Department of Energy
Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

NOV 13 1989

RECEIVED
NOV 15 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Coby Muckelroy
Health and Environment Department
Environmental Improvement Division
Hazardous Waste Bureau
1190 St. Francis Dr.
Harold Runnels Building
Santa Fe, NM 87503

Dear Mr. Muckelroy:

RE: Notice of Violation (NOV) Dated October 11, 1989
NM0890010515

This letter constitutes the response of the Department of Energy (DOE) and the University of California (the University) to the NOV referenced above. In accordance with Section 74-4-10(A)(NMSA 1978), all alleged violations have been corrected within the 30 days allowed by statute. The violations, responses, and actions taken are set forth below.

1. Violation: The operating record concerning storage at TA-54, Area L container storage area is incomplete. Both the dates that wastes are received at Area L and the dates shipped off-site must be maintained in the operating records.

Response: The computer tracking system maintained by the Waste Management Group at Area L has been modified so that both these dates are now maintained in the records.

2. Violation: Open containers were observed at several satellite accumulation points, including TA-16-270, 304 and 340, TA-3-38 and TA-21-210. (The Laboratory believes the reference to TA-16-270 should actually be TA-16-260).

Response: One of the alleged violations, (TA-16-260), involved a fabricated aluminum lid that covered the entire top of the 55 gallon drum with a lip that overhung the side of the drum by 3-4 inches. Another alleged violation was a 55 gallon drum containing solvent contaminated rags with the top in place, but with the sealing ring missing (TA-3-38). The violation at TA-16-304 involved a situation similar to the preceding except that liquid waste was stored in the drum. The bung has been placed on the drum with the fabricated lid and the sealing rings have been secured on the other drums. Laboratory personnel

16515

handling hazardous wastes are being reminded of the closed container requirement through memoranda (Attachment 1) and additional training (Attachments 5, 6, and 7).

We believe that all of these containers were "closed" within the meaning of the New Mexico Hazardous Waste Management Regulations (HWMR). No definition of "closed" is given in HWMR, Part VI, Section 265. Inspectors from EPA and EID have observed these types of closed containers in the past without noting a violation. Although the Laboratory is taking measures to assure these concerns are addressed, we request that the interpretation of "closed" containers be clarified. Because of the confusion and apparent differences in interpretation of the term "closed," we would appreciate your supplying us with some criteria for how EID and EPA determine whether a container is closed.

3. Violation: Several unmarked containers were observed at satellite accumulation points, including TA-33-39, TA-21-210 and TA-43-1.

Response: The containers at these areas have been labeled with the proper wording. We are ensuring, through memoranda (Attachment 1) and additional training (Attachments 5, 6, and 7), that all personnel handling hazardous waste are aware of this requirement.

4. Violation: Hazardous wastes in excess of 55 gallons were observed at TA-43-1, a satellite storage area.

Response: The Laboratory's records of the inspection indicate that the actual problem noted at TA-43 was that some of the wastes stored were not under the control of the generator of the waste, not that there was hazardous waste in excess of 55 gallons. The waste has been transferred to an interim status storage unit at TA-54, Area L.

5. Violation: The 90-day storage limit was exceeded on one occasion at TA-46, a fewer than 90 days storage area.

Response: This violation was corrected and should not occur in the future. The storage unit is in the process of being shut down and all wastes will be removed. The storage tanks will be decontaminated. In the interim, the operators of this unit have been informed that the 90-day storage limit must be adhered to.

6. Violation: Manifests for shipment of hazardous waste from Pan Am to Safety-Kleen Corporation were signed by a Safety-Kleen representative prior to shipment off-site.

Response: This situation apparently occured due to the ignorance of the manager of the Safety-Kleen Albuquerque facility, who substituted on at least one occasion for the driver, and who mistakenly signed on the generator's copy as the representative of the facility designated to receive the waste. Our failure to catch his error is not a violation of HWMR Part III, 262.20 which requires generators to prepare manifests for shipment offsite of hazardous waste. We have met this requirement. In addition, we have alerted Safety-Kleen to its error and have instructed Pan Am personnel (Attachment 2) to ensure this does not occur again.

7. Violation: Solvent-contaminated rags and kimwipes were thrown in the general trash containers at several satellite storage areas, including TA-3-38, TA-53-25 and 44 and TA-46-31. A hazardous waste determination has not been performed for these discarded materials.

Response: Solvent-contaminated rags generated at these sites meeting the definition of hazardous wastes are now being handled as such. The necessity of determining if a solid waste meets the definition of a hazardous waste has been stressed to those generators involved. In addition, we are ensuring through memoranda (Attachment 1) and additional training (Attachments 5, 6, and 7) that all employees handling hazardous wastes are aware of these requirements.

8. Violation: The gas cylinder destruction area at the TA-36, Minie Site is not covered by an existing closure plan.

Response: We have considered the cylinder destruction area as part of Minie Site and therefore covered by the existing closure plan. We agree that this is not clear and the area has been added to the TA-36 closure plan in the Part B application (see attachment 3). The appropriate pages in Section 9.0 of the November 1988 Part B should be replaced.

9. Violation: The gas cylinder destruction area mentioned above is not included in a current Part A.

Response: This area has been added to Part A of the permit application (see attachment 4). The appropriate pages in Section 1.0 of the November 1988 Part B should be replaced.

10. Violation: Not all facility personnel have successfully completed a program of classroom or on-the-job training. Personnel at Pan Am sites are not getting adequate training. The TA-16 training records are incomplete to the extent that it could not be determined

what training was provided (i.e., some records did not state the training subjects only that time was spent in training).

Response: Reading Sections 265.16 of the regulations together with the definition of "facility" found in Section 260.10, it is clear that in most cases, only those personnel involved in the treating, storing, and disposing of hazardous waste must receive training. In some cases, generators of hazardous waste must also be trained under the regulations. For example, Section 262 (a)(4) requires training for less than 90 day storage unit operators. Additionally, we believe that in order to insure that all the requirements of the hazardous waste regulations are met, it is good practice for all generators of waste to be trained in proper handling and disposal and is making every effort to provide such training.

A large number of Laboratory personnel never deal with hazardous waste. For the personnel which do require training, the Laboratory has an extensive training program designed to train those handling hazardous waste, including a comprehensive RCRA training course (Attachment 5), site specific generator training (Attachment 6) and a 2 hour environmental compliance program (Attachment 7) given to all Laboratory and major contractor employees. The Laboratory is also contracting with a firm to conduct further generator training, which will include waste stream characterization and identification.

In some cases training not given through the Health, Safety, and Environment Division has not been documented. An increased effort is being undertaken to assure the proper people are trained and that existing training is properly documented.

Based on this submittal, DOE and the University believe that all issues referenced in the October 11, 1989 NOV have been resolved. If you have any questions regarding this response call Paul Schumann at 667-5288 (FTS 843-5288).

Sincerely,

Joyce Hester Larson

for James R. Anderson
Acting Area Manager

NOV 13 1989

cc:
J. Puckett (HSE-DO AI #201), LANL, HSE-DO, MS K491
T. Gunderson, LANL, HSE-DO, MS K491
K. Hargis (HSE8-89-660, AI #84), LANL, HSE-8, MS K490
A. Drypolcher, LANL, HSE-7, MS E518
Lynn Prince, US EPA Region VI (6H-HS)
Michael Brown, District II Office

ATTACHMENT 1

MEMORANDA

TO LANL

ADDRESSING

REGULATORY REQUIREMENTS

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Distribution

DATE: October 30, 1989

THRU: James White, HSE-8, MS K490

MAIL STOP/TELEPHONE: K490/7-0819

FROM: David McInroy, HSE-8

SYMBOL: HSE8-89-661

SUBJECT: **OPEN CONTAINERS AT HAZARDOUS WASTE SATELLITE STORAGE AREAS**

Los Alamos National Laboratory received a Notice of Violation (NOV) from the New Mexico Environmental Improvement Division (EID). This NOV resulted from an inspection which occurred on August 7-11. During this inspection several of the satellite accumulation areas were found to be in violation of Hazardous Waste Management Regulations (HWMR), Part III, section 265.173 (a). This regulation requires that: "A container holding hazardous waste must always be kept closed during storage, except when it is necessary to add or remove waste." The following areas were found to be in violation of this:

TA-3-38
TA-16-260
TA-16-304
TA-16-340
TA-21-210
TA-53-P-LANSCE

A new interpretation of these requirements by the State requires that the lid of the container must be used as the manufacture intended it to be. (e.g., Bungs and sealing rings which are supplied with the drums from the manufacturer must be utilized. Also flip-top safety cans must have the lid down when storing waste.) During past inspections, loose fitting tops or lids without the ring have been accepted as a properly closed container. This is no longer the case. We have requested a more in-depth interpretation of this requirement from the State. Until this issue is resolved the Laboratory must comply with their request.

Should you have any questions pertaining to these new requirements please contact Tony Grieggs at 5-0451 or me at 7-0819.

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Distribution

DATE: October 31, 1989

FROM: David McInroy, HSE-8

MAIL STOP/TELEPHONE: K490/7-0819

SYMBOL: HSE8-89-665

SUBJECT: **HAZARDOUS WASTE VIOLATIONS AT SATELLITE ACCUMULATION AREAS**

Los Alamos National Laboratory received a Notice of Violation (NOV) from the New Mexico Environmental Improvement Division (EID). This NOV resulted from an inspection which occurred on August 7-11. During this inspection it was noted that the hazardous waste containers that are located in the satellite storage areas of buildings TA-33-39, TA-21-210, and TA-43-1 were unmarked. This is a violation of the New Mexico Hazardous Waste Management Regulation (HWMR), part III, section 262.34(c)(ii). This regulation requires that containers be marked either with the words "Hazardous Waste" or with other words that identify the containers of the waste.

The necessary actions must be taken to ensure that these requirements are adhered to. Fines resulting from the lack of compliance with these regulations can be up to $10,000.00 per day per violation. Your cooperation in the correction of these problem areas and the maintenance of them is a must.

Should you have any questions pertaining to these violations or the corrective actions needed, please call Tony Grieggs at 665-0451 or me at 667-0819.

DM:bjh

Distribution:

F. Bolton, HSE-5, MS K494
J. Gonzales, EES-3, MS C335
T. Whaley, LS-2, MS M880

Cy: T. Grieggs, HSE-8, MS K490
J. White, HSE-8, MS K490

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Distribution

DATE: October 31, 1989

FROM: David McInroy, HSE-8

MAIL STOP/TELEPHONE: K490/7-0819

SYMBOL: HSE8-89-670

SUBJECT: **DISPOSAL OF SOLVENT-CONTAMINATED RAGS AND CHEM-WIPES**

Los Alamos National Laboratory received a Notice of Violation (NOV) from the New Mexico Environmental Improvement Division (EID). This NOV resulted from an inspection which occurred on August 7-11. During this inspection it was noted that Laboratory personnel were discarding various solvent-contaminated rags and chem-wipes in the general trash containers. This violation was observed at several areas including: TA-3-38, TA-46-31, TA-53-25 and 44.

Until a hazardous waste determination can be made on these discarded materials to see if they all need to be handled as hazardous waste, we are requiring that they all are treated as such. This will require that these materials be disposed of at a satellite or <90 day accumulation area. If you currently have a temporary waste storage area, compliance can be achieved simply by using a drum or a flip-top safety can for this type of material disposal. If you currently do not have a waste storage area in the vicinity of where contaminated rags are generated, one will be set up by HSE-8 so that your operation can comply with the above mentioned disposal practices.

Should you have any questions pertaining to these violations or the corrective actions needed, or the set up of a waste accumulation area, please call Tony Grieggs at 665-0451 or me at 667-0819.

DM:bjh

Distribution:

M. Hollen, MP-DO, MS H832
C. Blackwell, CLS-DO, MS J563
W. Beattie, CLS-4, MS J567
F. Bolton, HSE-5, MS K494
B. Poe, MP-8, MS-H826
C. Barnett, PAA PENV, MS A199

Cy: T.Grieggs, HSE-8, MS K490
J. White, HSE-8, MS K490
CRM-4 (2), MS A150

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Streamline Distribution

DATE: October 31, 1989

FROM: John M. Puckett,
HSE Division Leader

MAIL STOP/TELEPHONE: K491/7-4218

SYMBOL: HSE-DO:89-561

SUBJECT: **TEMPORARY STORAGE OF HAZARDOUS WASTE**

Procedures for the handling of hazardous waste at the Laboratory have been under scrutiny by the New Mexico Environmental Improvement Division (EID) and Environmental Protection Agency (EPA). The most recent inspection took place the week of August 11, 1989. Attachment I is a list of findings from several LANL inspections as well as from the Rocky Flats investigation. During a typical inspection, the bulk of the violations can be attributed to lack of understanding concerning the seriousness of hazardous waste storage and disposal requirements. The purpose of this letter is to answer some of the most common questions and to provide you with the names of contacts for further information.

It is the responsibility of the generators to assure that hazardous wastes are properly handled and stored at the site of generation, as well as arranging for pick-up and disposal by the Waste Management Group (HSE-7). It is the Environmental Surveillance Group's (HSE-8) responsibility to assure regulatory compliance through advising and assisting generators in meeting the regulatory requirements. HSE-7 will pick-up hazardous wastes from the generator and transfer to TA-50 or TA-54. Contact HSE-8 before setting up a hazardous waste storage area.

Attachments II - IV address the requirements for the two types of temporary hazardous waste storage areas (Satellite, <90 day), a partial list of materials that may constitute a hazardous waste (contact HSE-8 for further assistance), and a list of HSE-8 RCRA contacts. Call Tony Grieggs at 665-0451 if you have any questions.

JMP:TG:bjh

Attachments: a/s

Cy: T. Gunderson, HSE-DO, MS K491
K. Hargis (HSE8-89-667), HSE-8, MS K490
J. White, HSE-8, MS K490
T. Grieggs, HSE-8, MS K490

ATTACHMENT I

The following is a list of findings from several LANL inspections and the Rocky Flats investigation. These findings are common to both facilities and are recurring.

Containers holding hazardous waste were improperly labeled. All containers holding hazardous waste must be labeled as "HAZARDOUS WASTE" and should have the major hazardous constituents listed."

Containers of hazardous waste were not closed. All containers must be kept closed except when adding or removing material.

Materials contaminated with "listed" regulated solvents were allowed to evaporate on bench tops, floors, etc. Hazardous waste must be stored in closed containers and labeled as such. Items contaminated with "listed" solvents are considered to be a hazardous waste.

Satellite hazardous waste storage areas exceeded legal capacity (55 gallons). Generator failed to date containers holding excess, and failed to dispose of waste within three days of exceeding capacity. If capacity is exceeded, the generator must immediately date the containers holding the excess.

Containers of incompatible materials were stored in close proximity. Incompatible materials must be separated by a dike, berm, wall or other device.

Hazardous waste was stored in improper containers. Liquid hazardous waste was stored in containers inappropriate for liquids. Containers for liquids must be compatible with the waste, and must be capable of secure closure (bung top drums).

<90 day storage areas held hazardous waste for greater than 90 days. Accumulation period for <90 day storage areas may not exceed 90 days, including transport time. The accumulation start date must be clearly marked on all containers in a <90 day storage area. Storing hazardous waste for greater than 90 days requires a permit.

Failure to maintain inspection records for permitted treatment, storage, and disposal facilities, and <90 day hazardous waste storage areas. Required inspections must be documented, and copies maintained for three years.

Sending wastes to on-site facilities that do not have RCRA permits or "interim status."

Containers had been moved from one area to an unpermitted area. It is not permissible to transport hazardous waste from one generator storage area to another.

Unable to produce documentation of waste analysis before waste was placed in permitted storage areas. Hazardous waste streams must be analyzed/identified prior to transport.

Insufficient aisle space between containers of hazardous waste. Containers must be separated to allow for visual inspection and entry by emergency personnel with equipment.

Personnel were observed to dispose of solvent contaminated rags/kimwipes in building trash. These items are considered to be a hazardous waste. As such, they are subject to the same labeling and storage requirements as other hazardous waste.

ATTACHMENT II

Summary of requirements for <90 day storage sites.

1) Condition of loading/unloading areas. Area must be free of obstacles or deterioration that could cause a spill or accident.

2) Condition of storage area. Storage area should be kept free of obstacles that could prevent free access by emergency personnel. Containers should be spaced far enough apart to allow for visual inspection and entry by emergency personnel with equipment. Area should be free of possible ignition sources.

3) Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding a hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous waste. (See attached compatibility chart or contact HSE-8, HSE-7 for guidance)

4) Container material must be compatible with the waste. Do not store a waste that is corrosive to or otherwise will cause deterioration of the container. HSE-7 can assist you with choosing the proper container.

5) Container must be in good condition. Containers should be stored in a dry, preferably sheltered location. Deteriorated containers must be replaced immediately. Drums for liquid wastes should have a "bung" top. Do not package solids and liquids together.

6) All containers must be closed.

7) All containers must be properly labeled "HAZARDOUS WASTE." If more than one type of hazardous waste is stored in different containers, then each container should also be labeled by content (e.g. solvents, acids, caustics, etc.).

8) An accumulation start date must be properly marked on all containers, at the time the container first receives waste.

9) No container storage may exceed 90 days from date accumulation begins until they are delivered to TA-54 or TA-50. The 90 day period includes transport time by HSE-7. For disposal, contact HSE-7 at 667-7579 and submit a Chemical Waste Disposal Request (CWDR) form to MS J593. Allow for a minimum of two weeks notice.

