CHAPTER 11
Five-Year Reviews for Superfund Sites

Section 121 of CERCLA, as amended by the 1986 SARA, requires that remedial actions at sites that result in any hazardous substances, pollutants, or contaminants remaining at the site be subject to an FYR. The NCP requires that remedial actions that result in any hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for UU/UE be reviewed no less often than every 5 years to ensure protection of human health and the environment. Consistent with Executive Order (EO) 12580, other federal agencies are responsible for ensuring that FYRs are conducted at federal facility sites where required or appropriate.

The purpose of the FYR is to evaluate the implementation and performance of a remedy to determine if the remedy is, or will be, protective of human health and the environment. *The Comprehensive Five-Year Review Guidance*, OSWER Directive 9355.7-03B-P, dated June 2001, contains further guidance on FYRs and is intended to promote consistent implementation of the FYR process (U.S. EPA 2001d).

The FYR process integrates information taken from decision documents, remedy implementation, operational data, site inspections, and community input to assess the remedy's performance, and ultimately, to determine the protectiveness of that remedy. The FYR will identify RAOs and remedy components selected in decision document(s), including lead cleanup levels for residential lead sites. The technical assessment of an FYR examines three questions to determine the protectiveness of the remedy:

- Question A: Is the remedy functioning as intended by the decision documents?
- Question B: Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of remedy selection still valid?
- Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

When answering Question A, the focus is the technical performance of the remedy and may include a review of implementation status to date, sampling data, O&M activities and ICs required by the decision documents (*i.e.*, RODs, Amended RODs, Explanations of Significant Differences [ESDs], and Action memos). At large lead sites, remedy protectiveness issues may relate to the implementation and management of ICs and recontamination of areas previously remediated.

In answering Question B, the lead agency should review the risk parameters on which the original remedy decision was based. The assessment should test the validity of all assumptions that underlie the original risk calculation. A re-evaluation of lead risk may be initiated at the time an FYR is performed. If there have been any changes to cleanup levels, risk assessment methodologies, toxicity information, exposure assumptions used, or a change in land use at the time of the ROD, then an evaluation of these factors and response actions at the site may need to be completed. This evaluation will determine whether the changes impact the protectiveness of the selected remedy and identify issues and recommendations for additional investigation, evaluation, and/or actions needed to address any impacts to protectiveness. These issues and recommendations may involve additional site investigation and characterization of lead in soil (see Chapter 6 for a discussion of site characterization), additional remedy selection and/or decision document amendments to document any changes, additional response actions, or other actions to address any impacts to remedy protectiveness.

An assessment of the data available at the time of the FYR may determine if the residual risk at the site for impacted populations meets, or is progressing towards, RAOs for the site. Available data may include, but are not limited to, any data collected during remedial investigation, remedy implementation data including post-excavation sampling data, and data related to backfill concentrations. In addition to the remedy investigation and implementation data identified, if there are blood lead concentration data from the community, that information may be reviewed at the time of the FYR. If the data collected show that there are exceedances of blood lead guideline criteria, then further evaluation may need to be performed to determine if lead contamination from site soil is a contributor (see Chapter 8 for a discussion of lead risk assessment) or if additional investigation is needed if the cause is unknown.

To answer Question C, the lead agency should determine if new information is available at the time of the FYR that was not already identified in Questions A or B. This may include impacts such as those from changes in land use, natural disasters, or site changes or vulnerabilities that may be related to climate change impacts not apparent during remedy selection, remedy implementation, or O&M (*e.g.*, changes in precipitation, increasing risk of floods, changes in temperature, etc.) (U.S. EPA 2016).

After examining the information available at the time of the FYR in the technical assessment, the lead agency determines the protectiveness of the remedy, or remedies, and documents the rationale for this determination in the report. The conclusion of the FYR may also include an identification of issues that affect protectiveness and recommendations or follow-up actions needed to address them.

Additional resources can be found online:

- Five-Year Review of Federal Facilities Cleanups webpage (https://www.epa.gov/fedfac/five-year-review-federal-facility-cleanups)
- Comprehensive Five-Year Review Guidance webpage (http://www.epa.gov/superfund/superfund-five-year-reviews)
- Comprehensive Five-Year Review Guidance (http://semspub.epa.gov/src/document/11/128607)
- 2011 Program Priorities (https://www.epa.gov/sites/default/files/documents/program_priorities_federal_facility_five-year_review.pdf)
- Corrections to the 2011 Memo (https://www.epa.gov/sites/default/files/documents/correction_program_priorities_federal_facility_five-year_review.pdf) (U.S. EPA 2018c)
- 2016 FYR Recommended Template (https://www.epa.gov/sites/default/files/2016-01/final_five_year_review_recommended_template_1.20.2016.docx)
- Superfund Today: Focus on Five-Year Reviews and Involving the Community (https://semspub.epa.gov/work/HQ/175190.pdf) and the Community Involvement toolkit: Five Year Review Tool (https://semspub.epa.gov/work/HQ/100001744.pdf)