. If the five-year review type changes as a result of a change in the remedy decision, the triggering action will typically still be the completion date of the previous five-year review. If a remedy changes before the first five-year review is completed, the trigger date may change as appropriate. (See section 1.3.3 of the FYR guidance)

4. What is the five-year review trigger for a remedy that requires no on-site mobilization?

For remedies where on-site mobilization may not occur, the ROD signature date is typically used as the trigger date for the five-year review. An example of a remedial action not requiring on-site mobilization may be implementation of institutional controls. (See section 1.3.1 of the FYR guidance).

5. Can a five-year review be conducted at a site where one is not required by statute or policy?

A five-year review may be conducted at the discretion of the Region at any site to ensure the continued protectiveness of the remedy selected. The discretionary five-year review should explain why the review is being conducted. Examples of circumstances that may warrant a discretionary five-year review are provided in Question #7. (See sections 1.2 and 1.2.3 of the FYR guidance)

6. If a review is completed before the first scheduled completion date for a statutory or policy review, can this review be considered a discretionary review?

If a five-year review is conducted before the trigger date of the first scheduled statutory or policy five-year review, it generally may be considered a discretionary review. This discretionary review normally would not affect or delay the schedule for subsequent statutory or policy five-year reviews. If a five-year review is conducted after the trigger date but before the due date of the scheduled policy or statutory five-year review, the five-year review generally should be considered as an early (rather than discretionary) five-year review, and it generally would be the trigger for the next five-year review.

7. What circumstances may warrant a discretionary five-year review?

For example, a discretionary five-year review may be appropriate for a remedy selected prior to the Superfund Amendments and Reauthorization Act (SARA), which was signed on October 17, 1986, where that remedy has not reached construction completion (the trigger date for the policy five-year review). A discretionary five-year review also may be appropriate in response to a request by the community. The Region may also determine it is appropriate to conduct a discretionary five-year review prior to deleting a site from the National Priorities List (NPL) to ensure that remedial action objectives have been met in accordance with the decision documents.

8. How long does it take to conduct a five-year review?

The Remedial Project Manager (RPM) should determine when to begin the review to ensure that it is completed before the planned completion date. Generally, we recommend that the five-year review process begin nine to twelve months before the scheduled planned completion date so that a site inspection and a comprehensive data and document review can be conducted by the five-year review team. A schedule should be developed by the RPM to ensure that all stakeholders have the opportunity to review the draft and provide comments, the comments can be addressed, and that the document can be completed in a timely manner.

9. How do five-year reviews apply to a site with a mix of removal and remedial actions that result in hazardous substances remaining on site above levels that allow for unlimited use and unrestricted exposure?

Generally, when a selecting remedial action, the lead agency should take into account and consider any previous removal actions taken at the site. Therefore, if a five-year review is undertaken at a site, it normally should include any previous removal actions that have been taken. As discussed in the guidance, at sites where hazardous substances remain on site above UU/UE levels, the five-year review generally should be triggered by the remedial action leaving waste in place. (See section 1.3.1 of the FYR guidance)

10. For removal only sites, does the need to conduct a five-year review differ if the site is a final or proposed site for the NPL?

For a removal-only site final on the NPL or deleted from the NPL where a removal action leaves hazardous substances, pollutants, or contaminants on site above levels that allow for UU/UE, a five-year review should be conducted as a matter of policy. Removal actions at a site proposed for the NPL typically do not by themselves trigger a five-year review. (See section 1.2.2 of the FYR guidance)

11. Will a five-year review addendum completion date change the due date for a subsequent five-year review?

The due date for the subsequent five-year review is typically five years from the signature date of the previous five-year review report, not the five-year review addendum signature date. (See section 4.5 of the FYR guidance)

ROLES AND RESPONSIBILITIES

12. After a site is deleted from the NPL, who resolves follow-up actions identified in subsequent five-year reviews?

Site deletion generally will not affect the decision of who pays for and ensures that the follow-up actions are addressed. If the remedy was conducted by potentially responsible

parties (PRPs) or a federal agency, the action is generally funded and addressed by those parties. If the remedy was conducted by EPA as a Fund lead (with no viable PRPs at the site), the action is generally funded and addressed by either EPA or the state. The nature of the action generally determines both who pays for and who performs the action. For example, if the follow-up actions pertain to operation and maintenance (O&M) activities being conducted by the state (such as maintenance of a treatment plant), the state is generally responsible to resolve those follow-up actions.

13. Who is responsible for conducting the five-year review if the site is transferred to another entity for reuse?

Typically for both private and federal facility sites requiring five-year reviews, regardless of ownership, the lead federal agency is ultimately responsible for ensuring that the five-year review is conducted and the remedy remains protective. The lead agency may either conduct the review or provide oversight, as appropriate.

