



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

July 9, 2009

Winoma Johnson, P.E.
NAVFAC MIDLANT (Code OPNEEV)
Environmental Restoration
Building Z-144, Room 109
9742 Maryland Avenue
Norfolk, VA 23511-3095

Re: **Draft Five-Year Review** for the Naval Education Training Center Superfund Site

Dear Ms. Johnson:

Thank you for the opportunity to review the draft Five Year Review for the Naval Education and Training Center Superfund Site dated June 2009. While EPA recognizes that the name of the base has been changed since the listing on the National Priorities List, environmental documents should use the official name of the Naval Education Training Center Superfund Site. Detailed comments are provided in Attachment A.

An important component of the Five-Year Review process is to evaluate the effectiveness of institutional controls that have been included as a component of selected remedial actions at sites. EPA supplemented the 2001 Comprehensive Five-Year Review Guidance ("2001 FIVE-YEAR REVIEW Guidance") to promote a more thorough and consistent approach when assessing ICs at the Five-Year Review. Although a draft of that supplement was issued in 2005, it has not yet been finalized. Attached is the March 17, 2005 Working Draft of the Five-Year Review Supplement – Evaluation of Institutional Controls (*see* Attachment B). Please revise the draft Five-Year Review in accordance with this guidance to ensure that the Five-Year Review is consistent with the procedures outlined in the Supplement.

The Five-Year Review should be a stand alone document. For the McAllister Point Landfill, Section 2.4.2 provides only a short summary of the past five years of relevant data and/or refers to the Draft 2008 Annual Report or Draft 2008 Marine Sediment Monitoring Report for the information. This section should incorporate a detailed evaluation of the relevant data for the evaluation period (*e.g.*, §2.4.2.1 on groundwater should include all of the details included in §4.2, pp. 4-2 to 4-4, and include Figure 2.4 from the Draft 2008 Annual Report).

The "Key Information" table on pages vi to vii for the McAllister Point Landfill (OU1 and OU4) needs to be revised to be consistent with the revisions to relevant sections per EPA's specific comments in Attachment A. The language in this table should be revised to be substantively

similar to the language from the pertinent sections of the report. While EPA is not providing comments on this table, it has provided specific comments on the relative sections of the Draft Five-Year Review Report and these revised sections must be appropriately reflected in the "Key Information" table.

Please include a general schedule for the cleanups that remain and describe all site controls that are in place at unremediated sites to prevent exposure.

The EPA team looks forward to working with you and the Rhode Island Department of Environmental Management toward the cleanup of the remainder of the base. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,



Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachments

cc: Paul Kulpa, RIDEM, Providence, RI
Cornelia Mueller, NETC, Newport, RI
Bryan Olson, USEPA, Boston, MA
David Peterson, USEPA, Boston, MA
Bob Lim, USEPA, Boston, MA
Ginny Lombardo, USEPA, Boston, MA
Chau Vu, USEPA, Boston, MA
Bart Hoskins, USEPA, Boston, MA
Ken Finkelstein, NOAA, Boston, MA
Todd Finlayson, Gannet Fleming, Orono, ME
Steven Parker, Tetra Tech-NUS, Wilmington, MA

ATTACHMENT A

<u>Page</u>	<u>Comment</u>
p. v	EPA currently documents the construction completion date for the Naval Education and Training Center Superfund Site as December 31, 2010. EPA recognizes that this date will likely be postponed because there are so many sites where cleanup activities remain. The table on this page incorrectly lists the remedial action completion dates (individual sites) instead of the construction completion date (entire base).
p. vi	Remove the first issue because since there are no drinking water standards for the McAllister Landfill. The groundwater requirement is to prevent contaminants from migrating from the landfill. Please note that federal, not State, drinking water standards apply to CERCLA sites in Rhode Island.
pp. 1-6 to 1-8, §1.2.2 & Table on pp. 2-2 & 2-3	The table is identified as a "chronology of important events regarding the operation and remedies for the McAllister Point Landfill." Landfill cap O&M is listed as beginning in 1997. The table on pages 1-6 to 1-8 lists annual O&M reports for 1998 to 2004, but the table on pages 2-2 to 2-3 lists only the annual O&M reports from years 2004 to 2008, but no earlier years. With respect to the marine sediments monitoring program, the table on pages 1-6 to 1-8 does not list any of the monitoring reports, and the table on pages 2-2 and 2-3 only lists the 2008 round 5 report and not rounds 1 to 4, completed in 2004 to 2007. Please correct.
pp. 1-8 & 2-2	Please list the September 2007 McAllister ESD.
p. 1-12, ¶2	Revise the last two sentences to discuss the groundwater classification under federal, rather than state, standards.
p. 2-5, §2.2	The second sentence in the last paragraph on this page references Section 2.2. The reference should be to Section 2.3.
p. 2-6, §2.2	In the discussion of the institutional controls established under the 1993 ROD, the report should discuss the perimeter chain link fence required to limit site access. The report should also summarize the procedures set forth in the NAVSTA Newport instruction intended to ensure that site access is restricted and controlled. In addition, the discussion of the ESD signed in October 2007 should further detail the basis and changes related

to institutional controls that were incorporated into the remedy (*see* Sections 6 and 7 of the ESD).

The Land and Resource Use section discusses the potential for risk if the shellfishing ban was lifted. The ROD goals for the MOM ROD are listed on page 2-8 and include preventing human and avian ingestion of shellfish impacted by sediments with COCs above the PRGs. Page 2-9 of the report indicates that the PRGs were developed to achieve a risk reduction for all identified receptors. Since the PRGs were met in the dredged areas (*see* bottom of p. 2-11 and top of p. 2-12), it is unclear why the fishing bans are required. See related comments regarding page 2-23.

- p. 2-6, ¶6 Discuss the groundwater classification under federal, rather than state, standards. *See also* comment for page 2-18, Section 2.4.3.
- p. 2-9 Please change 'PRGs' to 'RGs' since they have been embodied in the ROD.
- p. 2-15, §2.4 Add a discussion of the results of the habitat restoration efforts (*i.e.*, eel grass and artificial reef).
- p. 2-15, Table 2-2 a) The two monitoring events listed should not be the same. The last item in the table should refer to the undredged areas. Please correct as appropriate.
b) The asterisk (ROD Year =1997) does not apply to the two items because Year 1 for these items is 2004, not 1997. Please correct.
- p. 2-16, §2.4.2.1 Please clarify the last sentence in the first paragraph which states that trend analysis is not needed. Some evaluation of data trends is inherent in the evaluation of data although detailed trend analysis per se may not be an on-going requirement.
- p. 2-16, §2.4.2.1 Please change the reference from Appendix F-2 to F-1.
- p. 2-16, §2.4.2.1 EPA agrees that groundwater monitoring data indicate stable conditions and few exceedances of applicable water quality criteria. One exception is arsenic, which has been observed consistently at MW-107R in the range of 200 to 500 ppb. However, this well is upgradient of the landfill, so that it is not apparent that elevated arsenic can be ascribed to the landfill. MW-111R also shows elevated arsenic, typically in the range of 100 to 120 ppb. This well is downgradient of the landfill, leaving open the question of whether the landfill may impact redox conditions in underlying groundwater. The Draft Five-Year Review Report indicates that: "Most

exceedances are marginal and indicate that the use prevention of groundwater at the site is protective of human health.” Delete this sentence and replace it with text from Section 4.2, pages 4-2 to 4-3 of the Draft 2008 Annual O&M Report, which states: “High-level arsenic exceedances (MW-107R – 391 ug/L) are associated with regions under the cap.....The site does not appear to be contributing to off-shore porewater arsenic levels.” Please note that state regulations for closure of solid waste landfills may impose minimum requirements for monitoring, including number of upgradient and downgradient wells, frequency, and analytes. It should be verified that any proposed optimization of the groundwater monitoring is in compliance with all regulatory requirements.

