**REVIEW COMMENTS ON QAPjP OF DOE/RL-88-35 FI/CMS WORK PLAN DRAFT C FOR 100-HR-1**

SUBJECT: Review of Project Specific Quality Assurance Plan (QAPjP) for the 100-HR-1 Operable Unit (Appendix "A" of 100-HR-1 Work Plan Draft C).

REFERENCE DOCUMENTS:

#1 TPA Document #89-10 of 5/89 and Rev #1 of 9/90 and Rev #2 of 9/91
#2 QAMS-004 of 9/80 and QAMS-005 of 12/80
#3 DQO for Remedial Response Activities Document EPA/540/G-87/003 Of 3/87- Description of Requirements
#4 DQO for Remedial Response Activities Document EPA/540/G-87/004 of 3/87- A RI/FS Example of a DQO Case Study
#5 WHC-EP-0383 of 12/90 - QAPP for Env Engineering/Technology/Permitting
#6 DOE Letter 91-ERB-171 of 9/30/91 (RI/FS Work Plan Review Instructions)

GENERAL COMMENTS:

- o The document reviewed, Appendix "A" of Work Plan, is the QAPjP, the project specific QA plan. It addresses QA requirements. The QAPjP frequently references sections of the Work Plan to fulfill QA requirements. The referenced sections were reviewed for compliances.
- o Each numbered comment below is a non-compliance to the indicated DOE/EPA QA criteria. The EPA QA criteria are found in the documents #1, #2, #3, #4, and #5 of "Reference Documents". The comments are in the specified format.
- o The document reviewed is a TPA Primary Document and represents the result of a continuous consensus/decision process between DOE/EPA/WDOE.
- o The QAPjP is a project specific document. The final version it is expected would consider and incorporate such comments, as necessary, appropriately.
- o The FI/CMS Limited Field Investigation work (LFI) in this Work Plan (WP) is limited to Source and Vadose Zone Investigations. WP Table 2-1 and Table 4-2 show Sources for Investigation. Table C-2 shows investigation/analysis work.
- o The comments are made keeping in mind the above features and that quality achievement is a line responsibility.

COMMENT #1: QAMS-005 Sec 5.5 & QAPjP Sec 3.0 (Pg A-3) -Data Quality Objectives for Measurements

o The QAPjP refers to Work Plan (WP) Sec 4.1.1, Sec 4.1.2, and Sec 4.2.1.5. The QAPjP states that Sec 4.2.1.5 provides justification for established DQOs. Sec 4.2.1.5 is not present in the WP or in the QAPjP.

o Table QAPjP-1 lists various pollutants and the analytical Methods to be used to quantify them. Precision and accuracy statements for the selected method (in Table QAPjP-1) are not linked to the experimental conditions or detection limits for each pollutant, as required by QAMS-005.

o In Table QAPjP-1: "Precision" is defined "Relative Percent Difference"(RPD). The EPA document EPA/540/G-87/003 illustrates the use of the "Relative Standard Deviation" (RSD) and "Variances" (S) for evaluating data values of like samples analyzed with like procedures at various laboratories and to determine the acceptable range of values. WHC needs to formalise RPD usage as RPD use is not illustrated in the EPA/DQO documents.

COMMENT #2: QAMS-005 Sec 5.6 & QAPjP Sec 4.0 (Pg A-8) - Sampling Procedures
QAMS-005 Sec 5.7 & QAPjP Sec 5.0 (Pg A-12) - Sample Custody

The QAPjP refers to WHC-CM-7-7 for Project Specific Sampling Procedures. WHC-CM-7-7 has many procedures that describe segments of the Sampling Effort but there is no procedure in WHC-CM-7-7 for project specific "Sample Labelling" or

for "Frequency of Sampling" or for "Sampling Time Variant Data". The existing procedure for "Sample Custody" does not provide tracking mechanisms for the labelled sample that have the same rigor as that described in QAMS-005. Table QAPjP-2 has inadequate information to perform project specific "Sample Site Selection". Project specific procedures for Geodetic Control indicated in WP Sec 5.1.2.2 to be present in QAPjP are not found there. Procedures in Table QAPjP-2 are generic not project specific and some are yet to be done (TBD).