14. How are non-NPL sites handled for the purpose of the five-year review?

At private sites not on the NPL in which EPA selected the remedial action that leaves waste on site above UU/UE or requires five years or more to reach UU/UE, a five-year review is typically conducted as either a matter of policy after the remedial action has reached construction completion or as a statutory review after the start of construction at that operable unit. (See section 1.2 of the FYR guidance)

For federal facility sites not on the NPL, federal agencies or departments should conduct five-year reviews for all CERCLA non-NPL remedial actions that require a statutory review. As discussed in the 2001 guidance, the federal agencies or departments may also conduct five-year reviews as a matter of policy at sites that would be subject to policy reviews. EPA may comment on five-year reviews and protectiveness determinations but the Agency does not have a formal concurrence role for these reviews. Regions may enter these five-year reviews in Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database at their discretion. For national reporting purposes, these five-year reviews are not tracked and reported. (See section 2.5 of the FYR guidance)

15. Does EPA track and concur on five-year reviews at National Priorities List sites where the remedy was selected under an authority other than CERCLA?

For final or deleted NPL sites where the remedy was chosen under an authority other than CERCLA, neither CERCLA nor EPA policy requires five-year reviews for these remedies. The other authority may wish to do a five-year review at its discretion. If requested, EPA may review these documents. The Regions may conduct discretionary reviews at these sites if they find it appropriate.

16. What level of involvement can the potentially responsible party (PRP) have during the five-year review process?

For private sites, EPA is responsible for the quality and completeness of the five-year review, including the content and protectiveness determinations. Although the five-year review process responsibilities ultimately reside with EPA, it may be appropriate for PRPs or PRP-hired contractors to provide support for five-year review. These support activities may include, but are not limited to, data collection, analysis, and studies. Regions should verify the quality of these support activities to avoid any potential conflict of interest on the part of the PRPs or their contractor. (See section 2.3 of the FYR guidance)

For federal facility sites on the NPL, the federal agency is responsible for conducting the five-year review. The federal agency drafts the five-year review, conducts interviews and conducts the site inspection. EPA retains final authority over whether the five-year review adequately address the protectiveness of the remedies being evaluated. (See section 2.5 of the FYR guidance)

COMPONENTS OF THE FIVE-YEAR REVIEW PROCESS

17. Do all sections of the five-year review report need to be completed?

For purposes of national consistency, EPA recommends that all reports contain the same sections outlined in the guidance. If there was no information for a specific section or the section does not apply to that five-year review, the Region should state that this section is not applicable and provide an explanation.

18. Is a five-year review team necessary at every site?

Although not required, EPA strongly encourages that the RPM assemble a multi-disciplinary team to adequately review the protectiveness of the remedy. The five-year review team members may include risk assessors, hydrogeologists, site attorneys, technical experts, and community involvement coordinators, as appropriate. (See section 3.3 of the FYR guidance)

19. Are site inspections necessary at operable units where remedial actions do not leave waste on site above levels that allow for UU/UE?

Regions generally should conduct a site inspection for sites undergoing a five-year review. For operable units at a site where the remedial action has been completed and where waste was not left on site above UU/UE levels, it is still recommended that the five-year review team provide a brief review and inspection of these operable units. The summary of the site inspection should be included in the five-year review document.

20. What are the public notification requirements for FYRs?

The Region may use various approaches for involving the community during the five-year review process. The approaches may include notifications, interviews, and public meetings. At a minimum, the community should be notified at the beginning of the process and at the end of the process. Typically, a public notice may be put in the local paper at the start and the completion of the five-year review. Regions should use their discretion to determine the appropriate level of other community involvement activities. Headquarters recommends the Regions document in a memo to the site file any community notification activities. (See section 3.4 of the FYR guidance)

21. Can Technical Assistance Grant/Community Advisory Group (TAG/CAG) funds be used by communities that wish to be involved in the five-year review process?

The use of these funding mechanisms generally is appropriate for community involvement during the five-year review process.

22. How should optimization be addressed during the five-year review?

Opportunities for both remedy and long-term monitoring optimization may be identified through the five-year review. Remedy optimization opportunities typically identify modifications to the operating remedy which may improve remedy performance or reduce remedy costs. Although the opportunities identified during the five-year review process may not impact the protectiveness of the remedy, these opportunities may be included in the issues and recommendations tables. The five-year review provides an opportunity to recommend or identify the need for optimization studies; however, the optimization study is generally not conducted as part of the five-year review. (See sections 4.1.2 and 4.4.2 of the FYR guidance)

23. How should changes in land use be addressed during the five-year review?

During the five-year review, remedies are typically evaluated to determine whether current and future land assumptions are still valid. If current land use is inconsistent with the assumptions indicated in the ROD, the Region typically evaluates whether the remedial action objectives and associated risk in the ROD are sufficient to cover the change in land use. If the new land use is not consistent with the assumptions in the ROD, this issue is typically identified in the five-year review and documented in the issues and recommendations tables. Furthermore, if future land use changes are being considered by local officials, the Region may recommend further evaluation to determine whether additional response actions may be appropriate. These activities are typically identified in the five-year review and documented in the issues and recommendations tables. (See sections 4.2 and 4.3 of the FYR guidance)

24. Is it necessary to evaluate toxicity data for chemicals that were not carried forward as contaminants of concern in the original risk assessment?