The Draft Five-Year Review Report refers to the ECC report, that “recommends reduction of groundwater monitoring to the western perimeter wells to assure no contaminant migration.” In its June 15, 2009 letter, EPA reserved comments on this recommendation and is considering the recommendations made in the Draft 2008 Annual O&M Report. At first glance, this groundwater monitoring reduction does not appear to comply with 40 CFR 264.97(a)(1), which is an ARAR under the ROD.

- p. 2-16, §2.4.2.2 Please change the reference from Appendix F-1 to F-2.
- p. 2-16, §2.4.2.2 EPA agrees that landfill gas monitoring data meet regulatory requirements. In a mature landfill such as this, gas evolution is not expected to increase. It is reasonable to consider reduction of gas screening and monitoring frequency. Please ensure that any proposal meets the minimum state requirements for closure of a solid-waste landfill.
- p. 2-17, §2.4.2.3 Please revise the last sentence that states that PAHs are not accumulating in tissue. The fact that the PAH concentrations are less than the project action limits cannot be the basis for the conclusion that PAHs are not accumulating in tissue. Please delete this conclusion.
- p. 2-17, §2.4.2.3, ¶2 The third sentence is incomplete and contains a spelling error. In addition, the sentence states that “the ROD goals would have to be re-evaluated.” Please reference for this statement. Also, there is a spelling error in each of the bullets.
- pp. 2-17, 2-18, 2-20, & 2-24 Please correct the multiple typographical errors on these pages.
- p. 2-18, ¶1 The increases in PCB in MSG 1, 3, and 4 and PAHs in 4 and 5 are noted, but the second bullet recommends terminating monitoring at MSGs 1 and

4. Please explain this disconnect.

p. 2-18, §2.4.2.3

Regarding the second bulletin the first paragraph, the fact that PCBs and PAHs are increasing is a reason for continuing monitoring at MSG 1 and 4. Even though the reference stations may show increasing concentrations (note: EPA questioned this in its May 19, 2009 letter), this does not discount the increases at MSG 1 and 4. Please edit the second bullet to indicate that monitoring will continue at MSG 1 and 4 consistent with the Navy's July 8, 2009 responses to comments on the *Draft Marine Sediment Monitoring Report*. Monitoring should continue until contaminant concentrations are below the remedial goals and demonstrating a definite decreasing trend.

p. 2-18, §2.4.3

Please expand discussion of ARARs because the RIDEM Remediation Regulations have been updated twice since the ROD was issued in 1993. Please specifically state whether the updated regulations have been reviewed and if the remedial goals selected in the ROD are consistent with the regulations. State whether the protectiveness of the remedy has been adversely impacted.

p. 2-18, §2.4.3

Revise this section because the ARARs tables in Appendix D and the McAllister ROD do not identify either federal or state groundwater standards as ARARs (EPA notes that they do identify RCRA/RI Hazardous Waste standards requiring the monitoring of groundwater at the landfill as ARARs). Groundwater cleanup standards do not have to be achieved under a waste management unit.

While there have been several changes to the ARARs noted in the RODs and previous Five-Year Reviews, as listed in Appendix D (*i.e.*, two federal wetlands and floodplains ARARs no longer exist), none effects the protectiveness of the remedies.

p. 2-20, ¶4

Discuss the results of the eel-grass monitoring.

p. 2-20, §2.4.4

According to the 2001 Five-Year Review Guidance on page 3-6, this section should include the status of recommendations and follow-up actions from the last review and results of implemented actions, including whether they achieved the intended purpose. More detail on the findings, issues, and recommendations from the 2004 Five-Year Review should be included. The 2004 Five-Year Review identified issues that were addressed by the October 2007 ESD and the issuance of the Base Instruction dated September 27, 2007 (*see* Sections 6 and 7 of the October 2007 ESD). In addition, please note the dates of the earlier Five-Year

Review reports, so that it is clear when the first and second Five-Year Reviews were completed. Provide a reference for the 2004 Five-Year Review. Also, the third and fourth paragraphs relate to the 2000 ROD and the 2003-2004 habitat restoration efforts. This information is not 'progress since the 2004 Five-Year Review' and should not be included here. The first sentence of the last paragraph is not complete.

p. 2-21, §2.5

The Implementation of Institutional Controls and Other Measures sub-section should further detail the institutional control requirements of the ESD and explain the basis for the additional ICs. The last sentence indicates that "If there is a change in property ownership in the future, a deed restriction should be considered as a further institutional control to be placed on the site." The October 2007 ESD requires that if this occurs, deed restrictions, meeting state and local recording standards for restrictions, will be established to put applicable land use restrictions on the property. The ESD makes the establishment of deed restrictions, if property ownership changes, a requirement of the ROD.

p. 2-21, §2.5

a) Please edit the third sentence under "Opportunity for Optimization" to read: "The results of this study may justify a request for a reduction"
b) Please edit the fourth sentence under "Opportunity for Optimization" to be consistent with the Navy's July 8, 2009 responses to comments on the *Draft Marine Sediment Monitoring Report*.

Regarding the last bullet, EPA agrees that the spatial coverage and frequency for monitoring of groundwater, landfill gas, and sediment can be reduced. Please see previous comments regarding the need to meet minimum regulatory requirements for monitoring of closed solid-waste landfills.

p. 2-21, ¶1

In the third sentence, change the date of the ESD from 2008 to 2007.

pp. 2-21 & 2-22, §2.5

The Remedial Action Performance and Indicator of Remedy Problems sub-sections only discuss information through the 2004 Five-Year Review. The Technical Assessment Section is a key section of the Five-Year Review Report where the data from the evaluation period (*i.e.*, 2004-2009), are supposed to be used to answer the Five-Year Review questions that will then support the protectiveness statement (*see* Section 4.0 of the 2001 Five-Year Review Guidance). The details of the evaluation of the 2004-2009 site data should be presented in Section 2.4.2, and then summarized in the appropriate sub-sections of Section 2.5 to respond to the Five-Year Review question regarding whether the remedy is functioning as intended.