10) Warning signs with the legend "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT" must be readable and prominently posted. The storage area should be identified by a sign that reads "HAZARDOUS WASTE LESS THAN 90 DAYS STORAGE AREA."

11) <90 day storage areas must be inspected daily (may vary), and a copy of the inspection record form must be submitted weekly to HSE-8. All records must be maintained for a minimum of three years by the generator. Inspection forms should be sent to Tony Grieggs, HSE-8, MS K490, ph. 665-0451.

12) Questions concerning regulations and the storage of hazardous waste by generators should be directed to Tony Grieggs, HSE-8, MS K490, 5-0451 or Jim White, HSE-8, 5-0677.

13) Hazardous waste leaks or spills must be cleaned up immediately and the resulting material handled as hazardous waste also.

Summary of requirements for satellite storage sites.

1) Waste must be accumulated in containers at or near the point of generation. Area must be free of obstacles or deterioration that could cause a spill or accident or, prevent access by emergency personnel and equipment. Area should be free of possible ignition sources.

2) Waste must be under the control of the generator.

3) Containers must be in good condition. Containers should be stored in a dry, preferably sheltered location. Deteriorated containers must be replaced immediately. Drums for liquid wastes should have a "bung" top. Do not package liquid and solid wastes together. Containers should be far enough apart to allow for visual inspection and access by emergency personnel with equipment.

4) Container material must be compatible with the waste. Do not store a waste that is corrosive to or otherwise will cause deterioration of the container. HSE-7 can assist you with choosing the appropriate container.

5) Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding a hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous waste. (See attached compatibility chart or contact HSE-8, HSE-7 for guidance)

6) All containers must be kept closed.

7) Containers must be labeled with the words "HAZARDOUS WASTE" and the major hazardous constituents should be listed.

8) Generators may accumulate a total of 55 gals. of hazardous waste or 1 qt. of acutely hazardous waste. This is the maximum allowable volume for a satellite storage area.

9) Wastes in excess of the above stated amounts may not be held more than 3 calendar days from the time the amount is exceeded. Dispose of all waste at this time. For disposal, contact HSE-7, 667-7579, MS J593 and submit a Chemical Waste Disposal Request (CWDR) form.

10) Containers holding the excess accumulation must be labeled as in (7) and marked with the date the excess amount began accumulating.

11) Signs must be readable and prominently posted. Signs should read "SATELLITE HAZARDOUS WASTE STORAGE AREA." (HSE-8 will provide these)

12) Questions concerning regulations and hazardous waste storage by generators should be directed to Tony Grieggs, HSE-8, MS K490, 5-0451 or Jim White, HSE-8, 5-0677.

13) Hazardous waste leaks or spills must be cleaned up immediately and the resulting material handled as hazardous waste also.

ATTACHMENT III

DETERMINING IF YOU HAVE A HAZARDOUS WASTE

Characteristic Wastes: A material may be a hazardous waste if it exhibits any of the following characteristics:

1) Ignitability - Flash point less than 60°C (140°F).

2) Corrosivity - Aqueous with a pH ≤ 2 or ≥ 12.5, OR it is a liquid and corrodes steel at a rate greater than 6.35 mm (.25")/year at a temperature of 55°C (130°F).

3) Reactivity - A) Normally unstable and readily undergoes violent change without detonating. B) Reacts violently with water. C) Forms potentially explosive mixtures with water. D) Generates toxic gases, vapors, or fumes when mixed with water. E) Capable of detonation or explosive decomposition at standard temperature and pressure.

4) EP-Toxicity - The occurrence of the following metals in the stated concentrations as determined by EP-TOXIC procedures.

Contaminant	Concentration	Units
Arsenic	5.0	mg/l
Barium	100.0	mg/l
Cadmium	1.0	mg/l
Chromium	5.0	mg/l
Lead	5.0	mg/l
Mercury	0.2	mg/l
Selenium	1.0	mg/l
Silver	5.0	mg/l

Listed Wastes: A material may be a hazardous waste if it contains a "listed" hazardous constituent.

The entire list of hazardous constituents is too extensive to include in this document but is available. Some of the more common hazardous constituents that may be encountered at the laboratory are listed below. Items contaminated with these materials are also considered to be a hazardous waste.

Halogenated solvents	Non-halogenated solvents
Tetrachloroethylene	Xylene
Trichloroethylene	Acetone
Methylene chloride	Ethyl acetate
1,1,1-trichloroethane	Ethyl ether
Carbon tetrachloride	Toluene
Chlorinated fluorocarbons	Methyl ethyl ketone (MEK)

Contact Tony Grieggs, HSE-8, 665-0451 or Jim White, 665-0677 for further information.

ATTACHMENT 2

MEMORANDUM

TO

PAN AM

ADDRESSING

REGULATORY REQUIREMENTS

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Charles Barnett, PAA PENV, MS A199 DATE: October 31, 1989

FROM: David McInroy, HSE-8 MAIL STOP/TELEPHONE: K490/7-0819

SYMBOL: HSE8-89-666

SUBJECT: **NOTICE OF VIOLATION FROM EID AT PAN AM FACILITIES**

Los Alamos National Laboratory received a Notice of Violation (NOV) from the New Mexico Environmental Improvement Division (EID). This NOV resulted from an inspection which occurred August 7-11. During the inspection it was noted that Pan Am was using presigned manifests for shipping of hazardous waste (Safety-Kleen solvent). This is a violation of Hazardous Waste Management Regulations (HWMR), Part III, section 262.20.

In the future Pan Am should not accept manifests from Safety-Kleen representatives that have been signed prior to shipment off-site. This should be signed only after the shipment has reached it's destination.

It was also noted that Pan Am may not be receiving adequate hazardous waste training. This is a violation of HWMR, part IV, section 265.16(a)-(d). Efforts should be made to ensure that all personnel receive adequate training and the record keeping of this training is coordinated with Pat Smith of HSE-3.

Should you have any questions pertaining to these violations please feel free to call Tony Grieggs at 665-0451 or me at 667-0819.

DM:bjh

Cy: M. Heineman, HSE-3, MS K489
J. White, HSE-8, MS K490
T. Grieggs, HSE-8, MS K490
J. Lopez, PAA PHSE, MS A199
CRM-4 (2), MS A150

ATTACHMENT 3

CLOSURE PLAN

REPLACEMENT PAGES

9.1.7 Security

Because low-level radioactive wastes have been handled and buried at TA-54, this site will be under the permanent care of the Department of Energy (DOE) or other authorized federal agency. Fences and site security (as described in Section 4.0) will be maintained in perpetuity to prohibit public access and to meet DOE requirements for radiation protection.

9.1.8 Notation of Deed

Notice to local land authority as per 40 CFR §264.119 (NMHWMR 206.D.2.i) and notation of deed as per §264.120 (NMHWMR 206.D.2.j[1]) is not required for units closed under this section. Land plats for Los Alamos landfill units closed under interim authority are provided to the local land authority as described in the closure plan for each landfill unit. The past use of the TA-54 site precludes any circumstances under which the deed for this area will be transferred to the public domain. The land will remain federally owned in the care of the DOE or other authorized federal agency.

9.1.9 Individual Closure Plans

Details of the closure plans for individual Los Alamos hazardous wastes units are included in the following sections.

9.2 CLOSURE PLAN FOR OPEN DETONATION/OPEN BURNING UNITS AND THE INDUSTRIAL INCINERATOR

9.2.1 Technical Areas 14, 15, 36, and 39 Open Detonation Units

High explosives (HE) open detonation sites are located at Los Alamos National Laboratory in Technical Areas 14, 15, 36, and 39. These sites are used routinely to detonate scrap high explosives (HE), failed experimental detonations, unneeded classified explosives shapes, other HE and reactive wastes determined to be excess. A site at TA-36 has also been used to detonate reactive wastes and other assorted regulated wastes. These sites consist of firing pads often located within a small canyon. Associated facilities at these sites include bunkers, which are occupied by technical personnel during detonations.

9.2.1.1 TA-14 Firing Site Description

The waste firing site at TA-14 is located just south of Control Building TA-14-23 (Figure 9-1). Four additional firing points are located south of the waste detonation site, but these have not been used for waste detonations. The waste detonation firing site consists of a three-sided blast shield that directs the impact of detonations away from the control building. At the base, the shield is a two-foot thick by six-foot square concrete pad overlaid with a neoprene shock pad, a 4.5-inch steel plate, and several inches of sand. Wastes are placed on the pad and detonated from the Control Building. Detonations at this firing site are limited to small pieces.

Just southeast of the firing pad is a small wire cage used to burn paper, tape, cotton swabs, and other trash items that have contacted HE and are suspected of being contaminated. The cage is a small metal cylinder approximately two feet tall and two feet in diameter. The cage is covered by a wire mesh screen and is situated within a steel tray. The tray itself is underlain by soil, and both the cage and tray are covered when not in use.

Both sites are located on a mesa top and the surrounding topography is generally flat, sloping gently to the south.

9.2.1.2 TA-15 Firing Site Description

The firing site at TA-15 is occasionally used to detonate regulated wastes and is located at the end of Building TA-15-184, the Phermex Chamber (Figure 9-2). The site is normally used for test detonations, but unneeded classified shapes and scrap HE have also been detonated. The firing site is underlain with two massive steel plates 0.5-foot thick by 5 feet wide by 20 feet long. The steel plates are laid lengthwise end-to-end with one end against the Phermex Building. There are various small housings for cameras and instrumentation around the firing pad. The Phermex Chamber and small housings are protected from detonations with sand bags.

The firing site is located on a mesa top and the topography of the area is generally flat with a gentle slope to the southwest.

9.2.1.3 TA-36 Firing Site Description

The firing site at TA-36 used for waste detonation is designated as Minie Site and is located west-southwest of Control Building 8 in a small canyon (Figure 9-3). The site is a flat area covered with sand. To the south of the detonation site is an instrument chamber. An auxiliary detonation point approximately 400 feet northeast of Building 7 was used to destroy waste pressurized gas cylinders. This auxiliary point is included within Minie site.

In addition to the HE wastes associated with explosives studies, reactive wastes and other regulated wastes have been detonated or included in HE detonations.

9.2.1.4 TA-39 Firing Site Description

Two sites normally used for test detonations have been used for HE waste detonations at TA-39. These detonation sites are those located at Firing Point 6 and 57 (Figures 9-4 and 9-5). The sites are all similar and consist of a sand pad located at the bottom of a narrow canyon. The canyon walls rise steeply 220 to 270 feet near the detonation sites and contain debris thrown by the detonations. The drainage channel is approximately in the center of the canyon floor and drains to the southwest.

9.2.1.5 Estimate of Maximum Waste in Treatment

Wastes are not stored at the detonation site, but are held in short-term storage (satellite) at the generation point and moved to the site just before detonation. The maximum HE waste in treatment at any one time at TA-14 is 10 pounds; at TA-15, 100 pounds; at TA-36, 200 pounds; at TA-39-57, 250 pounds; at TA-39-6, 100 pounds. Waste pressurized gas cylinders treated at TA-36 will not exceed 300 pounds at any one time.

9.2.1.6 Description of Waste Handled

All the detonation sites have been used to detonate waste HE and some of the sites have been used to burn paper, tape, and other trash items assumed to be contaminated with HE. HE wastes burned or detonated include HMX (cyclotetramethylenetetramine), RDX (cyclonite), TNT (2,4,6-trinitrotoluene), PETN (pentaerythritol tetranitrate), ammonium nitrate, barium nitrate, TATB (triaminotrinitrobenzene), nitrocellulose, tetryl, nitroguanidine, and various plastic binders. HE wastes detonated at TA-14 and 15 have included small amounts of lead, assumed to be aerosolized by the detonations. At TA-36 Minie Site, pressurized cylinders of known or unknown compressed gases, which cannot be safely sampled because of damaged valves or shipped off-site for treatment or disposal due to non-compliance with U.S. Department of Transportation regulations for shipment, are occasionally treated by explosive detonation.

9.2.1.7 TA-14, TA-15, TA-36 and TA-39 Closure Procedure

Closure for each site is similar. A sampling survey is conducted using a grid centered on each detonation point to determine the area of possible contamination. A surface sample is taken at each grid point, and vertical soil sampling is done at one-foot intervals to bedrock or to a maximum depth of three feet for the initial survey. If the initial grid sample analysis indicates vertical contamination at the maximum sample depth, additional sampling at one-foot intervals will be performed to determine the depth of contamination. If contamination is determined on the surface, additional sampling will be conducted by reducing the grid distance by one-half and taking additional site samples, dictated by terrain, until the contaminated area is defined. If contamination is found at the outside grid samples, the limits of the grid will be expanded to determine the outside perimeter of contamination. The contaminated soil will then be removed and handled as a regulated waste. The adequacy of decontamination is determined by additional sampling. Sampling, analysis, and documentation procedures are defined in Section 9.5.

TA-14 Sampling and Analysis Survey

The TA-14 waste detonation site will be separated into 40-foot by 40-foot grid squares extending 60 to 140 feet from the detonation point (Figure 9-1). The grid is offset to the south because deflection from the blast shield directs the debris in that direction. The grid is small in size because the site is used for the detonation of small HE pieces.

Composite soil samples will be taken representing the intersection of grid lines. Additional composite sediment samples will be taken in the drainage channel at the approximate locations shown in Figure 9-1. If channel sediment samples show contamination by regulated constituents, additional samples will be taken along the channel at 30-foot intervals. One additional composite soil sample will be taken at the burn cage location.

Four background composite samples will be taken; one to the north, east, south, and west of the site at a distance greater than 1500 feet from the detonation site. The exact sites for background samples will be field selected based on similar topographic and geologic characteristics to the detonation site and the lack of possible interference of other operating Laboratory sites. Two background sediment samples will be taken from the drainage channel upstream of the detonation site. If there is no sediment channel site outside the grid, background samples may be taken from similar nearby drainage channels. Care will be taken in selecting these background sample sites to preclude influences of other operating sites.

Field relocation of grid points may be required by topographic features. In such a case, the sample will be taken as closely as possible to the grid point and the new location will be documented.

Each grid point will be represented by a composite sample made up of four core samples taken ten feet along each grid line from the grid intersection. Background soil samples will be a composite of four cores with the same orientation as grid samples.

Sediment samples will be a composite of four sediment samples taken from the channel and evenly spaced over a ten-foot line following the channel. The burn pit center composite sample will be made up of four core samples taken from the center of each quarter of the pit.

Vertical soil sampling will be done at the topsoil, then at one-foot intervals to bedrock or to a maximum depth of three feet for the initial survey. Core samples shall include soil depth segments from 0.5 foot to one foot, 1.5 feet to two feet, and 2.5 feet to three feet.

Soil and sediment samples will be analyzed for the constituents listed in Table 9-2. Barium is a possible contaminant because it is used in several HE mixtures. The other toxic metals are included to ensure that these materials were not included in past detonations. A scan for volatile and semivolatile organics is conducted to ensure that residual from solvents used in HE preparation is not present.

Analysis is not conducted for HE constituents because these are a regulated waste based on reactivity and detonation or burning renders them nonreactive. Furthermore, none of the HE materials used at this site are 40 CFR 261, Appendix VIII constituents. Analysis and Quality Assurance/Quality Control will follow methods defined in Test Methods for Evaluating Solid Wastes, USEPA SW-846, most current edition (SW-846).

The following contamination criteria will be used to determine the extent of waste and residual removal necessary to achieve a clean closure. On completion of the analytical survey, the Laboratory will prepare a risk assessment for each constituent showing significant increase over background concentrations (mean ambient background metal concentrations in soils are shown in Table 9-3). A significant increase will be determined using statistical methods described in SW 846. The risk assessment will determine the threshold concentration for each constituent that represents a significant risk to human health and the environment and will take into account all possible pathways. Soils containing regulated constituent levels above the threshold concentration will be considered contaminated.

A copy of the completed risk assessment, along with pertinent backup data, will be provided to the NMEID for review and approval of the threshold values. Should NMEID find the threshold contamination levels inadequate, the Laboratory will negotiate threshold values agreeable to both parties.

The burn cage and tray will be removed and decontaminated prior to disposal. Because the tray provides secondary containment for any releases, and because the unit covering provides run off/run on control, contamination of surrounding soils is prevented and sampling is unnecessary.

TA-15 Sampling and Analysis Survey

The TA-15 waste detonation site will be divided into a grid on 75-foot grid centers near the detonation site center expanded to 150-foot centers at a distance of 150 feet or greater from the center (Figure 9-2). Because TA-15 has been used for major detonations, the grid is expanded to cover an extensive area.

Composite sediment samples will be taken in the drainage channels at the approximate locations indicated in Figure 9-2. The location of the samples will be documented.

Four background samples (north, east, south and west) at a distance greater than 3000 feet from the detonation site and two background channel sediment samples will be taken. Considerations for selecting background sample sites are as discussed for TA-14.

Composite sampling, analysis, and determination of contamination are the same as discussed for TA-14.

TA-36 Sampling and Analysis Survey

The TA-36 open detonation unit will be divided into a grid on 75-foot centers encompassing both detonation points expanded to 150-foot centers at a distance of 150 feet or greater from either point (Figure 9-3). Composite soil samples will be taken representing the intersection of grid lines. A composite sedi-

ment sample will be taken in the drainage channels at the approximate locations indicated in Figure 9-3.

Background samples and determination of contamination are the same as discussed for TA-14. Soil background samples will be taken at a distance greater than 3,000 feet from the detonation site. The samples will be analyzed for the constituents given in Table 9-4.

