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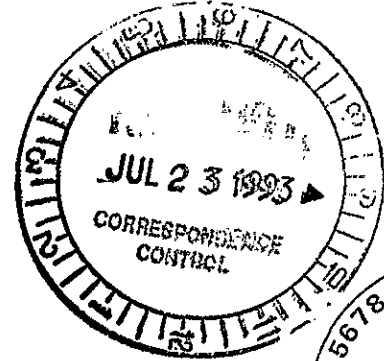
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

JUN 23 1993

Reply To
Attn Of: HW-124



Leo E. Little, Assistant Manager
Environmental Management
U.S. Department of Energy
P.O. Box 550, A3-42
Richland, Washington 99352

Re: Action Memorandum: Expedited Response Action Proposal;
Riverland Site, U.S. Department of Energy Hanford Site,
Richland, Washington

Dear Mr. Little:

This Action Memorandum constitutes approval of the U.S. Department of Energy's (Energy) proposed removal action as outlined in the Engineering Evaluation/Cost Analysis (EE/CA) for the Riverland Site.

Public comments on the EE/CA were received and a response has been issued by the U.S. Environmental Protection Agency (EPA). The public raised concerns over the high costs associated with what they perceived to be a minimal scope of work. In addition, the Yakima Indian Nation expressed concerns regarding both cultural and ecological impacts this project may produce.

Public perception is that the cost of this action is too high for the environmental benefit. The approval to proceed is being granted to align with the recommendations for unrestricted land use for this area made by the Future Site Uses Working Group in their final report. This action is also being taken in order to facilitate land transfer. The Riverland Site is located between the North Slope area and the Arid Lands Ecology. Energy has committed to clean up of these two areas by October 1994, and it is reasonable that the Riverland Site should also be completed during this time frame.

On June 16, 1993, representatives from EPA, Energy, and the Washington State Department of Ecology (Ecology) accompanied representatives from the Yakima Indian Nation on a tour of the Riverland Site. As a result of that discussion, we have

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determined that a removal would be consistent with the ecological or cultural resources identified by the Yakima Indian Nation.

This removal action may remove any further threats to the environment from this Site and may constitute the final action taken at the Riverland Site. If this is the case, a Record of Decision (ROD) will need to be issued to address this operable unit. Such a ROD could be combined with another operable unit, such as North Slope, to minimize the amount of administrative actions.

1. PURPOSE

The purpose of this action is to mitigate any threat to public health and the environment from the Riverland Site and may be the final remedial action taken for the Site and the 100-IU-1 Operable Unit.

II. BACKGROUND

Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), EPA proposed the 100 Area of the Hanford Site for inclusion on the National Priorities List (NPL) on June 24, 1988. In November 1989, the 100 Area was included on the NPL.

A. Site Description

The Riverland Site, part of the 100-IU-1 Operable Unit, is located west of Highway 240 and north of Highway 24 in the northwest corner of the Hanford Site. The area is about 13 square miles. It formerly contained a large rail yard where railcars were maintained, cleaned, and decontaminated during Hanford's early years. It operated from 1943 to 1957. The railcar maintenance shop included maintenance pits where the railcars were radiologically decontaminated, as well as two anti-aircraft gun emplacements, a commercial fish farm, military exercise positions, and several homesteads.

In 1963, the rail yard and anti-aircraft facilities were demolished, cleaned up, and the sites decommissioned; however the extent of cleanup was not well documented. Field activities conducted during the Expedited Response Action (ERA) identified diesel fuel and pesticide contamination which will require cleanup. In addition, the site was used for military maneuvers and will require a munitions survey as part of the action, due to the possible presence of live rounds of ammunition.

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Rail Yard Site

The Riverland Rail Yard was constructed in 1943 to support Hanford construction and operation activities and was the terminus of the Milwaukee Railroad. All rail freight destined for Hanford was delivered to this yard during the early years of the Hanford Manhattan Engineering District Project. There was a 12,000 gallon underground diesel fuel storage tank and distribution piping system.