- p. 2-21, §2.5 The System Operations/O&M sub-section offers recommendations for the continuation of O&M activities. This sub-section should summarize the system operation and O&M data for the evaluation period to address whether the remedy is functioning as intended (*see* Section 4.1.2 of the Guidance).
- p. 2-21, §2.5 In the Opportunities for Optimization section, please provide an evaluation period for the statement regarding landfill gas emissions data. The report refers to an air modeling study that is under consideration. Please clarify whether this is going to be completed, as it contradicts EPA's current understanding. The third sentence indicates that the results of the study justify a reduction in the landfill gas and ambient air monitoring. EPA is not aware of model results that support this recommendation. Please provide further details and a reference to the study findings.
- This section is somewhat confusing as it discusses both landfill gas and marine sediment. Please add further details and timelines to support the reasoning presented. With respect to the reduction of sediment monitoring, EPA provided comments on May 19, 2009. EPA recommends that a limited sediment and pore water chemistry sampling program be continued at MSG 1 and MSG 4. The Navy's agreement to continue monitoring, as reflected in their July 8, 2009 response to EPA, should be reflected in the Five-Year Review.
- p. 2-22, bullet 1 The institutional controls are implemented through the Base Instruction, not through the ESD. The ESD documents the requirement to have ICs to properly implement the remedy.
- Please provide language from the ESD that addresses vapor intrusion in the event of property transfer.
- p. 2-22, §2.5 Please revise Question 2 to be consistent with the 2001 Five-Year Review Guidance. In addition, please include a sub-section for all of the bulleted topics under Question 2, in accordance with the Guidance (*see* Exhibit 3-3 and Section 4.0 of the Guidance). Although some of the topics may not be applicable, it is important to reveal that the topic was evaluated under the Five-Year Review. A sub-section on 'Expected Progress Towards Meeting RAOs' is a key assessment topic that was not addressed in this Draft Five-Year Review Report (*see* Section 4.2.4 of the Guidance).
- The Five-Year Review should include a better description of the ROD basis so that it is easier to discern whether changes have occurred that

should be considered. Enhance the discussion or include the risk numbers to support the claim that dredging contaminated marine sediment leads to elimination of site contaminants as a potential ingestion exposure pathway. The Draft Five-Year Review Report could be enhanced by presenting a risk calculation showing that without the contaminated sediment, risk from contact with sediment and ingestion of shellfish will be acceptable. Currently, the report provides little basis to show whether it is safe to consume shellfish.

p. 2-22, bullet 3 Please explain how dredging contaminated marine sediment leads to elimination of site contaminants as a potential ingestion exposure pathway by enhancing the discussion or presenting risk numbers to support the statement.

p. 2-22, bullet 4 On page 2-18 it was noted that PCB and PAH levels had increased at several sampling locations. How has the Navy ensured that these increases did not result in a risk to human health or the environment?

p. 2-23, §2.5 Please include a sub-section for the bulleted topics under Question 3, consistent with the 2001 Five-Year Review Guidance.

p. 2-23, §2.5 Please add a section for the 'Summary of the Technical Assessment,' as required by the 2001 Five-Year Review Guidance.

p. 2-23, §2.6 The Issues Section should include sub-sections for all topics identified in the 2001 Five-Year Review Guidance and should be presented consistently with the Exhibit 3-3, Section 4.4.1 and Exhibit 4-3 of the Guidance. The groundwater issue should be deleted from the Issues section since there are no drinking water standards for the McAllister Landfill. The groundwater requirement is to prevent contaminants from migrating from the landfill.

The MOM ROD listed remedial action objectives of preventing human and avian ingestion of shellfish impacted by sediments contaminated with COCs above the PRGs. Since the PRGs were met in the dredged areas, it is unclear why this is listed as an issue.

An issue should be added for the marine sediment. As detailed in EPA's May 19, 2009 letter on the Draft 2008 Marine Sediment Monitoring Round 5 Report, the site data show that in MSG 1, 3, and 4, PCBs are increasing (though still well below the BPRGs); at MSG 2 and 3, PAHs were increasing until the 2008 sampling event; and at MSG 4, PAHs are increasing. These results suggest that future monitoring is warranted at these stations. The Navy's agreement to continue monitoring, as reflected

in their July 8, 2009 response to EPA, should be reflected in the Five-Year Review.

p. 2-23, §2.7

This section identifies that “existing land use controls need to be transferred into deed restrictions if ownership of the property changes” as a recommendation. It also indicates that “if there is a future change in land use of the site that includes buildings...an evaluation of vapor intrusion to indoor air will be completed.” These were the Issues identified in the 2004 Five-Year Review that led to the issuance of the 2007 ESD that addressed the issue, so it should no longer be listed as an outstanding issue.

Consistent with EPA’s May 19, 2009 comment letter on the Draft 2008 Marine Sediment Monitoring Report, EPA does not agree that the marine sediment monitoring program can be reduced. The planned termination of monitoring at MSGs 1 and 4 (dredged areas) is premature. The data presented in the March 2009 Draft Marine Sediments Monitoring Report, Sampling Round 5: October 2008 supported the assertion that there is no unacceptable, site-related, ecological risk at the site. Questions about the increasing/decreasing ICOC trends were not as clear, however. EPA noted uncertainty about the background condition and argued that the evidence does not support attributing the detections to a background non-point source. Because of the possibly increasing concentrations, future monitoring is warranted at MSG 1 and 4, in addition to MSG 2 and 3. The Navy’s agreement to continue monitoring, as reflected in their July 8, 2009 response to EPA, should be reflected in the Five-Year Review. The Recommendations must be presented consistent with the table in Exhibit 4-4 of the Guidance.

p. 2-24, ¶1

Change “meals” to “metals” in the second sentence and delete “and RIDEM GA standards.” Explain where these exceedances are in relation to the compliance boundary for the landfill.

p. 2-24, §2.8

Revise the discussion on the OU4 results to reflect EPA’s May 19, 2009 comments on the Draft 2008 Marine Sediment Monitoring Round 5 Report, related comments herein, and the Navy’s agreement to continue monitoring, as reflected in their July 8, 2009 response to EPA.

p. 2-24

Consistent with the 2001 Five-Year Review Guidance, include a section on the “Next Review.” This was included in the “Key Information” table, page vii, but should also be included in the body of the report.

p. 3-1, ¶2

Insert the following new third sentence: “The waste became regulated by

the federal Resource Conservation and Recovery Act (RCRA), in 1980.”