TA-39 Sampling and Analysis Survey

TA-39 open detonation units will be separated into 75-foot grids extending down the canyon floor from the detonation site (Figures 9-4 and 9-5). Composite soil samples will be taken representing the intersection of grid lines. Sediment samples will be taken in the drainage channels at the approximate locations shown on the figures. The exact locations of the sediment samples will be documented.

Four background samples (north, east, south and west) at a distance greater than 3,000 feet from the detonation sites and two background channel sediment samples will be taken. Because the debris from detonations may have been confined to the canyon floor by the steep canyon walls, the four background samples may be taken from the floors of similar adjacent canyons that are not affected by other laboratory operations. The northernmost firing point is near the head of the canyon and may have contaminated the channel sediment throughout the canyon. Background samples for sediment will be taken from an adjacent canyon.

The determination of contamination is the same as discussed for TA-14.

9.2.1.8 Decontamination

The decontamination procedure is similar for all sites. The approach to decontamination depends on the extent of contamination, as determined by the sampling survey. If the sampling survey indicates that there are no contaminated areas, no further action will be taken at the site. Where sites have small concrete pads covered with sand, such as TA-14, the sand will not be

tested, but will be placed in barrels and taken to Area L for storage and treatment or ultimate disposal off-site at a permitted facility. The sand pad at TA-15 will be tested for contamination as part of the grid because of its size. The pads of TA-36 and TA-39 have no concrete pad or other base, and will be handled similarly to other potentially contaminated soil areas. Should a small soil area be affected, the contaminated soil will be removed with hand shovels or a backhoe, loaded into drums, and transferred in a truck to Area L for storage and treatment or ultimate disposal off-site at a permitted facility.

Large contaminated soil volumes will dictate the use of sealed and covered dump trucks. In this event, the Laboratory will contract with a permitted transporter and disposal site contractor who will provide sealed gondola trucks and provide for decontamination of those trucks at the off-site disposal facility.

Personnel involved in sampling and decontamination will wear rubber gloves, safety glasses, and coveralls. Personnel involved in dust-generating activities, such as digging and filling drums, will wear dust masks to prevent inhalation of contaminated dust. The Laboratory's Industrial Hygiene Group, HSE-5, will review the site survey analytical data and recommend additional protective clothing.

Small equipment used to pick up soil will be scraped and brushed clean, and the accumulated dust will be placed in drums for transport to Area L. The equipment will be wrapped in sheet plastic and sealed with tape, then transported to the HE decontamination slab at TA-16-400.

The decontamination pad at TA-16-400 is used to wash down equipment used in handling HE. The cleaning water is collected in a sump and then hauled to the TA-16 burn pad area with a vacuum truck. At the burn pads, the water is filtered in two sand filters, the filter residual is burned, and the filtered water discharged under a NPDES permit. The equipment will be decontaminated by washing with detergent and water at TA-16-400. No testing for decontamination of equipment will be conducted because the regulated substances

present are reactive and washing with detergent is adequate for safe handling. Decontamination washwater used on equipment from TA-36 will be tested before and after for the constituents in Table 9-4 because of the potential for residuals from the pressurized cylinders.

The Laboratory recognizes that if extensive contamination has occurred, the closure plan presented here may be impractical. If the detonation site analytical survey proves this to be true, the Laboratory will provide the survey data to the Director of NMEID within 30 days of the completion of the analytical work. Within 60 days of submission of the survey data, the Laboratory will provide an amended closure plan. The plan may also be amended under other circumstances as per NMHWMR-5, Part VI, 40 CFR Section 265.112(b).

9.2.1.9 Decontamination Verification

Decontamination of the site will be demonstrated by additional sampling. Because removal of contaminated soil will leave an exposed surface, the disturbed surface will be resampled on the same grid used to define the contaminated area. Analysis and the determination of contamination is as previously discussed, and an analysis will be conducted only for those constituents that caused the area to be contaminated.

9.2.1.10 Closure Schedule for TA-14, TA-15, TA-36, and TA-39

The year of closure is 2100. The following closure schedule allows survey and closure of the four open detonation units in a consecutive manner; that is, on completion of the initial site sampling survey at the first site, the survey will be initiated at the second site. The soil sampling survey and selection of the decontamination contractor will be completed before closure begins. All four sites will be closed together but will, by necessity, be at different stages of closure. The lengths of time required for individual survey and closure steps are shown in Table 9-5.

Contracting for analytical services will include all four sites. The sampling survey will have to be staggered from site to site for efficient use of time

and must be completed at all sites before complete data are available to allow contracting for decontamination. The analytical survey for the four sites will take a cumulative 570 days and is dictated by the time required for sample analysis. Closure, followed by decontamination verification, will take 177 days for each site.

No time is allowed for removal or treatment of the final volume of wastes because there is no waste on-site except just before treatment. Closure will not commence until the last wastes from the source generator have been received and treated, and further acceptance of waste will cease.

Contracts for analytical work and soil removal are expected to exceed $100,000. Because laboratory policy requires that the work be put out for bid, 90 days are allowed to solicit and process the bids.

The location of the site is prone to snow cover in the winter months. Depending on the date NMEID approves the closure plan, the sampling survey may be delayed until the site is free of snow and the ground is thawed adequately to allow the soil sampling. The schedule includes a weather contingency to allow for weather delays.

9.2.1.11 Post-Closure Care

Post-Closure care plans are not required for these units because all wastes, residues, and contaminated equipment will be removed during closure.

9.2.1.12 Closure Certification for TA-14, TA-15, TA-36, and TA-39 Open Detonation Units

An independent registered professional engineer and the owner/operator of the facility shall witness the closure and ensure that the closure follows this plan. Upon completion of closure, the engineer and the DOE shall prepare a letter certifying that the area has been closed in accordance with this plan.

The letter shall be dated and signed by each party and stamped by the registered engineer, and the original copy submitted by the DOE to the Director of the NMEID. One copy shall be maintained at the DOE offices and one copy maintained by the HSE-8 Regulatory Compliance Section.

9.2.2 Technical Area 16 (TA-16) Open Burning Units

Units used to burn HE waste at TA-16 include three general types. One type consists of a sand pad on which explosives or explosives-contaminated equipment are placed and remotely burned using an "electric match" firing device. There are three such pads, measuring 30 feet by 30 feet square, and covered with two inches of sand. Each pad is located at the center of a 100- by 100-foot square area enclosed by a cyclone fence. The surface of the pads slope from the center to the edge. These are dedicated to wastes that can be burned without detonation, although unplanned detonations have occurred. The pads used for waste burning are designated as TA-16-387, TA-16-388, and TA-16-399.

A second type of unit at TA-16 consists of a sand-filled metal pan on which four smaller shallow pans lined with fire brick are located. Waste HE-contaminated fluids are poured into the smaller pans and the HE is remotely ignited with an "electric match." The outside pan is roughly 12- by 12-foot square and is filled with sand to six inches below the lip. The smaller pans are approximately two- by three-foot rectangular pans. The Laboratory has one unit of this type. About 100 gallons of waste are burned approximately once a month.

ATTACHMENT 4

PART A

REPLACEMENT PAGES

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F D

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

Department of Energy
Attn: Mr. James Anderson
Los Alamos Area Office
Los Alamos, N.M. 87544

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		NO
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		YES
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	X		NO
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP LOS ALAMOS NATIONAL LABORATORY

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 JAMES ANDERSON	505 667 5105 FTS 843-5105

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 LOS ALAMOS AREA OFFICE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 LOS ALAMOS	NM	87544

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 LOS ALAMOS

B. COUNTY NAME

LOS ALAMOS

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE
6 LOS ALAMOS	NM	87544	

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: (specify) NATIONAL SECURITY

B. SECOND: (specify)

C. THIRD: (specify)

D. FOURTH: (specify)

VIII. OPERATOR INFORMATION

A. NAME: LOS ALAMOS NATIONAL LABORATORY

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

F (specify)

D. PHONE (area code & no.): 505 667 5021

E. STREET OR P.O. BOX: PO BOX 1663 MS K 490

F. CITY OR TOWN: LOS ALAMOS

G. STATE: NM

H. ZIP CODE: 87545

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N NM0028355

D. PSD (Air Emissions from Proposed Sources): P

B. UIC (Underground Injection of Fluids): U

E. OTHER (specify): NM0023576 (specify) NPDES

C. RCRA (Hazardous Wastes): R

E. OTHER (specify) (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

The mission of Los Alamos National Laboratory (LANL) is the application of science and technology to solve national problems including weapons development and energy supply and conservation programs, while basic science research complements and strengthens its fundamental technical capabilities. The LANL is owned by the US Department of Energy and operated under contract by the University of California.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
James Anderson Los Alamos Area Manager	James A. Raeuy for	11-13-89

COMMENTS FOR OFFICIAL USE ONLY

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

*All entries with an asterisk in column IV B on Page 3 are generated in small volumes only. If a new process or activity will cause more than the stated volume to be stored, treated, or disposed, a revised Part A will be submitted.

EPA I.D. NO. (enter from page 1)

F NM0890010515 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground—level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
35 49 051	106 14 015

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E United States Department of Energy	505-667-5105

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F Los Alamos Area Office	G Los Alamos	NM	87544

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
James Anderson Los Alamos Area Office	James A. Rosenauer for	11-13-89

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
Siegfried S. Hecker Director, LANL and	James A. Rosenauer for	11/13/89

CONTINUE ON PAGE 5

James R. Anderson
Los Alamos Area Office

The following drawings are attached to the revised Part A dated 10/31/84

ENG-R 5277 Sheets 2 & 5 - "S" Site showing location of burn pits area - also relationship of "S" Site to rest of Lab. TA-40 & TA-14 locations where HE waste may be destroyed.

TA-16 - Structure Location Plan - Structural designation of pressure vessels (401, 406) and burn pads (387, 388, 399).

ENG-C-27630 - Pressure Vessel (406)

ENG-C-25937 - Pressure Vessel (401)

ENG-C-5849 - Burn Pads (387, 388, 389)

LA-RV-1-13.1 and LA-RV-P-9 - Batch Waste Treatment System at TA-50-1.

Area L Chemical Storage Facility, TA-54.

Area L Chemical Storage Facility, shed.

ENG-R-5277 Shed 10 - TA-15 and TA-36 - firing points where HE waste may be destroyed.

ENG-R-5277 Sheet 11 - TA-39 firing points where HE waste may be destroyed.

ENG-R-5277 Sheet 5 - TA-14 and TA-40 firing points where HE waste may be destroyed.

1. The following drawings are attached to the revised Part A dated 7/26/84:

   Figure 1 - Technical Area Location Plan

   Figure 4 - TA-50 Structure Location Plan showing location of the Batch Waste Treatment Facility in Building 1 and the controlled air incinerator in Building 37.

   Figure 5 - TA-54 Structure Location Plan showing Area L.

2. The following drawings are attached to the revised Part A dated April 1, 1985:

   TDF (Fig. 4-3 of Part B)

   TDF (Fig. 4-4 of Part B)

   TA-54 Area L Storage Area (2 drawings)

3. The following drawings and photographs are attached to the revised Part A dated 3/19/86:

   TA-54 Area L Storage Area Drawings, Revised July 25, 1985 (2 drawings)

   Photographs:

   TA-3, SM-40 - Temporary chemical waste storage

   TA-3, SM-102 - South Side, LiH room

   TA-9-39 (2 photographs) - Structure and bilingual sign for storage

   TA-14-23 - Building with bilingual sign

3. (cont'd.)

TA-14-23 and 35 - Building 23 with firing pad 35

TA-15, Phermex - Firing pad

TA-16, Area P - Area with bilingual sign

TA-16-387 - Burn pad

TA-16-406 - Storage area (temp)

TA-16-394 - Burn Pad

TA-16-401 - Storage area (temp)

TA-16-389 -Building used as control point

TA-16-399 - Burn Pad

TA-16-388 - Burn Pad

TA-22, TD 96-3 - Temporary storage area with bilingual sign

TA-22, TD 96 - Structure used as storage area (temp)

TA-22, TD 24 - Structure used as storage area (temp)

TA-36-8, Kappa 8 - Firing pad

TA-39, AC-6 - Firing pad

TA-39, AC-57 - Firing pad

TA-40, DF-2 - Structure used as temporary storage area

TA-50-1 - West side of building with BWT

TA-50-1, Batch Waste Treatment - East doors to BWT (middle of photo, in background)

TA-50-37 - TDF facility (east side)

TA-54, Area L (5 photographs)

4. The following drawings are attached to the revised Part A, dated November 25, 1987:

TA-16 Industrial Incinerator (location map)

TA-16 Spronz Industrial Incinerator

TA-50 Locations of TA-50 Chemical Waste Incinerator and Container Storage Facilities

TA-50 Chemical Storage (Concrete Pad)

TA-50 Safety Storage Containers (Modular Storage Buildings)

Continued from page 4.

5. The following figures are attached to the August 24, 1989 submittal:
   TA-50 Location of Additional Chemical Storage Pad.
   TA-50 Engineering Drawing of Chemical Storage Pad.
   TA-54 Temporary Storage of drummed liquids in bermed area.

6. The following figure is a new submittal:
   Figure 9-3 TA-36 Minie Firing Site.

RCRA COMPLIANCE INSPECTION REPORT FOR FY 1989

TSD FACILITIES CHECKLIST

Section A - General Facility Standards

1. Does facility have EPA Identification No.? (265.11 - Identification Number) -> YES

   A. If yes, EPA I.D. No. -> NM0890010515

   If no, explain

2. Has facility received hazardous waste from a foreign source? (265.12 - Required notices) -> NO

   A. If yes, has he filed a notice with the Reg. Admin. -> N/A

3. Has the facility received waste from off-site for recycling, reuse or reclamation? -> NO

   If yes, describe waste type and amount and method to be used.

Waste Analysis

4. Has the owner/operator obtained detailed chemical and physical analyses of representative samples of all hazardous wastes prior to treating, storing or disposing of those wastes? Some KOP is used in appropriate circumstances (See Attachment 11) -> YES

   If yes, Waste profiles are used to determine KOP (See Att. 12 and 13)

   a. Have the analyses been repeated as the processes or operations generating the wastes change? -> YES
      no changes reported for 1991

   b. For off-site facilities are analyses repeated when the waste received does not match the waste identified on the accompanying manifest? -> N/A

5. For off-site facilities, is each shipment of hazardous waste received at the facility inspected and if necessary, analyzed to determine if it corresponds to the waste listed on the accompanying manifest? -> N/A

6. Does the facility have a written waste analysis plan? (265.13 - General Waste Analysis) -> YES

a. If yes, is a copy maintained at the facility? -> YES

7. Does the waste analysis plan include the following:

a. Parameters for which each waste will be analyzed and the rationale for selection of these parameters? -> YES

b. Test methods used to test for these parameters? -> YES

c. Sampling method used to obtain a representative sample? -> YES

d. Frequency with which the initial analysis will be reviewed or repeated? -> YES

1. If yes, does it include requirements to re-test when the process or operation generating the waste has changed? -> YES

e. (For off-site facilities) waste analyses that generators have agreed to supply? -> N/A

f. (For off-site facilities) procedures which are used to inspect and analyze each shipment of hazardous waste received at the facility, including:

1. Procedures to be used to determine the identity of each movement of waste? -> N/A

2. Sampling method to be used to obtain representative sample of the waste to be identified? -> N/A

8. Does the facility provide adequate security to minimize the possibility for the unauthorized entry of persons or livestock onto the active portions of the facility? (265.14 - Security) -> YES

If no, describe the situation at the facility, document the facility's exemption under 265.14 a. (1) and (2).

If not exempt, is security provided through:

a. 24-hour surveillance system which continuously monitors and controls entry onto the active portion? (e.g., television monitoring or guards). -> YES

OR

b. 1. Artificial or natural barrier completely surrounding the active portion? (e.g., fence or fence and cliff)? -> YES

Describe type of security.
chain-link fencing with barbed wire, and cliffs

AND

2. Means to control entry at all times, through the gates or other entrances to the active portion (attendant, television monitors, locked entrance, controlled roadway access)? -> YES

Describe type of security.
attendants and locked entrances and/or controlled roadways

Include a drawing indicating any inadequacies in the facility's security system.

c. Is a sign with the legend, "Danger-Unauthorized Personnel Keep Out," posted at the entrance and at other locations in sufficient numbers to be seen from any approach to the active portion? (265.14 - Security) -> YES

Is it written in English and legible from at least 25 feet? -> YES

NOTE: The sign must be written in any other language predominant in the area surrounding the facility (e.g., in New Mexico and Texas areas bordering Mexico, the sign must be in Spanish).

If an existing sign with a legend other than "Danger-Unauthorized Personnel Keep Out," what does that legend say?

