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Permit

Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

memorandum

TO: Master Management  
FROM: *Allen J. Tiedman*  
Allen J. Tiedman, ADO  
DATE: October 15, 1991  
MAIL STOP/TELEPHONE: K303/5-6573  
SYMBOL: ES&H CC-91-2227  
SUBJECT: NPDES PERMIT PROCEDURES AND GUIDELINES FOR DISPOSAL OF WASTE  
WATER INTO SINKS AND DRAINS

Enclosed is a copy of Administrative Requirement 9-6, "Water Pollution Control", which describes the procedures required for compliance with the Laboratory's National Pollutant Discharge Elimination System (NPDES) Permit and for permitting new outfalls. Also enclosed is a copy of "Guidelines for Disposal of Wastewater into Sinks and Drains" which is a summary of the waste streams which are acceptable for introduction into each type of collection system and outfall category specified under the Permit.

It is extremely important that you, or the Waste Coordinator for your group, division or directorate be familiar with the procedures required for permitting new outfalls prior to discharge and for reporting changed waste streams discharging into existing outfalls under the Laboratory's NPDES Permit. (See Administrative Requirement 9-6).

It is also extremely important that each operating group which produces a chemical waste stream and each operating group which is responsible for meeting effluent limits for an NPDES outfall, be familiar with the waste streams which are acceptable for discharge to sinks and drains. (See "guidelines for Disposal of Wastewater into Sinks and Drains.")

Site-specific operations and maintenance procedures covering each outfall should be prepared by owner groups to prevent improper waste streams from being discharged into outfalls and to ensure compliance with effluent limitations under the Laboratory's NPDES Permit. Operating records should also be maintained by owner groups to document that procedures are being followed. A list of active NPDES outfalls and a copy of the Laboratory's current NPDES Permit were sent to outfall owner groups on September 19, 1991, from the ES&H Coordination Center. (See ES&H CC Memorandum 91-1873).

The Environmental Protection Group (EM-8) is presently conducting a Laboratory-wide Waste Stream Characterization Program to verify that each waste stream generated by the Laboratory is properly identified and characterized under the NPDES Permit. Your cooperation is required in order to complete this program in



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The following information is provided  
in the enclosed documents for your  
information and for your use in  
the future.

ES&H CC-91-200

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October 14, 1991

accordance with U.S. Environmental Protection Agency requirements  
under the current Administrative Order issued to the Laboratory.  
EM-8 personnel will contact you when waste stream characterization  
is scheduled for your area.

Please contact Roy Bohn (665-0492) or Mike Saladen (665-6089) of  
EM-8 if you have any questions concerning the enclosed documents,  
the requirements for operation and maintenance procedures for  
NPDES outfalls, or the Laboratory's Waste Stream Characterization  
Program.

AJT:SR:dr

Enclosures: a/s

Distribution:

Master Management

Cy:  
S. Rao, EM-8, MS K490  
R. Bohn, EM-8, MS K490  
M. Saladen, EM-8, MS K490  
ES&H CC File

Administrative  
Requirements (AR)AR Section 9  
Environmental Protection | Water Pollution Control

