Los Alamos National Laboratory

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JUL 12 1995

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Date: July 7, 1995
Refer to: EM/ER:95-309

Mr. Benito Garcia
New Mexico Environment Department
Bureau Chief, Hazardous and Radioactive Materials Bureau
525 Camino de los Marquez
Santa Fe, New Mexico 87502

SUBJECT: POLICY ON MANAGEMENT OF INVESTIGATION DERIVED WASTE

Dear Mr. Garcia:

Enclosed for your review is the Los Alamos National Laboratory Environmental Restoration (ER) Project's policy on the management of investigation derived waste. This policy has been written to benefit those working on the ER Project as well as our regulators. It does not differ from past verbal conversations you have had with ER personnel on this issue. We would appreciate receiving any comments or suggestions to enhance the policy.

If you have any questions or comments, please call Pat Shanley at (505) 667-0663.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

for Theodore J. Taylor, Program Manager
Los Alamos Area Office

Environmental Restoration

12639

JJ/TT/bp

Enclosure: Policy on Management of Investigation Derived Waste

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To/MS: Distribution
Date: July 5, 1995
Refer to: EM/ER:PCT-95-025

SUBJECT: MANAGEMENT OF INVESTIGATION DERIVED WASTE

STATEMENT OF ISSUE

All sampling investigations conducted by the Environmental Restoration (ER) Project produced investigation derived waste (IDW). The ER Project must manage IDW in a consistent and protective manner and in compliance with applicable regulatory and Los Alamos National Laboratory (Laboratory) requirements.

SUMMARY OF POLICY

All investigations conducted by the ER Project that produce IDW will manage the IDW in accordance with the approach outlined in this document. In addition, the investigations will also follow the following Laboratory procedures and plans: Spill Prevention Control and Counter Measures Plan; Radioactive Materials Management Area Plan; AR 10-3, Hazardous and Mixed Waste; AR 10-9 Waste Profile Form; and ESH-18 Notice of Intent requirements. The ER Administrative Procedure, AP 5.3, will be revised to incorporate all approaches in this policy.

DISCUSSION

IDW is generated as a result of conducting sampling investigations at solid waste management units (SWMUs) and other areas of concern (AOCs). The investigations are conducted to determine whether or not a Resource Conservation and Recovery Act (RCRA) hazardous waste or constituents, or other potentially harmful materials, have been released to the environment. If release to the environment has occurred, or is likely to occur, that release will be assessed to determine if remediation is warranted.

At the Laboratory, these investigations are being conducted by the ER Project. The regulatory driver for these investigations is the Laboratory's RCRA permit. The portion of the permit that requires the investigation is Module VIII, also known as

the Hazardous and Solid Waste Amendments (HSWA) permit and is administered by the Environmental Protection Agency (EPA).

The Laboratory is also investigating SWMUs and AOCs where potential radiological contamination is the only concern. This is an important distinction as such sites are not subject to RCRA requirements because regulatory authority for radiological waste is under the Department of Energy, not with the EPA or the New Mexico Environment Department (NMED). The Laboratory is pursuing the investigation of potentially radiologically contaminated sites in concert with its investigation of sites potentially contaminated with hazardous waste or constituents. The Laboratory has taken this approach because radiological contamination also may present a threat to human health and the environment and such sites must be assessed to determine if remediation is warranted.

General Investigation Approach

SWMUs and AOCs have been identified at the Laboratory on the basis of record searches and personnel interviews. If a site was known or suspected to have managed solid waste, hazardous waste or constituents, or radiological constituents, it was identified as a SWMU or AOC in the 1988 and 1990 SWMU Reports.

EPA reviewed the 1988 SWMU Report and used it to identify in Module VIII those SWMUs and AOCs for which the Laboratory must submit RCRA Facility Investigation (RFI) Work Plans. The SWMUs and AOCs identified in Module VIII are addressed in RFI Work Plans. The plans also include other SWMUs and AOCs described in the SWMU Reports but not identified in the permit. These plans provide additional information on the SWMUs and AOCs based on further archival investigation on the sites, visual inspection of the sites and, in some cases, more personnel interviews with employees who worked at the sites. Based on this additional information collected, the RFI Work Plans provide one of the following: a sampling and analysis plan for each site; a recommendation for deferral of the investigation for the SWMU or AOC; or a proposal for no further action for the site. Those units for which sampling and analysis plans were presented in the RFI Work Plans are the focus of the information presented below.