COMMENT #3: QAMS-005 Sec 5.8 & QAPjP Sec 6.0 -Calibration Procedures/Frequency.
QAMS-005 Sec 5.9 & QAPjP Sec 7.0 -Analytical Procedures (Pg A12/13)
The QAPjP refers to Tables QAPjP-1 and QAPjP-3 for achieving compliance with criteria requirements. These tables identify ASTM standards and EPA documents through which compliance would be achieved. Project specific Standard Operating Procedures (SOPs) describing Calibration of each pollutant measurement system, with planned recalibration frequencies with information on calibration standards is not in the QAPjP or the WP. Since all requirements of any analytical test standard may not be applicable to all situations, specific analysis procedures for each pollutant are required but are missing. The analysis work is partly a "Purchased Service" and partly performed in-house by WHC: example radio assays. Project specific procedures for in-house analysis, analytical levels, and instrument sensitivity/calibration/frequency are not stated. Analytical levels, which make precision and accuracy statements useful, are not given in the QAPjP or in Work Plan for the selected methods.

COMMENT #4: QAMS-005 Sec 5.10 & QAPjP Sec 8.0 (Pg A-13/15)-Data Reduction, Validation, and Reporting.
The QAPjP lists criteria that shall be contained in procedures used for the validation of data. The criteria that is listed does not provide adequate information or include the data reduction scheme for each measured parameter, the set of principal criteria to be used to validate data/integrity, or the reporting scheme and/or flow-chart for the planned data flow for the entire data collection process. This applies to the in-house effort and as applicable to purchased services.

COMMENT #5: QAMS-005 Sec 5.14 & QAPjP 12.0 (Pg A-19) - Routine Procedures to Assess Data Precision, Accuracy, and Completeness.
The QAPjP states that statistical techniques may be used to perform this activity. *If* such techniques are used then the required written instructions shall be generated. QAMS-005 requires that the specific procedures needed to perform any task(s) on a routine basis must include statistical detail and must be described for all environmental measurement and monitoring. These procedures are not described in the Work Plan or the QAPjP for the in-house work and/or applicable strategy for the purchased services as applicable.

COMMENT #6: QAMS-005 Sec 6.0 - QAPjP vs Project Work Plans
A significant number of the QA elements are addressed minimally in the QAPjP and the details on these elements are integral to the Work Plan. QAMS-005 requires a "QA Project Plan Locator Page" be provided that enables reference of QA elements/WP text for assessing QA compliance. This page is missing.

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| 5. Document Number(s)/Title(s) | 6. Program/Project/ Building Number | 7. Reviewer | 8. Organization/Group | 9. Location/Phone |
|---|---|---|---|---|
| RCRA RFI/CMS Work Plan for the 100-HR-1 Operable Unit | | Diane E. Shigley<br>Nikola S. Drakulich | SWEC/GSSC | 6-5038<br>6-8205 |

17. Comment Submittal Approval:

Organization Manager (Optional) _____ Date _____

10. Agreement with indicated comment disposition(s)

Reviewer _____ Date _____

Project/Cognizant Engineer _____

11. CLOSED

Reviewer _____ Date _____

Project/Cognizant Engineer _____

| 12. Item | 13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/ resolve the discrepancy/problem indicated.) | 14. Hold Point | 15. Disposition (Provide justification if NOT accepted.) | 16. Status |
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| 1. | General Comment: The work plan states that high priority sites will be investigated through LFIs to determine if an IRM is necessary and that low priority sites will not be investigated. There are no contingencies planned for the discovery of a potentially high priority site where one was not previously expected. Page 3-3, Sec. 3.1.1.1, Par. 4, Sen. 2, states "there is the possibility, based on inventories at other reactor sites, that one or more low-dose-rate irradiated fuel elements were overlooked...and were buried under the earth backfill", in reference to the H-Reactor building. Since historical records and the WIDS database are not completely accurate there is a likelihood of discovering a previously unknown waste site or a greater than suspected volume of contaminants. There is no indication in the work plan of how these sites will be handled and how the impact on allocated resources, budget, and schedules will be accommodated. | | | |