Introduction	This administrative requirement describes the procedures required for compliance with federal and state water pollution control laws and regulations. Procedures for handling accidental oil spills, chemical spills, and atmospheric discharges are included in Administrative Requirement 9-4, "Accidental Oil, Chemical, and Airborne Releases."
Definitions	<p><b>Industrial Liquid Waste</b>—Wastewater originating from an industrial process or industrial use of water. An industrial liquid waste may be radioactive or nonradioactive.</p> <p><b>Liquid Waste Discharges</b>—The release of wastewater from a building, structure, or process to the environment. Liquid waste discharges may be further classified as sanitary, industrial, or storm water discharges.</p> <p><b>Liquid Waste Disposal Permit</b>—A permit issued by the New Mexico Environment Department that authorizes a facility to install a septic tank system or holding tank for disposal of sanitary wastewater under prescribed conditions.</p> <p><b>National Pollutant Discharge Elimination System (NPDES) Permit</b>—A permit issued by the US Environmental Protection Agency (EPA) under the Clean Water Act that authorizes a facility to discharge liquid effluents to the environment under prescribed conditions. For example, mass and concentration limits for some contaminants must be routinely monitored and reported to the EPA.</p> <p><b>Outfall</b>—The outlet of any pipe, conduit, drain, channel, or other conveyance to the environment.</p> <p><b>Radioactive Liquid Waste (Liquid Radwaste)</b>—Liquid waste that is contaminated or might be contaminated with radionuclides.</p> <p><b>Radioactive Liquid Waste (Liquid Radwaste) Pipelines</b>—Pipelines that carry liquid radwaste from various Laboratory sites to liquid radwaste storage and treatment facilities. (The network of pipelines was formerly referred to as the acid or industrial waste sewer system.) The Waste Management Group (EM-7) operates the radioactive liquid waste treatment plant and maintains the radwaste collection system from the point where a building connects to the radwaste pipeline.</p> <p><b>Sanitary Holding Tank</b>—A septic tank for receiving sanitary wastewater that has no outlet or drain field for disposal. Wastewater from a sanitary holding tank is transported by pump truck to a sanitary wastewater treatment facility for treatment by the support services contractor (Johnson Controls World Services).</p> <p><b>Sanitary Sewer System</b>—The collection system that carries sanitary wastewater from Laboratory sites to sanitary treatment facilities. The Fire Protection and Utilities Group (ENG-8) manages the sanitary sewer system from the point where buildings connect to the sewer line. The support services contractor (Johnson Controls World Services) operates all sanitary treatment facilities and maintains the sanitary sewer system.</p> <p><b>Sanitary Wastewater</b>—Rest room and kitchen waste; nonradioactively contaminated waste from showers, hand-washing sinks, and janitor's sinks; water fountain drainage; and other biodegradable domestic wastes.</p> <p><b>Septic Tank System</b>—An underground tank and drain field (or seepage pit) constructed for the disposal of sanitary wastewater. The support services contractor (Johnson Controls World Services) maintains all septic tank systems.</p>

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Water Pollution Control

**Storm Sewer System**—A system of pipes, conduits, drains, channels, and other conveyances constructed to collect and convey storm water run-off.

**Storm Water**—Run-off collected from melted snow or rainfall.

**Waste Stream**—Pollutant or combination of pollutants present in water from an individual process or operation.

Overall Responsibility

Unless otherwise stated in this document, line managers must ensure that requirements specified herein are met.

National Pollutant Discharge Elimination System Permit Requirements

**Existing Liquid Waste Discharges.** All existing outfalls and drain pipes from Laboratory facilities that discharge or could potentially discharge industrial or sanitary wastewater to the environment must be permitted under the Laboratory's National Pollutant Discharge Elimination System (NPDES) permit. Storm water discharges will be evaluated by the Environmental Group (EM-8) on an outfall-specific basis pending final EPA regulations. Construction projects greater than 5 acres will require specific storm water considerations. The Environmental Protection Agency (EPA) will require the permitting of storm water outfalls in the future.

*NOTE: Any existing discharge of an industrial or sanitary wastewater that is not permitted under the Laboratory's NPDES permit must be reported immediately to EM-8 so that it they may report the discharge to the appropriate regulatory agencies under the Laboratory's Administrative Order and Waste Stream Characterization Program.*

**New Liquid Waste Discharges.** New liquid waste may not be discharged to the environment until the discharge is approved by EM-8 and is included under the Laboratory's NPDES permit. Operating groups must provide EM-8 with the following information concerning their plans for new liquid waste discharges: the process generating the waste, the character and concentration of pollutants in the waste, and the anticipated flow. The following lead-times are required from notification of EM-8 to EPA approval.

- These discharges require approximately 90-day lead-times:
  - Boiler blowdown
  - Treated cooling water
  - Noncontact cooling water
  - High-explosive wastewater
  - Photo-processing wastewater
- Discharges from other types of processes or operations require approximately 210 days.
- Storm water discharge permits will require lead-times based on pending EPA regulations.