General Inspection Requirements

9. a. Does the owner/operator maintain a written inspection schedule? (265.15 - General Inspection Requirements) not for TA 54 Area G mw storage pads -> NO (yes for all other areas)

TSD FACILITIES CHECKLIST

If yes, does it contain at least schedules for inspecting the following: (Yes for all other areas)

1. Monitoring equipment? (If applicable) -> NA

2. Safety and emergency equipment? ->

3. Security devices? ->

4. Operating and structural equipment (if applicable) ->

b. Does the schedule or plan identify the types of problems to be looked for during inspection? ->

1. Malfunction or deterioration (e.g., inoperative sump pump, leaking fitting,, eroding dike, corroded pipes or tanks, etc.) ->

2. Operator error ->

3. Discharges (e.g., leaks from valves or pipes joint breaks, etc.) ->

c. Is the schedule maintained at the facility? ->

d. Are these inspections conducted? -> NO (Yes for all other areas)
not at TA 54 Area G MW storage pads, where containers are not visible for inspection

10. Does the owner/operator have an inspection log? (265.15 - General Inspection Requirements) -> NO (Yes for all other areas)
not at TA 54 Area G MW storage pads

a. If yes, does it include:

1. Date and time of inspection? -> NA

2. Name of inspector? . ->

3. Notation of observations? ->

4. Date and nature of repairs or remedial action? ->

b. Are there any malfunctions or other deficiencies noted in the inspection log that remain uncorrected? (Use narrative explanation sheet.) ->

c. Are records of the inspection log maintained at the facility for three (3) years? -> N/A (Yes for all other areas)

Personnel Training

11. Have facility personnel successfully completed a program of classroom or on-the-job training? -> YES

a. Does the training program include instructions in the following:

1. procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment -> YES

2. key parameters for automatic waste feed cut-off systems - where applicable -> YES

3. operation of communication or alarm systems -> YES

4. response to fires, explosions and groundwater contamination incidents -> YES

5. shutdown of operations - where applicable -> YES

6. general hazardous waste management procedures -> YES

b. Is the program directed by a person trained in hazardous waste management procedures? -> YES

c. Have personnel completed annual training reviews? -> NO
no documentation available for 3 employees verifying training was provided in last 12 mo. (See Attachment 14)

d. Does the owner/operator maintain the following documents:

1. job title, job description and name of employee for each position at the facility related to hazardous waste management -> YES

2. written description of the type and amount of both introductory and continuing training -> YES

3. written documentation that the training has been completed by facility personnel -> NO
not for 3 employees (See Attachment 14)

Requirements for Ignitable, Reactive or Incompatible Waste

12. Does facility handle ignitable or reactive wastes? (265.17 - Ignitable, Reactive, Incompatible Wastes) (Circle appropriate type(s) of waste(s). -> YES

    a. If yes, is waste separated and confined from sources of ignition or reaction, (open flames, smoking, cutting and welding, hot surface, frictional heat) sparks (static, electrical or mechanical), spontaneous ignition (e.g., from heat producing chemical reactions) and radiant heat? -> YES

    b. Are smoking and open flame confined to specifically designated locations? -> YES

    c. Are "No Smoking" signs posted in hazardous areas where ignitable or reactive wastes are handled? -> YES

    d. Is waste handled in a manner which generates extreme heat, pressure, violent reaction, toxic fumes or other dangers to human health or the environment? -> NO

Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion or contamination of the environment? (265.13 - Maintenance and operation of facility) -> NO

   If yes, use narrative explanations sheet to explain.

2. Is the facility equipped with (265.32 - Required equipment)

    a. Internal communications or alarm system -> YES

        1. Is it easily accessible in case of emergency? -> YES

    b. Telephone or two-way radio to call emergency response personnel -> YES

    c. Portable fire extinguishers, fire control equipment spill control equipment and decontamination equipment? -> YES

TSD FACILITIES CHECKLIST

1. Is this equipment tested to assure its proper operation? -> YES

d. Water of adequate volume for hoses, sprinklers or water spray system -> YES

1. Describe source of water numerous wells throughout the facility

2. Indicate flow rate and/or pressure and storage capacity, if available. not available, but deemed to be adequate

3. Is there sufficient aisle space to allow unobstructed movement of personnel and emergency equipment? (265.35-Required Aisle Space) -> YES
except at TA 54 Area G mw storage pads, where this is unknown (see report narrative)

4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (Layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) (265.37 - Arrangements with local authorities) LA municipal police would respond to road -> YES
incidents on city roads. Other authorities are DOE's internal departments

If no, has the owner/operator attempted to make such arrangements? -> N/A

5. In the case that more than one police or fire department might respond, is there a designated primary authority? (265.37 - Arrangements with local authorities) -> YES

If yes, indicate primary authority DOE security and fire departments

a. Is the fire department a city or volunteer fire department? -> DOE

6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors and equipment suppliers? -> YES

Are they readily available to the emergency coordinator? (265.37 - Arrangements with local authorities) -> YES

TSD FACILITIES CHECKLIST

7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility? If no, has the owner/operator attempted to do this? (265.37 - Arrangements with local authorities) -> YES

   If no, has the owner/operator attempted to do this? (265.37 - Arrangements with local authorities) -> N/A

8. If the State, or local authorities decline to enter into the above referenced agreements, has this situation been entered in the operating record? (265.37 - Arrangements with local authorities) -> N/A

Section C - Contingency Plan and Emergency Procedures

1. Does the facility have a contingency plan? (265.52 Content of Contingency Plan) -> YES

   a. If yes, does it contain:

      1. actions to be taken in response to emergencies? -> YES

      2. description of arrangements with police, fire and hospital officials? -> YES

      3. list of names, addresses, phone numbers of persons qualified to act as emergency coordinator? -> YES

      4. list, including the location and physical description of all emergency equipment -> YES

      5. evacuation plan for facility personnel including signals, primary and alternate routes? -> YES

2. Is a copy of the contingency plan maintained at the facility? (265.53 - copies of contingency plan) -> YES

3. Has a copy been supplied local police,, fire depts., and hospitals? (265.53 - copies of contingency plan) -> YES

4. Has the contingency plan been updated and amended as necessary? -> YES

5. Is the plan a revised SPCC Plan? (265.52 - content of contingency plan) -> NO

6. Is there an emergency coordinator on-site or within short driving distance of the plant at all times? -> YES

   If yes, list primary emergency coordinator.
   Ken Groves, Emergency Management Office

Section D - Manifest System

1. Has facility received hazardous waste from off-site since November 19, 1980? (265.71 - Use of manifest system) -> NO

   a. If no, questions 1, 2, 3 and 4 are not applicable.

   b. If yes, does the facility retain copies of all manifests for at least three (3) years? -> NA

      1. Are the manifests signed and dated and returned to the generator? ->

      2. Is a signed copy given to the transporter? ->

2. Has the facility received any hazardous waste from a rail or water (bulk shipment) transporter since Nov. 19, 1980? (265.71 - Use of manifest system) ->

   a. If yes, is it accompanied by a shipping paper ->

      1. Does the owner/operator sign and date the shipping paper and return a copy to the generator? ->

      2. Is a signed copy given to the transporter? ->

3. Has the facility received any shipments of hazardous waste since November 19, 1980, which were inconsistent with the manifest? (265.72 - Manifest discrepancies) ->

   a. If yes, has he resolved the discrepancy with the generator and transporter within 15 days? ->

1. If no, has Regional Administrator been notified in writing? -> N/A

4. Has the facility received any waste (that does not come under the small generator exclusion) not accompanied by a manifest? (265.76 - Unmanifested waste report) -> N/A

   a. If yes, has he submitted an unmanifested waste report to the Regional Administrator within 15 days? -> N/A

Section E - Record Keeping and Reporting

1. Does the facility have a written operating record? (265.73 - Operating record) -> YES

   a. Is a copy maintained at the facility? -> YES

   b. Does the record include:

      1. Description and quantity of each hazardous waste and the methods and dates of its treatment, storage or disposal at the facility. -> YES

      2. Location and quantity of each hazardous waste at each location. -> YES

         a. Is this information cross-referenced with specific manifest document numbers, if applicable? -> N/A

      3. (for disposal facilities only) Location and quantity of each hazardous waste recorded on a map or diagram of each cell or disposal area? -> YES

      4. Record and results of waste analyses -> YES

      5. Reports of incidents involving implementation of the contingency plan (if applicable) -> YES

      6. Records and results of required inspections -> YES

      7. Monitoring, testing or analytical data where required -> YES

TSD FACILITIES CHECKLIST

8. Closure cost estimates and for disposal facilities, post-closure cost estimates -> NA

2. Has the owner/operator submitted biennial reports as required? -> YES

Section F - Plans and Reports

1. Have all plans and reports been visually inspected and/or been made available for inspection? (265.74 - Availability, retention and disposition of records) -> YES

   List plans and/or reports not made available for inspection. If reports are accessible and not made available for inspection, explain.

2. Did operator provide inspector with a drawing of the facility? -> NO

   a. If yes, please indicate which are hazardous waste facilities on the drawing.

3. Indicate types of hazardous waste facilities:

   Containers -> YES

   Tanks -> YES

   Surface Impoundments -> YES

   Waste Piles ->

   Land Treatment ->

   Landfill -> YES

   Incinerator not operating -> YES

   Thermal Treatment -> YES

   Chemical, Physical and Biological Treatment ->

   Groundwater Monitoring Program -> YES

New Mexico Health and Environment Department

GARREY CARRUTHERS
Governor

DENNIS BOYD
Secretary

MICHAEL J. BURKHART
Deputy Secretary

RICHARD MITZELFELT
Director

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 8, 1989

Mr. James R. Anderson
Acting Area Manager
Los Alamos National Laboratory
DOE Area Office
Los Alamos, New Mexico 87544

RE: Response to Notice Of Violation
NM0890010515

Dear Mr. Anderson:

The New Mexico Environmental Improvement Division (EID) has received your response to the October 11, 1989 Notice of Violation (NOV) letter. Upon reviewing the response, we have determined that Los Alamos National Laboratory has adequately addressed the violations cited in the referenced NOV. Therefore, we are closing out the enforcement action concerning the NOV.

Regarding violation No. 2, the term "closed" container can be defined as any measure taken to seal the container so as to prevent accidental access and, in the event of an overturned container, uncontrollable spillage. Loosely fitting tops or unsealed funnels in bungs, for example, would not meet the requirement for a closed container. We are assuming that, based on your response, all containers are appropriately closed.

Regarding violation No. 10, we are assuming that the increased effort being undertaken to assure proper personnel training and documentation as described in your response is adequate to achieve compliance with 40 CFR sec. 265.16.

Thank you for your cooperation and attention in this matter. If you have any questions, please contact me at (505)827-2929.

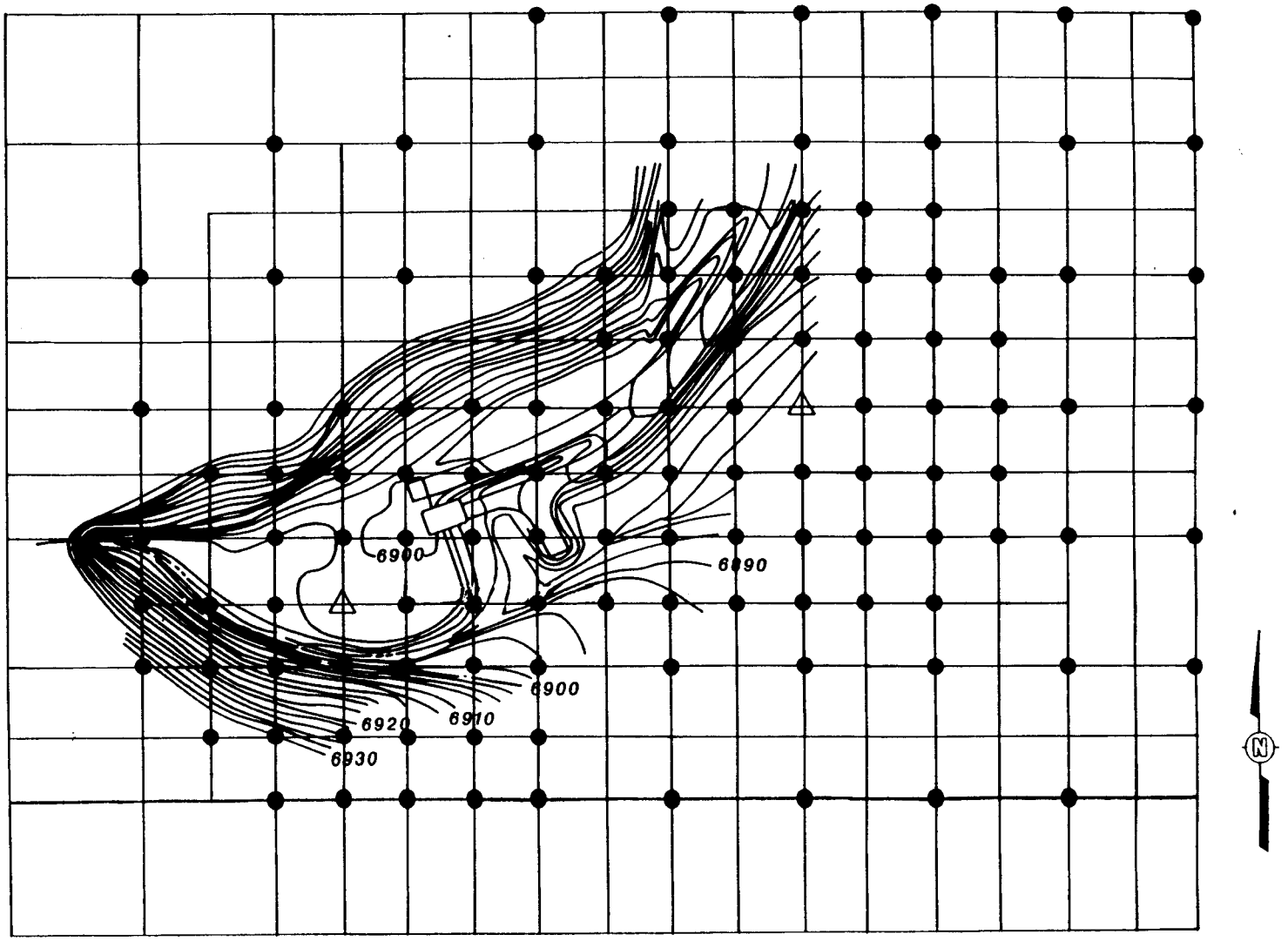
Sincerely,

Boyd Hamilton

Boyd Hamilton
Program Manager
Hazardous Waste Section

BH/cm

cc: Lynn Prince, U.S. EPA Region VI (6H-HS)
EID District II Office



8 -CONTROL BUILDING
▲-SEDIMENT SAMPLE LOCATION
●-SOIL SAMPLE LOCATION
△- DETONATION POINT AND SOIL SAMPLE LOCATION

FIGURE 9-3 TA-36 MINIE FIRING SITE

ATTACHMENT IV

HSE-8 RCRA CONTACTS
MS K490

TONY GRIEGGS	5-0451	104-2031
DAVE MCINROY	7-0819	104-1924
JIM WHITE	5-0677	
ALICE BARR	7-0820	
STEVE MCLIN	5-1721	

(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F N M 0 8 9 0 0 1 0 5 1 5

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR. 8 | MO. | DAY

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided on form III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5	T 0 2	500	U	
X-2	T 0 3	20	E		6	T 0 3	0.56	D	
1	S 0 1	275,820	G		7	T 0 4	NA(See IIIC.)		
2	S 0 2	6,600	G		8	T 0 4	2,534	U	
3	S 0 4	5,000	G		9				
4	T 0 1	7,680	U		10				

CONTINUE ON REVERSE

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

(a) Active units - See Part B Permit application for descriptions
(b) Inactive units to be closed under interim status - See individual closure plans for descriptions

\+ Revised as of November, 1988

See Page 2a of 5 for explanations on process codes

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** – For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: **HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER** – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

E. **EXAMPLE FOR COMPLETING ITEM IV** *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

 CONTINUE ON PAGE 3

EXPLANATION OF PROCESS CODE LISTINGS AND/OR DESIGN CAPACITY

Line 1	S01	TA-54, Area L TA-50, Batch Waste Treatment Storage Unit
Line 2	S02	TA-54, Area L Waste Oil Storage Tanks
Line 3	S04	TA-54, Area L Surface Impoundments B and D TA-35, TSL-85 and TSL-125 Surface Impoundments
Line 4	T01	TA-54, Area L TA-50, Batch Waste Treatment Unit
Line 5	T02	TA-16, Surface Impoundment
Line 6	T03	TA-16, Incinerator TA-50, Incinerator
Line 7	T04	The following open burning units are located at TA-16:

- Two burn pads (388, 399) for burning HE-contaminated solids. Each unit has a capacity of 1,000 pounds of solids per burn.
- Two pressure vessels (401, 406) for burning HE-contaminated sludges. Each unit has a capacity of 750 pounds of sludge per burn.
- One burn pad for HE-contaminated oil/solvent mixtures. This unit has a capacity of 100 gallons per burn.
- One flash pad for HE-contaminated equipment. This unit does not have a design capacity.
- One burn cage for HE-contaminated paper. This unit has a capacity of 3.0 cubic feet per burn.