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| 2. | General Comment: The document "Hanford Site Past Practice Strategy" states that the work plans are intended to describe in detail what is known about the operable unit. The detail regarding quantity of hazardous contaminants disposed and activity of radioactive contaminants was not extensive or was not existing in great quantity. The Strategy document also states that decision-making will be accelerated by maximizing the use of existing data. The data collected from earlier investigations were minimal and it was not clear if the data were validated and considered acceptable for use in decision making. It is assumed that since these data were presented in the work plans they were validated and deemed acceptable for use, though a statement to this effect should be made. | | | |

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| 3. | General Comment: The work plan states one borehole will be drilled in high priority liquid waste disposal facilities (except for the 116-H-7 basin where they will drill three) to represent a "worst case" scenario and to determine if an IRM should be conducted. The locations of the boreholes were chosen with the intent of detecting the greatest quantity of contamination based on historical record (i.e., closest to the inlet) and on judgement. If the borehole encounters extensive contamination the rest of the facility will be characterized while the IRM is being conducted. If the "worst case" scenario borehole does not produce conclusive results and if the greater quantity of contamination is located elsewhere in the trench (e.g., the 116-H-2 trench is 275' long and 100' wide), a decision not to perform an IRM may be made while the trench continues to be a source of contamination to the groundwater. Or, lengthy negotiations with EPA and Ecology could occur resulting in schedule delays and missed milestone target dates. There is no flexibility allowed for decisions to be made in the field based on observation of the site conditions. The proposed approach may work if there is certain knowledge that the designated high-priority sites will require IRMs and the low-priority sites will not. However, this lack of flexibility does not appear to be using the "observational approach" to the fullest benefit. | | | |

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| 4. | Page WPvi to WPviii, Contents: Titles for the following sections are not identical to the corresponding titles stated in the Letter Report for Rescoped Work Plans of the 100-HR-1 Operable Unit: 1.1, 2.1.4, 2.1.6, 2.2, 2.2.3, 2.2.4, 3.1.4, 3.2, 3.3, 3.3.3, 3.3.4, 3.3.5 (added), 3.4, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 4.2.1, 4.2.2, 5.0, 5.1, 5.1.12, 5.1.13, 5.2, 6.0, 9.0 (added), items listed under Attachments and Appendices (added). | | | |
| 5. | Page WP 1-1, Sec. 1.0, Par. 3, Sen. 1: In front of "... objectives..." should be inserted "the known extent of contamination". | | | |
| 6. | Page WP 2-2, Sec. 2.1.3, Par. 1, Sen. 3: Between "The..." and "structures..." should be inserted either "remaining" or "existing" (to match Figure 2-1). | | | |
| 7. | Page WP 2F-1, Figure 2-1: The 182-H facility should be identified as "Water Reservoir" and the 183-H and 190-H facilities should be marked and identified as such (it is not in Figure 2-1). | | | |
| 8. | Page WP 2-7, Sec. 2.1.3.3, Par. 2, Sen. 1 and Page WP 2T-1b: The sludge burial trench is designated in the text as "107-H" (old designation) and in the table as "116-H-7" (new designation). Designations for the same facilities should be consistent in the text, tables and figures. | | | |
| 9. | Page WP 2-7, Sec. 2.1.3.3, Par. 1, Sen. 1: The section titled "Radioactive Solid Waste Disposal Facility" includes only one facility, the 107-H (116-H-7) sludge burial trench, which is not a solid waste facility. Therefore, either the title should be changed or an explanation provided. | | | |

