FIVE-YEAR REVIEW (FYR) CHECKLIST FOR STATE PROJECT MANAGERS

The Five-Year Review (FYR) checklist is intended to guide the support agency project manager (PM) through the FYR process. The checklist includes three areas of focus to consider during a FYR: Review Process, Report Components, and Drafting Recommendations.

1) **Review Process -** The below components have been identified so that the PM is prepared to review and provide feedback on the FYR Report.

Public Notice

☐ The PM received a copy of the public notice to start the FYR process.
- If not, request a copy of the notice or other outreach information from EPA.

☐ If appropriate, the notice has been translated and distributed via appropriate routes due to language and equity barriers.
- If not, request a translated copy and appropriate distribution of notice.

Site Inspection

☐ The PM received notification of the FYR site inspection.

☐ The PM will participate in the FYR site inspection.
- If the PM cannot participate in the inspection, determine if an independent site inspection may be conducted or if there is another support agency representative (district office personnel) that may attend.

***Tip**: Though this is a rare occurrence, if there is no site inspection, ensure that the reason is documented in the FYR Report.*

***Tip**: The inspection should be performed no earlier than 9 months before the expected signature of the FYR Report*.

Interview

☐ The support agency received and completed the interview form.
- If not, request the interview form from EPA.

☐ If appropriate, other interested parties that should be engaged in the review process and / or Interviewed (community members, contractors, regulators) have received the interview form.
- If not, coordinate with EPA to ensure that the additional interested parties receive copies of the interview form.

***Tip**: Interview questions may be a good indication as to whether there are overall issues with the remedy.*

Resources

☐ The PM identified the appropriate technical support team (if needed), e.g., risk assessors, geologists, engineers.

☐ If appropriate, other regulatory agencies, e.g., local district offices or water management districts, will have the opportunity to review the draft FYR Report.

***Tip**: Review by additional regulatory agencies may not be necessary. However, it may be beneficial to share the draft report to ensure local permitting and regulatory requirements are being met.*
- Determine which agency (EPA or support) will provide the draft report.

Site History and Files

☐ All relevant site documents are available for review, i.e., online files are up to date.

☐ The prior FYR comments are available for review.

Data

☐ The support agency provided the lead agency with copies of all reports and data collected for Operation and Maintenance (O&M) or monitoring activities during the FYR period, as appropriate.

☐ Additional data or reports (due prior to the completion of the FYR) have been submitted for review.

2) Report Components - The FYR Report is structured to include the below components. Components are summarized and include questions to help review and evaluate the FYR Report.
The checklist is set up to assist in identifying potential issues or concerns with the FYR Report. The guide for completing the checklist is indicated below:

- Questions under Sections I – IV and VIII are to ensure completeness and accuracy.
- Questions under Sections V, VI and VII are to help evaluate remedy function and protectiveness.

☒ *Checked boxes indicate sufficient/accurate information that the support agency agrees with.*
☐ *Unchecked box will indicate a need for further review, additional data needs, or comment.*

Executive Summary/Issues and Recommendations (Optional)
The FYR Report may contain a summary of the findings of the FYR prior to the signature page and the Issues and Recommendations tables presented later in the document. If present, these should be reviewed for consistency with the main body of the FYR Report. (Note: Executive summaries are not required in the 2016 Recommended Template.)

☐ The information presented in the Executive Summary is consistent with the main body of the report.
☐ The Issues and Recommendations are consistent (including assignment of responsible parties, dates, etc.) as presented in Section VI.

I) Introduction
This section states the purpose of the review, when the review was initiated and completed, and whether it is the first review or a subsequent review and a description of all operable units. Section includes the following:

- **Background** - should include physical characteristics, land and resource use, and history of contamination.
- **FYR Summary Form** - provides site identification information, site NPL status, and relevant dates.
  - ☐ The background section captures the joint perspective conceptual site model.
  - ☐ There is consistency between the FYR Summary Form and the Executive Summary (if included).
  - ☐ The dates and information in the summary form are accurate.