The following waste detonation units are designed to open detonate explosives:

Unit	Design Capacity (pounds of HE per detonation)
TA-14-35	10
TA-15, Phermex	100
TA-36, Minie Site	200

	TA-40, SDS	Inactive unit to be closed under interim status
	TA-39-6	100
	TA-39-57	250

Line 7	T04	Annual detonation at TA-36 Minie Site of no more than 10,000 pounds of compressed gas cylinders of known or unknown gases which cannot be safely sampled due to damaged valves or shipped off-site for treatment due to non-compliance with Department of Transportation regulations for shipment of pressurized cylinders.
Line 8	T04	Waste sludges from TA-54, Area L treatment tanks and the TA-50 Batch Waste Treatment unit are mixed with portland cement and/or Envirostone and placed in 55-gallon drums. The cement serves to bind any fluid remaining in the sludge. This process is performed at TA-54, Area L.
Line 9	D80	TA-54, Area L TA-54, Area G TA-54, Area H TA-16, Area P

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S30004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
NMD990010515	W DUP	12 DUP

V DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a process not listed is entered in D.1.)
1	D001	100,000	P	S01	T03			
2	D002	320,000	P	S01	T01			
3	D003	35,000	P	S01	T01	T04		Reacted at TA-16 (See III C.)
4	D003	5,000	P	S01		T01		Lithium Hydride only +
5	D004	2,000	P	S01	T01			
6	D005	60,000	P	S01	S02	T01		Sand from cleanout of explosive burn pads.
7	D006	1,000	P	S01	T01			
8	D007	1,500	P	S01	T01			
9	D008	50,000	P	S01	T01			May contain other metals (D004-D011
10	D009	15,000	P	S01	T01			
11	D010	7500	P	S01	T01			
12	D011	7500	P	S01	T01			
13	D012	1000	P	S01	T03			
14	D016	1,000	P	S01	T03			
15		END OF D DESIGNATOR						
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

EPA Form 3510-3 (6-80)

CONTINUE ON REVE

Continued from page 2.
NOTE Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W M D 8 9 0 0 1 0 5 1 5	W DUP 2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	F001	10,000	P	S01 S02 T03 T04	Solidified if treatment standards are met
2	F002	75,000	P	S01 S02 T03 T04	
3	F003	150,000	P	S01 S02 T03 T04	
4	F004	500*	P	S01 T03	
5	F005	15,000	P	S01 S02 T03 T04	
6	F006	500*	P	S01 T01	
7	F007	12,500	P	S01 T01	
8	F008	1,000	P	S01 T01	
9	F009	6,000	P	S01 T01	
10	F027	700	P	S01 T03	
11	F028	700	P	S01 T03	
12		END OF F DESIGNATOR			
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Continue from page 2.
NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M 0 8 9 0 0 1 0 5 1 5 / 1	W DUP / 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	K044	20,000	P	S01 T04	
2	K047	500*	P	S01 T04	
3	K045	2,000	P	S01 T04	+
4		END. OF DESIGNATOR			
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EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M 0 8 9 0 0 1 0 5 1 5 T A C 1	W DUP T A C 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	P001	500#	P	S01 T03	
2	P002	500#	P	S01 T03	
3	P003	500#	P	S01 T03	
4	P004	500#	P	S01 T03	
5	P005	500#	P	S01 T03	
6	P006	500#	P	S01 T04	
7	P007	500#	P	S01 T03	
8	P008	500#	P	S01 T03	
9	P009	500#	P	S01 T04	
10	P010	500#	P	S01	
11	P011	500#	P	S01	
12	P012	500#	P	S01	
13	P013	500#	P	S01 T01	
14	P014	500#	P	S01 T03	
15	P015	500#	P	S01	
16	P016	500#	P	S01 T03	
17	P017	500#	P	S01 T03	
18	P018	500#	P	S01 T03	
19	P020	500#	P	S01 T03	
20	P021	500#	P	S01 T01	
21	P022	500#	P	S01 T04	
22	P023	500#	P	S01 T03	
23	P024	500#	P	S01 T03	
24	P026	500#	P	S01 T03	
25	P027	500#	P	S01 T03	
26	P028	500#	P	S01 T03	

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S8000d

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
NMD980105151	W DUP 2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	F029	500#	P	S01	T01			
2	F030	500#	P	S01	T01			
3	F031	500#	P	S01	T04	T03		
4	F033	500#	P	S01	T04	T03		
5	F034	500#	P	S01	T03			
6	F036	500#	P	S01	T03			
7	F037	500#	P	S01	T03			
8	F038	500#	P	S01	T03			
9	F039	500#	P	S01	T03			
10	F040	500#	P	S01	T03			
11	F041	500#	P	S01	T03			
12	F042	500#	P	S01	T03			
13	F043	500#	P	S01	T03			
14	F044	500#	P	S01	T03			
15	F045	500#	P	S01	T03			
16	F046	500#	P	S01	T03			
17	F047	500#	P	S01	T03			
18	F048	500#	P	S01	T03			
19	F049	500#	P	S01	T03			
20	F050	500#	P	S01	T03			
21	F051	500#	P	S01	T03			
22	F054	500#	P	S01	T01	T04	T03	
23	F056	500#	P	S01				
24	F057	500#	P	S01	T03			
25	F058	500#	P	S01				
26	F059	500#	P	S01	T03			

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CONTINUE ON REV.

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): W N M 0 8 9 0 0 1 0 5 1 5 1

FOR OFFICIAL USE ONLY: W DUP DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	P060	500#	P	S01 T03	
2	P062	500#	P	S01 T03	
3	P063	500#	P	S01 T03 T04	
4	P064	500#	P	S01 T03 T04	
5	P065	500#	P	S01 T04	
6	P066	500#	P	S01 T03	
7	P067	500#	P	S01 T03	
8	P068	500#	P	S01 T03	
9	P069	500#	P	S01 T03 T04	
10	P070	500#	P	S01 T03	
11	P071	500#	P	S01 T03 T04	
12	P072	500#	P	S01 T03	
13	P073	500#	P	S01 T01 T04	
14	P074	500#	P	S01 T01	
15	P075	500#	P	S01 T03	
16	P076	500#	P	S01 T01 T04	
17	P077	500#	P	S01 T03 T04	
18	P078	500#	P	S01 T01	
19	P081	500#	P	S01 T04	
20	P082	500#	P	S01 T03	
21	P084	500#	P	S01 T03	
22	P085	500#	P	S01 T03	
23	P087	500#	P	S01	
24	P088	500#	P	S01 T03	
25	P089	500#	P	S01 T03	
26	P092	500#	P	S01 T03	

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CONTINUE ON REVERSE

Continued from page 2.
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Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
NMD980105115	W DUP	2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1)
1	F093	500*	P	S01	T03			
2	F094	500*	P	S01	T03			
3	F095	500*	P	S01	T03			
4	F096	500*	P	S01	T03	T04		
5	F097	500*	P	S01	T03			
6	F098	500*	P	S01	T01			
7	F099	500*	P	S01	T01			
8	F101	500*	P	S01	T03			
9	F102	500*	P	S01	T03			
10	F103	500*	P	S01	T03			
11	F104	500*	P	S01	T01			
12	F105	500*	P	S01				
13	F106	500*	P	S01	T01			
14	F107	500*	P	S01	T04			
15	F108	500*	P	S01	T03			
16	F109	500*	P	S01	T03			
17	F110	500*	P	S01	T03			
18	F111	500*	P	S01	T03			
19	F112	500*	P	S01	T03	T04		
20	F113	500*	P	S01	T01			
21	F114	500*	P	S01	T01			
22	F115	500*	P	S01	T01			
23	F116	500*	P	S01	T03			
24	F118	500*	P	S01	T03			
25	F119	500*	P	S01				
26	F120	500*	P	S01				

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CONTINUE ON REVERSE

Continued from page 2.
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EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M 0 8 9 0 0 1 0 5 1 5	W DUP 2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	P 1 2 1	500*	P	S 0 1 T 0 1	
2	P 1 2 2	500*	P	S 0 1 T 0 4	
3	P 1 2 3	500*	P	S 0 1 T 0 3	
4		END OF P DESIGNATOR			
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NOTE Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
W N M 0 8 9 0 0 1 0 5 1 5	W DUP	DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered)
1	U001	500*	P	S01	T03			
2	U002	1000	P	S01	T03			
3	U003	500*	P	S01	T03			
4	U004	500*	P	S01	T03			
5	U005	500*	P	S01	T03			
6	U006	500*	P	S01	T04	T03		
7	U007	500*	P	S01	T03			
8	U008	500*	P	S01	T03	T04		
9	U009	500*	P	S01	T03			
10	U010	500*	P	S01	T03			
11	U011	500*	P	S01	T03			
12	U012	500*	P	S01	T03			
13	U014	500*	P	S01	T03			
14	U015	500*	P	S01	T03			
15	U016	500*	P	S01	T03			
16	U017	500*	P	S01	T03			
17	U018	500*	P	S01	T03			
18	U019	1000	P	S01	T03			
19	U020	500*	P	S01	T03	T04		
20	U021	500*	P	S01	T03			
21	U022	500*	P	S01	T03			
22	U023	500*	P	S01	T03	T04		
23	U024	500*	P	S01	T03			
24	U025	500*	P	S01	T03			
25	U026	500*	P	S01	T03			
26	U027	500*	P	S01	T03			

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CONTINUE ON RE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from page 2.
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Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M 0 8 9 0 0 1 0 5 1 5	W DUP 2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	U028	500*	P	S01	T03			
2	U029	500*	P	S01	T03			
3	U030	500*	P	S01	T03			
4	U031	500*	P	S01	T03			
5	U032	500*	P	S01	T01			
6	U033	500*	P	S01	T04			
7	U034	500*	P	S01	T03			
8	U035	500*	P	S01	T03			
9	U036	500*	P	S01	T03			
10	U037	500*	P	S01	T03			
11	U038	500*	P	S01	T03			
12	U039	500*	P	S01	T03			
13	U041	500*	P	S01	T03			
14	U042	500*	P	S01	T03	T04		
15	U043	500*	P	S01	T03	T04		
16	U044	1000	P	S01	T03			
17	U045	500*	P	S01	T03	T04		
18	U046	500*	P	S01	T03			
19	U047	500*	P	S01	T03			
20	U048	500*	P	S01	T03			
21	U049	500*	P	S01	T03			
22	U050	500*	P	S01	T03			
23	U051	500*	P	S01	T03			
24	U052	500*	P	S01	T03			
25	U053	500*	P	S01	T03			
26	U055	500*	P	S01	T03			

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CONTINUE ON REVERS

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from page 2.
NOTE: If necessary, list page before continue... if you have more than 26 wastes to list.

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EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M D 8 9 0 0 1 0 5 1 5	W DUP DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	U056	500#	P	S01 T03	
2	U057	500#	P	S01 T03	
3	U058	500#	P	S01 T03	
4	U059	500#	P	S01 T03	
5	U060	500#	P	S01 T03	
6	U061	500#	P	S01 T03	
7	U062	500#	P	S01 T03	
8	U063	500#	P	S01 T03	
9	U064	500#	P	S01 T03	
10	U066	500#	P	S01 T03	
11	U067	500#	P	S01 T03	
12	U068	500#	P	S01 T03	
13	U069	500#	P	S01 T03	
14	U070	500#	P	S01 T03	
15	U071	500#	P	S01 T03	
16	U072	500#	P	S01 T03	
17	U073	500#	P	S01 T03	
18	U074	500#	P	S01 T03	
19	U075	500#	P	S01	
20	U076	500#	P	S01 T03	
21	U077	500#	P	S01 T03	
22	U078	500#	P	S01 T03	
23	U079	500#	P	S01 T03	
24	U080	1000	P	S01 T03	
25	U081	500#	P	S01 T03	
26	U082	500#	P	S01 T03	

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CONTINUE ON REVERSE

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Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
N M 0 8 9 0 0 1 0 5 1 5	W DUP DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)		2. PROCESS DESCRIPTION (if a code is not entered in D.1)
1	U 0 8 3	500*	P	S 0 1	T 0 3	
2	U 0 8 4	500*	P	S 0 1	T 0 3	
3	U 0 8 5	500*	P	S 0 1	T 0 3	
4	U 0 8 6	500*	P	S 0 1	T 0 3	
5	U 0 8 7	500*	P	S 0 1	T 0 3	
6	U 0 8 8	500*	P	S 0 1	T 0 3	
7	U 0 8 9	500*	P	S 0 1	T 0 3	
8	U 0 9 0	500*	P	S 0 1	T 0 3	
9	U 0 9 1	500*	P	S 0 1	T 0 3	
10	U 0 9 2	500*	P	S 0 1	T 0 4	T 0 3
11	U 0 9 3	500*	P	S 0 1	T 0 3	
12	U 0 9 4	500*	P	S 0 1	T 0 3	
13	U 0 9 5	500*	P	S 0 1	T 0 3	
14	U 0 9 6	500*	P	S 0 1	T 0 3	
15	U 0 9 7	500*	P	S 0 1	T 0 3	
16	U 0 9 8	500*	P	S 0 1	T 0 3	
17	U 0 9 9	500*	P	S 0 1	T 0 3	–
18	U 1 0 1	500*	P	S 0 1	T 0 3	
19	U 1 0 2	500*	P	S 0 1	T 0 3	
20	U 1 0 3	500*	P	S 0 1	T 0 3	
21	U 1 0 5	500*	P	S 0 1	T 0 3	
22	U 1 0 6	500*	P	S 0 1	T 0 3	
23	U 1 0 7	500*	P	S 0 1	T 0 3	
24	U 1 0 8	500*	P	S 0 1	T 0 3	
25	U 1 0 9	500*	P	S 0 1	T 0 3	
26	U 1 1 0	500*	P	S 0 1	T 0 3	

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE CONSTANT
W N H 0 8 9 0 0 1 0 5 1 5	W DUP DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 1 1 1	500*	P	S 0 1	T 0 3			
2	U 1 1 2	500*	P	S 0 1	T 0 3	T 0 4		
3	U 1 1 3	500*	P	S 0 1	T 0 3	T 0 4		
4	U 1 1 4	500*	P	S 0 1	T 0 3			
5	U 1 1 5	500*	P	S 0 1	T 0 3	T 0 4		
6	U 1 1 6	500*	P	S 0 1	T 0 3			
7	U 1 1 7	500*	P	S 0 1	T 0 3	T 0 4		
8	U 1 1 8	500*	P	S 0 1	T 0 3	T 0 4		
9	U 1 1 9	500*	P	S 0 1	T 0 3			
10	U 1 2 0	500*	P	S 0 1	T 0 3			
11	U 1 2 1	500*	P	S 0 1				
12	U 1 2 2	1000	P	S 0 1	T 0 3			
13	U 1 2 3	500*	P	S 0 1	T 0 3			
14	U 1 2 4	500*	P	S 0 1	T 0 3			
15	U 1 2 5	500*	P	S 0 1	T 0 3			
16	U 1 2 6	500*	P	S 0 1	T 0 3			
17	U 1 2 7	500*	P	S 0 1	T 0 3			
18	U 1 2 8	500*	P	S 0 1	T 0 3			
19	U 1 2 9	500*	P	S 0 1	T 0 3			
20	U 1 3 0	500*	P	S 0 1	T 0 3			
21	U 1 3 1	500*	P	S 0 1	T 0 3			
22	U 1 3 2	500*	P	S 0 1	T 0 3			
23	U 1 3 3	500*	P	S 0 1	T 0 3	T 0 4		
24	U 1 3 4	10,000	P	S 0 1	T 0 1			
25	U 1 3 5	500*	P	S 0 1	T 0 4	T 0 3	T 0 1	
26	U 1 3 6	500*	P	S 0 1	T 0 3			

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EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M 0 8 9 0 0 1 0 5 1 5 — T/A C: 1	W DUP — T/A C: 2 DUP

IV DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	U137	500#	P	S01 T03	
2	U138	500#	P	S01 T03	
3	U139	500#	P	S01 T03	
4	U140	500#	P	S01 T03	
5	U141	500#	P	S01 T03	
6	U142	500#	P	S01 T03	
7	U143	500#	P	S01 T03	
8	U144	500#	P	S01	
9	U145	500#	P	S01	
10	U146	500#	P	S01	
11	U147	500#	P	S01 T03	
12	U148	500#	P	S01 T03	
13	U149	500#	P	S01 T03	
14	U150	500#	P	S01 T03	
15	U151	500#	P	S01	
16	U152	500#	P	S01 T03	
17	U153	500#	P	S01 T03	
18	U154	500#	P	S01 T03	
19	U155	500#	P	S01 T03	
20	U156	500#	P	S01 T03	
21	U157	1000	P	S01 T03	
22	U158	500#	P	S01 T03	
23	U159	1000	P	S01 T03	
24	U160	500#	P	S01 T03 T04	
25	U161	500#	P	S01 T03	
26	U162	500#	P	S01 T03	

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NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

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EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
W N M 0 8 9 0 0 1 0 5 1 5	W DUP	DUP

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	U163	500*	P	S01 T03	
2	U164	500*	P	S01 T03	
3	U165	500*	P	S01 T03	
4	U166	500*	P	S01 T03	
5	U167	500*	P	S01 T03	
6	U168	500*	P	S01 T03	
7	U169	500*	P	S01 T03	
8	U170	500*	P	S01 T03	
9	U171	500*	P	S01 T03	
10	U172	500*	P	S01 T03	
11	U173	500*	P	S01 T03	
12	U174	500*	P	S01 T03	
13	U176	500*	P	S01 T03	
14	U177	500*	P	S01 T03	
15	U178	500*	P	S01 T03	
16	U179	500*	P	S01 T03	
17	U180	500*	P	S01 T03	
18	U181	500*	P	S01 T03	
19	U182	500*	P	S01 T03	
20	U183	500*	P	S01 T03	
21	U184	500*	P	S01 T03	
22	U185	500*	P	S01 T03	
23	U186	500*	P	S01 T03	
24	U187	500*	P	S01 T03	
25	U188	1000	P	S01 T03	
26	U189	500*	P	S01 T04 T03	

EPA Form 3510-3 (6-80)

