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U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

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Mr. Steve M. Alexander
Perimeter Areas Section Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336-6018

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352-0539

Dear Messrs. Alexander and Sherwood:

ENVIRONMENTAL RESTORATION PROGRAM STRATEGY FOR MANAGEMENT OF INVESTIGATION DERIVED WASTE (IDW)

The draft subject document is attached for review and comment. This revision to the IDW strategy is required per the U.S. Environmental Protection Agency letter to the Administrative Record (200-DF-1) from Ms. P. S. Innis, "Investigation-Derived Waste Disposal at the Environmental Restoration Disposal Facility (ERDF)," dated December 10, 1997.

Please return written comments to me by February 15, 1998. If you want to discuss this matter further or require additional information, please contact me at 373-6295.

Sincerely,

Owen Robertson

Owen C. Robertson, Senior Project Manager
Remedial Actions Project

RAP:OCR

Attachment

cc w/attach:
J. W. Donnelly, Ecology
P. S. Innis, EPA
F. V. Roeck, BHI

DRAFT

ENVIRONMENTAL RESTORATION PROGRAM STRATEGY FOR MANAGEMENT OF INVESTIGATION DERIVED WASTE

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TABLE OF CONTENTS

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MANAGEMENT OF INVESTIGATION DERIVED WASTE

1.0 PURPOSE

The purpose of this strategy is to establish a flexible approach to the management of investigation derived waste (IDW) while ensuring protection of human health and the environment. Storage and disposal of IDW will meet the applicable requirements established in the Washington State Dangerous Waste Regulations (Chapter 173-303 WAC) for *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) and *Resource Conservation and Recovery Act* (RCRA) sites at Hanford. As authorized by this strategy, Hanford IDW that meets the Environmental Restoration Disposal Facility (ERDF) waste acceptance criteria (WAC) and approval authorization is eligible for disposal in the ERDF

2.0 APPLICABILITY

This strategy applies primarily to IDW generated from site characterization and environmental investigations of past practice units regulated under CERCLA and RCRA. In addition to remediation wastes from past-practice sites, this strategy may apply to certain wastes generated during closure activities at inactive RCRA treatment, storage, and disposal (TSD) units at Hanford. Such wastes shall be evaluated on a case-by-case basis as agreed to by the U.S. Department of Energy, Richland Operations (RL), U.S. Environmental Protection Agency (EPA), and Washington State Department of Ecology (Ecology) also known as the Tri-Parties. Site managers shall strive to minimize the generation of IDW through proper planning of activities to reduce the need for special storage or disposal requirements.

This strategy applies to all waste resulting from sitewide groundwater monitoring activities, past-practice site characterization and environmental investigation including soil sampling, drilling, treatability studies, well construction, maintenance and abandonment activities. Groundwater and free liquids contained in groundwater slurries will be managed according to the Hanford Site purgewater agreement, "Strategy for Handling and Disposing of Purgewater at the Hanford Site, Washington" (DOE-90-ERB 073).

3.0 REGULATORY BACKGROUND

The final rule to the National Contingency Plan (NCP) (Federal Register, March 8, 1990, page 8756) provides guidance for removal actions conducted at CERCLA units as follows:

"...studies and investigations undertaken pursuant to CERCLA section 104(b), such as

activities conducted during the RI/FS, are considered removal actions (54 FR 13298, March 31, 1989). EPA's policy...is that removal actions will comply with ARARs to the extent practicable, considering the exigencies of the circumstances. Thus, the field investigation team should, when handling, treating or disposing of investigation-derived waste on-site, conduct such activities in compliance with ARARs to the extent practicable...."

Administrative requirements such as obtaining permits, documentation, reporting, and record keeping, are not applicable to actions undertaken at CERCLA units. RL will manage IDW in accordance with the substantive requirements of federal and state ARARs. With regard to IDW, the substantive portions of RCRA and Chapter 173-303 WAC are considered to be ARAR. Therefore, the substantive requirements associated with management of dangerous waste in containers will be complied with to the extent practicable. If one of the Tri-Parties concludes that such compliance is not practicable, it will seek to obtain agreement from the other Parties, and they will resolve any disputes in accordance with Article XVI of the Tri-Party Agreement as it pertains to CERCLA removal actions.