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| 10. | Page WP 2-17, Sec. 2.2.2: Description on geology is inadequate. In addition to general description (as already provided) a detailed soil description and soil profiles should be included, representing summarized existing data, compiled from the documentation on the actual boreholes drilled in this operable unit, because the character of soil has great bearing on the direction of both further investigations and remediation. The section should contain the following boring/water well data: number of holes drilled and boring/well location plan, depth of each hole, boring logs, and correlation among boreholes (cross sections). Impact of the subsurface soil conditions on contaminant movement, further investigations, and remedial actions should be discussed. | | | |
| 11. | Page WP 2F-3, Figure 2-3: Markings of the basalt in the legend and on the cross section do not match; water tables on the cross section should have elevations. | | | |
| 12. | Page WP 2-19, Sec. 2.2.2.3, Par. 3, Sen. 1: This sentence should read "...basalt mixed with clasts of some...." | | | |

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| 13. | Page WP 2-20, Sec. 2.2.3: Hydrogeology, described in this section, is inaccurately and inadequately presented. Division of the stratigraphic column into hydrostratigraphic units is incomplete because the confining intervals are not included. Classification of aquifers is unsatisfactory because, among other reasons, a confining interval is interpreted as a confined aquifer. No overview of the existing data base was provided (number, location and depth of wells; number, location and depth of slug tests; results of laboratory tests and water analyses, etc.). The entire section should be re-written and reorganized to include a discussion related to the impact of the aquifers on the contamination plumes and the further RI/FS process, and the extent to which the groundwater table aquifer has already been affected by contamination. | | | |
| 14. | Page WP 2-20, Sec. 2.2.3.1, Par. 1, Sen. 3 (last) and Bullets: The "hydrostratigraphic units", as listed, are actually aquifers (except for the vadose zone), not hydrostratigraphic units, because two confining zones are excluded. Additionally, these "units" do not match the units shown on Figure 2-7, as referenced in the text. | | | |

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| 17. | Page WP 2-22, Sec. 2.2.3.1.5, Par. 2, Sen. 2: Does the expression "...the water is moving at depth below the plant root zone" mean that precipitation penetrates the ground to a depth below the root zone, and reaches the unconfined aquifer, or does not reach that aquifer? A clarification should be provided. | | | |
| 18. | Page WP 2-22, Sec. 2.2.3.2, Par. 1, Sen. 2: "Water content" in the context of the "groundwater flow" (section title) would suggest an amount of water present in saturated sediments rather than moisture content in the vadose zone, which seems to be the case. The statement should be clarified accordingly. | | | |
| 19. | Page WP 2-22, Sec. 2.2.3.2, Par. 3: The words "upper aquifer" should be substituted by "unconfined aquifer" to give the statements a true meaning. | | | |
| 20. | Page WP 2-23, Sec. 2.2.4.1: This section should discuss what part of precipitation can become run-off and under which conditions and whether run-off is possible at all, considering low annual precipitation and high permeability of the surface soils. | | | |
| 21. | Page WP 2-27, Sec. 2.2.6.4, Par. 3, Sen. 1 and Page WP 1F-2, Figure 1-1: Wildlife Refuge and Wildlife Reserve areas are referenced (in the text) to Figure 1-1 which does not show them. | | | |
| 22. | Page WP 2-27, Sec. 2.2.6.5.2: Considering that the contaminated unconfined aquifer discharges into the Columbia River, and that river water is used for water supply of the City of Richland, this section should discuss to what extent contaminants entering the river affect quality of water used downstream. | | | |

