RESPONSE TO U.S EPA and OHIO EPA COMMENTS ON DRAFT REMEDIAL ACTION WORK PLAN FOR RADON CONTROL SYSTEM (RCS) PHASE 1 OPERATION

OEPA COMMENTS

General Comments

1. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: na Pg #: na Line #: na Code: E
Original Comment #:
Comment: The document does not include line numbers which aid during the review of documents. Line numbers also facilitate quick reference during comment resolution.

Response: Line numbers have been added to the enclosed revised draft Remedial Action Work Plan

2. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: na Pg #:na Line #: na Code: C
Original Comment #:
Comment: Will back-up power generation be available for phase 1 RCS operation? If not, what contingencies will be in place for loss of power scenario? What are the "fail safe" positions of valves and dampers to minimize environmental impacts during a power failure.

Response: An emergency diesel generator is located on a pad just north of the RCS. If main power is lost, the emergency generator will automatically start up to provide uninterrupted power to the RCS. All valves, dampers, and other controls will operate normally under back-up power.

Specific Comments

3. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.2 Pg #: 1 Line #: na Code: C
Original Comment #:
Comment: During Phase 1 Operations, when would discharge to the stack be necessary?

Response: To the extent practical, the RCS will be operated in a 'recycle' mode, where air withdrawn from the silos is passed through the RCS and discharged back into the silos, during Phase 1 operation. Treated air will be discharged through the stack only when necessary to maintain necessary negative pressure in the silos, such as penetration and modification of the silo manways, or when responding to changing flow or temperature conditions.

4. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.2 Pg #: 1 Line #: na Code: C
Original Comment #:
Comment: The text references using "temporary flexible hose" to connect the silos to the RCS. What material will be used for these hoses?

Response: The equipment specification for the flexible hose specifies that the hose will be comprised of a synthetic tube, reinforced by a synthetic fabric and wire helix and covered with a wrapped synthetic cover.

5. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.2 Pg #: 3 Line #: na Code: C
Original Comment #:
Comment: The text states that up to 500 cfm from each silo may be exhausted. Does this mean that 1000 cfm could be discharged form the stack during Phase 1 operation?

Response: The design for Phase 1 Operation of the RCS is based upon withdrawing up to 500 cfm from each silo, for a total maximum flow rate of 1000 cfm. As stated in the response to OEPA Comment Number 3, the RCS will be operated in a 'recycle' mode, where air withdrawn from the silos is passed through the RCS and discharged back into the silos, during Phase 1 operation. Treated air will be discharged through the stack only when necessary to maintain necessary negative pressure in the silos, such as penetration and modification of the silo manways, or when responding to changing flow or temperature conditions.

6. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.2 Pg #: 3 Line #: na Code: C
Original Comment #:
Comment: The referencing of the unapproved Remedial Design Package is unacceptable for this document. Either include the actual text referenced or reference approved documents.

Response: The Remedial Design Package was conditionally approved by U.S. EPA January 9, 2001. Responses to all comments accompanying U.S. EPA conditional approval, as well as to comments received January 5, 2001 from OEPA, were submitted April 5, 2001. Conditional approval of the RD Package was received from OEPA May 8, 2001, subsequent to the issuance of this comment on the draft RA Work Plan.

7. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.3 Pg #: 5 Line #: na Code: C
Original Comment #:
Comment: Provide process flow and mass balance diagrams for this section.

Response: A process flow schematic for RCS Phase 1 operation is provided in Figure 1-1 of the RA Work Plan. Detailed Process Flow Diagram (PFD) drawings from the RD Package depicting Phase 1operation have been added as an appendix to the RA Work Plan. Piping and Instrumentation Diagrams, and Heat and Material Balances are provided in the RD Package.

8. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.3 Pg #: 5 Line #: na Code: C
Original Comment #:
Comment: Indicate how the "make-up air" flow will be accounted for in emission calculations.

Response: Make-up air will only be introduced as required to maintain necessary pressure in the fan exhaust header, and is not expected to have measurable effect on discharge radon concentrations.. The Programmable Logic Controller will record measurements of the actual make-up air flows.

9. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.6 Pg #: 6 Line #: Code: C
Original Comment #:
Comment: Do the by-pass dampers by-pass the exhaust dampers and the RCS, discharging directly to the atmosphere?

Response: No. As depicted on Figure 1-1, the bypass dampers bypass the main exhaust dampers to increase flow to the RCS in response to reaching the high-high pressure setpoint. The outlet of the bypass damper discharges into the duct leading to the RCS.

10. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.6 Pg #: 6 Line #: Code: C
Original Comment #:
Comment: Is back flow control provided in the event of a shut down?

Response: Yes. Backflow preventers are installed at the makeup air inlet and at building ventilation inlets.

11. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.6 Pg #: 7 & 8 Line #: Code: C
Original Comment #:
Comment: Provide larger drawings for Exhibit 1-2.

Response: Larger drawings, now numbered as Figure 1-1, are included in the enclosed revised draft Remedial Action Work Plan.

12. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.6 Pg #: 9 Line #: na Code: C
Original Comment #:
Comment: Positive pressure relief valve unmonitored, directly to atmosphere is not acceptable. Provide instrumentation to indicate when valve is open and/or duct to stack.

Response: Comment acknowledged. DOE agrees with the need to provide instrumentation to indicate when the relief valve is open and/or ducting the discharge of the relief valve to the RCS exhaust stack. This design issue has been identified for evaluation as part of the "due diligence" review of the AWR design during the contract transition process. This review will identify the specific means of addressing the pressure relief valve. These specifics, as well as any other impacts to the approved Remedial Design, will be submitted to OEPA and U.S. EPA for review through the Design Change process upon completion of the Due Diligence review. The schedule for submittal of the necessary revisions to the RD documentation will be identified in the revised AWR Project RD/RA schedule, to be provided to OEPA and U.S. EPA for review by October 1, 2001.

13. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.9 Pg #: 10 Line #: Code: C
Original Comment #:
Comment: The heating air should always be treated by the carbon beds, not discharged directly through the HEPA filters.

Response: Heating air used to regenerate one of the carbon beds will not be discharged through the HEPA without being treated for radon removal.. Radon removal will be accomplished by either routing the heating air through the remaining carbon beds, or by isolating the bed being dried until it has been verified that the radon has decayed.

14. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.10 Pg #: 11 Line #: na Code: C
Original Comment #:
Comment: Explain how "bag-in/bag-out" technology minimizes the potential for releases.

Response: Bag-in/bag-out technology involves filter housing arrangements that allow new filter elements to be installed, and spent elements to be withdrawn, from the filter housing without being exposed to the atmosphere. The elements being replaced are contained within a sealed containment bag so that neither the contaminated filter element nor the contaminated filter housing is exposed to the atmosphere. This arrangement eliminates the chance of particulate release during filter change-out.

15. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4 Pg #: 12 Line #: na Code: C
Original Comment #:
Comment: The Remedial Design Package is not approved, do not reference.
Response: See response to OEPA Comment No. 6

16. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4.1 Pg #: 12 Line #: Code: C
Original Comment #:
Comment: Provide detailed drawings of air emissions control.

Response: Air emission control equipment is depicted in detail on the Process Flow Diagrams which have been added as an appendix to the enclosed revised draft RA Work Plan.

17. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4.1 Pg #: 13 Line #: Code: C
Original Comment #:
Comment: State the radon emission limits that will used for this project.

Response: Detailed emission estimates, dispersion modeling of offsite impact of estimated radon emissions from AWR operations, and initial stack monitor setpoints, are documented in the RD Package. Detail concerning the stack monitor setpoints, and their basis, has been added to Section 1.4.1 of the enclosed revised draft RA Work Plan.

18. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4.1 Pg #: 13 Line #: Code: C
Original Comment #:
Comment: If fence line radon concentration increase by 0.5 pCi/L, how will operations be changed to reduce fence line concentrations?

Response: The process control system will initiate automatic shutdown of the RCS at a level equating to 2.5% of the 0.5pCi/l criterion. This control scheme will automatically shutdown the RCS well before emissions reach a level that would result in a 0.5 pCi/l increase in fenceline radon concentrations.

19. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4.1 Pg #: 13 Line #: Code: C
Original Comment #:
Comment: Define "selected radon monitors". How are the monitors selected?

Response: The selected radon monitoring locations are: KNE, KSE, KNW-A, KSW-A, RALLY4, AMS-2, AMS-4, AMS-5, AMS-6, and AMS-7. Headspace concentration data from Silo 1 and Silo 2 are also available. The KNE, KSE, KNW-A, and KSW-A, and headspace locations were selected based on their proximity to the silos and existing signal cable and communications network. In general, the RALLY4, AMS-2, AMS-4, AMS-5, AMS-6, and AMS-7 locations were selected based on their location relative to the silos and/or the site boundary in combination with the relative expense and ease of installing phone lines to the locations. The FEMP is currently evaluating wireless data collection technology that may allow data from additional radon monitoring locations to be posted to the extra-net site. Any changes to radon data reporting on the extra-net site will be communicated to the agencies through the IEMP reporting process.

20. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3 Pg #:17 Line #: Code: C
Original Comment #:
Comment: The Full Scale Mockup System requires additional information, including details on how FSMS will demonstrate operability of key equipment, and when such demonstrations will be adequate to justify start-up of actual AWR equipment.

Response: The path forward for the AWR Project is currently being reevaluated by DOE, Fluor Fernald, Inc. and Foster Wheeler Environmental Corporation. This reevaluation includes analysis of aspects such as contract mechanisms, operational and technical design issues and resulting schedule impacts. A number of Transition Teams have been chartered to address key aspects of the AWR Project in the transition from the current contract approach. One of these transition teams is chartered with evaluation of operational issues, including the necessary scope of the Full Scale Mockup program. The results of this evaluation, including the specific issues identified by OEPA in this comment, will be documented in a Full Scale Mockup strategy document, which will be provided to OEPA and U.S. EPA for review prior to initiation of FSM operations.

21. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #:23 Line #: Code: C
Original Comment #:
Comment: The date for submittal of draft RAWP for Waste Retrieval Operations allows for only 29 days to include information from FSM operability demonstration. (August 1 to August 30, 2002). Revise/review milestone dates.

Response: Comment acknowledged. A key product of the transition evaluations discussed in the previous comment response will be a revised baseline schedule for completing the construction, start up, and operation phases of the AWR Project. Based upon this schedule, the milestones proposed in the draft RA Work Plan will be reevaluated. Revised milestones will be identified in the revised AWR Project RD/RA Schedule, to be provided to OEPA and U.S. EPA for review by October 1, 2001.

U. S. EPA COMMENTS

GENERAL COMMENTS

1. Commenting Organization: U. S. EPA
Section #: na Pg #: Not applicable (NA) Line #: NA
Original Comment #: 1
Comment: The RAWP does not address how a limited success or failure of one or more *"critical aspects of AWR operations"* would be addressed. It is also not clear and would seem prudent that the FSMS testing program should permit modifications to the FSMS as needed, hopefully producing a tested and proven retrieval system that is directly transferable for actual waste retrieval.

Response: The path forward for the AWR Project, including the scope and schedule of Full Scale Mockup testing is currently being reevaluated by DOE, Fluor Fernald, Inc. and Foster Wheeler Environmental Corporation. This reevaluation includes analysis of aspects such as contract mechanisms, operational and technical design issues and resulting schedule impacts. Fluor Fernald has chartered a number of Transition Teams to address key aspects of the AWR Project in the transition from the current contract approach. One of these transition teams is chartered with evaluation of operational issues, including the necessary scope of the Full Scale Mockup program. The results of this evaluation, including then specific details identified in U.S. EPA's comment, will be documented in a Full Scale Mockup strategy document. This document will be provided to OEPA and U.S. EPA for review prior to initiation of FSM operations.

2. Commenting Organization: U. S. EPA
Section #: 4 Pg #: 23 Line #: NA
Original Comment #: 2
Comment: Considering the closeness of the August 1 and 30, 2002 milestone dates, and the aggressiveness of such a schedule, U.S. DOE and the regulators should discuss and agree upon an appropriate set of milestone dates.

Response: Agreed. A key product of the transition evaluations currently underway will be a revised baseline schedule for completing the construction, start up, and operation phases of the AWR Project. Based upon this schedule, the milestones proposed in the draft RA Work Plan will be reevaluated. Revised milestones will be identified in the revised AWR Project RD/RA Schedule, to be provided to OEPA and U.S. EPA for review by October 1, 2001.

SPECIFIC COMMENTS

3. Commenting Organization: U. S. EPA
Section #: 1.3 Pg #: 3 Line #: NA
Original Specific Comment #: 1
Comment: This text discusses control of RCS Phase 1 operation. However, the text does not discuss whether standby power will be available in the event of a power outage during operation of the RCS. The text should be revised to address emergency procedures for power outages.

Response: An emergency diesel generator is located on a pad just north of the RCS. The emergency generator will provide back-up power to the RCS. These details have been added to Section 1.3 of the enclosed revised draft RA Work plan.

4. Commenting Organization: U. S. EPA
Section #: 1.3.12.1 Pg #: 11 Line #: NA
Original Specific Comment #: 2
Comment: The text states that "during RCS Phase 1 operation, condensate will be sampled and transferred to the FEMP AWWT facility after verification that the liquid meets the AWWT acceptance criteria." It is not clear what will be done with this condensate if it does not meet the Advanced Wastewater Treatment (AWWT) acceptance criteria. The text should be revised to clarify this matter.

Response: Since the only stream being treated by the RCS during Phase 1 operation, is recirculated silo headspace air, the only contaminant expected to be present in the condensate is radon, which will be allowed to decay prior to sampling. For this reason, there is little potential that the condensate will not meet the AWWT acceptance criteria. In the unlikely event that a batch of condensate were to exceed the acceptance criteria, it would be transferred to an available tank (e.g. filtrate tank) for storage pending transfer to one of the TTA tanks for use as sluicing water during waste retrieval. Section 1.3.12.1 has been revised to include additional detail.

5. Commenting Organization: U. S. EPA
Section #: 1.4.1 Pg #: 12 Line #: NA
Original Specific Comment #: 3

Comment: The text states that "the monitor will be located after a sufficient length of straight duct downstream of the HEPA filters to ensure that the distribution of any remaining particlulates in the stack is uniform." The text then states that "the probe assembly fits into the stack and has the capacity for measuring stack flow and for withdrawal of an isokinetic sample." However, it is not clear (1) whether the probe will be located in the duct or in the stack, (2) whether a sample will be collected from the stack or the duct, and (3) how the flow rate of the sample will be kept the same as the flow rate in the duct unless a sampling pump is used. The text should be revised to clarify these matters.

Response: Both the sampling rake and the probe utilized for measurement of stack flow, are located in the exhaust stack. The sampling system is equipped with a flow controller that sends a signal to the sampling pump to match the flow rate of the sample with the flow in the stack. The referenced text in the RA Work Plan has been revised to clarify these matters.

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