

Change Number M-16-93-01	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date Jan. 25, 1994
Originator Julie Erickson		Phone 376-3603
Class of Change <input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Project Manager <input type="checkbox"/> III - Unit Manager		
Change Title Effluent Pipeline Expedited Response Action		
Description/Justification of Change Add to the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) the following milestone: M-16-80 Submit to the U.S. Environmental Protection Agency and the State of Washington Department of Ecology the Engineering Evaluation/Cost Analysis (EE/CA) for 100 Area Reactor Effluent Pipeline Removal. <div style="text-align: right;">Due: September 1994</div> <div style="text-align: center;">  MAR 17 2003 EDMC </div>		
Impact of Change The action should eliminate the physical and potential radiological hazards associated with deteriorating conditions of the pipelines. Broken sections of the pipeline could become a physical hazard to tribal and recreational uses of the river.		
Affected Documents Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan, Appendix D, Work Schedule.		
Approvals <u> X </u> Approved <u> </u> Disapproved This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994. John Wagoner _____ January 25, 1994 DOE Date Gerald Emison _____ January 25, 1994 EPA Date Mary Riveland _____ January 25, 1994 Ecology Date		

Effluent Pipeline Expedited Response Action

Action

Removal and/or stabilization of the 100 Area Reactor river discharge lines and outfall structures. The action should eliminate the physical and potential radiological hazards associated with deteriorating conditions of the pipelines. Broken sections of the pipeline could become a physical hazard to tribal and recreational uses of the river.

Background

The river discharge lines were constructed as part of each reactor area process effluent system and operated until the associated reactor was shut down. The pipelines are under or on the river bed and need to be stabilized or removed. The pipelines are no longer in use and information indicates the pipes' structural integrity is poor. Additionally, residual contamination is present primarily as scale inside the pipelines. In 1986 the radiological and physical characteristics of the pipelines were assessed. The location, size, and number of the pipes were verified and the conditions assessed. It was found that pipe segments were missing from the 100-F pipelines, which were later discovered downriver. All pipelines at the time were suffering from the deteriorating conditions from river action. The pipes and their anchors were being undermined and will eventually give way.

Health Physics surveyed the pipes and analyzed sediments and scraping samples to determine the radionuclides inventory. The predominate isotopes in the pipelines were europium-152 and -154. Most of the activity seemed to be fixed within the rust on the interior pipe surface from which the scrapings were collected. Sediment samples indicated that isotopic concentrations were less in the sediment than in the pipe scrapings. The contact dose rate on the outside of the pipe surface was zero. The contact dose rate on the interior surface was less than 1 mrem/h.

Scope

Engineering studies will be conducted to evaluate the alternatives for stabilization or removal of the river discharge pipelines. These studies will follow the Expedite Response Action non-time critical implementation pathway. Studies will consider the ecological and human health risks associated with in-place stabilization or removal of the pipes. Additionally, the permitting requirements will also be evaluated to determine schedule and cost impacts.

Assumptions

- Cost and schedule for pipeline and outfall removal will be addressed in the EE/CA.
- A remedial alternatives risk assessment will be performed.

Schedule

- M-16-80 Prepare and issue the EE/CA study by September 1994.

Vent Pipe Removal and Eliminate Surface Contamination at D-Island

Action

Actions include A) removal of D-Island and 100-D Reactor river effluent pipeline ventilation pipes; B) removal of miscellaneous speck contamination identified during D-Island surveillance; and, C) survey for speck contamination along river banks in the 100 Area. The D-Island and southern shoreline river banks (while posted for no trespassing) are readily accessible to the public. The objective is to remove radiological hazards as an additional safety precaution.

Background

94131318.1930

The 100-D Reactor was outfitted with two process effluent lines, both 42 inches in diameter, that traversed under a channel of the river, crossed an island, and discharged into the main channel of the Columbia River. The effluent pipeline has approximately 40 one-inch T-shaped vent pipes extending one to 3 feet above the island. These pipes are underwater, except at periods of low water. During high water periods, river water has flushed contamination from the pipes on to D-Island. Previous surveys (going back to 1978) have found surface contamination on the island and the vent pipes contain low levels of radioactive contamination and could be the source of the D-Island speck contamination. To gain a more concise understanding of the problem, Westinghouse Hanford Company conducted a radiological survey from April 12 through April 28, 1993, of approximately 50% of the island that surrounds the vent pipes. The survey was conducted using sodium iodide detectors and utilizing the USRADS. A total of 106 radioactively contaminated particles was identified and removed. The suspected source of the contamination has been identified as the vent pipes; however, there has been some speculation that other sources may be involved. Similar types of contaminated particles have been detected and removed from the southern shoreline of the river downstream from the D-Island.