Generally, when evaluating remedy performance, data should be collected and reviewed to determine if contaminants of concern (as stated in the Record of Decision), are being remediated so that the remedy remains protective. In Question B of the Technical Assessment section of the five-year review report, the toxicity data evaluation done in the risk assessment should be reviewed to ensure that any assumptions made at the time of the original risk assessment continue to be protective. In addition to reviewing the toxicity information from the original risk assessment, Regions generally should evaluate new toxicity information for other chemicals identified at the site. New toxicity information may result in the determination that the additional contaminant sources poses a risk to human health or the environment. The review of both the original risk assessment and any new site contaminant information is intended to ensure that the implemented remedy continues to be protective both currently and in the future. (See section 4.2 of the FYR guidance)

25. How is the change in the arsenic maximum contaminant level (MCL) evaluated in the technical assessment of the five-year review?

In January 2001, EPA published a revised maximum contaminant level (MCL) for arsenic in drinking water. The revised MCL for arsenic in drinking water was reduced from 0.050 mg/L to 0.010 mg/L. When reviewing a remedial action where arsenic was a contaminant of concern in groundwater, the five-year review should generally use the 0.010 mg/L standard (or more stringent state standard) as the new measure of protectiveness for an aquifer that is a current or potential drinking water aquifer. The Region typically evaluates whether the remedial action objectives to address the associated risk in the ROD are sufficient to cover the change in arsenic MCL. If the current remedy cannot meet current remedial action objectives with the revised arsenic MCL, additional response actions or activities may be warranted. These activities are typically identified in the five-year review issues and recommendations tables.

26. When is it appropriate to do a screening ecological risk assessment during the five-year review?

When conducting the five-year review, it is appropriate to evaluate whether any new information comes to light that could call into question the protectiveness of the remedy. The agency may find, through the review, that ecological risks have not been adequately addressed to date. In this situation, the five-year review typically recommends conducting a screening level ecological risk assessment in the issues and recommendations tables. The ecological risk assessor in the Region may provide assistance, as needed. (See section 4.3 of the FYR guidance)

FIVE-YEAR REVIEW ISSUES AND RECOMMENDATIONS

27. Should the five-year review include recommended follow-up activities to be implemented?

The main purpose of the five-year review generally is to evaluate the implementation and performance of the selected remedy. The five-year review should highlight any issues and recommend follow-up activities. If appropriate, Regions generally should prepare appropriate decision documents to implement remedy modifications. The implementation of the activities recommended in the five-year review are tracked in the CERCLIS database.

28. What types of issues and recommendations are typically covered in the Issues and Recommendations tables?

In general, issues reflect findings from the five-year review process. For example, they may be a result of data and document review, site inspection, or an interview. Typically issues captured in the five-year review either currently prevent the response action from being protective, or may do so in the future. These issues should be documented in the issues table of the five-year review report. The issues table typically includes the following: issues that currently prevent the response action from being protective, now or in the future; issues that conflict with the need to ensure the proper management of the remedy; and early indicators of remedy problems including unanticipated and increased operating cost. (see Section 4.4.1 of the FYR guidance)

In general, recommendations reflect actions suggested to address the issues raised during the five-year review process. The goal of the recommendation, and associated follow-up actions, generally is to ensure both current protectiveness and long-term protectiveness of the implemented remedy. Recommendations to resolve these issues are typically included in the recommendations table of the five-year review report and should include a measurable completion milestone in addition to identifying the parties responsible for implementing the actions. Recommendations generally should not include activities pertaining to ongoing actions, such as routine operation and maintenance activities, being performed in connection with the remedy. A discussion of routine activities may be captured in the body of the report. Although recommendations generally address issues raised during the five-year review process, the Region also may include recommendations that do not impact the protectiveness of the remedy; for example, such recommendations may include suggestions to conduct remedy and long-term monitoring optimization activities. Such recommendations also should have a measurable completion milestone and be included in the recommendations table of the report. (See section 4.4.2 of the FYR guidance)

For example, an issue identified in the five-year review could relate to the identification of a new contaminant in ground water discovered during an annual monitoring event. To resolve this issue, an example of a recommendation could be to incorporate the newly identified contaminant into the monitoring plan.