The Riverland Rail Yard Maintenance Facility (Building 6718) operated from 1943 until October 1954 when operations began in the 1100 Area 1171 Building railroad maintenance facility. Railcar decontamination continued in the two maintenance pits until 1956.

Radioactive decontamination allowed railroad maintenance personnel to work on railcars and locomotives. Most decontamination activities concentrated on the wheels, axles, brake assemblies, bearing journal housings, and other rail vehicle undercarriage oil or grease-coated parts. Diesel locomotives also had the engine compartment, radiators, and fan housings decontaminated.

Contaminants common to the rail equipment were fission product particles (i.e., ruthenium, zirconium, niobium, iodine). Radiation monitoring personnel performed decontamination of the equipment using acetone-soaked adsorbent pads. This decontamination step removed the loose contaminants from the surface of the equipment. The bagged contaminated pads, gloves, and other materials were sent to the 200 West Area for burial.

Periodic maintenance floor pit cleaning consisted of brushing the walls with a broom and diesel fuel and rinsing with water. The rinsate drained through the pit floor drains into a large tile field.

Facility decontamination occurred about 1963. The Riverland Rail Yard facility structures were sold to the public. About 2 feet of soil covers the foundations. Followup radiological surveys in 1977, 1978, and 1993 revealed only natural background radiation levels.

Munitions Cache

The munitions cache received various military explosives in the 1970s. The explosives were remnants left from various military exercises in the area. The site consisted of a wooden box placed in a hole in the ground about 2 by 3 by 2 feet deep. On May 22, 1986, the box with contents were sent

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to the Yakima Firing Range for destruction. The empty hole is all that remains at the site.

Pesticide Container Site

A visual inspection found one homestead site containing a number of empty herbicide/pesticide containers. The condition of the containers suggests that they were placed there after the Hanford Project was well underway.

Other Potential Waste Sites

The Anti-Aircraft (AA) sites were established in 1951. Nike missile battery sites replaced the artillery sites beginning in 1954. Only a rock walkway and concrete step remnants remain at the H71 AA site. A few covered foundations and cleared areas remain at the H70 AA site. There are no visible signs of any hazardous waste locations.

Past military exercises have left discarded battery packs, communication wire, ammunition, and debris scattered across the southwest portion of the operable unit.

Debris piles, cisterns, irrigation pipe, and fence wire mark various homestead sites. These homesteads are eligible for inclusion on the National Register of Historic Places (36 CFR Sections 60 and 800).

There are remains of a commercial fish farm at the McGee Ranch site. There are many plastic-lined ditches with a connecting plastic pipe water distribution system.

B. Site Characterization

Site characterization activities included geophysical non-intrusive ground-penetrating radar (GPR) and electromagnetic induction (EMI) surveys, sample trenches, soil, and soil gas sampling. At the Riverland Rail Yard site, GPR and EMI surveys located the maintenance pits. The surveys further indicated that the underground fuel tank had been removed.

AA site GPR and EMI surveys were conducted only at the H70 AA site. The H70 AA site visual inspection found some man-made mounds. Three mounds were chosen based on their appearance. These surveys did not identify any anomalies to warrant further investigation. The H71 AA site visual inspection found only concrete steps and a rock walkway.

Based on the Riverland Rail Yard Maintenance Facility GPR surveys, concrete samples were taken at the uncovered floor drains. Background concrete samples were collected at a

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concrete pad north of the maintenance facility. The drainpipe was sampled about 43 feet south of the maintenance facility at the sewer line connection. The sample was from soil inside the pipe. Soil gas sample analysis confirmed the former location of the underground diesel fuel tank.

The soil analysis at the munitions cache and homestead pesticide/herbicide site indicated elevated levels of total petroleum hydrocarbons (TPH) diesel fuel (220 to 1,800 ppm), TPH heavier than diesel (motor oil) (2,210 ppm) at the rail yard site, and pesticide contamination (38 ppm) at the pesticide container area. Field radiological surveys of the Riverland Rail Yard did not detect radiation levels above natural background.

III.

THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

A. Present Conditions

The limited field investigations conducted at the site indicated cleanup action is required at the rail yard site and the pesticide container waste site. Sampling data, geophysical surveys, and visual inspections indicate no hazardous constituents are located at the other waste sites in the operable unit.