**Waste Stream Modifications.** No new or changed waste streams may be discharged to existing treatment facilities or through existing NPDES outfalls until EM-8 has reviewed the modification and has notified the EPA of the change. Whenever an operating group anticipates a change in its liquid waste discharges, it must provide the following information to EM-8: the process generating the new waste, the character and concentration of the pollutants in the new waste, and the anticipated flow. A lead-

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August 30, 1990

## Water Pollution Control

A lead-time of approximately 30 days is required for a routine notification to the EPA. If a permit modification is required, the new or changed waste stream must be considered a new discharge, and the lead-times for new discharges (90 or 210 days) are required, depending on the waste category.

New or changed waste streams that are planned for discharge to the Radioactive Liquid Waste Treatment Plant must be reviewed by the Waste Management Group (EM-7) before discharge.

### Liquid Waste Disposal Permit Requirements

New or modified septic tank systems and sanitary holding tanks must be reviewed by EM-8 and permitted under the New Mexico Liquid Waste Disposal Regulations before construction begins. A lead-time of 30 days should be anticipated for preparation of the permit application and approval by the New Mexico Environment Department (NMED).

### Waste Stream Separation

**Sanitary Wastewater.** All sanitary wastewater (rest room and kitchen waste, etc.) must be discharged into a sanitary treatment facility, septic tank system, or sanitary holding tank. No industrial liquid waste may be discharged into a septic tank system or sanitary holding tank.

Drainage from sinks and dishwashers used to wash nonradioactively contaminated dishes may be discharged to a sanitary treatment facility, septic tank system, or sanitary holding tank if no chemicals are dumped down the drains and if the sinks and dishwashers are used for rinsing and washing only.

### Nonradioactive Industrial Wastewater

**Cooling Water and Blowdowns.** New discharges of treated and once-through cooling water and boiler and compressor blowdowns require separate discharge points under the Laboratory's present NPDES permit. Existing discharges of these waste streams into sanitary treatment facilities will be reviewed on a case-by-case basis under the Laboratory's Waste Stream Characterization Program in order to determine if they are compatible for biological treatment. Removal of discharges of treated and once-through cooling water and boiler and compressor blowdowns from sanitary treatment facilities may be required under the Laboratory's NPDES permit if a potentially toxic chemical exists in the waste stream or if the waste has a detrimental effect on the treatment facility.

**Photo-Processing Rinse Water.** Under the Laboratory's present NPDES permit, new discharges of photo-processing rinse water must have separate discharge points. Existing discharges of this waste stream into sanitary treatment facilities will be reviewed on a case-by-case basis under the Laboratory's Waste Stream Characterization Program in order to determine if they are compatible for biological treatment.

**Printed Circuit-Board Wastewater.** Existing discharges of printed circuit-board waste and other industrial waste that contain potentially toxic quantities of chemicals must be removed from the sanitary treatment facilities and treated by separate facilities in order to comply with toxicity requirements.

**High-Explosive Waste Water.** All new and existing discharges of high-explosive (HE) wastewater require separate discharge points under the Laboratory's NPDES permit. Discharges of similar types of HE wastewater may be combined.

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## Water Pollution Control

**Radioactive Industrial Waste Water.** All radioactively contaminated and potentially contaminated waste streams must be discharged into a radioactive liquid waste treatment facility (the TA-21 Treatment Plant, the TA-50 Treatment Plant, or the TA-53 Treatment Pond). Discharges to these treatment facilities must not contain hazardous materials, solvents, or organics. Heavy metals in concentrations above Resource Conservation and Recovery Act limits are also not allowed. All sinks and drains from radioactive-materials-handling areas must be plumbed into the radioactive liquid waste treatment facilities or collected in containers that are transported and discharged into these facilities. See Administrative Requirement 10-1 "Radioactive Liquid Waste," for additional information.

### Monitoring and Reporting

EM-8 advises user groups concerning state and federal regulations for liquid waste discharges, permit violations, and management of waste streams. EM-8 personnel also continually monitor wastewater discharges and complete monitoring reports required by the regulatory agency.