II) Response Action Summary
This section includes the following:

- **Basis for Taking Action** – should identify the contaminants of concern (COCs) by media, and should discuss all resources or receptors that have or that could be affected, and primary exposure pathways.
- **Response Action** – Summarizes the pre-Record of Decision (ROD) response activities, all decision documents, including changes to decision documents such as ROD amendments, and may be broken down by Operating Unit (OU). This section should include the selected remedy components and the Remedial Action Objectives (RAOs).
- **Status of Implementation** – Summarizes whether remedial actions are complete or ongoing. Identifies Institutional Controls (ICs) that are part of the selected remedy.
- **IC Summary Table** – (included when ICs have been selected). Table should identify all required ICs by OU or decision document and the status of implementation.
- **Systems Operations/Operation & Maintenance** – (included when system is operating and/or O&M is required). Summarizes by OU any modifications to the O&M plan, responsibility for O&M, summarizes all completed / ongoing O&M actions, and identifies any issues with system operation since the last FYR.
  - ☐ The support agency agrees with the COCs identified by media type.
  - ☐ The support agency agrees with current or potential exposure pathways.
  - ☐ The support agency agrees with the status of the implementation of each component.
  - ☐ The IC Summary table is correct.

III) Progress since last FYR

This section should provide protectiveness determination and statements from the last review. It also includes the status of any recommendations and follow-up actions from the last review.

- ☐ The protectiveness statements are accurate based on the prior FYR Report.
- ☐ All outstanding issues are identified and the implementation status is accurate based on prior FYR Report.

IV) FYR Process

This section includes the following:

- **Community Notification, Involvement & Site Interviews** - includes the notification to the public and potentially interested parties at the start of review, other community involvement activities, and summary of site interviews.
  - ☐ All interested parties (neighbors, government officials, etc.) were provided an opportunity to be interviewed.

    ***Tip**: A Community Involvement Plan (CIP) may be used to help identify community members and the type of involvement necessary for the FYR.*

    ***Tip**: An Environmental Justice (EJ) Screen using the EJ Screen tool has been conducted. Consider information from EJScreen to refine community outreach for FYR and future response action (i.e., translation of notices, community group notification) and update the CIP as appropriate.*
- **Data Review** - A summary of data is provided in table and figure format to answer technical questions regarding remedy protectiveness.
  - ☐ Tables and figures are provided (as needed).
- **Site Inspection** - Should summarize inspection observations and include any identified issues that may impact current / future remedy protectiveness.
  - ☐ The data / reports collected since the last FYR Report are included in the data review.
  - ☐ The summarized data is accurate and sufficient.
  - ☐ Outstanding issues identified during the inspection are captured in the inspection summary.

    ***Tip**: The Data Review and Site Inspection information should summarize the data in the FYR Report sufficiently so that the reviewer may answer the questions in the Technical Assessment section.*

V) Technical Assessment

The lead agency will make protectiveness determination(s) based on the response to the following three questions.

Question A - Remedy Functioning as Intended by the Decision Documents?

***Tip**: Consider the remedial action performance, system operation/O&M, implementation of ICs, and other measures (removal actions).*

- ☐ The remedy is functioning as intended.
  - Are cleanup levels being achieved within the timeframe established in the decision document?
  - Is containment effective, e.g., cover / cap is in place and in good condition?
  - Have on-site conditions changed (tree growth, drainage issues or other factors that may affect the remedy)?
  - Are there any potential ongoing sources?
  - Provide details on how the remedy is not performing and what may be done to address the concerns.
- ☐ The remedy is performing (system operations / O&M) as anticipated.
  - Are O&M performance criteria being met?
  - Does groundwater monitoring confirm that the groundwater plume is stable or shrinking as anticipated?
  - Is there evidence of source migration?