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| 23. | Pages WP 2F-9, -10 and -11, and Figures 2-9, 2-10 and 2-11: The boundary of the 100-HR-1 operable unit should be shown on these figures. | | | |
| 24. | Page WP 2-28, Sec. 2.2.7.2 and 2.2.7.3: More information should be given on the archeological and cultural resources. If this information is contained elsewhere then the appropriate references should be made. | | | |
| 25. | Page WP 3-2, Sec. 3.1, Par. 0, Sen. 5: Attempts should be made to update the inventories of the radionuclides to the present date. | | | |
| 26. | Page WP 3-3, Sec. 3.1.1.1.1, Par. 5, Last Sen., and Page WP 3T-3, Table 3-3: According to the referenced Table 3-3, the text should read, "...due to the possibility that five irradiated fuel elements..." rather than "...due to the possibility that one or more irradiated fuel elements..." | | | |
| 27. | Page WP 3-4, Sec. 3.1.1.3, Par. 2, Sen. 2: After "...60 Ci.." and "..18 Ci.." should be inserted "(Table 3-4)" and "(Table 3-5)" respectively. | | | |
| 28. | Page WP 3-5, Sec. 3.1.1.1.6, Par. 2, Sen. 2, and Par. 3: "(Table 3-7)", "(Table 3-8)" and "(Table 3-9)" should be inserted after "...and cations,..", "...toxicity metals,..", and "...for 25 metals.", respectively. Paragraph 3 (one sentence) should be omitted. | | | |
| 29. | Page WP 3-8, Sec. 3.1.2, Par. 2: It should be explained why pesticides that were routinely applied to burial ground covers, have never been detected in groundwater. | | | |
| 30. | Page WP 3T-16, Table 3-16: It would be more useful to provide data individually for each of 12 onsite and 23 offsite soil samples than their averages. | | | |

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| 31. | Page WP 3T-18, Table 3-18, Description: A number of holes drilled and samples taken in the area should be stated. | | | |
| 32. | Page WP 3F-8, Figure 3-8: The assumption is made that there will be no potential conflicts with CARs or future land/water uses by using small scale selective removal, vitrification, and stabilization/solidification methods. This assumption indicates that these methods are capable of total remediation with no land/water use restrictions when this may not be true. | | | |
| 33. | Page WP 3T6-6, Table 3-3: Uranium should be represented according to the isotopes present rather than total Uranium. | | | |
| 34. | Page WP 3T-31, Table 3-3, Entry Sr-90: There is a superscript 'e' but no 'e' explained in the footnotes. However, there is a 'd' which states, "Analysis for this contaminant has never been requested in 100-HR-3 groundwaters." If 'e' should be 'd' then this indicates that a request for Sr-90 analysis in 100-HR-3 groundwater was not made. Sr-90 is a significant contaminant due partly to its toxicological properties; particularly in groundwater because of its capacity to contaminate other media. A groundwater analysis of Sr-90 should be performed. | | | |
| 35. | Page WP 3-10, Sec. 3.1.3, Par. 1, and Page 3-24, Sec. 3.3.2.6: The nature and extent of groundwater contamination should be briefly presented rather than just referenced to another document. It cannot be assumed that the 100-HR-3 work plan is readily available. A simple table showing the contaminants, their average values, and whether or not the values are elevated would be useful. | | | |

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| 36. | Page WP 3-11, Sec. 3.1.4: The known and suspected nature and extent of contamination in the Columbia River water column and sediment should be briefly presented rather than just referenced to another document. | | | |
| 37. | Pages 3T-29a and 3T-29b, Table 3-29: The quantities of waste disposed should be listed if known and accessible through WIDS. The criteria for selection, "greater that 1 kg." is uninformative and does not aid in giving a sense of the quantity of each waste present. Also, information on which specific facilities received which wastes is needed. | | | |
| 38. | Page WP 3T-30, Table 3-30: Information on quantity or activity of radionuclides should be presented as well as specific facility locations of the radionuclides. | | | |