CONTINUE ON REV

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W N M 0 8 9 0 0 1 0 5 1 5	W DUP 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)			2. PROCESS DESCRIPTION (if a code is not entered in D.1.)
1	U190	500#	P	S01	T03		
2	U191	500#	P	S01	T03		
3	U192	500#	P	S01	T03		
4	U193	500#	P	S01	T03		
5	U194	500#	P	S01	T03		
6	U196	500#	P	S01	T03		
7	U197	500#	P	S01	T03		
8	U200	500#	P	S01	T03		
9	U201	500#	P	S01	T03		
10	U202	500#	P	S01	T03		
11	U203	500#	P	S01	T03		
12	U204	500#	P	S01			
13	U205	500#	P	S01	T04		
14	U206	500#	P	S01	T03		
15	U207	500#	P	S01	T03		
16	U208	500#	P	S01	T03		
17	U209	500#	P	S01	T03		
18	U210	500#	P	S01	T03		
19	U211	1000	P	S01	T03		
20	U212	500#	P	S01	T03		
21	U213	500#	P	S01	T03	T04	
22	U214	500#	P	S01	T03		
23	U215	500#	P	S01			
24	U216	500#	P	S01			
25	U217	500#	P	S01	T04		
26	U218	500#	P	S01	T03		

Continued from page 2.
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EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
W N M 0 8 9 0 0 1 0 5 1 5	W DUP	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D.1)
1	U219	500*	P	S01 T03	
2	U220	1000	P	S01 T03	
3	U221	500*	P	S01 T03	
4	U222	500*	P	S01 T03	
5	U223	1000	P	S01 T03	
6	U225	500*	P	S01	
7	U226	1500	P	S01 T03	
8	U227	500*	P	S01 T03	
9	U228	2000	P	S01 T03	
10	U230	500*	P	S01 T03	
11	U231	500*	P	S01 T03	
12	U232	500*	P	S01 T03	
13	U233	500*	P	S01 T03	
14	U234	500*	P	S01 T04 T03	
15	U235	500*	P	S01 T03	
16	U236	500*	P	S01 T03	
17	U237	500*	P	S01 T03	
18	U238	500*	P	S01 T03	
19	U239	1000	P	S01 T03	
20	U240	500*	P	S01 T03	
21	U242	500*	P	S01 T03	
22	U243	500*	P	S01 T03	
23	U244	500*	P	S01 T03	
24	U246	500*	P	S01	
25	U247	500*	P	S01 T03	
26	U248	500*	P	S01 T03	

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Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

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EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
W N M 0 8 9 0 0 1 0 5 1 5	1	W DUP	2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U249	500*	P	S01				
2	U326	500*	P	S01	T03			
3	U353	500*	P	S01	T03			+
4	U359	500*	P	S01	T03			
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Department of Energy
Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

OCT 1 1989

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Gini Nelson, Esquire
Assistant General Counsel
Health & Environment Department
1190 St. Francis Drive
Harold Runnels Building, S-4100
Santa Fe, NM 87503

Dear Ms. Nelson:

SUBJECT: COMPLIANCE ORDERS DOCKET NOS. 880801 AND 880801-A, CASE NO. 89-01

Enclosed is the response of Respondent the Department of Energy to your request for the identification of witnesses under Rule 302 and a copy of the Certificate of Service furnished to the Hearing Clerk. The Department of Energy understands that this request is continuing in nature as provided in Rule 301.A.

Sincerely,

Joyce Hester Laeser
Counsel

Enclosures

cc w/enclosures:
Michael Yesley, Attorney, LANL, MS-A187

EXHIBIT
A

BEFORE THE DIRECTOR OF THE
ENVIRONMENTAL IMPROVEMENT DIVISION
OF THE NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT

In the Matter of
Compliance Orders Docket
Nos. 880801 and 880801-A

Docket No. 89-01

DOE RESPONSE TO RULE 302 REQUEST FOR IDENTITY OF WITNESSES

The following are the names, addresses, and telephone numbers of witnesses DOE has identified to date:

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Respectfully submitted,

Joyce Hester Laeser
Counsel for DOE

BEFORE THE DIRECTOR OF THE
ENVIRONMENTAL IMPROVEMENT DIVISION
OF THE NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT

In the Matter of
Compliance Orders
Docket Nos. 880801 and 880801-A

Docket No. 89-01

CERTIFICATE OF SERVICE

I hereby certify that the Department of Energy's response to Complainant's request for the identification of witnesses under Rule 302 dated October 11, 1989, was mailed by Certified Mail, Return Receipt Requested on this 17th day of October, 1989, to Gini Nelson, Assistant General Counsel, Health and Environment Department, 1190 St. Francis Drive, Harold Runnels Building, S-4100, Santa Fe, New Mexico 87503.

Joyce Hester Laeser

Joyce Hester Laeser

Department of Energy
Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

OCT 17 1989

Swami LaCuesta, Hearing Clerk
1190 St. Francis Drive
Harold Runnels Building, S-4100
Santa Fe, NM 87503

Dear Ms. LaCuesta:

SUBJECT: COMPLIANCE ORDERS DOCKET NOS. 880801 AND 880801-A
CASE NO. 89-01

I am enclosing an original and one copy of the Certificate of Service of DOE's Response to Rule 302 Request for Identity of Witnesses.

Please stamp and return the copy in the enclosed stamped envelope.

Sincerely,

Joyce Hester Laeser

Joyce Hester Laeser
Counsel

cc w/o enclosures:
Michael Yesley, OLC, LANL, MS-A187

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OCT 20 1989
LEGAL

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Laboratory Counsel/General Law

DATE: October 19, 1989
IN REPLY REFER TO: LC/GL-10525-8806/89880
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RECEIVED
OCT 20 1989
LEGAL

Dear Ms. Nelson:

SUBJECT: COMPLIANCE ORDERS DOCKET NOS. 880801 AND 880801-A; CASE NO. 89-01

In response to your request dated October 11, 1989, for the names and addresses of witnesses, pursuant to Rule 302 of the Hearing Rules for this matter, I am transmitting the list enclosed herewith.

Sincerely Yours,

Michael S. Yesley
Staff Attorney

MSY:rvj

Enclosures: a/s

Cy: G. Nelson, w/o enc.
CRM-4, w/enc., MS A150
RECORDS, w/enc., MS A187
File (3)

EXHIBIT
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BEFORE THE DIRECTOR OF THE
ENVIRONMENTAL IMPROVEMENT DIVISION
OF THE NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT

In the Matter of
Compliance Orders **Docket No. 89-01**
Docket Nos. 880801 and 880801-A

CERTIFICATE OF SERVICE

The undersigned hereby certifies that, in response to the Environmental Improvement Division's request dated October 11, 1989, for the names and addresses of witnesses, pursuant to Rule 302 of the Hearing Rules for this matter, a list of the names and addresses of witnesses was mailed, postage prepaid, this 19th day of October 1989 to the following person at the address listed:

Gini Nelson
Assistant General Counsel
Health & Environment Department
1190 St. Francis Drive
Harold Runnels Building, S-4100
Santa Fe, NM 87503

Michael S. Yesley

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Laboratory Counsel/General Law

DATE: October 19, 1989
IN REPLY REFER TO: LC/GL-10525-8806/89881
MAIL STOP: A187
TELEPHONE: 505-665-2523
505-855-2523

RECEIVED
OCT 20 1989
LEGAL

William Hendley, Esq.
White, Koch, Kelley & McCarthy, PA
P. O. Box 787
Santa Fe, NM 87504-0787

Dear Mr. Hendley:

SUBJECT: COMPLIANCE ORDERS DOCKET NOS. 880801 AND 880801-A; CASE NO. 89-01

For your information, I enclose Los Alamos National Laboratory's response to the Environmental Improvement Division's request for the names and addresses of witnesses, pursuant to Rule 302 of the Hearing Rules for this matter.

Sincerely yours,

Michael S. Yesley
Staff Attorney

MSY:rvj

Enclosures: a/s

Cy: G. Nelson, w/o enc.
CRM-4, w/enc., MS A150
RECORDS w/enc., MS A187
File (3)

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Laboratory Counsel/General Law

DATE: October 19, 1989
IN REPLY REFER TO: LC/GL:10525-8806/89882
MAIL STOP: A187
TELEPHONE: 505-655-2523
FTS-855-2523

RECEIVED
OCT 20 1989
LEGAL

Swami LaCuesta, Hearing Clerk
1190 St. Francis Drive
Harold Runnels Building, S-4100
Santa Fe, NM 87503

Dear Ms. LaQuesta:

SUBJECT: COMPLIANCE ORDERS DOCKET NOS. 880801 and 880801-A; CASE NO. 89-01

I enclosed the original and one copy of the Certificate of Service for filing in the above matter.

Kindly stamp and return the copy in the enclosed stamped envelope.

Sincerely yours,

Michael S. Yesley
Staff Attorney

MSY:rvj

Enclosure: a/s

Cy: G. Nelson, w/enc.
CRM-4 (1), w/enc., MS A150
RECORDS (1), w/enc., MS A187
File (3)

BEFORE THE DIRECTOR OF THE
ENVIRONMENTAL IMPROVEMENT DIVISION
OF THE NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT

In the Matter of
Compliance Orders
Docket Nos. 880801 and 880801-A

DOCKET NO. 89-01

COMPLAINANT'S RESPONSE TO RESPONDENTS'
MOTION TO COMPEL RESPONSES TO RESPONDENTS'
SEPTEMBER 12, 1989 REQUEST FOR THE IDENTIFICATION
OF WITNESSES AND FOR ACCESS TO DOCUMENTS

In their Motion to Compel Responses to Respondents' September 12, 1989 Request For The Identification of Witnesses and For Access to Documents (Motion), Respondents, the U.S. Department of Energy (DOE) and the Regents of the University of California (the University) request the Hearing Officer to order Complainant, the Environmental Improvement Division (EID) to: (1) Identify all witnesses as required by Hearing Rule 302; (2) Produce all documents requested by Respondents and not yet provided or identified as required by Hearing Rule 303.C; and (3) Produce the documents identified in Paragraphs 6 and 8 of Respondents' Motion.

DOE and the University misunderstand the meaning and breadth of Rules 302 and 303 in this administrative proceeding. Their Motion has failed to present the necessary bases for the issuance of an order compelling the additional information, and therefore, should be denied. EID's Response in detail follows:

I. RULE 302 WITNESS IDENTIFICATION

The purpose of Rule 302 Witness Identification is that, i.e., to help identify witnesses in order to aid trial preparation. It

should point the requestor to those persons with first hand knowledge of the matter and who might testify in support of the compliance order, or who might have evidence that would aid in the preparation of the defense to the order. Respondents' construction of the rule would further neither objective and should be rejected.

It should be noted that, under the procedural rules applicable to this case, discovery is limited and depositions and interrogatories may only be used after special order of the hearing officer upon a showing of good cause. Rule 302 provides a limited exception to the general discovery rule. Because of its limited nature, the Rule should be construed in a manner to best effectuate its purpose -- to provide means to obtain information to aid in prosecuting or defending the case. Respondents' construction would not effectuate that purpose and should be rejected.

EID interprets the rule as meaning persons with direct knowledge of the matter, and not those who (1) were advised of the matters as supervisors in the normal course of agency administration (supervisors), (2) heard discussions of the matter e.g., at staff meetings at which staff gives status reports of enforcement actions (staff members not involved in the case), (3) typed or otherwise transcribed something, or took telephone messages (secretarial and other support staff), and (4) became aware in some other manner (EID does not know what other persons Respondents might have in mind under their interpretation of the Rule but notes that Respondents apparently want identification of everybody involved in any way with any environmental compliance

matter at any DOE facility. Respondents want EID to identify everybody with "knowledge of environmental compliance matters at Respondents' facilities, including matters directly related to this proceeding," (emphasis added) (Respondents' Memorandum at p.2), and including all possible individuals at the U.S. EPA (Motion at p.1, ¶2).

DOE and the University apparently argue that "any person having knowledge of the facts or circumstances" means every person who has any knowledge about any aspect of the matter, no matter the source or nature of that knowledge, including anyone who has ever heard about the matter regardless of the hearsay nature of the knowledge. Respondents' interpretation is vague and overbroad, and, if sustained, would create obstacles to meaningful identification of witnesses. Respondents' own responses to EID's Rule 302 request demonstrate these points, and are attached hereto as Exhibits A and B, respectively. DOE listed five individuals and did not include on its list, for example, DOE's attorney. The University's response identifies 95 individuals, including DOE's attorney. EID does not know who the majority of the individuals are on the University's list, or their relationships with the hearing matter. The University's list obfuscates and makes it unduly burdensome, if not impossible, for EID to meaningfully identify witnesses. The list includes individuals who live out of State, as well as out of the country, DOE's attorney but not the University's attorney, EID's former attorney on the case before the current attorney, and EID personnel who, upon information and

belief, have no direct knowledge of the violations cited in these Compliance Orders. See Boyd Hamilton's Affidavit, attached hereto as Exhibit D.

EID responded to DOE's and the University's witness identification requests by listing the individuals it has determined have direct knowledge of the matters pending in the above-captioned matter. Respondents' interpretations of the requirements of Rule 302 Witness Identification as argued in their Motion and Memorandum are unsupportive of and counter to the intent of the Rule; and are inconsistent as between themselves, as demonstrated in their independent responses to EID's Rule 302 Witness Identification request. Their Motion should be denied.

II. RULE 303 REQUESTS FOR PRODUCTION

A. Waiver of Privilege

Respondents argue that EID has waived its right to assert any privileges because EID did not file specific objections to the production of specific documents within DOE's and the University's general request in the manner that Respondents argue Rule 303.C. requires. EID asserts that because of the nature of Respondents' "shotgun" request, EID was not obligated to respond differently from how it did. EID did provide full access to the vast bulk of its files it deemed at all relevant and served on DOE and the University two supplemental responses enumerating the documents withheld in whole or in part pursuant to articulated privileges. Respondents' Motion should be denied.

DOE and the University did not request "specific documents."

Instead, Respondents requested access to all records. EID did not object and does not object to production of its records, and consequently, did not file an objection within the initial days. In the course of doing records review for privilege, however, EID found and segregated out portions of the particular records. EID then twice properly served on Respondents EID Supplemental Responses to Respondents' production requests (on October 4, 1989 and again on October 5, 1989) detailing the specific documents within the requested records withheld in whole or in part. Respondents attached EID's first Supplemental Response to its Motion as its Exhibit #3. EID hereto attaches its Second Supplemental Response as Exhibit C.

By analogy, SCRA 1986, 1-034.B requires that a request for production "describe each item and category with reasonable particularity." DOE and the University instead used vague and overly broad requests in a shotgun approach, placing the burden on EID to ascertain the particulars of the request. EID responded as best it could, given the vague nature of the requests.

Lacky v. Mesa Petroleum Co,. 90 N.M. 65, 559 P.2d 1192 (Ct. App. 1976) is informative. Lackey was decided when Rule 33 looked very different from present SCRA 1986, Rule 1-033. Under the old Rule 33 (relating to interrogatories, specifically, not requests for production), if the party responding to an interrogatory objected to the interrogatory, that party was obligated to request a hearing on the matter, or waive its right to object. The burden has shifted since 1976: The party objecting must preserve its

objection in its response, and it is the party seeking the information who must file a motion to compel. It is at the hearing on the motion to compel that each party meets its burdens. EID must preserve its objections in its responses, and await a ruling from the Hearing Officer as to relevancy and each privilege asserted.

B. "Unprovided" Files

As indicated above, DOE and the University made generic, unspecific document production requests that simply parroted the language of the Rule. EID made available virtually all of its Hazardous Waste Program files related to this enforcement action, from 1986 forward. In fact, EID produced more than Respondents' requested, because EID did a general file review for privilege and then opened the files. Thus, many, if not most, of the documents withheld in whole or in part are totally unrelated to these Compliance Orders.

DOE and the University identified two sets of materials they did not find in their October 5, 1989 review of the files, i.e., LANL's February 11, 1988, response to EID's Notice of Violation (NOV) letter (Motion at 2), and draft settlement agreements. (Memorandum at 4). From this, and with nothing more, Respondents conclude that "[i]t is clear . . . that [EID] has not made a diligent effort to produce all the documents requested by Respondents." Memorandum at 4.

1. LANL's missing February, 1988 Response

The missing response has been located, as well as other

additional documents. All are available for Respondents' review. See Boyd Hamilton's Affidavit, Exhibit D.

EID notes, however, that disclosure of that response would not even be required. The relevant limitation on the general rule is that, if documents are available to a party, they should not be produced:

> a party should not be required to obtain, collect or turn over materials which the opposing party is equally capable of obtaining on its own.

United Nuclear Corp. v. General Atomic Co., 96 N.M. 155, 170, 629 P.2d 231, 246 (1980). DOE and the University are "equally capable" of obtaining the material held in this file, as they originally provided it to EID.

2. Draft Settlement Agreement

It is the policy of the Hazardous Waste Program to discard draft documents. See Boyd Hamilton's Affidavit, Exhibit D.

C. EID/EPA Communications
And Access to Unrelated Enforcement Files

The EID/EPA conversations are (1) not relevant to this proceeding; and/or (2) if relevant, are entitled to executive privilege as law enforcement-related exchanges between the federal and state agencies charged and specially bound by law to enforce the federal and state hazardous waste statutes and regulations.

1. Relevance

As indicated above, EID produced more than Respondents' requested, because EID did a general file review for privilege and then opened the files. Thus, many, if not most, of the documents

withheld in whole or in part are totally unrelated to these Compliance Orders.

Respondents argue that the EID/EPA April 16, 1987 and November 13, 1987 conversations are "highly relevant to the above-captioned hearing because they relate to the issue of jurisdiction of [EID] over outfalls subject to Respondents' permits with EPA." Motion at 3.