- Are there opportunities to enhance remedy performance through additional monitoring or treatment system modifications?
- Are there opportunities to reduce O&M cost or optimize system operation?
- Are there opportunities to reduce monitoring requirements (number of wells, sampling parameters, or sampling frequency)?
- Is the O&M plan up-to-date?

☐ The ICs / ECs are in place and being followed.
- Is the IC status summary consistent with ROD requirements?
- Do current site circumstances warrant a review of the effectiveness of ICs / ECs or the need for additional controls?

☐ Site access controls adequately address risk.
- Consider warning signs, fencing, gates and other items that help to mitigate risk.
- Consider any other actions (removal actions) that may be required to address risk.

Question B - Are exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at time of remedy selection still valid?

***Tip**: Discuss changes in Applicable and Relevant Appropriate Requirements (ARARs) newly promulgated standards, changes in toxicity factors or risk assessment methods and changes to exposure pathways.*
***Tip**: Emerging COCs may include Per-and Polyfluoroalkyl Substances (PFAS), 1,4-Dioxane, Trichloroethylene (TCE), Perchlorate, Pharmaceuticals and Personal Care Products, and nanomaterial.*

☐ Updates or changes to ARARs have been considered, e.g., change in cleanup target levels, State action levels, or standards.
- For ease of reference, there may be a table comparing previous ROD cleanup goals and current federal and State ARARs / cleanup criteria for each media that required remediation.
- Have ARARs / cleanup criteria for soils, groundwater or sediment changed since the ROD? In particular, have any criteria become more stringent?
- Does the change affect the remedy protectiveness?

☐ Updates or changes to "To Be Considered" (TBCs) are evaluated.
- TBCs include non-promulgated criteria, advisories or guidance and may include proposed standards by federal or State governments.
- TBCs may be helpful in determining potential changes in exposure risk or remedy effectiveness but they are not mandatory or enforceable.

☐ There are no new changes in toxicity data for COCs or risk assessment methods.
- New data may emerge on COCs that may impact the protectiveness of the remedy or change risk assessment methods / guidance.

☐ There are no new exposure pathways.
- Is land use consistent with remedy?
- Does a recent well survey confirm no potable or irrigation wells in area of plume?
- Indoor vapor Intrusion may be considered a new exposure pathway based on site conditions and land use.
- Are there structures on-site, and has vapor intrusion been considered, if appropriate?
- Has there been a substantial change in site use that may expose contaminants?
- Has there been a change in ecological routes of exposure?
- Are there factors not accounted for (evidence of trespassing - locks cut, holes in fence, tire tracks - or dumping taking place)?

☐ There are no new contaminants or contaminant source areas.
- New contaminants may be the result of remedy byproducts, unanticipated daughter products or contaminant areas previously unidentified.

☐ There are no potential issues related to emerging contaminants of concern that could impact remedy protectiveness.

- Additional investigation or data is not needed to evaluate new contaminants / exposure pathways.

Question C – Has any other Information come to light that could call into question the protectiveness of the remedy?

***Tip**: Consider ecological risks, natural disaster impacts, and any other information that could call into question the protectiveness of the remedy that was not covered by Question A or B.*

***Tip**: This question typically addresses climate change / natural disaster information and should not duplicate information under question A or B.*

☐ There are no potential issues related to climate change ,e.g., sea-level rise, natural disasters, wild fires, flooding, or changes in temperature that have not already been addressed.

- Is there new data to support potential impacts of climate changes on the remedy protectiveness?

☐ There are no changes in site vulnerability that could impact the local community, site redevelopment or environmental justice.

VI) Issues /Recommendations

This section should note in table format any issues / recommendations identified during the technical assessment and other FYR activities that affect current or future protectiveness.

☐ The support agency agrees with Issues and Recommendations in the FYR Report.

- Have all ongoing issues from the last FYR been carried over and included as issues in this FYR?