- p. 3-4, ¶1 Revise the last sentence to refer to the groundwater status under federal, not State, groundwater standards.
- pp 3-6 & 3-7 Soil contamination from waste oil is governed by CERCLA, so if soil was removed as part of a UST cleanup under a separate regulatory authority, the Navy still needs to complete a final ROD for soil and groundwater. Please explain whether federal drinking water standards have been met.
- p. 3-8, §3.4.1, ¶3 Change ‘remainig’ to ‘remaining.’
- p. 3-9, ¶2 The finding discussed in the third sentence (*i.e.*, evaluating groundwater based on state standards) is not relevant to determining whether a final groundwater remedy has been achieved. Federal drinking water standards must be met.
- p. 3-10, §3.4.3 Although the ROD included both federal and state drinking water standards as listed ARARs, only the federal standards apply to Superfund sites in Rhode Island. Please note that EPA has changed its risk-based standard for manganese. Other listed ARARs no longer exist (*e.g.*, a federal wetlands ARARs) or are not ARARs (*e.g.*, OSHA standards), but do not effect the protectiveness of the remedy. Any modifications required may be addressed in the final ROD, if necessary.
- Please expand the discussion of ARARs because the RIDEM Remediation Regulations have been promulgated since the ROD was issued in 1992. Please specifically state whether these regulations have been reviewed and the remedial goals selected in the ROD are consistent with these regulations and therefore the protectiveness of the remedy has not been adversely impacted.
- p. 3-11, §3.5, bullet 2 Institutional controls may be removed once a final No Further Action ROD is issued.
- p. 3-13, §3.7 This section is not accurate. The remedy is not complete until EPA declares the remedial action complete. The report should discuss when this is likely to take place. Additional sampling may be required to support a final ROD.
- p. 3-13, §3.7 EPA agrees that the multiple rounds of groundwater monitoring indicate no remaining exceedances of water quality criteria, and that it is appropriate to close out the groundwater monitoring program, and

abandon the site monitoring wells. Please verify that the site is not hydraulically downgradient of any other active sites where contaminated groundwater is at issue.

- pp. 4-1 & 4-2, §4.1 Add information on the status of the field investigation and a schedule for completion of field work, submittal of the draft SASE report, and other CERCLA/FFA actions.
- p. 4-2, §4.2 The first paragraph indicates that an area to the southwest is not fenced. Please explain why it is not fenced and when this will be addressed. The second paragraph discusses field work completed in 2004. Please summarize the data generated from that effort. The third paragraph discusses a Phase II ESA and identifies recommendations from the ESA. Please indicate when these recommendations were implemented. In addition, provide a schedule for CERCLA/FFA activities for this site.
- p. 4-3, §4.3 The last sentence is not accurate. All sites in RI/FS must assess residential scenario as it is basis for no action with unrestricted use and exposure. Please correct or delete.
- pp. 4-3 & 4-4, §4.4 In paragraph 4, provide dates for the removal actions discussed. Provide a schedule for the CERCLA/FFA activities for this site.
- Please include a brief summary of the findings of the Remedial Investigation Report for the NUWC Disposal Area.
- p. 4-6, ¶1 Remove the last sentence since there is no regulatory agreement concerning how groundwater will be addressed at OFFTA.
- p. 4-6, §4.5 The second last paragraph appears to be chronologically out of place. It should be rewritten and incorporated into other parts of the discussion. Also please correct the tense in the fourth sentence since the two removal actions have already occurred. Finally, as written the text suggests that the two removal actions discussed will make the site suitable for unrestricted use, which is not correct. Please delete that inference.
- p. 4-7, ¶3 Discuss when a ROD is anticipated for this OU and whether the area will be subject to Five Year Reviews.
- p. 4-7, §4.6 The last sentence is not accurate. All sites in RI/FS must assess residential scenario as it is basis for no action with unrestricted use and exposure. Please correct or delete.

- p. 4-7, §4.7 a) The second paragraph states that the investigations completed in April 2005 remediated contamination caused by DESC activities. Please explain what remediation was conducted.
- b) The text states that DESC remediated contamination caused by its activities but that contamination remains at the site. Please explain how DESC determined what contamination was theirs. Since the site still requires closeout under Superfund, this discussion is not entirely relevant.
- p. 4-8, §4.8 The description of the Site Investigation (SI) activities should discuss the soil removal activities that occurred. Please include an estimate of the volume of soil removed and the recommendations for further action provided in the SI Report.
- pp. 4-8 to 4-9, §4.9 Please move the third paragraph to the beginning of this subsection. The paragraph should also introduce difference in media that are under investigation (*i.e.*, current investigation addresses sediment/surface water, *etc.*).
- p. 4-9, §4.9 Please discuss the on-going investigations at Tank 51 and recommendations for further action provided in the SI Report.
- p. 4-9, §4.9 What action is planned to address concerns raised by RAB members that the government fence on the east side of Tank Farm 5 had been compromised and trespassing was likely taking place?
- p. 4-9, §4.10 Appendix IV of the FFA lists Building 32 as the site, not three small rooms. Please modify the Five Year Review by deleting "three small rooms in the south west corner of" from the first sentence.
- p. 4-10, §4.10 Information about the removal of asbestos from Building 32 should be included.
- p. 4-11, §4.10 In the second paragraph, it would helpful to generally refer to the cleanup schedule. Please state that the remedy is currently planned to be selected in 2012 and the cleanup is likely to be completed by 2015.
- p. 4-12, §4.11 In the second paragraph, it would help to generally refer to the cleanup schedule. Please state that the offshore remedy is currently planned to be selected in 2010 and the cleanup is likely to be completed by 2013. Please state that the onshore remedy is currently planned to be selected in 2013 and the cleanup is likely to be completed by 2016.

- p. 4-12, §4.11 Please delete the last sentence in the first paragraph as additional investigations on shore are anticipated.
- p. 4-12, ¶3 Discuss when a ROD is anticipated for this OU and whether the area will be subject to Five Year Reviews.
- pp. 4-13&4-14, §4.13 Discuss the Draft SASE Report and status of that report in this section. Provide a schedule for the issuance of the Draft Final SASE Report.
- Appendix C While this appendix appears to appropriately list the individuals polled for the Five Year Review report, it does not summarize the findings from the polls. EPA's guidance indicates that the interviews should be documented and the results should be summarized.
- Appendix E Please include the most current Base Instruction (*i.e.*, 5090.15B).
- Appendix F-1 Although samples of benzo(a)pyrene show non-detects in the figures, the detection limits for benzo(a)pyrene exceed the MCL level of 0.2 ug/L. Please provide lower detection limit levels for future samples.
- Appendix F Figures 1-1 and 1-2 correctly identify the MCL and RI GA for benzo(a)pyrene as 0.2 ppb. However, the remaining Appendix F figure mistakenly lists the MCL for benzo(a)pyrene as 40 ppb and indicates NA for the RI GA value. Please correct these figures.
- Appendix F-1, Figures F-1.3-11, through F-1.10-11 The figures incorrectly list MCL for benzo(a)pyrene as 40 ug/L. Please correct these figures to present MCL of 0.2 ug/L.
- Table F-2.1-1 The table title indicates that the data are from 1997 through 2001, but the table includes data collected in 2003. Please correct.