In fact, neither conversation involved a discussion about the particular violations cited in the Compliance Orders. Both conversations dealt with enforcement questions at other LANL locations. See Boyd Hamilton's Affidavit, Exhibit D. EID regrets it did not expressly identify that fact in its Supplemental Response.

DOE and the University appear to insist, however, that they need, in the context of this case, all information relating to all other possible enforcement actions at LANL. If DOE's and the University's interpretation is correct, they are entitled to access to essentially all documents relating to every interaction EID has with LANL, despite the complete lack of evidence showing a connection between any other interaction and/or enforcement action, a clearly untenable interpretation. There is, however, no relevance.

EID acknowledges that "relevancy" in discovery is subject to broad interpretation, United Nuclear, 96 N.M. at 174. There must, however, be "some possibility" that the matters inquired into will contain relevant information.

EID does not expect Respondents to know what is in the documents relating to the other enforcement documents before they are produced; but what Respondents know from the documents relating to these specific Compliance Orders is sufficient to preclude the possibility that other enforcement files are relevant to this proceeding.

With documents in hand, Respondents should be able to point to the connection they claim might be found in the documents requested between this enforcement action and any other action at LANL. The Hearing Officer should expect something more than a bald claim of possible relevancy. Notably, Respondents have not so much as articulated a theory of possible correlation nor drawn any specific connection between these Compliance Orders and any other enforcement action at LANL, unless it is related to the penalty assessment. Memorandum at p.7.

EID's objections are specific and supported with an affidavit of reasonable particularly concerning relevance. Further, DOE and the University retain the ability and right to raise any appropriate legal defenses to jurisdiction. Jurisdiction is a legal question, and nothing stated in a conversation between EID and EPA would affect the answer. Respondents' Motion should be denied.

2. EID/EPA Special Relationship

EID and EPA have a special relationship, which is set out in part in the Memorandum of Understanding (MOU) (attached as part of Exhibit D). EPA has authorized EID to enforce the federal

hazardous waste statute (RCRA) in New Mexico instead of EPA, under certain conditions. Under the MOU, EID and EPA regularly exchange regulatory and enforcement information concerning all of the Hazardous Waste Program's activities. This is part of EPA's required oversight of the federally authorized program, and is part of the partnership. See Boyd Hamilton's Affidavit, Exhibit D.

These communications commonly concern enforcement actions. EPA and EID have joint enforcement authorities regarding the Hazardous Waste Act and the Regulations promulgated thereunder. This fact supports EID's position that the intra-governmental communications privilege within EID applies with equal force to the inter-governmental communications between EID and EPA.

3. Executive Privilege in Enforcement

Neither the constitution nor the applicable or analogous rules provide a privilege called out as a privilege to withhold documents an enforcing agency characterizes as "enforcement sensitive." EID may be guilty of misnomer. By objection to the production of "enforcement sensitive" documents, EID intended to invoke a particular aspect of the executive privilege.

The applicability of the executive privilege is discussed infra. EID will here elaborate on that facet of the executive privilege which goes specifically to documents developed in the process of enforcement.

It is in the nature of administrative law that an enforcement action by an administrative agency involves more than one person within the agency. It is the special nature of State enforcement

in New Mexico of the federal RCRA in lieu of the EPA, that an enforcement action involves persons within the federal agency as well as within the state agency. EPA and EID have a special relationship because of the requirements of federal law. Part of the requirements includes EPA oversight of EID enforcement activities. EID and EPA have the identical needs to be able to talk frankly among themselves. Thus, EPA is not a member of the "public." Communications with EPA are, in a practical sense, intra-agency communications.

The EID/EPA documents specifically identified by Respondents that have been withheld by EID pursuant to executive privilege and/or as enforcement sensitive are reports of governmental discussions concerning cases under investigation. The rationale for non-disclosure of intra-governmental communications has been clearly articulated in Carl Zeiss Stiftung v. V.E.B. Carl Zeiss, Jena, 40 F.R.D. 318 (D.D.C. 1966), aff'd on opinion below, 389 F.2d 979 (D.C. Cir.), cert. den., 389 U.S. 952, 88 S. Ct. 334, 19 L. Ed. 2d 361 (1967):

> The privilege observes a preponderating policy of frank expression and discussion among those upon whom rests the responsibility for making the determinations that enable the government to operate, and thus achieves an objective akin to those attained by other privileges more ancient and commonplace in character . . . . Freedom of communication vital to fulfillment of the aims of wholesome relationships is obtained only by removing the specter of compelled disclosure . . . . [G]overnment, no less than the citizen, needs open but protected channels for the kind of plain talks that is essential to the quality of its functioning . . . .

Carl Zeiss at 324-25.

See also Soucie v. Davis, 488 F.2d 1067, 1080-1081 (D.C. Cir. 1971) (concurring opinion).

> "[P]rivilege arises from the common-sense-common law principle that not all business can be transacted completely in the open, that public officials are entitled to private advice of their subordinates and to confer among themselves freely and frankly, without fear of disclosure, otherwise the advice received and the exchange of views may not be as frank and honest as the public good requires."

The Hearing Officer should uphold a separate law enforcement privilege, as a branch of the executive privilege which promotes the optimal efficiency of the government's decision making process by promoting the free flow of ideas among governmental employees. Discovery of Governmental Documents and the Official Information Privilege, 76 Colum. L.R. 142 (1976). As first set forth in Kaiser Aluminum Chemical Corp. v. United States, 157 F.Supp. 939 (Ct. Cl. 1958), the executive privilege referred to in some federal cases as the "official information privilege" serves to protect intra-governmental communications; but it has been further extended to other documents, including law enforcement investigative files and investigative reports. 76 Colum. L. R. at 157-58; Black v. Sheraton Corp., 564 F.2d 531 (D.C. Cir. 1977).

This privilege is rooted in the harm that would result from public disclosure of investigative files. Just as "[e]xecutive privilege is a recognition by . . . the judiciary that . . . the executive has the right not to be unduly subjected to scrutiny in a judicial proceeding . . . ", First Judicial District, 96 N.M. at 258, 629 P.2d at 334, so should the Hearing Officer recognize,

through the law enforcement privilege, that the executive should not be subjected to disclosure of its investigative files, which are necessary to the proper functioning of the executive. Further, the intra-agency executive privilege should be extended to apply to inter-agency communications where such a special relationship between EID and EPA exists.

D. LANL Follow-up Inspection Documents

DOE and the University argue that the June 20, 1988 and June 23, 1988 memorandums regarding the LANL follow-up inspection "are highly relevant to the above-captioned hearing because they refer to inspections which resulted in the issuance of the CO/S," (Motion at 4) and that "they are of such critical importance to several primary issues in these proceedings [that] they should be made available to Respondents." Motion at 4. The first statement, while true, is misleading in the context of DOE's and the University's Motion. The second statement is unsupported by any theory or articulation of harm, if they are not disclosed.

Respondents acknowledge that the executive privilege was recognized by the Supreme Court in State ex rel. Attorney General v. First Judicial District Court, 96 N.M. 254, 629 P.2d 330 (1981). The Court clearly and unequivocally held "that recognition of an executive privilege is required by the Constitution of the State of New Mexico." 96 N.M. at 257, 629 P.2d at 333 (emphasis added).

EID recognizes that "the fact that the [executive] privilege is of constitutional origin [does not] make the privilege absolute." 96 N.M. at 258, 330 P.2d at 334. EID further

recognizes that the balancing test a Court should perform to determine whether a order disclosure of a document for which executive privilege is claimed may result in different decisions depending upon whether the agency claiming the privilege is a litigant. That is, the relative weights to be given "the public's interest in preserving confidentiality to promote intra-governmental candor . . . [and] the individual's need for disclosure of the particular information sought," id., may differ depending upon whether the agency and the person seeking the information are engaged in litigation (apart from litigation for the sole purpose of obtaining withheld documents). The Court must, nevertheless, still perform the required balancing test, "[o]nce it is found that the privilege applies." Id.

In determining whether the executive privilege applies to the documents for which it is claimed, a Court must consider the purpose of the privilege:

> Inherent in the successful functioning of an independent executive is the need for protection of communications between its members. The purposes of the executive privilege are to safeguard the decision-making process of the government by fostering candid expression of recommendations and advice and to protect that process from disclosure. Executive personnel who fear or expect public dissemination of their remarks may temper their comments because of their concern for their own personal interests, safety, or reputation.

Id. (citations omitted)

Respondents argue that, in this case, the privilege is not needed because a decision has already been made to enforce against Respondents and that, therefore, there is no decision-making

process to safeguard. That argument misconstrues the import of the executive privilege.

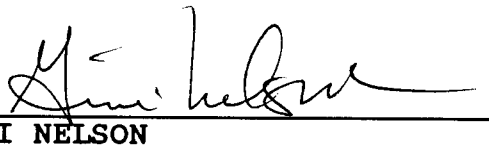
If the executive privilege were available to prevent disclosure of a decision-making process only while that process is still ongoing, as Respondents suggest, it would be of marginal value. There certainly is no reason to believe that "[e]xecutive personnel who . . . may temper their comments because of concern for their own personal interests, safety, or reputation," 96 N.M. at 258, 629 P.2d at 334, would be any less likely to do so if they knew that, once the decision-making process was finished, their comments would be freely discoverable. To the contrary, it is precisely those situations in which disclosure is most likely to be sought (i.e., situations likely to lead to litigation) in which the need for candor on the one hand and the temptation to temper comments on the other are likely to be greatest.

A court should find that the executive privilege is applicable as to those documents containing communications among the Complainants' employees and agents relating to the decision-making process. Once a court makes that determination, the court should then perform the balancing test required by First Judicial District, and sustain the privilege as to all documents and/or portions thereof for which the Court finds that "the public's interest in preserving confidentiality to promote intra-government candor," id., outweighs Respondents' "need for disclosure of the particular information sought." Id.

CONCLUSION

For the foregoing reasons, the Hearing Officer should deny DOE's and the University's Motion to Compel.

Respectfully submitted,



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Special Assistant Attorney General
Assistant General Counsel
Office of General Counsel
Health and Environment Department
Runnells Building
1190 St. Francis Drive
Santa Fe, New Mexico 87503
(505) 827-2990

Attorney for EID

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Complainant's Response to Respondents' Motion to Compel Responses to Respondents' September 12, 1989 Request for the Identification of Witnesses and For Access to Documents was mailed first class mail, via certified mail, return receipt requested on this 25 day of October, 1989 to the following:

Joyce Hester Laeser, Esq.
Counsel
U.S. Department of Energy
Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

and

Michael Yesley, Esq.
Staff Attorney
Office of Laboratory Counsel
Los Alamos National Laboratory
Post Office Box 1663
Mail Stop A187
Los Alamos, New Mexico 87545

Gini Nelson

[resp2mtn.gn2]

ATTACHMENT 5

COMPREHENSIVE
RCRA TRAINING
PROGRAM

LOS ALAMOS HAZARDOUS WASTE TRAINING

PURPOSE:

To provide hazardous waste workers at Los Alamos National Laboratory (LANL) training to ensure health and safety protection in the performance of their duties, to ensure facility's compliance, and stress procedures to protect the public and the environment from the improper disposal of hazardous wastes. In cases were there are multiple training requirements, the most stringent requirements are used as guidance.

SCOPE:

All LANL employees and subcontractors who are engaged in hazardous waste management and emergency response to hazardous waste emergencies in the following operations:

(i) Clean-up operations involving hazardous substances conducted at uncontrolled hazardous waste sites

(ii) Corrective actions involving clean-up operations at sites covered by Resource Conservation and Recovery Act (RCRA) as amended (42 U.S.C.6901 et seq.)

(iii) Voluntary clean-up operations at sites recognized as uncontrolled hazardous waste sites by Federal, state, or local governments

(iv) Operations involving hazardous wastes that are conducted at treatment,storage, and disposal (TSD) facilities

(v) Emergency response operations for releases of, or substantial threats of releases of , hazardous substances without regard to the location of the hazard.

APPLICATION:

All requirements of the Department of Labor, Occupational Safety and Health Administration (OSHA) Part 1910 and Part 1926 of Title 29 of the Code of Federal Regulations.

Resource Conservation Recovery Act as amended (42 U.S.C. 6901 et seq.) for facilities regulated by 40 CFR Parts 264 and 265.

All applicable Department of Energy Orders.

All applicable University of California requirements.

All applicable Los Alamos National Laboratory requirements.

TRAINING: (going with the more stringent OSHA requirements)

SARA/OSHA	RCRA
TSDF personnel require: (HSE-7, 8, WX,M, PAWS)	
24 hours of initial training	no required
8 hours annual refresher	hours
Personnel at: (ER-TSO, HSE-ER, HSE-8 Remedial section)	
CERCLA Sites	
Corrective sites under RCRA	
State or Federal designated clean-up sites	
40 hours initial*	
3 days supervised field experience	no required
8 hour manager/supervisor training	
8 hour annual update	hours
Emergency Personnel such as:	
Fire Department, HSE Emergency Responders, EM, PAWS	
Training monthly	
or at least 24 hours annually	no required
	hours

*EMPLOYEES WHO CAN SHOW BY WORK EXPERIENCE AND/OR TRAINING THAT THEY HAVE HAD THE EQUIVALENT TRAINING SHALL BE CONSIDERED AS MEETING THE INITIAL TRAINING REQUIREMENTS.

SEE ATTACHED MATERIAL FOR INDIVIDUAL COURSE INFORMATION AND PERSONNEL TO BE TRAINED.

Distribution
March 28, 1988

Patricia A. Smith
K491/7-3318
HSE Training Coordinator
HSE-DO-88-246

ENVIRONMENTAL TRAINING April 14, 1988

The required 8-Hour Management Course (agenda attached) for managers and supervisors will be held on April 14, 1988, from 8:30 a.m. to 4:30 p.m., at Mesa School Complex, Room 124. This course is required for supervisors and managers at waste sites who are directly responsible for hazardous waste site operations. Attached is the list of personnel who are required to attend. The classroom is limited to twenty (20) people so please let me know if you cannot attend. The course will be videotaped and available to anyone who cannot attend.

Please call me at 7-3318 or contact me at MS K491 if you have any comments or questions.

/pas
Attachments as stated (2)

Distribution:

R. Koenig, HSE-7, E518
K. Balo, HSE-7, J592
J. Buchholz, HSE-7, E518
L. Borduin, HSE-7, E517
P. Emerson, HSE-7, J592
R. Garde, HSE-7, E517
D. Hutchins, HSE-7, E517
A. Montoya, HSE-7, J592
T. Montoya, HSE-7, J592
B. Myers, HSE-7, E518
W. Sanders, HSE-7, E518
J. Vavruska, HSE-7, E517
C. Warren, HSE-7, E517
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C. Reynolds, HSE-12
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T. Holm-Hansen, PAWS/PENV, A199

CY: J. Puckett, HSE-DO, K491
T. Gunderson, HSE-DO, K491
R. Stafford, HSE-DO, K491
R. Koenig, HSE-7, E518
J. Parkinson, WX-3, C930
L. Hurley, HRD-3, M589
E. Jacquez, HRD-3, M589
A. Kopansky, IS-2, D415
B. Thompson, IS-11, K491
J. Lopez, PAWS, A199
HSE File

HEALTH AND SAFETY TRAINING

HAZARDOUS WASTE MANAGEMENT OPERATIONS
FOR
MANAGERS AND SUPERVISORS

APRIL 14, 1988, 8:30 A.M. - 4:30 P.M.

I OPENING REMARKS PAT SMITH (5 Min) 8:30 - 8:35 a.m.

A. WELCOME

B. PURPOSE

1. To meet federal regulations (OSHA 1910.120/SARA, CERCLA, RCRA)
2. "Enhance ability to provide guidance/make informed decisions"
3. Increase employee health and safety awareness

C. INTRODUCTION OF PRESENTERS/TOPICS

II MANAGEMENT OVERVIEW T. GUNDERSON (15 Min) 8:35 - 8:50 a.m.

A. HSE RESPONSIBILITIES AND RESOURCES

1. Overall philosophy and purpose of a health & safety program
2. HSE responsibilities and authorities
3. HSE resources

B. TRAINING REQUIREMENTS T. GUNDERSON (15 Min) 8:50 - 9:05 a.m.

1. Provisions
2. Purpose
3. Intent
4. Requirements
5. Personnel
6. Certification

III ENVIRONMENTAL COMPLIANCE ISSUES T. GUNDERSON (60 Min) 9:05 - 10:05 a.m.

A. Background

1. RCRA 1976
2. HSWA 1984
3. CERCLA 1980
4. SARA 1986

B. Summary and explanation of proposed OSHA standard 29 CFR PART 1910.120

1. Scope
2. Application
3. Definitions

BREAK: 10:05 - 10:15 a.m.

IV TELECONFERENCE "ASK THE EXPERTS" (60 Min) 10:15 - 11:15 a.m.

V EMERGENCY MANAGEMENT DON WINSTON (30 Min) 11:15 - 11:45 a.m.

A. Responsibilities/authorities

B. Definitaton of "emergency"

C. What happens after an emergency

LUNCH: 11:45 a.m. - 1:00 p.m. (On your own)

VI MEDICAL SURVEILLANCE Dr. GREENDYKE (30 Min) 1:15 - 1:45 p.m.

A. What constitutes the Medical Surveillance Program

B. Nature and degree of toxic exposure likely as a result of hazardous substances/waste, and petroleum

VII MEDIA ISSUES J. BREEN (30 Min) 1:45 - 2:15 p.m.