☐ There are no additional historical issues or concerns that need to be reiterated by the support agency through the FYR comments.

☐ The support agency agrees with the parties responsible for implementation of recommendations, agencies with oversight authority, and a schedule for completion.

- Are there actions assigned to the State that are not related to O&M activities, such as investigation of new COCs or exposure pathways?

- **Other Findings** – this section should list any additional items that the PM wishes to include in the FYR Report that are recommended to improve performance, reduce costs, improve management of O&M, accelerate site closure, or promote sustainability but do not affect the current / future remedy protectiveness.

☐ There are no additional recommendations for the FYR Report.

☐ There are no new issues or concerns.

- Consider changes to the nearby land use or community that may require outreach or notification.
- Consider climate change concerns that should be considered but do not affect remedy protectiveness.
- Consider identification of environmental justice areas on community outreach and future response actions.

VII) Protectiveness Statements

This section includes table format that provides the protectiveness statement for each OU. The five protectiveness categories are: protective, short-term protective, will be protective, protectiveness deferred, and not protective. A Sitewide Protectiveness statement should be developed for the site as a whole at construction complete sites.

***Tip**: The answers to questions A, B, and C should provide sufficient data and documentation to agree or develop comments on the Protectiveness Statements.*

☐ The support agency agrees with the Protectiveness Statement(s).

☐ Protective - Answers to A, B, and C provide sufficient data and documentation that the remedy is and will remain protective.

- ☐ Short-Term Protective - Answers to A, B, and C indicate issues with future protectiveness or remedy performance.
- ☐ Will be Protective - Construction activities are ongoing and remedy is anticipated to be protective once complete.
- ☐ Protectiveness Deferred - Selected when additional data or time is needed to gather information related to whether there are current unacceptable exposures related to questions A, B, and C.
- ☐ Not protective - Selected when answers to A, B, and C provide adequate information that unacceptable risks are not currently under control – immediate threat, uncontrolled migration, potential or actual exposure is clearly present.

VIII) Next Review

This section includes either the date that the next FYR will be due or that no further FYR are required because the site has met the criteria for Unrestricted Use/Unrestricted Exposure (UU/UE).

- ☐ The date for the next FYR is correct / the support agency agrees with the UU/UE determination and adequate support for discontinuation of FYRs is provided.

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3) Recommendations and Considerations

Summarize the review of the draft FYR Report and prepare support agency review correspondence / comments. The support agency may comment on all deficiencies identified in the FYR Report or may elect to focus only on significant issues. At a minimum, consider providing comments on issues noted relating to the following key issues:

- **Draft FYR Report**
  - Does the support agency agree with the conclusions regarding continued protectiveness of the remedy?
  - Does the support agency agree with the Protectiveness Statement(s) selected for the site?
  - Does the support agency agree with the issues and recommendations?
  - Does the response clearly explain the support agency's position?
  - Are there any particular issues that should be highlighted in the support agency's comments?
  - Are there issues addressed that need further clarification or information, e.g., additional information may be needed on ICs (type and timeframe for implementation).
  - Have other agency comments been received and incorporated in the support agency response, if appropriate.
  - Are the support agency responses to the interview form included in the draft FYR?
- **Final FYR Report**

  ***Tip**: Request an electronic version with the changes tracked to compare with the final version.*
  - Have the support agency's original comments been addressed?
  - Verify that the support agency agrees with the edits.

Additional Resources and Links:

To Search Superfund Documents:
https://www.epa.gov/superfund/search-superfund-documents
FYR guidance, and Tools for Writing:
https://www.epa.gov/superfund/writing-five-year-reviews-superfund-sites#sub_anchor
2016 Five-Year Review Recommended Template:
https://semspub.epa.gov/work/HQ/100000001.pdf
Clarifying the Use of Protectiveness Determinations for CERCLA Five-Year Reviews:
https://semspub.epa.gov/work/HQ/174829.pdf