The sampling and analysis plans presented in the RFI Work Plans for each site identify the type of sampling to be conducted, the number of samples to be collected, sample collection locations, and the type of analyses to be performed on each sample. The sampling and analysis plans are designed to determine whether or not there has been a release of hazardous waste or constituents to the environment. The sampling and analysis plans were designed based on the information collected on each SWMU and AOC. For example, if a high degree of certainty exists on the potential contaminants of a SWMU, the more focused the sampling and analysis plan. The less known about a SWMU, the more generic the approach. When a

generic approach is used, the analytical suite to be conducted is broad to ensure that any possible contaminant is detected.

The information available on a SWMU or AOC is what guides the management of any environmental media handled or waste produced during the field investigation. If the information available for a site does not indicate that a RCRA hazardous waste will be generated, the environmental media and waste will be managed in a protective manner until analytical results are available to accurately characterize the media and waste. Specifically, if containers are used to store the media or waste they will be labeled as a best management practice, "Pending Analysis;" the date the media or waste first went into the container will be identified; the analyses being conducted; and the names of persons responsible for the container. The containers will be stored in a protective manner and meet all requirements for storage under the Laboratory's Spill Prevention Control and Countermeasures Plan. The storage location should be selected based on the usability of the storage site.

If available information indicates that a hazardous waste will be generated during a site investigation, it will be managed as a RCRA hazardous waste per Laboratory Administrative Requirement 10-3 if environmental media or waste are removed from the SWMU boundary. In addition to the labeling information in the previous paragraph, the container will also be labeled "Hazardous Waste." The waste will be stored in a <90 day storage area[1] which will be registered with the Laboratory's ESH-19 group. Inspections of the <90 day storage area will be conducted on a weekly basis and inspection forms submitted to ESH- I9. If hazardous waste must be stored in the <90 day storage area for greater than 90 days, a written request by the generator will be submitted to ESH- 19 at least two weeks before the 90 days are exceeded to request a 30-day storage extension at the site. The extension request must identify the reason the waste cannot be moved to a RCRA permitted or interim status unit at the Laboratory. ESH-19 will prepare a written request for extension and submit the request to NMED.

Information collected during the site investigation will be used to expand acceptable knowledge for the site and to ensure that the environmental media handled or waste generated are being appropriately managed. Visual staining, odors, and field instrument readings may require that all media waste and other waste generated during the investigation be managed as hazardous waste.

The decision for managing the materials and wastes generated during the investigation are documented on the Waste Management Checklist. This checklist must be completed by a person designated by the Field Project Leader (FPL) before field work begins. The checklist is reviewed by CST-17, the waste management group responsible for customer service, and ESH-19, the hazardous and solid waste

[1] A satellite accumulation area may be established if the amount of waste to be stored is < 55 gallons, is not acutely toxic, and is under the control of the generator.

group responsible for regulatory compliance. The checklist is approved when signed by representatives of both CST- 17 and ESH- 19. The checklist may be appended after field work is complete and analytical data is available. Groups CST-17 and ESH- 19 review and approve the amendment, if prepared, which will determine how to further manage the materials and wastes generated. The waste management group will not pick up waste that is not accompanied by the required waste profile form (WPF) and chemical waste disposal request (CWDR) for which a waste management checklist is on file at CST-17.

Types of Environmental Media (Indigenous)

Borehole cuttings, soil, rock, sediment and groundwater which are displaced during investigations at SWMUs and AOCs are environmental media (indigenous materials) and not wastes as long as the media remains within the SWMU boundary. Environmental media which contains hazardous waste and is managed outside the SWMU boundary will be managed as hazardous waste.

Management of Environmental Media

Management of soil, rock, and sediment includes the following:

- The indigenous solid will be placed back in the SWMU or AOC when possible. Prior to taking this action, the following must be considered.
    - The indigenous environmental media may not cross the boundary of the SWMU or AOC.[2]
    - The return of the media does not enhance potential for contaminant migration.