Energy is proposing two other cleanup actions in the 100-IU-1 Operable Unit. Since the area was used for military exercises and a live round of munitions was found during the limited field investigation, Energy is proposing that a munitions survey be conducted in conjunction with the cleanup. The U.S. Army Corp of Engineers (COE) will complete this task. Any munitions found during the survey will be marked and plans will be developed for subsequent removal.

Energy is also proposing to clean up the physical hazards associated with the site. The primary focus of this work will be to fill in the trenches at the commercial fish farm. In addition, Energy will remove a number of abandoned cars from the site.

The above actions are being taken to allow for potential release of the land for other uses. In general, public comments received on the project supported a no action alternative rather than a cleanup response. The public expressed major concern with the costs associated with the cleanup in comparison to the apparent low risk present.

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B. Applicable or Relevant and Appropriate Requirements

The cleanup action will be conducted in accordance with 40 CFR 300, Subpart E; the Hanford Federal Facility Agreement and Consent Order (part 3, Article XIII, Section 38); and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). In addition, this action will comply with the State of Washington Model Toxics Control Act (MTCA) cleanup standards (Chapter 173-340 WAC).

IV. PROPOSED ACTION AND ESTIMATED COSTS

Westinghouse Hanford Company (WHC), as the Energy contractor, prepared an EE/CA concerning technologies that were appropriate for the Riverland Rail Wash Site. Energy submitted the proposal for concurrent review by the regulator and the public. The EE/CA proposed four remedial alternatives. They are as follows:

A. NO ACTION ALTERNATIVE

The no action alternative will leave the operable unit as it is. This option is not acceptable since the characterization sample results exceed cleanup levels in certain cases.

B. OPERABLE UNIT CLEANUP ACTION LASER ALTERNATIVE

Cleanup activities will include the following:

1. Pesticide Can Site--Crush the pesticide cans and place in a waste drum for off-Site disposal. Perform field screening to define the area and depth of soil contamination. Excavate the contaminated soil and place in drums for off-Site hazardous waste disposal at an approved facility. Perform confirmatory sampling after completion of the removal activity.
2. Ordnance--Since a machine gun ammunition belt was found and the munitions cache held various discarded munitions, an ordnance survey will be performed by the COE. It will determine the existence/nonexistence of any additional ordnance in the operable unit. There is a slight possibility that some ordnance may be buried in the unit. Any ordnance found will be disposed of according to established U.S. Army ordnance disposal practices.

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3. Fill in munitions cache hole with clean soil.
4. Riverland Rail Yard Maintenance Facility--The cleanup goal is to reduce the diesel fuel residue to below 200 ppm. Cleanup activities will consist of excavating fill material from the wash pits and removing vitrified clay drain pipes and contaminated soils. The soil and pipe fragments will be bioremediated and the soil placed back into the excavation after confirmation samples indicate that contaminants in the soil are below regulatory levels. The xenon flash lamp will be used for concrete decontamination. The lamp raises the surface temperature of the concrete to approximately 1500°C in a short period of time, resulting in the removal of the total petroleum hydrocarbon contaminants. Perform confirmatory sampling after completion of the cleanup activity.
5. Landlord Cleanup--Perform a landlord cleanup of the operable unit. Landlord cleanup is defined as removing physical and non-hazardous constituents from the site as part of best management practices. The cleanup activities will include trash and debris removal. All waste will be disposed of at an appropriate waste disposal facility.

The estimated costs for this proposal is \$ 457,000.00. The high cost is associated with laser technology.

C. HAZARDOUS WASTE REMOVAL AND OFF-SITE DISPOSAL ALTERNATIVE

Activities will include the following:

1. Pesticide Can Site--Crush the pesticide cans and place in a waste drum for off-Site disposal. Perform field screening to define the area and depth of soil contamination. Excavate the contaminated soil and place in drums for off-Site hazardous waste disposal at an approved facility. Perform confirmatory sampling after completion of the removal activity.
2. Ordnance--Since a machine gun ammunition belt was found and the munitions cache held various discarded munitions, an ordnance survey will be performed by the COE. It will determine the existence/nonexistence of any additional ordnance in the operable unit. There is a slight possibility that some ordnance may be buried in the unit. Any ordnance found will be disposed of according to established U.S. Army ordnance disposal practices.
3. Fill munitions cache hole with clean soil.