29. Should issues and recommendations be identified if a review concludes that the remedy is protective of human health and the environment?

Issues and recommendations are generally conclusions based on the technical assessment of the five-year review. If the five-year review concludes that the remedy is protective, this indicates that the remedial actions have reduced or eliminated exposure and normally are expected to remain protective in the future. Although the remedy is protective, issues and recommendations may still be appropriate. Five-year reviews also may contain other issues and recommendations related to achieving or maintaining the protectiveness of the remedy, such as optimization activities, and coordination with other public and government authorities. (See section 4.4.2 of the guidance)

30. Are issues and recommendations generally required for reviews that have protectiveness determinations other than "protective"?

If a protectiveness determination is either "short-term protective", "protectiveness deferred" or "not protective", an issue has been identified that either affects current protectiveness or protectiveness in the future. These issues and associated recommendations should be incorporated into the appropriate tables of the five-year review report.

31. How do I close out a five-year review recommendation in CERCLIS that I choose not to implement?

The five-year review CERCLIS module provides a tool for Headquarters and the Regions to track implementation of issues and recommendations that are noted by Regions in their five-year review reports. In some cases, a five-year review will identify an issue/recommendation and, upon further review, the Region/State/PRP decides not to implement the recommendation. In order to complete the recommendation, the Region must change the status of the issue/recommendation in CERCLIS to "Considered and Not Implemented". Upon entering this status the user must enter text in the "status comment" field and an actual completion date. The actual completion date should reflect the date of the document closing out the recommendation.

ASSESSING THE PROTECTIVENESS OF THE REMEDY

32. When is it appropriate to complete an addendum for a Five-Year Review?

When a "protectiveness deferred" determination is made, a date is typically provided that indicates when the Region anticipates that a protectiveness determination can be made. The protectiveness determination is made through a five-year review addendum. In the five-year review CERCLIS module, a protectiveness deferred determination requires that the user enter a planned completion date for the addendum and generates a subaction in CERCLIS. The planned completion date for the addendum should be before the due date of the next five-year review report. Headquarters tracks this action in various reports.

The 2001 guidance indicates that five-year review addendums may be done for "protectiveness deferred" determinations; these documents may also be done for other determinations as the Regions deems appropriate. For example, if the Region makes a "not protective" determination, it may want to complete a five-year review addendum to document progress and implementation of recommendations which will modify the protectiveness of the remedy. A five-year review addendum subaction may be entered into CERCLIS and may be associated with any completed five-year review. (See section 4.5 of the guidance)

33. For an action that is at the remedial investigation/feasibility study (RI/FS) stage, how would protectiveness be determined?

A five-year review is not typically scheduled until after a remedy is selected and a decision document has been signed (i.e., after the RI/FS stage). At the RI/FS stage, a remedy has not been selected so a protectiveness determination generally cannot be made. A brief explanation of the status of the operable unit in the RI/FS stage may be appropriate in a five-year review report when a remedial action for another portion (i.e., an older Operable Unit) of a site has been initiated.

34. If the remedy constructed is not the same as the remedy selected in the ROD, should the five-year review evaluate the remedy selected in the ROD or the actual remedy constructed?

During remedial design and remedial action, site conditions may change and, as a result, the remedy constructed may vary from the initial remedy selected in a decision document. Changes to a selected remedy should generally be documented in a decision document (ROD, ROD Amendment, or an Explanation of Significant Differences). When evaluating technical documents and information for the five-year review, it is important to look at both the decision documents and the as-built engineering drawings and other documentation. If the remedy implemented is not correctly described in a decision document, the Region should generally include a five-year review recommendation to review the remedy decision document and update as appropriate.

35. If the five-year review concludes that soil vapor intrusion is a current or potential exposure pathway at a site, how are these findings incorporated into the five-year review?

Initially, it is recommended that soil vapor intrusion generally be captured with an operable unit - specific protectiveness determination. In general, if the soil vapor is associated with the groundwater contamination, the soil vapor intrusion issue is typically associated with and discussed in the groundwater remedy protectiveness statement. Likewise, if the soil vapor is associated with subsurface soil contamination, the soil vapor intrusion issue is typically associated with and discussed in the subsurface soil remedy protectiveness statement.

Once the site is construction complete, a site-wide protectiveness statement should also address the soil vapor intrusion issue in the protectiveness statement.

36. When should a site-wide protectiveness determination be made?

In addition to the operable unit protectiveness statements, a site-wide protectiveness statement is typically made once the site has reached construction completion, and a comprehensive statement can be made for all remedies at the site. (See section 4.5.1 of the guidance)