Investigation derived waste is defined as any waste generated as a result of conducting a CERCLA or RCRA past-practice investigation, treatability study or well construction, maintenance or abandonment activity. IDW may include but is not limited to: drilling mud; cuttings from test pit and well installation; materials from well maintenance, remediation and abandonment; purge water, soil, and other materials from collection of samples; residues (e.g., ash, spent carbon) from testing of treatment technologies; contaminated personal protective equipment (PPE); and solutions (aqueous or otherwise) used to decontaminate non-disposable protective clothing and equipment; or any waste resulting directly from CERCLA or RCRA past-practice investigation, treatability study, or well maintenance/ abandonment activity.

An Explanation of Significant Differences to the ERDF ROD and subsequent clarification letter issued to the Administrative Record, states that investigation-derived waste may be placed in the ERDF provided regulatory approval is gained and the waste acceptance criteria are met. A variety of wastes are produced as a result of activities associated with the Hanford cleanup effort which are authorized for disposal at ERDF. Since IDW generated during investigations of the operable units is similar in nature and contamination to the cleanup waste, EPA has authorized disposal of IDW at ERDF. The ERDF provides for safe and environmentally protective disposal of this material. IDW waste will be managed at the waste site or at a designated central storage area until final disposition (e.g., disposal at ERDF).

4.0 WASTE SITE IDENTIFICATION

In most cases, waste sites within a given operable unit will be identified in an associated work scope document. When site characterization and environmental investigation operations are conducted within a known or suspected waste site, all IDW will be collected and appropriately managed . When site characterization and environmental investigation operations are conducted

outside of or near the boundaries of a known waste site, discussion will be conducted between RL and the lead regulatory agency to determine the need for IDW collection.

Waste site boundaries within an operable unit shall be determined in concurrence with the lead regulatory agency. This determination will be initially based upon existing process knowledge and environmental monitoring data and then substantiated in the field with the use of field screening instrumentation if necessary. The actual waste site boundary, container storage location, and the need for soil piles and/or slurry pits, if any, will be agreed to and documented. A plan to conduct the activity and control waste will be utilized. This plan will be prepared by the task manager and will identify waste site boundaries, IDW storage and disposal points, if any, and requirements for IDW sampling.

5.0 COLLECTION OF WASTE

5.1 Investigation Conducted Within a Waste Site or Suspect Waste Site

When an IDW generating activity is conducted within a waste site or suspect waste site the resulting waste may be managed at the site or transferred to a centralized location. A plan to control the waste shall identify the waste site boundary, the required collection location and method, sampling requirements, and final disposition as agreed to by the lead regulatory agency. Waste collection will be performed pending receipt of analytical results to enable proper disposition of the waste. Only clean water will be utilized for dust control or equipment decontamination within the waste site boundary. The use of water shall be minimized.

5.2 Investigations Conducted Outside of a Waste Site

IDW generated outside a known or suspected waste site will not normally require collection, storage or sampling unless visual evidence or field screening indicates the potential presence of contamination or the project managers identify a need to do so. If collection is required for IDW outside the waste site boundaries, samples will be analyzed only for the constituents of concern identified by the project managers.

Waste requiring sampling will have well defined boundaries (e.g. soil piles). Should the analyses indicate contamination, waste stored on the soil surface will be excavated to a depth to ensure all contaminated material is removed. Contaminated waste will be contained and stored onsite or at a centralized location until it is dispositioned. Slurry pits and liquid discharged to the soil outside the waste unit boundary will normally be allowed unless the area becomes suspect as described above. Liquid, semi-liquid, and miscellaneous wastes from suspect areas will be containerized and stored on-site or at a centralized location until it is dispositioned.

6.0 WASTE CHARACTERIZATION

In most cases, samples will be routinely collected as part of the investigation process. These samples will be submitted for analysis and will provide the basis for characterization. The results from these analyses, or other documentation as agreed upon by the unit managers, will be utilized to characterize IDW materials. If additional data are needed to characterize IDW, samples will be collected and analyzed for the constituents of concern as identified in the associated work plan, treatability test plan or equivalent document. Process knowledge and/or waste characterization information will be used in conjunction with field screening to identify those wastes that would be designated as characteristic or listed dangerous waste per WAC 173-303.

For solid material generated within the boundaries of a waste site, the toxicity characteristic of the waste may be determined if necessary. If a total analysis of the IDW demonstrates that individual analytes are present in concentrations that could not exceed the toxicity criteria, the IDW in question will not be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) nor be assigned the toxicity characteristic waste code. If the total analysis indicates concentrations sufficiently high enough to possibly fail the TCLP, the test will be performed on the material and waste codes will be assigned accordingly.