Additionally, as part of the 100 Area-wide operable unit investigations, a shoreline radiological survey has been conducted along 8.3 miles of the 100-HR-3 operable unit shoreline. A total of 6,850 data points was logged, and six small areas of contamination were detected and removed. No additional contamination areas were detected.

Scope

Activities include the following:

- A) Removal of the vent pipes during the next low-river stage. Required permits have been requested and should be in place by fall when the river levels are expected to drop. Approximately 6 to 12 inches of cobbles, rubble and sediment will be excavated at each vent pipe, and the pipe cut and capped. Clean material (if material removed is contaminated) will then be backfilled into the remaining hole.
- B) A radiological survey will then be conducted for the entire D-Island using the USRADS during the low-river stage and contamination, if any, will be removed.
- C) Resurvey of D-Island within 24 months of the removal action. Future need for surveys will be evaluated based on the results of the resurvey.
- D) Due to the stakeholder interest in this action U.S. Department of Energy, Richland Operations Office will notify the Regulators 5 days prior to any field work on D-Island.
- E) Perform a periodic survey of the 100 Area shoreline for radiological contamination, consistent with the results of the Comprehensive Columbia River Study initiated in 1994.

Description/Justification of Change (Continued)

E) Perform a periodic survey of the 100 Area shoreline for radiological contamination, consistent with the results of the Comprehensive Columbia River Study initiated in 1994.

Assumptions

- Removal actions can only be conducted during low river levels.
- Contamination found during future radiological surveys will be picked up at that time.
- Shoreline surveys will be conducted as part of the Pacific Northwest Laboratory routine monitoring program.
- Shoreline surveys will be between the high- and low-water marks.

Schedule

- D-Island vent pipes were removed and the main effluent pipe was plugged in October 1993. Radiological surveys at D-Island were performed at that time. Additional D-Island radiological surveys will be conducted in the September to November 1994 time frame, after appropriate radiological thresholds for remediation have been established.

1991 DEC 14 10 46

9.6.7 Other Data Reporting Requirements

The TPA Strategic Data Management Plan (reference M-35-02) will identify what types of information the DOE will index and a schedule to accomplish the indexing. The indexes will be available to all parties. Depending on the information, the regulators may request the information either electronically and/or by hardcopy. The hardcopy information shall be provided by DOE within 10 days after receipt of written request.

9.6.8 EPA and Ecology Data

Analytical data that is developed by EPA and/or Ecology and is of value to the three parties will be made available in the appropriate media to the three parties. The regulator(s) developing the analytical data shall provide the data in a format suitable for data storage and retrieval. Other data or information requests will be reviewed and handled on a 'case-by-case' basis directly by the parties involved.

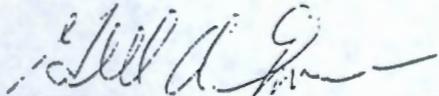
9.6.9 Data Management Agreements

The Data Management Unit Manager meeting will provide the forum for addressing data management needs and issues. Meetings will be held with EPA and Ecology at a frequency agreed to by the parties.

IT IS SO AGREED:

Each undersigned representative of a Party certifies that he or she is fully authorized to enter into this Agreement and Action Plan and to legally bind such Party to this Agreement and Action Plan. These change requests and amendments shall be effective upon the date on which this amendment agreement is signed by the Parties. Except as amended herein, the existing provisions of the Agreement shall remain in full force and effect.

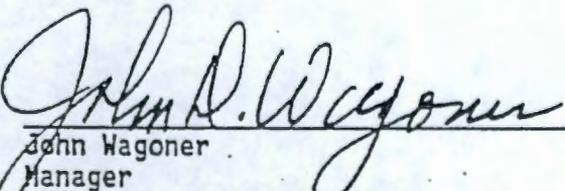
FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:



Gerald Emison
Acting Regional Administrator
Region 10
U.S. Environmental Protection Agency

1-25-94
Date

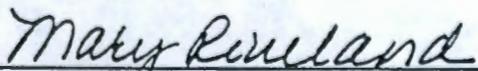
FOR THE UNITED STATES DEPARTMENT OF ENERGY:



John Wagoner
Manager
U.S. Department of Energy
Richland Operations Office

1/25/94
Date

FOR THE WASHINGTON STATE DEPARTMENT OF ECOLOGY:



Mary Riveland
Director
State of Washington
Department of Ecology

1/25/94
Date

5002 RECEIVED