ATTACHMENT B

Supplement to the Comprehensive Five-Year Review Guidance: *Evaluation of Institutional Controls*

1.0 OVERVIEW

1.1 The CERCLA Five-Year Review (FYR) of the protectiveness of a remedy is triggered when remaining on-site hazardous substances, pollutants, or contaminants are above levels that allow for unlimited use and unrestricted exposure (UU/UE) (see CERCLA § 121(c) and 40 C.F.R. § 300.430(f)(4)(ii)). The Five-Year Review is also triggered when such a remedy takes more than five years to achieve UU/UE. Regions should begin planning their FYRs for each site approximately one year before the due date so that there is adequate time to thoroughly review all aspects of each site. In the initial planning stages, EPA and the State should discuss the role of the State in the FYR process.

1.2 Institutional Controls (ICs) are designed to prevent exposure to contamination, usually through restrictions on the use of land, ground and surface water, and other media, where contaminant levels do not allow for UU/UE. ICs also may be used to prevent interference with remedy components or operation of the remedy. In addition to being part of completed remedies, ICs can be used during the conduct of the remedial investigations/feasibility studies, the implementation of remedial actions and, the operation and maintenance of remedial actions.

1.3 Purpose of this Document:

The current Five-Year Review Guidance¹ (Guidance) provides a framework to conduct Five-Year Reviews of the IC portion of remedies in a manner similar to the review of any other remedy component. Excerpts from the Guidance related to ICs may be found in Attachment 2: "ICs in the 2001 FYR Guidance." This supplement provides further details on the concepts discussed in the Guidance in order to promote a more thorough and consistent approach when assessing ICs at the Five-Year Review. The review should identify IC issues and assess the need for additional evaluation and/or follow-up actions which are appropriate for inclusion in the Issues and Recommendations section of the FYR report. The development and implementation of actual solutions are not required to occur before completion of the FYR report. Prior to the

¹"Comprehensive Five-Year Review Guidance" OSWER 9355.7-03B-P, July 17, 2001. This document may be found at <http://www.epa.gov/superfund/resources/5year/index.htm>.

3/17/05 WORKING DRAFT- official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components

OSWER 9355.7-12

due date of the Five-Year Review Report, the review team² should consider the following activities in order to evaluate the effectiveness of ICs in ensuring the remedy's protectiveness:

- Review documents and analyze data related to ICs.
- Request PRPs gather/submit information on ICs for which they have responsibility.
- Obtain and review official copies of ICs in place.
- Include ICs in FYR interviews to determine awareness, compliance, and enforcement.
- Include ICs in the FYR site inspections to identify land use changes and IC compliance.
- Assess effectiveness and protectiveness of ICs (or lack of ICs).
- Determine whether IC issues identified affect current and/or future protectiveness.

The remainder of this document elaborates on the above items. Many potential IC issues and questions are identified in this document. However, not all issues identified will apply to all sites and all types of ICs. Sites may also present unique IC-related issues that are not expressly identified in this document. If there is insufficient time to make a protectiveness determination by the due date of the Five-Year Review Report, protectiveness should be deferred and a date within a one-year time frame set for making a determination.

2.0 DATA COLLECTION

2.1 What some key documents I should review to answer IC-relevant questions?

Section 3.5.1 and page B-6 of the FYR Guidance contain information about documents that may be appropriate to review for the FYR. The following list highlights those documents that are likely to have information pertinent to the evaluation of ICs and provides some appropriate questions to consider when reviewing the documents. Several of the documents suggested for review are reports and current copies of IC instruments. Unlike decision documents, these documents may not exist in their current form in the site file. IC documents, which are components of the final remedy decision, should be maintained in the site file and, generally, tracked in the IC Tracking System. Any IC documents can be attached to the FYR report, included in the FYR site file, or referenced in the report. Regions should establish their own best practices for keeping and maintaining these records. Note that not all the documents listed below may exist for all federal facilities, particularly active facilities. Review of the decision documents at Federal Facilities is especially key for assessing the adequacy of ICs at the FYR

²At a minimum, the review team examining IC issues should consist of EPA's remedial project manager and attorney. For some reviews, a multi-disciplinary team may be needed.

3/17/05 WORKING DRAFT- official-Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components
OSWER 9355.7-12

because Federal Facility Agreements (FFAs) make RODs, Remedial Designs (RDs), and Remedial Action Workplans (RAWPs) enforceable documents for the site. Because IC implementation details may be included in the ROD and/or in post-ROD documents, such as the RD and RAWP at Federal Facilities, it is important to examine all appropriate documents to ensure a complete review.

- Decision documents (RODs, ROD Amendments, ESDs, Action Memos, RDs, RAWPs)
 - Is any waste left in place above UU/UE levels?
 - Do the decision documents require that ICs be implemented? If so, what media are addressed and what types of ICs are contemplated?³
 - Do the documents refer to existing ICs (e.g., current zoning ordinance, enforcement mechanisms, easements, etc.) that address contaminated media and/or exposure pathways?
- Risk Assessments, RI/FS, etc.
 - What type of land use assumptions were used in determining risk and cleanup levels?⁴
 - Were exposure and risk assumptions used for the ROD tied directly to ICs selected?
- Reports (O&M, monitoring, etc.)
 - What type of information is included in these reports about the status of ICs? Is an appropriate level of detail used?
- Real estate documents
 - For evaluation of proprietary controls and deed notices, obtain a current title search/title commitment (or current ownership and current encumbrances report similar to what

³ If the decision documents are vague and you are unable to answer the questions, clarification and/or modification to the remedy may be appropriate. Various administrative mechanisms (e.g., ESD, ROD Amendment) are available for modifying the remedy. Refer to Section 7.0 of *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, July 1999, OSWER 9200.1-23.P, available at <http://www.epa.gov/superfund/resources/remedy/rods/index.htm>. There is also a discussion of appropriate administrative steps on pages 12-14 of EPA's *Strategy to Ensure Institutional Control Implementation at Superfund Sites*, September 2004, OSWER 9355.0-106.

⁴The information in footnote 3 may be relevant to this question as well.

- is obtained with a title commitment).
- Do leases and subleases contain any use restrictions?
 - **IC Instruments: Enforcement documents (UAOs, CDs, AOCs, etc.)**
 - Does the property owner have any agreements with EPA (e.g., Consent Decree (CD), Unilateral Administrative Order (UAO), provision of access, etc.)?
 - Do enforcement documents require PRPs to implement ICs (e.g., obtain and hold a restrictive covenant)?
 - Do enforcement documents require PRPs to monitor and/or enforce ICs?
 - Are the PRPs required to report/certify IC status to EPA? If so, how often?
 - **IC Instruments: Governmental Controls**
 - Obtain dated (no more than nine months before the FYR due date), copies⁵ of current government controls, such as ordinances and confirm that they are still in effect and have not been modified.
 - Is EPA and/or the State named as an interested party in proposed zoning changes within the site boundaries?
 - **IC Instruments: Proprietary Controls**
 - Obtain dated (no more than nine months before the FYR due date), copies⁶ of existing proprietary controls, usually obtained by conducting a title search/commitment.
 - Obtain dated, copies of encumbrances which may impact site ICs (referenced in Schedule B of the title commitment).
 - Obtain grantor/grantee recordation information.
 - Identify easements that cover any area within the site boundaries and/or any areas of site-related contamination where no remedial action is occurring.