The environmental media will not be returned to its point of origin if:

- The source of the media is a borehole in hydraulic communication with groundwater or surface water;
- The environmental media could be construed to be refuse in a water course, or could potentially exceed the New Mexico Water Quality Standards;

[2] A SWMU or AOC boundary is defined by the type of unit that is being investigated. For example, if the SWMU is a spill area, the boundary is the extent of the contamination. If the SWMU is a discrete unit, such as a tank, the SWMU boundary is currently defined as the physical form of the tank and the extent of the contamination unless it is a RCRA-regulated unit. If the unit is RCRA-regulated, any contamination which has migrated from the unit is not considered part of the SWMU.

Is it not a release of a daughter product and therefore part of the SWMU?

- The environmental media encountered was not what was anticipated to be encountered (e.g., gross visual contamination noted, strong odor noted, field instruments determine contamination present).

Management of Solid Indigenous Material Which Must Be Containerized

It may not be possible to return environmental media to its point of origin, e.g., when a borehole is completed as a monitoring well. The investigator may not know if the placement of drill cuttings around the surface of the SWMU or AOC will enhance the potential for contaminant migration. In such cases, the drill cuttings should be containerized. The containerized cuttings will be stored within the boundary of the SWMU or AOC when possible. The containers will be marked as "Pending Analysis;" date material first placed in container; what analytical tests are being conducted on containerized material; and the persons responsible for the container.

If the media is stored outside the SWMU, environmental media that is known or suspected to contain hazardous waste will be labeled "Hazardous Waste" and stored in a <90 day storage area. If the storage area is located within the SWMU or AOC of origin a <90 day storage area does not need to be established. Environmental media which does not cross a unit boundary is not considered generated. A 30 day extension for storage will not be made to NMED if analytical data is unavailable to characterize the waste in less than 90 days and the drum will not be labeled "Hazardous Waste."

Management of Indigenous Liquids

The management of groundwater generated during an investigation will generally require that it is containerized unless there is existing data which indicates that no hazardous constituents or radiological constituents are present over background in the purged groundwater. Receipt of analytical data, which contributes to acceptable knowledge, will allow the appropriate characterization and future management of the containerized water. Water from well purging must not be discharged to the ground surface unless a notice of intent (NOI) has been filed and approved by NMED for that discharge. Contact ESH-18, the Water Quality Group to file an NOI.

Waste Introduced During Investigations (Nonindigenous)

To conduct a field investigation, materials are usually brought to the site that may ultimately contribute to the wastestream. These introduced materials include personal protective equipment (PPE) in the form of tyvek, sampling gloves, drill rigs, sample augers, field instruments, hand-held auger, decontamination tubs, plastic tarps, planchets, stainless steel spoons and bowls, decontamination fluids and others. The introduced materials are wastes when they cannot be reused for their intended purposes and are discarded. The subsequent management of these wastes

depends on the material itself and what it was used for. If the material never came in contact with hazardous waste, it may be managed as solid waste.

If the introduced materials contacted hazardous waste or potentially hazardous waste, they must be containerized and analytical results must be obtained to characterize that waste. However, if the introduced material did not contact hazardous waste, it may be managed as solid waste. For example, tyvek that never contacted hazardous waste which has been torn and is no longer useable can be managed as solid waste if the wearer of the tyvek knows they did not contact contaminated media or waste.

Radiologically contaminated waste must be managed per the requirements of the Radioactive Materials Management Area (RMMA) Plan. The RMMA applies whenever radioactive materials or wastes are expected to be encountered or generated.

Decontamination liquids are managed in appropriate containers, such as "Tuff Tanks" or bunged 55-gallon containers. Management of these liquids which are not suspected or known to have contacted RCRA hazardous waste must at a minimum comply with the Laboratory's Spill Prevention Control and Countermeasures Plan until analytical data are available to determine how to characterize the liquid. Contaminated liquids cannot be discharged to the ground or a wastewater treatment facility unless approval has been granted from ESH-18. Discharges to the ground may require the filing of an NOI with NMED. Discharges to wastewater treatment facilities must meet all the requirements of the Laboratory's National Pollution Discharge Elimination System permit and all applicable waste acceptance criteria. Liquids cannot be directly discharged to a water course.