### References

- "Environmental Protection, Safety, and Health Protection Program for AL Operations," Department of Energy Order 5480.1, Chapters XI and XII (most recent edition).
- "Federal Compliance with Pollution Control Standards," Executive Order 12088 (most recent edition).
- "Federal Water Pollution Control Act," Public Law 100-4 (most recent edition).
- "New Mexico Water Quality Act and Amended Water Quality Control Commission Regulations" (most recent edition).
- "Radioactive Liquid Waste," Administrative Requirement 10-1, in *Environment, Safety, and Health Manual*, Chapter 1 (most recent edition).
- "Water Programs," 40 CFR 100-1.49 (most recent edition).

### Referrals

- Environmental Protection Group (EM-8), 7-5021
- Fire Protection and Utilities Group (ENG-8), 7-9045
- Johnson Controls World Services, Inc., 7-0104
- Waste Management Group (EM-7), 7-7391
- Water Quality and Toxics Section of the Environmental Protection Group (EM-8), 5-0453

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### Guidelines for Disposal of Wastewater into Sinks and Drains

Los Alamos National Laboratory  
NPDES Permit No. NM 0028355  
October 14, 1991

The Laboratory's National Pollutant Discharge Elimination System (NPDES) Permit is based upon outfall categories for discharges to the environment. The permit requires that each waste stream produced at the Laboratory be included in the proper type of collection system and outfall category. The following is a summary of the waste streams which are acceptable for discharge into each collection system and outfall category.

**Category: Sanitary Outfalls (Treatment Plants and Lagoon Systems)  
01S, 02S, 03S, 04S, 05S, 07S, 09S, 10S and 12S**

Domestic-type waste including restroom waste, kitchen waste, non-radioactive contaminated waste from showers, hand-washing sinks, janitors sinks, water fountains, and other domestic type wastes of a biodegradable nature.

Drainage from sinks used to wash glassware and from glassware dishwashers in non-radioactive areas may be discharged to the sanitary treatment facilities if no chemicals are dumped down the drains, and the sinks and dishwashers are used for rinsing and washing only.

De minimus quantities of potable water, chiller water, steam condensate, boiler water, and other non-toxic, non-hazardous discharges originating from mechanical equipment rooms used for heating and cooling of buildings.

Photo processing rinse water. Developer and fixer must not be discharged to the sanitary system.

Hazardous or toxic waste streams must not be discharged down any sink or drain.

Radioactive or potentially radioactive waste streams must not be discharged to the sanitary system.

The following are the plants and phases  
which are subject to the National  
Pollution Discharge Elimination Act  
(NPDES).

**Category: 01A Outfall (TA-3 Power Plant)**

Spent demineralizer regenerants, boiler blowdown, cooling tower blowdown, and diatomaceous earth filter backwash.

Do minimum quantities of potable water, chiller water, steam condensate, boiler water, and other non-toxic, non-hazardous discharges associated with power plant operations.

Hazardous or toxic waste streams must not be discharged to any sink or drain.

**Category: 02A Outfalls (Boiler Blowdown from TA-10 and TA-21 Steam Plants)**

Neutralized demineralizer regeneration brine and boiler blowdown

Do minimum quantities of potable water, chiller water, steam condensate, boiler water, and other non-toxic, non-hazardous discharges associated with steam plant operations.

Hazardous or toxic waste stream must not be discharged to any sink or drain.

**Category: 03A Outfalls (Treated Cooling Water)**

Cooling tower blowdown, evaporative cooler discharge, condenser blowdown, and air washer blowdown.

Hazardous or toxic chemicals must not be present in any treated cooling water discharge.

**Category: 04A Outfalls (Non-Contact Cooling Water)**

Non-contact cooling water, non-destructive testing discharge, discharges from the asphalt batch plant, and from water production facilities including water well blowdown.

Chemicals must not be present in any non-contact cooling water discharge.

Hazardous or toxic chemicals must not be present in any non-contact cooling water discharge.