⁵ At a minimum, copies should validate the status and date of the IC. Official certification of ICs may be useful for sites with litigation occurring or pending. Typically, certification entails the signature of the official responsible for the control. This may involve a stamp or seal of a government office. However, certification is expected to take different forms depending on the specific IC and site.

⁶ See footnote 5 for information. Copies of proprietary controls may be found by doing a title search.

3/17/05 WORKING DRAFT- official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components

OSWER 9355.7-12

- IC Instruments: Informational Controls
 - Obtain a title search to confirm that required notices exist and appear in the chain of title.
 - Were any notices filed that record the existence of a CD or UAO but are not legally effective to restrict any activities? If so, the original intent may have been for implementation of an enforceable proprietary control. This scenario is more likely with older remedies.
 - Are there public information/education programs in place and how effective are they?
 - What is the status of other informational controls? Are any advisories still in place and maintained by the issuing agency?
- Do any other documents exist in which IC information is captured?

2.2 What are some ways PRPs can participate in providing IC information?

EPA, not the PRPs, should determine the role of ICs in the protectiveness determination. However, as stated in Section 2.3 of the Guidance, PRPs may, and should be encouraged to, perform certain support activities, such as data collection, in the FYR process. EPA may require the PRPs to conduct studies to provide an IC analysis to EPA that can be used in making protectiveness determinations. The role of PRPs is expected to vary by site given EPA's relationship with specific PRPs. The enforcement team should:

- Examine settlement and enforcement documents regarding PRP obligations with respect to ICs.
- Request⁷ that PRPs gather and submit data, studies, or analyses about any ICs pursuant to appropriate provisions of enforcement documents. This

⁷Authority for a request may be found in the following provisions of a CD or UAO:

- "periodic review" provision which requires PRPs to conduct studies determined to be necessary by EPA to conduct a periodic review (§ 17 of the model RDRA CD) or (§ 43 of the model RDRA UAO);
- additional work/modification of work provision (§ 14 of the model RDRA CD or § 44 of the model RDRA UAO);
- CD and UAO provisions requiring PRPs to maintain the effectiveness of the remedial action; and
- other site-specific provisions of CD or UAO (e.g., § 26 (c) of Model RDRA CD requires a Settling Defendant to obtain a title commitment and title policy).

3/17/05 WORKING DRAFT--official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components

OSWER 9355.7-12

request can be made in addition to or in conjunction with requests for sampling and monitoring data and reports. Possible requests EPA may make of PRPs are to get a recorded copy of a restrictive covenant or easement from the County Recorder of Deed's Office and obtain a title commitment or current ownership/encumbrances report.

3.0 DATA REVIEW AND ANALYSIS

3.1 What some key general IC questions I should ask regarding the site data?

- Have problems with existing ICs or lack of ICs resulted in any exposure? If so, what has been done to ensure such problems do not recur?
- Do current levels of contaminants allow UU/UE (defined by Guidance as "no restrictions on the potential use of land or other natural resources") of all media? If not, an IC restricting the use of the media is probably needed to prevent exposure. Note that if the cleanup levels are commercial/industrial, the site use is restricted and ICs would be required.
- Are all Remedial Action Objectives, including IC-specific objectives, adequately met by current ICs?
- Do decision documents adequately specify the ICs, including the following elements? If not, is this information captured elsewhere and what additional documentation may be needed?
 - Clearly and comprehensively described objectives (site-wide and for specific areas) of the ICs⁸
 - Performance standards
 - Adequate layering or serial use of ICs⁹
 - Adequate plans for monitoring and enforcement
 - Appropriate duration language (e.g., the ICs will remain in

⁸ Examples of clear and comprehensive objectives include: prohibit the development and use of property for residential housing, elementary and secondary schools, child care facilities, and playgrounds; prohibit the ingestion of ground water; prohibit well-drilling except for monitoring wells authorized in the EPA and State approved monitoring plans; and, maintain the 12 inch vegetative soil layer to limit ecological contact.

⁹ Layering ICs means using different types of ICs at the same time to enhance the protectiveness of the remedy. Using ICs in series ("serial use") is the use of ICs at different points in the investigation and remediation process to ensure the short- and long-term protection of human health and the environment.

effect until cleanup levels that allow for UU/UE are reached)

- Have ICs been implemented? How so?
- How do the IC instruments/mechanisms described in the decision documents compare with what has been implemented or planned?
- Does the IC describe the area (e.g., metes and bounds or reference to recorded plat or other recorded survey) and associated restrictions in detail? Are associated maps or figures available?
- Does the extent of the IC match the extent of the needed restrictions, based on the concentrations and extent of residual contamination?
- Does the proprietary control, such as restrictive covenant, show up in the chain of title thereby providing notice to future owners of use restrictions?
- How, when, and by whom are each of the ICs monitored? Are the results of the IC monitoring routinely and promptly shared with EPA and the State?
- Are there requirements and procedures to notify EPA and the State if an IC is breached?
- Are there measures in place to ensure that EPA and the State concur, approve, or receive notice of any development or redevelopment plans before they occur?
- Does the local zoning board have plans to approve any changes in zoning? Do any variances exist?
- Are the entities responsible for monitoring and enforcing ICs capable and willing to perform these duties presently and in the future?
- Is the information reaching potential resource-users, local governments, and involved citizen groups? Do they understand the restrictions?¹⁰
- Are any non-PRP stakeholders involved at the site (e.g., developers, local planning trust)?
- Are there any unintended consequences resulting from the use of a particular IC?

3.2 What are some key legal questions I should ask?

- Have proprietary controls been implemented in a legally enforceable manner?

¹⁰ The review team can contact local citizen's groups or community advisory groups as well as examine public outreach materials or records of meetings held to see if the public is aware and understands the role of ICs in the remedy. The Community Involvement Coordinator (CIC) can assist in this task.

- Does the restrictive covenant or other proprietary control “run with the land” (i.e., restrictions are binding on all subsequent holders of property interests)?
- Have the proprietary controls been recorded with the Record of Deed or other appropriate land records office?
- Does the recorded proprietary control appear as an encumbrance in the title commitment? Are there prior-in-time encumbrances that may negatively impact a proprietary control (e.g., prior mortgages, utility easements).¹¹ Encumbrances will be referenced in Schedule B of the title commitment. Where appropriate the enforcement team should notify holders of prior-in-time encumbrances of restrictive covenants and attempt to obtain subordination agreements from them.
- Is there a grantee or prior owner that “holds” the proprietary control?
- Was EPA a grantee or holder of a property interest? EPA must transfer any such interest to the State upon completion of the remedial action pursuant to Section 104 (j) of CERCLA.
- Is EPA a third-party beneficiary for the IC? (In many states, third-party beneficiary rights are considered “contractual rights” and, thus, EPA may be identified as a third-party beneficiary of a proprietary control during and after completion of the remedial action.) The enforcement team should confirm the availability of third-party beneficiary contract rights under state law.
- Does the legal description of the area covered by the IC match the extend of the area that requires restrictions?
- Under a UAO, CD, or other enforcement agreement, is the current owner under an obligation for compliance with the IC?
- If any of the property in question has been subdivided, did restrictions transfer to the subdivisions?