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4. Riverland Rail Yard Maintenance Facility--Remove the concrete-lined pits and drain pipes. Send the total petroleum hydrocarbon contaminated concrete, soil, and pipes for off-Site hazardous waste disposal. Perform sampling of soil beneath the pits for diesel fuel contamination. Place any contaminated soil in the barrels for off-Site hazardous waste disposal at an approved facility. Perform confirmatory sampling after removal of contaminated materials from the site.
5. Landlord Cleanup--Perform a landlord cleanup of the operable unit. The cleanup activities will include trash and debris removal. All waste will be disposed of at an appropriate waste disposal facility.

The estimated cost for this cleanup alternative is \$ 448,000.00. The high cost of this alternative is associated with shipping all materials off-Site for disposal.

D. OPERABLE UNIT CLEANUP ACTION SANDBLASTING ALTERNATIVE

Cleanup activities are the same as cleanup option B with the exception that sandblasting will be used instead of laser technology to decontaminated the concrete areas.

The estimated cost of this alternative is \$ 227,500.00. The reduced cost on this alternative is choosing sandblasting over laser technology for the concrete decontamination. It should be noted, this alternative excludes the landlord cleanup from the cost estimates.

Implementation

Labor.....	\$ 40,600.00
Material and supplies.....	12,700.00
Analytical services.....	16,000.00
Off-Site disposal.....	5,700.00
Munitions survey.....	100,000.00
 SUB TOTAL.....	 \$ 175,000.00
30% Contingency.....	52,500.00
 TOTAL.....	 \$ 227,500.00
 Landlord cleanup.....	 add \$ 85,300.00
(not included in recommendation by EPA and Ecology)	

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V.

RECOMMENDATION

This decision document represents the selected removal (Option D, Section IV) action excluding the landlord cleanup portion of the alternative for the Riverland Site of the Energy Hanford Site located near Richland, Washington. The landlord cleanup section was removed from this action memorandum since EPA and Ecology have no authority to mandate cleanup of non-hazardous substances pursuant to CERCLA or MTCA. This proposal was developed in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), and the National Oil and Hazardous Substance Pollution Contingency Plan (NCP). This decision is based on the administrative record for this project.

EPA is the lead regulatory agency for this project. If you have further questions, please contact Dennis Faulk of EPA's Hanford Project Office at (509) 376-8631.

for Kathryn M Davidson
Randall F. Smith, Director
Hazardous Waste Division
EPA, Region 10

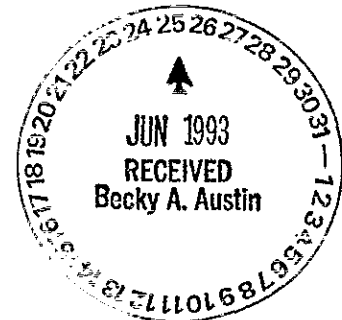
*
INS

Roger Stanley
Roger Stanley, Director
Nuclear and Mixed Waste Program
Washington State Department
of Ecology

June 21, 1993
Date

June 22, 1993
Date

- cc: Randall F. Smith, EPA
- George Hofer, EPA
- Andrew Boyd, EPA
- ~~Becky Austen~~, WHC
- Jack Donnely, Ecology
- Paul Pak, DOE
- Administrative Record



* INS - Tri Party Agreement Implimentation

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Author	Addressee	Correspondence No.
R. F. Smith, EPA R. Stanley, Ecology	L. E. Little, RL	Incoming : 9305567

Subject: ACTION MEMORANDUM: EXPEDITED RESPONSE ACTION PROPOSAL; RIVERLAND SITE,
U.S. DEPARTMENT OF ENERGY HANFORD SITE, RICHLAND, WASHINGTON

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