In addition to required chemical analysis, samples will be collected and screened for radiological constituents. Screening for radiological contamination will be performed as indicated in the work plan or equivalent document. Waste analysis to identify radiological constituents will be performed when necessary. The above actions, along with the use of existing process knowledge, will serve to identify major risks and to protect human health and the environment during these specific types of activities.

Under certain conditions soil samples are not collected for chemical analyses because the area in question is not expected to be contaminated. For example, these conditions may be encountered during drilling operations install groundwater monitoring wells or when test pits are constructed for the purpose of collecting background environmental samples. In these cases, soil will be accumulated at the point of generation provided that evidence does not justify otherwise (as discussed in Section 5.2).

In accordance with the Purgewater Agreement, IDW consisting of purgewater from the 200 West Area groundwater plume will be collected and stored. IDW consisting of soil from the unsaturated zone in the 200 West Area will require collection when carbon tetrachloride levels exceed the characteristic dangerous waste designation limit of 500 ppb. Soil IDW containing less than 500 ppb carbon tetrachloride will not require collection under this strategy, nor will such media be considered to "contain" a listed dangerous waste.

7.0 WASTE MANAGEMENT DETERMINATIONS

This section provides the basis upon which IDW management determination will be made. IDW will be radiologically released when the waste meets applicable release levels. Waste that is above established release levels and meets the waste acceptance criteria will be transported to ERDF for disposal. Non-radioactive IDW containing hazardous constituents below dangerous waste designation limits and Model Toxic Control Act (MTCA), Method B, soil cleanup standards will be disposed to the ground at or near the point of generation. Waste that exceeds dangerous waste release or MTCA Method B limits and meets the ERDF waste acceptance criteria will be disposed at ERDF. IDW that does not meet the ERDF WAC will remain on the waste site or in a centralized storage area pending disposal at an appropriate facility.

The following sections describe management of IDW prior to final disposition (e.g., disposal at ERDF).

7.1 Soils

Soils will be characterized as described in the appropriate site-specific plan to control the waste and Section 6.0 of this strategy. Process knowledge may be used to manage soils as clean material such as when drilling boreholes or digging test pits outside of a waste site. In these cases, soil will be collected in stock piles at the point of generation provided that evidence does not justify otherwise (as discussed in Section 5.2). Soils may be placed back into the test pit upon completion of the activity.

Contaminated or suspect contaminated soils shall be managed to mitigate the spread of contaminants to the environment, e.g. placed on a tarp, containerized. Upon completion of sampling test pit soils may be returned to the excavation. Containers of soil above dangerous waste designation limits, whether generated inside or outside a waste site boundary, will be managed in accordance with Section 8.0 of this strategy.

7.2 Slurry Waste

Slurry waste includes groundwater slurries and drilling fluids, but excludes groundwater and free liquids separated from groundwater slurries. Slurry waste generated within a waste site boundary will be containerized and sampled as described in the waste control or sampling plan. Containerized slurry waste will be appropriately managed on-site or in a designated storage area pending analytical results. Containerized slurry waste that cannot be chemically/radiologically released will be appropriately managed in accordance with Section 8.0 of this strategy.

Slurry waste generated outside a waste site boundary may be disposed in a pre-excavated, lined (porous membrane liner) slurry pit located adjacent to the drill rig if the area under investigation is not within an area requiring purgewater management as described in the Hanford Site purgewater

agreement, "Strategy for Handling and Disposing of Purgewater at the Hanford Site, Washington" (DOE-90-ERB 073). Slurry pit locations must be outside the exclusion zone and will be documented.

7.3 Decontamination Fluids and Other Liquid Materials

Decontamination fluids (water and/or non-hazardous cleaning solutions) and other liquid materials (groundwater, purgewater, and free liquids separated from groundwater slurries) generated from operations conducted within the boundaries of a waste site or suspect waste site will be collected and managed in accordance with Section 8.0 of this strategy or the Hanford Site purgewater strategy as appropriate.

Decontamination fluids and other liquid materials generated from operations conducted outside the boundaries of a waste site or suspect waste site will be managed as non-contaminated unless the area under investigation is suspect as described in Section 5.2 of this strategy. If not a suspect area, these wastes may be disposed to the ground at or near the point of generation. These waste disposal locations will be documented.

7.4 Well Waste

Waste generated as a result of well drilling, sampling, maintenance, remediation, decommissioning, abandonment or other related activities that are part of a CERCLA, RCRA past-practice or RCRA TSD activities (generates data that may be used for past-practice site decisions), shall be managed as IDW. Waste will be managed as described above for on-site or off-site activities, contaminants present, and specific waste form, i.e. solid or liquid.