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| 39. | Page WP 3T-31, Table 3-31: The criteria for selection of the preliminary contaminants of interest is not clear. Section 3.3.2 does not clearly state what the criteria are except that mobility and tendency to bioaccumulate were not selected as criteria (although EPA guidance states that they should be considered when selecting the contaminants of interest). Since the information presented is not quantitative (i.e., Tables 3-29 and 3-30) it is difficult to determine why a particular contaminant was selected over another since some listed hazardous substances were selected while others were not. Page 5-16, Sec. 5.1.11.1, Subtask 11a-Contaminant Identification, states that contaminants selected for the risk assessments are those contaminants that are most toxic, most abundant, most mobile, most persistent, have the greatest propensity for bioaccumulation, and are best documented in terms of toxicological and environmental properties. These other criteria should be used for selecting the contaminants of interest if they are important in the risk assessment. | | | |
| 40. | Page WP 3T-31, Table 3-31: A column listing the threshold concentrations for each contaminant of interest would be informational. | | | |
| 41. | Page WP 3-24, Sec. 3.3.3, Sen. 4: The work plan states that the radioactive daughter products are not considered in the contaminants of concern but it does not describe how they accounted for and considered when evaluating the impacts on human health and the environment. | | | |

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| 42. | Page WP 3-26, Sec. 3.4: This section contains general policy statements on the optional corrective measures objectives, available technologies, and alternatives and lacks a position indicating the preferred initial course of action. | | | |
| 43. | Page WP 3-27, Sec. 3.4.1, First Bullet: The work plan does not state if the reduction of the contaminants will be to meet CARs or to meet risk-based levels and which value will have priority. | | | |
| 44. | Page WP 3T-14a through 3T-14h, Entry Cu and others: A note of explanation is needed for why the average concentration is greater than the concentration range. | | | |
| 45. | Page WP 4T-1a, Table 4-1: "Date" should be "Data" in three locations. | | | |
| 46. | Page WP 4-4, Sec. 4.1.1.2, Par. 3, Sen. 3: The work plan does not state where the generalized approach for investigations to be conducted will be described or when they will be conducted. | | | |
| 47. | Page WP 4-5, Sec. 4.1.2.1: The list of data needs should be extended to include:<br><br>Search for and identify locations of (1) pits with disposed sludge from fuel storage basin, and (2) disposal site of soil contaminated by emissions from the exhaust stack in 1955. | | | |
| 48. | Page WP 4-5, Sec. 4.1.2.1, Bullet 4: "(including soil correlation across a site or the operable unit)" should be inserted after "...vadose zone...." | | | |

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| 49. | Page WP 4-7, Sec. 4.1.2.3: The following should be inserted between Bullet 2 and Bullet 3:<br><br>• Soil properties of the fill and undisturbed geological column" | | | |
| 50. | Page WP 4-8, Sec. 4.1.2.4, Bullet 4: "...including soil correlation across a site or the operable unit," should be inserted after "...properties...." | | | |
| 51. | Page WP 4-13, Sec. 4.2.2.1, Par. 2, Sen. 3: The phrase, "non-EPA CLP methods" is unclear since SW-846 and CLP are EPA methods. | | | |
| 52. | Page WP 5-8, Sec. 5.1.3: This section should include a statement that geologic investigation will be performed as part of Task 5 - Vadose Zone Investigation, in addition to being part of the 100-HR-3 groundwater operable unit. | | | |
| 53. | Page WP 5-9, Sec. 5.1.5, Bullet 1: Add "and correlation" after "...compilation..." | | | |
| 54. | Page WP 5-9, Sec. 5.1.5.1, Par. 1, Sen. 1: Between "reviewed" and "to determine" should be inserted "and correlated". | | | |
| 55. | Page WP 5-9, Sec. 5.1.5.1, Par. 1, Sen. 4: Between "data" and "to determine" should be inserted "to establish soil correlation and". | | | |
| 56. | Page WP 5-9, Sec. 5.1.5.2, Par. 1, Sen. 2 and Page WP 5F-1, Figure 5-1: "Borehole locations are shown on Fig. 5-1" is not true. No borehole locations are shown on that Figure. | | | |
| 57. | Page WP 5-15, Sec. 5.1.10: The work plan does not describe how the data will be presented and at what time it will be made available to the regulators and DOE. | | | |