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**Category: 05A Outfall (High Explosives Wastewater Discharges)**

- High explosives wastewater.
- De minimus quantities of potable water, chiller water, steam condensate, boiler water, and other non-toxic, non-hazardous discharges associated with high explosives operations.
- Hazardous or toxic waste streams must not be discharged to any high explosives wastewater sink or drain.

**Category: 06A (Photo Wastewater Discharges)**

- Photo rinse water from photo processing. Developer and fixer must not be discharged to the sanitary system.
- Hazardous or toxic waste streams must not be discharged to any photo wastewater sink or drain.

**Category: 051 Outfall (Radioactive Waste Treatment Plant)**

- Radioactive wastewater. Call the Waste Management Group, EM-7, for waste acceptance criteria.
- Hazardous waste streams must not be discharged to any radioactive waste sink or drain.

**Category: 128 Outfall (Printed Circuit Board Discharge)**

- Process wastewater from printed circuit board manufacturing using photo-etching techniques.
- Hazardous or toxic waste streams must not be discharged to any printed circuit board manufacturing sink or drain.

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JOHNSON CONTROLS WORLD SERVICES INC.

MEMORANDUM

TO: Superintendent, CA2D

FROM: Environmental Protection Branch Supervisor, JENV

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DATE: November 19, 1991 MEMO NO. JENV.92-075

SUBJECT: DISPOSAL OF LIQUIDS AT TA-53

Recently the NM Environment Department (NMED) conducted a routine diagnostic evaluation of our wastewater facilities. When they were visiting the TA-53 wastewater lagoons they observed an orange colored discharge entering the lagoons, no samples were taken so its origins or constituents were not determined. The report issued by the NMED requires that we identify such constituents and prohibit the introduction of any unauthorized constituents into this waste stream.

Clearly, it is not possible to identify the origin of this liquid at this time. In the future, if a thorough waste stream characterization is completed it will be clearer to user groups as to which drains may be used for specific disposal practices. The intent of this memo is to enlist your cooperation in alerting your staff to the importance of proper disposal of waste liquids. This is not meant to imply that CA2D personnel caused this problem but is part of an effort by LANL and JCI to ensure that all personnel at TA-53 are aware of the need to dispose of only those liquids that are acceptable for introduction into a sanitary sewer. Useful references in this respect are JCI SPI 12-04-009 'Liquid Waste Disposal' and LANL's AR 9-6 'Water Pollution Control'.

Please let me know how and when this information will be disseminated to your staff. JENV would be glad to assist if you need a person to address a safety or environmental meeting. We appreciate your cooperation in the past, please contact the undersigned if you have any questions.

*Michael A. Brown*

Michael Brown

Cy: S. J. Calanni, VP/Gen Manager, JMGR  
G. Vavra, Manager, Operations, OMDO  
Danny Castañeda, Manager, CDDO  
R. Greuter, Manager, UMDO

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# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

## memorandum

TO: T. C. Gunderson, EM-DO, MS K491  
DATE: December 4, 1991

FROM: R. B. Perkins, DADR *RBP*  
MAILS/OP/TELEPHONE: A114/7-1900

SUBJECT: ADR-91-1227C  
WASTE STREAM CHARACTERIZATION AT TA-53

The New Mexico Environment Division Report of November 6, 1991, page 4, requires that the "... [Laboratory] must take immediate steps to identify and characterize the liquid observed by the inspectors [during the August 1991 inspection of TA-53] and any similar substances which may be discharged to the TA-53 lagoons." This requirement was emphasized by the NMED inspectors to Michael Brandt during their November 20, 1991, reinspection of the TA-53 waste water lagoons.

In order for the Laboratory to comply with this regulatory requirement, I request that the waste stream characterization project planned for TA-53 be advanced on the priority list. Until the sources of wastewater are identified, TA-53 will be unable, in most cases, to identify the sources of unpermitted discharges. Please coordinate EM-Division activities with Michael Brandt.

RBP:MTB/cm

Cy: F. A. Morse, ADR, MS A114  
P. D. Barnes, MP-DO, MS H850  
M. T. Brandt, ADR/EST, MS A114  
K. M. Hargis, EM-8, MS K490  
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