7.5 Treatability Waste

Waste resulting from treatability tests performed in conjunction with CERCLA or RCRA past-practice remediation site activities shall be managed as IDW. Waste will be managed as described above for on-site or off-site activities, contaminants present, and specific waste form, i.e. solid or liquid.

7.6 Miscellaneous Solid Waste

All miscellaneous solid waste (MSW) that is generated as a result of site characterization and environmental investigation efforts (e.g., rags, personnel protective equipment) and that has contacted potentially contaminated materials (contact MSW) will be segregated from soils, slurries, and liquids to the extent practicable. Contact MSW will be collected upon generation and managed in accordance with Section 8.0 of this strategy

Waste management determinations for contact MSW will be based on results obtained from

characterization activities. Where analytical data indicate that the dangerous and radioactive constituents are below levels of concern, contact MSW will be disposed of at an appropriate facility. If analyses indicate that contaminant limits are exceeded, the contact MSW will be disposed of as IDW at ERDF or other appropriate facility.

All MSW generated that has not contacted waste material (non-contact MSW) will be segregated from all other material generated at the unit and disposed in an appropriate facility.

8.0 CONTAINER MANAGEMENT

8.1 Storage Location

The Tri-Party Agreement has divided the Hanford Site into operable units based on the type of disposal units and characteristics of the waste disposed in a given area. Therefore, for the purposes of this strategy, the area of contamination will be defined as an operable unit as delineated in the Tri-Party Agreement, and for groundwater activities on a case-by-case basis. The location of a waste accumulation area within a given operable unit(s) will be negotiated and agreed upon.

Most of the generated IDW will be managed in accordance with the applicable plan to control waste for the operable unit from which the waste was generated. Waste will either be stored at the waste site or at a centralized storage area until analytical data is evaluated for proper waste designation. Most contaminated IDW will be disposed at ERDF if it meets the waste acceptance criteria. However, based upon field screening instrumentation and/or analytical data, it may be determined that it is appropriate to manage certain types of IDW at another approved facility, rather than at the ERDF.

8.2 Substantive Container Management Requirements

The federal and state regulatory requirements for management of containers are established at 40 CFR 264 Subpart I, WAC 173-303-630 and WAC 173-303-160. All containers of IDW that have been determined to pose a potential threat to human health and the environment will be managed in accordance with the applicable federal and/or state requirement(s).

8.3 Release Reporting

WAC 173-303-145 establishes the requirements for reporting releases of hazardous substances. Adherence to all other applicable or relevant and appropriate requirements for notification of releases of hazardous substances in excess of a specified reportable quantity is required.

9.0 DISPOSAL OF IDW

The IDW will be stored within an operable unit until the appropriate waste management decision has been made. Upon receiving the analytical results and profiling the waste, waste resulting from that action will be treated, stored and/or disposed as appropriate. Contaminated IDW that meets that ERDF waste acceptance criteria will be disposed of to ERDF. Liquids will be managed as described above. Miscellaneous material that does not require disposal in ERDF will be disposed in an appropriate solid waste disposal facility.

A case-by-case disposal determination shall be made in instances where IDW exceeds the ERDF WAC. In these instances, the IDW of concern shall be appropriately managed to minimize impacts to human health and the environment.

10.0 SPECIAL CIRCUMSTANCES

The RCRA and CERCLA project managers designated by the respective Tri-Party participants (DOE-RL, Ecology and EPA) shall have authority to negotiate IDW criteria not specified in this strategy. Any negotiations conducted outside of the scope of this strategy will only be conducted for unique situations where application of the existing scope of this strategy is impractical or otherwise inappropriate. Prior to implementation of any special IDW management action negotiated by project managers they will document the technical and regulatory justifications for their actions. If management of IDW is not conducted in accordance with this strategy and agreement on special management actions cannot be reached by the project managers, the IDW will be managed in accordance with Chapter 173-303 WAC until the issue is resolved.

Concurrence with language in RL or Contractor IDW procedures that are not addressed in this strategy will be the responsibility of the individual project managers during development of each unit's plan to control waste and based upon site specific conditions.

The provisions of this strategy shall be periodically reviewed by the signatory parties or their designees for purpose of amending the document if it is deemed necessary. If there is a significant need by any of the signatory parties for revision at any time, the strategy may be revised and approved by them.

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DOE-RL Date

_____

EPA Date

_____

Ecology Date