¹¹ In general, property law establishes a hierarchy of property interests based on the principle that “prior-in-time” equals “prior-in-right.” For example, property interests recorded after a mortgage are typically “subject to” (or “trumped by”) the “prior-in-time” recorded mortgage. Foreclosure of a prior-in-time mortgage may terminate those property interests recorded after the mortgage. As appropriate, the enforcement team should send letters to holders of recorded prior-in-time encumbrances notifying them of site restrictions and requesting subordination agreements. Under a subordination agreement, the holder of a prior-in-time encumbrance would agree to treat the restrictive covenant as if it had been recorded before the holder’s encumbrance. For prior-in-time utility easements, the enforcement team may want to include sampling, notification, and/or other requirements as part of a subordination agreement. Note that a party that removes an institutional control or breaches the institutional control may be considered a CERCLA owner/operator under Section 107 of CERCLA. In addition, a bona fide prospective purchaser, contiguous property owner, or innocent landowner may lose landowner liability protection if it does not comply with or impedes the effectiveness or integrity of any institutional control. CERCLA §§ 101(40(F)), 107(q)(1)(A)(V), 101(35)(A).

3/17/05 WORKING DRAFT- official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components
OSWER 9355.7-12

- Do holders of easements that cover any area within the site boundaries know about on-site contamination and associated restrictions?

3.3 What are some key additional questions I should ask for Federal Facilities?

Decisions documents at Federal Facilities should to be comprehensive and detailed since these serve as the enforceable documents for these sites. The following questions should be considered in addition to applicable questions presented in sections 3.1 and 3.2.

- Do decision documents include the following elements?
 - Appropriate duration language, e.g.: "Land Use Controls in Area A will be maintained until the concentration of hazardous substances in the soil and ground water are low enough to allow unlimited use and unrestricted exposure."
 - Details about how the ICs will be implemented, enforced, and maintained, including periodic inspections
 - Description of the internal procedures related to ICs that will be used at an active base
 - Language detailing the Agency/military service's IC responsibilities and commitments including:
 - Implementing, maintaining, reporting on, and enforcing ICs
 - Correction of any IC breaches or circumstances that may interfere with the effectiveness of the IC within a given time period (10 days is suggested)
 - Plans, designs, and reports (including periodic monitoring/inspection reports) that must be submitted to EPA for review and approval
 - Agreement not to modify ICs, implementation actions, or land use without prior approval from EPA and the State
 - Notification of EPA and the State about breaches, changes in protectiveness status because of ICs, land/resource use changes, and property transfers
 - Agreement to notify EPA prior to property transfer and to ensure appropriate IC provisions are provided in the deed.
- Does contamination extend outside the boundaries of the Federal Facility? How do provisions for ICs cover these areas?
 - For active facilities, are there appropriate internal procedures in place to implement the controls?

3.4 What are some key questions related to IC remedy components I should ask during the site inspection?

Pages 3-5 and D-11 of the FYR Guidance provide basic information about how site inspections should be conducted. Where appropriate, the following IC issues should be considered when conducting the FYR site inspection:

- Based on the inspection of the site and relevant off-site areas, are existing ICs preventing exposure?
- Is the property being used in a manner consistent with the land, ground water, or other media restrictions? Are there breaches of use restrictions?
- Has land and/or resource use on, or near, the site changed since execution of the ROD? Is there any physical evidence of current and/or impending land and/or resource use changes?
- How do the current land and resource uses relate to exposure assumptions and risk calculations?
- Has the property been sold or leased? Are new owners or lessees aware of, and complying with, land and/or groundwater restrictions?
- Are any informational signs associated with the ICs still intact and legible?
- Are additional ICs needed?

3.5 What is some important information about ICs I should consider collecting during FYR interviews?

- State/local government agencies or Federal Facilities
 - Have any breaches of the ICs occurred; complaints been filed, or unusual activities been noted at the site? If so, how were they addressed?
 - How are ICs enforced and violations handled? By which department of the government entity? What is the enforcement plan in the event of an IC breach?
 - Where does the agency keep information about the ICs? Does the agency have an IC tracking system or other applicable database information (e.g., GIS maps)?
 - How does the state/local government coordinate between its various departments, such as planning, water, public works, environment, etc? For example, if a person comes to the planning

3/17/05 WORKING-DRAFT- official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components.

OSWER 9355.7-12

- department for a well permit, would the permitting authorities be able to adequately determine whether ground water contamination is found in the area where the permit is sought?
- Does the agency have up-to-date maps of known contamination areas? EPA should provide current maps to these agencies (e.g., give permitting authority a recent map of the ground water contamination plume with property identification plots so they can deny well-drilling permits in the areas of known contamination).
- Does the agency have current zoning maps? Obtain copies of those relevant to site-related contamination.
- Are there any general or specific ordinances that might be considered ICs for the site, such as an ordinance prohibiting any development/construction within 200 ft. of a landfill?
- Are there any new developments, either constructed or planned, in the area of which the agency is aware? Are there any new construction permits issued or pending?
- What type of monitoring is currently being conducted or has been conducted to determine IC compliance (e.g., follow-up inspections)?
- How does the State/Local government/Federal Facility make IC information available to property owners, utilities, excavators, contractors, etc.?
- What procedures are in place for monitoring requests for variance from, or changes to, the governmental control (e.g., ensuring that requests are not made to change a zoning ordinance from commercial/industrial to residential in a location that is not cleaned up to residential standards)?
- What procedures are in place for EPA and PRPs to receive notice of any proposed changes to the ICs?
- Is the State or other entity willing and able to serve as a grantee and hold restrictive covenants for applicable properties?
- Does the government entity have the authority, resources, and willingness to monitor and enforce appropriate ICs?
- Do site circumstances warrant further coordination and periodic communication with the State and/or local government?
- Property owner/lessee
 - Are property owners and lessees aware of, and complying with, ICs?
 - Does the property owner have any plans to sell or transfer the

- property? If so, what are their plans regarding the property's ICs?
- Are any covenants or easements relevant to the remedy held by the property owner in addition to those selected in the remedy decision documents?

Other affected parties

- Is the right information reaching the right people at the right time (e.g., are ground water well contractors aware of an ordinance prohibiting the drilling of wells)?
- Is there evidence that citizens are aware of, and complying with, advisories and local ordinances (e.g., fish consumption or well-drilling prohibitions)?

4.0 ASSESSING THE PROTECTIVENESS OF THE REMEDY

Further guidance for answering Questions A, B, and C and making a protectiveness determination for the site can be found in Section 4.0 of the Guidance. The following section discusses IC issues that may influence the answer to each question.