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| 12. Item | 13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/ resolve the discrepancy/problem indicated.) | 14. Hold Point | 15. Disposition (Provide justification if NOT accepted.) | 16. Status |
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| 58. | Figure 6-2, 100 Area Wide Activities Schedule: Under the River Impact Study there is no entry for sediment sampling when EPA insisted that sediment sampling is necessary since different contaminants will be found in the sediments than will be found in the river water. | | | |
| 59. | Page WP 7T-1, Table 7-1: The table does not state if there are adequate resources for calibration and equipment maintenance; health and safety other than radiation monitoring; data validation; and other necessary aspects of an RFI/CMS process. | | | |
| 60. | Appendix A: Some sections are just a reiteration of the requirements of EPA QAMS 005/80 and do not give specific information as to how these requirements will be met. As an example, Section 11.0 Preventive Maintenance does not give reference to an EII or written plan or procedure. QAMS 005 states that a schedule of preventive maintenance tasks and a list of critical spare parts are examples of types of preventive maintenance items that should be considered and addressed in the QAPjP. | | | |
| 61. | Appendix A: If the information needed to satisfy a requirement of the QAPjP is not available due to the current phase in the RFI/CMS process then a statement should be made that the information will be presented when it becomes available, as with Section 7.0 Analytical Procedures. If it is apparent during preparation of the QAPjP that appropriate controls need to be developed in order to satisfy a requirement of QAMS 005 then the issues need to be addressed and the QAPjP needs to be updated accordingly. The QAPjP is as much a planning tool for resources, decisions, and policies as the work plan and should not be treated as merely a checklist. | | | |

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| 62. | Page A-9, Sec. 4.2: There was no mention made of sample holding times and how the holding times will be transmitted to the analytical laboratories. | | | |
| 63. | Page A-9, Sec. 4.2: Procedures for designating and handling "hot" samples were not described. | | | |
| 64. | Page A-13, Sec. 6.0, Sen. 2: Controls to be applied in the case of not following EIIs requiring operational field checks are not described. Currently EII 11.1 is not being followed with respect to the mandatory calibration of geophysical logging equipment after repair due to the lack of onsite calibration test pits and the time and equipment involved in shipping offsite for calibration. The resources to adequately support the adherence to the mandatory requirements for both routine and remedial calibration of field equipment should be considered and either described or referenced. | | | |
| 65. | Page A-14, Par. 0, Sen. 4: The work plan does not state how the revised table will be distributed and if it will go through regulatory review and approval. | | | |
| 66. | Page A-15, Sec. 8.0: This section does not adequately represent "the data flow or reporting scheme...and the key individuals who will handle the data in this reporting scheme", as required by QAMS-005. If the information is contained in another document then the appropriate references should be made. | | | |

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| 67. | Page A-17, Sec. 8.4, Par. 0, Sen. 5: This sentence seems to indicate that suspect data will be flagged only if the evaluation indicates that the suspect data have been included in HEIS. All suspect data should be flagged according to approved procedures and the qualifiers carried into HEIS along with the data. | | | |
| 68. | Page A-19, Sec. 12.0: The specific procedures to assess data precision and accuracy are not included in this section of the QAPjP as required by QAMS-005. The abstract of QAMS-005 states, "All QAPjPs must describe procedures which will be used to document and report precision, accuracy, and completeness of environmental measurements." A reference is made to section 5.1.10 of the work plan although this section does not contain the specific information required. | | | |
| 69. | Page C-2, Sec. 2.1: Validated sample analyses is listed as a type of data to be collected. Other types of analytical and measurement data such as field screening data, physical properties, and unvalidated sample analyses are not mentioned as data to be collected and the associated controlling procedures are not described. | | | |