Sincerely,

Tracy Glatzmaier
Environmental Restoration

Sincerely,

Court Fesmire
Los Alamos Area Office

TG/CF/bp

Attachment: Management Of Investigation Derived Waste Flowchart

Environmental Restoration

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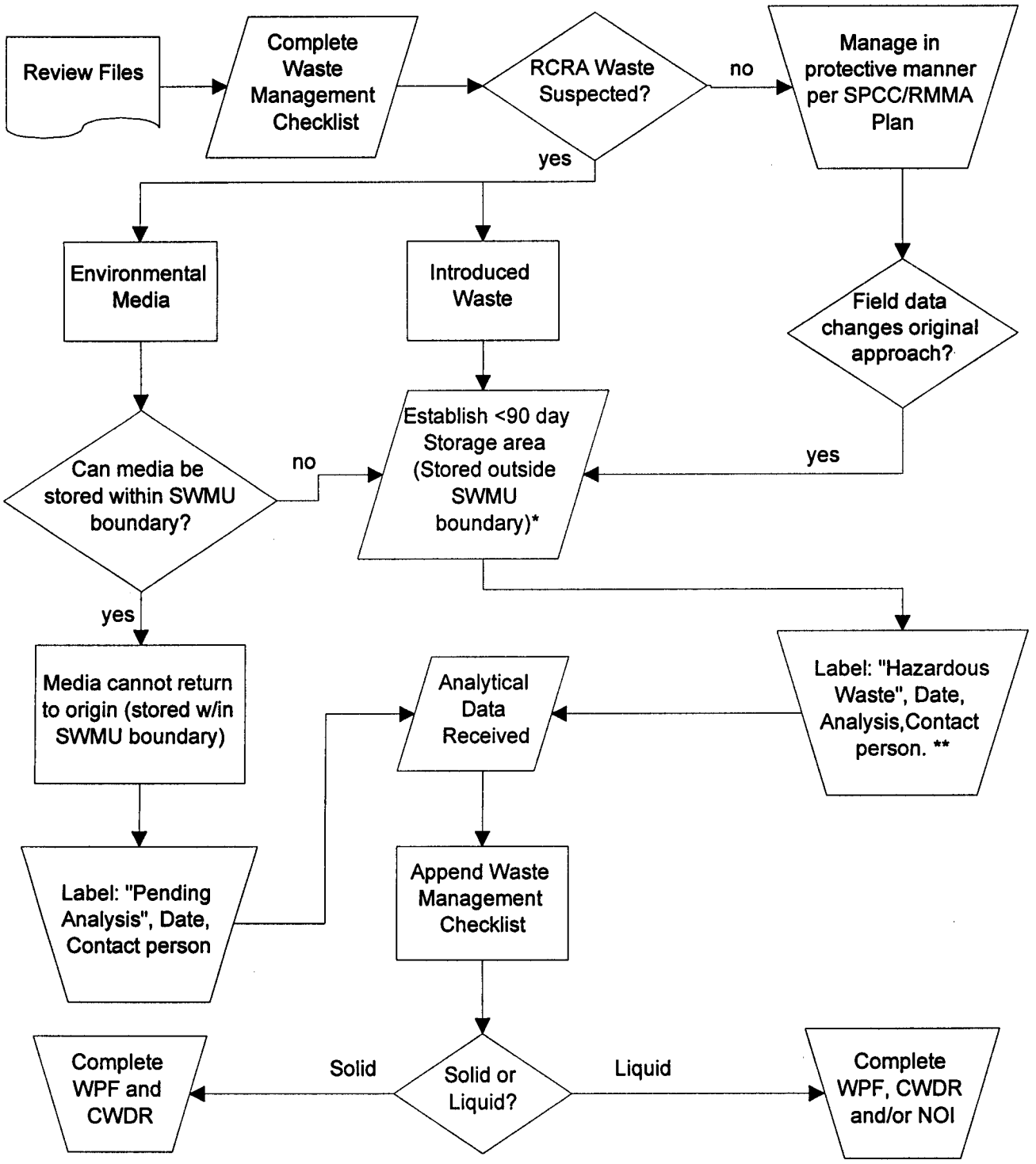
Management of Investigation Derived Waste



* Extensions for storage greater than 90 days must be submitted to ESH-19

** Unless waste had no contact with hazardous waste and can be managed as solid waste. A waste profile form is still required.

5/5/95