4.1 Question A. Is the remedy functioning as intended by the decision documents?

When you ask this question of the remedy for each media (e.g., contaminated soil, ground water plume) and each area, you should consider whether needed ICs are in place and prevent current and future exposure to contamination. Examples of questions to consider when answering Question A include the following:

- Are ICs properly implemented and effective in preventing exposure and protecting the remedy? Is exposure occurring, or likely to occur, because ICs are not in place?
- Are the current ICs the most appropriate for the site? Are others needed (layering or series of ICs)?
- Are the ICs objectives sufficiently comprehensive and clear? Do the IC instruments in place adequately meet those objectives?
- Are ICs in place to address all areas of site-related constituents which are at levels that do not allow for UU/UE?
- Are ICs in place to address newly-identified contamination?
- Are ICs in place to protect the integrity of the remedy?
- Are those who could potentially breach the IC in the position to receive

information about the restrictions imposed by the IC?

- What type and frequency of monitoring of the IC is necessary to ensure its continued effectiveness?
- Were proprietary controls executed appropriately? Will they “run with the land”? Do proprietary controls show up in the chain of title? Are subordination agreements needed from “prior-in-time” encumbrances?
- Are there criteria for scenarios under which the IC may no longer be needed (e.g., after MCLs have been met)? What is the termination plan/procedure?
- Are current ICs more restrictive than originally intended? Do these differences adversely affect any reuse possibilities?
- Have there been any changes to the institutional controls as selected in the decision documents? Were these changes routine adjustments, modifications, or minor changes which were reasonably anticipated by the decision documents? Did the changes fundamentally or significantly alter the final remedy and, thus, trigger a modification to the remedy (refer to footnote 3 for guidance references)?

4.2 Question B. Are exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?

When you ask this question for ICs, you should consider whether land and resource use has changed at, or near, the site and whether exposure assumptions and risk calculations, used at the time of remedy selection, are still valid. Examples of questions to ask for each contaminated area and media when answering Question B include the following:

- If a toxicity value has changed, does this change affect the protectiveness that is provided by the current scope of ICs at the site?
- Are ICs in place that restrict land, ground water, or other media use based on current exposure assumptions and current contamination levels for all media at this time?
- Are interim or additional ICs needed based on contamination levels existing at this time?

4.3 Question C. Has any other information come to light that could call into question the protectiveness of the remedy, including the status of institutional controls?

Site-specific factors are likely to influence this category. Where appropriate, the following

3/17/05 WORKING DRAFT - official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components.

OSWER 9355.7-12

questions can be asked:

- Are there any indications that land or other resource uses may be changing in the area?
- Has state or local land use law changed in a way that could significantly impact ICs at the site?
- Have ecological problems been identified that may require ICs?
- Is vapor intrusion a real or potential issue at the site? Based on current knowledge, are ICs regarding the operation of the ventilation systems of buildings appropriate?

5.0 PROTECTIVENESS DETERMINATION

The answers to Questions A, B, and C provide information to inform the determination of the protectiveness status of the site and to select a protectiveness statement. The protectiveness statement is made for each OU prior to Construction Complete and an additional site-wide statement is made after the site reaches CC; an IC-specific protectiveness statement is not required. According to p. 4-13 of the Guidance, if the answers to Question A, B, and C are *yes, yes, and no*, respectively, then your remedy normally should be considered protective. However, if the answers to the three questions are other than *yes, yes, no*, depending on the elements that affect each question, your remedy may be one of the following:

- Protective; (i.e., appropriate ICs are in place and effective, no IC violations or exposures are occurring);
 - Will be protective once the remedy is completed (i.e., construction is not yet complete);
 - Protective in the short-term, however, in order for the remedy to be protective in the long-term, follow-up actions need to be taken;
 - Not protective, unless the following action(s) are taken in order to ensure protectiveness;
 - Protectiveness cannot be determined until further information is obtained. (A time frame should be provided for when a protectiveness determination will be made. The determination should be made through an addendum, which should be issued within 1 year of the FYR report date. If this is the case, your next five-year review should be due five years from the date the FYR report is signed, not the signature date of the addendum).

In selecting the most appropriate protectiveness statement for the remedy, it is important to

3/17/05 WORKING DRAFT- official Regional review will occur when supplements have been added for vapor, intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components OSWER 9355.7-12

consider:

- That a need to conduct further actions does not necessarily mean the remedy is not protective;
- The level of risk associated with the exposure pathway the ICs are intended to protect; and
- The actual potential that people may not comply with the needed restrictions and come in contact with contaminants via exposure pathways meant to be protected by ICs

At sites where there is no evidence of exposure, implementing ICs may be needed to ensure long-term protectiveness and the "short-term" protectiveness statement may be used. However, at other such sites having ICs in place may be enough of a critical protectiveness issue to warrant a "not protective" statement.

Attachment 1 contains examples of Protectiveness Determinations that include IC-specific issues.

6.0 FOLLOW-UP ACTIONS

Recommendations, follow-up actions, and schedules for all issues, including those related to ICs, identified during the FYR should be included in a table as described on p. 4-13 of the FYR Guidance. The following are generic examples of recommendations that may be appropriate for IC issues:

- Develop and implement a schedule (with dates and assigned responsibilities) and plan for the selection and implementation of any appropriate ICs.
- Assure that ICTS is updated with any new IC information.
- Use the remedy selection process (i.e., ROD Amendment or ESD) to select or document ICs as components of the current remedy.
- Develop and implement a plan to oversee and monitor ICs.
- Develop and implement communication strategies with appropriate state/local governmental agencies.
- Assess possibilities for PRPs to implement and monitor ICs.
- Assess IC performance criteria, including consideration of the following questions:
 - Is it necessary to simply improve/optimize the existing IC

3/17/05 WORKING DRAFT- official Regional review will occur when supplements have been added for vapor intrusion, sediments, and reuse; there will be one final FYR supplement document that includes all 4 components
OSWER 9355.7-12

- structure?
- Is it appropriate to add new ICs or modify existing IC requirements?
- Is it appropriate to revisit the remedy?

7.0 Additional Guidance

Existing IC guidance may be helpful in implementing follow-up actions. These documents include *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*, September 2000 (OSWER 9355.0-74FS-P, EPA 540-F-00-005) and *Institutional Controls: A Guide to Implementing, Monitoring, and Enforcing Institutional Controls at Superfund, Brownfields, Federal Facility, UST, and RCRA Corrective Action Cleanups* OSWER 9355.0-89 EPA 540-R-04-002. These and other IC-related documents can be found on the Superfund IC website at <http://www.epa.gov/superfund/action/ic/index.htm>.

For Federal Facilities see *Guidance on Resolution of Post-ROD Disputes*; and the accompanying attachments, issued November 25, 2003. This guidance can be found at http://www.epa.gov/fedfac/documents/post_rod_112503.htm.

Additional information about proprietary controls can be found in *Transmittal of Institutional Controls: Third-Party Beneficiary Rights in Proprietary Controls*, April 2004. This guidance can be found at <http://cfpub.epa.gov/compliance/resources/policies/cleanup/superfund/>.