A. What is the Laboratory policy

B. Tips on how to deal with the media

C. What to do when things go wrong

BREAK: 2:15 - 2:25 p.m.

VIII LEGAL ISSUES AND HOW THEY AFFECT HAZARDOUS WASTE MANAGEMENT OPERATIONS AT LOS ALAMOS S. BROWN (60 Min) 2:30 - 3:30 p.m.

A. How the Manager/supervisor is affected

B. Who to contact if a legal problem arises

C. What resources are available

IX QUESTIONS AND ANSWER PERIOD ALL PARTICIPANTS (60 Min) 3:30 - 4:30 p.m.

RCRA/SARA/OSHA TRAINING: HAZARDOUS WASTE MANAGEMENT COURSE

This management course meets the requirements for RCRA/SARA/OSHA for the additional hours of management training. The following are the videotapes for the course. They may be viewed individually or as a complete set. The tapes are 1/2" and 3/4" VHS.

HAZARDOUS WASTE MANAGEMENT COURSE

TAPE I	Opening Remarks - Tom Gunderson	(33 minutes)
TAPE II	Environmental Compliance Issues Tom Gunderson	(60 minutes)
TAPE III	Teleconference "Ask The Experts" Oklahoma State Video	(1 hour edited)
TAPE IV	Emergency Management Don Winston	(30 minutes)
TAPE V	Medical Surveillance Dr. William Greendyke	(30 minutes)
TAPE VI	Media Issues - James Breen	(30 minutes)
TAPE VII	Legal Issues and How They Affect Hazardous Waste Management Operations at Los Alamos	(60 minutes)
TAPE VIII	Questions and Answer Period All Participants	(15 minutes)

Tape Sets:

Master Set - 3/4" VHS
Complete DUB Set - 3/4" VHS
Complete Set - 1/2" VHS

PERSONNEL FOR SARA/OSHA AND RCRA TRAINING

MANAGEMENT/SUPERVISORY

HSE-DO:
GUNDERSON, T. Deputy Division Leader Environment

HSE-7:
KOENIG, R. Group Leader, Waste Management
BORDUIN, L. Section Leader, Technical Support
BUCHHOLZ, J. Section Leader, Liquid Waste
BALO, K. Section Leader, Storage/Disposal Operations
GARDE, R. Technical Coordinator
EMERSON, P. SM, Chemical Waste Operations
MONTOYA, A. SM, Chemical Waste Operations
ZYGMUNT, S. SM, Chemical Waste Operations
MONTOYA, T. Tech Supervisor, Chem Waste Operations
HUTCHINS, D. SM, Technical Support Section
VAVRUSKA, J. SM, Technical Support Section
WARREN, C. SM, Technical Support Section
MYERS, B. SM, Liquid Waste
SANDERS, W. SM, Liquid Waste

HSE-8:
EMERSON, M. Group Leader

ER-TSO:
REA, K., Project Manager
FARLEY, D., Staff Member
KRUGER, J., Staff Member
VOCKE, R. Staff Member
WAGNER, S., Staff Member
WENZEL, J., Staff Member

HSE-12 (ER-TSO)
REYNOLDS, C. Deputy Group Leader

WX DIVISION (Disposal Operations):
WX-3:
BARR, M., Staff Member
VELARDE, P. Disposal Operations Supervisor

PAN AMERICAN WORLD SERVICES:
HOLM-HANSEN, T. Environmental Protection Supervisor

TOTAL NUMBER OF MANAGEMENT/SUPERVISORY PERSONNEL (26)

24 HOUR INITIAL COURSE FOR RCRA/SARA/OSHA
SEPTEMBER 1, 7, 9, 13, 1988

MODULE	LENGTH				TIME
DAY	DATES				
Day I					
Environmental Issues	1	Hour	8:00 - 9:00 a.m.	1	09/01/88
Regulations	2	Hours	9:00 - 11:00 a.m.	1	
Break	15	Minutes	10:00 - 10:15 a.m.		
Radiation	1	Hour	11:00 - Noon	1	
Lunch	1	Hour	Noon - 1:00 p.m.	1	
Hazard Recognition 3 tapes	3	Hours	1:00 - 4:00 p.m.	1	
Day II					
Medical Surveillance	1.5	Hour	8:00 - 9:30 a.m.	2	09/07/88
Break	15	Minutes	9:30 - 9:45 a.m.	2	
Respiratory Protection	2	Hours	9:45 - Noon	2	
Tape I - Regulations			9:45 - 10:45 a.m.		
Tape II - Protective Clothing			10:45 - 11:45 a.m.		
Lunch	1	Hour	Noon - 1:00 p.m.		
Ask The Experts Tape III - Edited	1	Hour	1:00 - 2:00 p.m.	2	
Hazardous Waste Mngt at LANL	.5	Hour	2:00 - 2:30 p.m.		
Break	15	Minutes	2:30 - 2:45 p.m.		
Waste Disposal	1	Hour	2:45 - 3:45 p.m.	2	
Tape I Hazardous Waste					
Tape II Responsibilities					
Hazardous Substance/ Waste Shipment	45	Minutes	3:45 - 4:30 p.m.	2	

	LENGTH	TIME	DAY	DATES
Day III				
Hazardous Substance/ Waste Shipmemt	1 Hour	8:15 - 9:15	3	09/09/88
Emergency Response Raw Footage of Truck	1.5 Hour	9:15 - 10:30 a.m.	3	
Break	15 Minutes	10:30-10:45 a.m.	3	
Fema Tape IV Evacuation Psychological Trauma	1 Hour	10:45 - 11:45 a.m.	3	
Day IV				
General Safety	3.5 Hours	8:15 -11:30 a.m.	4	09/13/88

Tape I	Intro/Basic Inst.	45 minutes
Tape II	Safety Equipment	24 minutes
Tape III	Bulk Material Handl. SOP's/SWP's	45 minutes
Tape V	Explosive Wastes	32 minutes
Tape VI	Emergency Response Interface with Contractors Evacuation of Waste Sites	1 hour

Entire course on videotape

October 31, 1989

24 HOUR INITIAL COURSE FOR RCRA/SARA/OSHA

The following are the videotapes for the 24 Hour Initial Training to meet the RCRA/SARA/OSHA requirements.

DAY I

TAPE I	Environmental Compliance Issues Tom Gunderson		53 Minutes Total
TAPES II-IV	Regulations - Deuel & Associates		2 Hours Total
	Tape 1 -	Intro. to Hazardous Waste RCRA	(43 Minutes)
	Tape 2 -	Generators, Transporters	(25 Minutes)
	Tape 3 -	Hazardous Waste Contingency Plan, Inspections, Audits	(43 Minutes)
TAPE V	Radiation - Cheryll Faust 1 Hour Total		
	Tape 2 -	Biological Effects	(33 Minutes)
		Risk in Perspective	(11 Minutes)
		LANL & DOE Regulations	(12 Minutes)
TAPES VI-IX	Hazard Recognition - Fred Bolton		3 Hours Total
	Tape 1 -	Review of Chemistry	(19 Minutes)
		Review of Physiology	(28 Minutes)
	Tape 2 -	Review of Toxicology	(31 Minutes)
	Tape 3 -	Dangerous Properties of Industrial Chemicals	(37 Minutes)
	Tape 4 -	Material Safety Data Sheets	(26 Minutes)
		Labels	(11 Minutes)
		Limited Egress/Confined Space	(16 Minutes)

DAY II

TAPES I-II	Medical Surveillance Dr. William Greendyke	1 Hour 20 Minutes Total	
	Tape 1 -	Purpose of Program Medical Exam	(57 Minutes)
	Tape 2 -	Biological Effects	(19 Minutes
TAPES III-IV	Respiratory Protection 2 Hours Total		
	Tape 1 -	Regulations (57 Minutes)	
	Tape 2 -	Protective Clothing	(57 Minutes)
TAPE V	"Ask The Experts" - Okla State Video		1 Hour Total
	Tape 3 -	Edited version	(1 Hour)
TAPE VI	Hazardous Waste Mngt at LANL		25 Minutes Total

TAPE VII	Waste Disposal - Stan Zygmunt		46 Minutes Total
	Tape 1 -	Identification of Hazardous Waste (12 Minutes)	
		Listed waste	(12 Minutes)
		Proper Hazardous Waste Management	(22 Minutes)
	Tape 2 -	Responsibilities	(08 Minutes)
TAPE VIII	Hazardous Substances/Waste Shipment Nate King 47 Minutes Total		
	Tape 1 -	Review	(21 Minutes)
		Radioactive Material	(26 Minutes)

DAY III

TAPE I	Hazardous Substances/Waste Shipment Shirley O'Rourke 42 Minutes Total		
	Tape 2 -	Other Hazardous Materials	(36 Minutes)
		Overview of Explosives	(6 Minutes)
TAPE II-III	Emergency Response - George Van Tiem		1.5 Hour Total
	Tape 1 -	Contingency Planning/ Emergency Response	(38 Minutes)
	Tape 2 -	Spill Prevention/ Countermeasure Plan	(26 Minutes)
	Tape 4 -	Raw Footage of Truck Accident (20 Minutes)	
TAPE IV	Federal Emergency Management Agency "Health Concerns in Chemical Emergencies"		1 Hour Total
	Tape 4 -	Evacuation, Hazards/Risks	(1 Hour)
TAPES V-IX	General Safety - Pat Mahoney		3.5 Hours Total
	Tape 1 -	Introduction & the Extra Step Video (42 Minutes)	
	Tape 2 -	Safety Equipment	(24 Minutes)
	Tape 3 -	Bulk Handling & SOP's/SWP's	(45 Minutes)
	Tape 5 -	Explosive Waste	(32 Minutes)
	Tape 6 -	Emergency Response/Contractor interface, evacuation of waste site (56 Minutes)	

October 31, 1989

REQUIRED 24 HOUR INITIAL TRAINING - Total 15 (1 class)

August 11, 15, 17, 1988

HSE-7

Fritz, G.	HSE-7
Josey, P.	HSE-7
Ward, R.	HSE-7
Williams, L.	HSE-7

HSE-8 (5)

Drypolcher, A.	HSE-8
Romero, R.	HSE-8
Sandoval, T.	HSE-8
White, J.	HSE-8

M (4)

Hildner, S.	M-1
Montoya, M.	M-8
Patterson, W.	M-7
Trujillo, S.	M-7

WX (4)

Gallegos, J.	WX-3
Garcia, R.	WX-3
Montoya, A.	WX-3

Entire course on videotape

August 8, 1988

24 HOUR EMERGENCY RESPONSE COURSE FOR RCRA/SARA/OSHA

AGENDA

MODULE	LENGTH	TIME	DAY
DAY I			
Environmental Compliance Issues	1 Hour	8:00 - 9:00 a.m.	1
Regulations	2 Hours	9:00 - 11:00 a.m.	1
Break	15 Minutes	10:00 - 10:15 a.m.	1
Radiation	1 Hour	11:00 - Noon	1
Lunch	1 Hour	Noon - 1:00 p.m.	1
Hazard Recognition	2.5 Hours	1:00 - 3:30 p.m.	1
Medical Surveillance	.5 Hour	3:30 - 4:00 p.m.	1
DAY II			
Respiratory Protection	2 Hours	8:00 - 10:00 a.m.	2
Break	15 Minutes	10:00 - 10:15 a.m.	2
Safe Drum Handling	15 Minutes	10:15 - 10:30 a.m.	2
Hazardous Waste Management at LANL	15 Minutes	10:30 - 10:45 a.qm.	2
Waste Disposal	1 Hour	10:45 - 11:45 a.m.	2
Lunch	1 Hour	Noon - 1:00 p.m.	2
Hazardous Waste Shipment	1.5 Hours	1:00 - 2:30 p.m.	2
Break	10 Minutes	2:30 - 2:40 p.m.	2

MODULE	LENGTH	TIME	DAY
Emergency Response	1 Hour	2:40 - 3:40 p.m.	2
Raw Footage of Truck Incident	20 Minutes	3:40 - 4:00 p.m.	2
DAY III			
General Safety	3.5 Hours	8:00 - 11:30 a.m.	3
Tape I Intro/Basic Information		(42 Minutes)	
Tape II Safety Equipment		(24 Minutes)	
Tape III Bulk Material Handling & SOP's/SWP's		(45 Minutes)	
Tape IV Handling Compressed Gas Cylinders		(32 Minutes)	
Tape V Explosive Wastes		(32 Minutes)	
Tape VI Emergency Response, Interface with Contractors, Evacuation of Waste Sites		(56 Minutes)	
*Break	15 Minutes	10:30 - 10:45 a.m.	3
Lunch	1 Hour	Noon - 1:00 p.m.	3
Federal Emergency Mngt Agency Tape 1 "Awareness/Haz Mat Incident"	1 Hour	1:00 - 2:00 p.m.	3
Simulated Hazardous Material Incident	15 Minutes	2:00 - 2:15 p.m.	3
Break	15 Minutes	2:15 - 2:30 p.m.	3
Federal Emergency Mngt Agency Tape 4 Community Right to Know	1 Hour	2:30 - 3:30 p.m. (60 Minutes)	3
Community Right to Know - Don Winston (Emergency Response Tape)	20 Minutes	3:30 - 3:50 p.m.	3

Entire course on videotape

Five Identical Sessions:

1. August 19, 23, 25, 1988
2. August 29, 31, September 2, 1988
3. September 6, 8, 14, 1988
4. September 16, 19, 21, 1988
5. November 1, 9, 15, 1988

October 31, 1989

24 HOUR EMERGENCY RESPONDER COURSE FOR RCRA/SARA/OSHA

VIDEOTAPES

The following are the videotapes for the 24 Hour Emergency Responder Training to meet the RCRA/SARA/OSHA requirements.

DAY I

TAPE I	Environmental Compliance Issues Tom Gunderson		1 Hour Total
TAPES II-IV	Regulations - Deuel & Associates		2 Hours Total
	Tape 1 -	Intro. to Hazardous Waste RCRA	(43 Minutes)
	Tape 2 -	Generators, Transporters	(25 Minutes)
	Tape 3 -	Hazardous Waste Contingency Plan, Inspections, Audits	(43 Minutes)
TAPE V	Radiation - Cheryll Faust 1 Hour Total		
	Tape 2 -	Biological Effects	(33 Minutes)
		Risk in Perspective	(11 Minutes)
		LANL & DOE Regulations	(12 Minutes)
TAPES VI-IX	Hazard Recognition - Fred Bolton		3 Hours Total
	Tape 1	Review of Physiology	(28 Minutes)
	Tape 2 -	Review of Toxicology	(31 Minutes)
	Tape 3 -	Dangerous Properties of Industrial Chemicals	(37 Minutes)
	Tape 4 -	Material Safety Data Sheets	(26 Minutes)
		Labels	(11 Minutes)
		Limited Egress/Confined Space	(16 Minutes)
TAPE X	Medical Surveillance Dr. William Greendyke 32 Minutes Total		
	Tape 4	8 Hour Management Course	(32 Minutes)

DAY II

TAPES I-II	Respiratory Protection Thomas Moore 2 Hours Total		
	Tape 1 -	Regulations, hazards	(57 Minutes)
	Tape 2 -	Protective Clothing	(58 Minutes)
TAPE III	Safe Drum Handling 15 Minutes Total		
TAPE IV-V	Waste Disposal - Stan Zygmunt		45 Minutes Total
	Tape 1 -	Identification of Hazardous Waste	(12 Minutes)
		Listed waste	(12 Minutes)
		Proper Hazardous Waste Management	(22 Minutes)
	Tape 3	Hazardous Waste Management At LANL (15 Minutes	
TAPE VI	Hazardous Substances/Waste Shipment Nate King		47 Minutes Total
	Tape 1 -	Review/Radioactive Material	(47 Minutes)
TAPE VII	Hazardous Substances/Waste Shipment Shirley O'Rourke		42 Minutes Total
	Tape 2 -	Other Hazardous Materials	(36 Minutes)
		Overview of Explosives	(6 Minutes)
TAPE VIII-X	Emergency Response - George Van Tiem		84 Minutes Total
	Tape 1 -	Contingency Planning/ Emergency Response	(38 Minutes)
	Tape 2 -	Spill Prevention/ Countermeasure Plan	(26 Minutes)
	Tape 4 -	Raw Footage of Truck Accident (20 Minutes)	

Day III

TAPES I-VI	General Safety - Pat Mahoney		3.5 Hours Total
	Tape 1 -	Introduction & the Extra Step Video (42 Minutes)	
	Tape 2 -	Safety Equipment	(24 Minutes)
	Tape 3 -	Bulk Handling & SOP's/SWP's	(45 Minutes)
	Tape 4 -	Compressed Gas Cylinders	(32 Minutes)
	Tape 5 -	Explosive Waste	(32 Minutes)
	Tape 6 -	Emergency Response/Contractor interface, evacuation of waste site (56 Minutes)	
TAPE VII	Federal Emergency Management Agency "Health Concerns in Chemical Emergencies"		1 Hour Total
	Tape 1 -	Awareness/Haz Mat Incident	(60 Minutes)
TAPE VIII	Simulated Hazardous Material Incident		15 Minutes Total
TAPES IX	Federal Emergency Mngt Agency "Health Concerns in Chemical Emergencies"		1 Hour Total
	Tape 4 -	Community Right to Know	(60 Minutes)
TAPE X	Tape 3 -	Community Right to Know Don Winston (Emergency Response Tape)	15 Minutes Total

October 31, 1989

24 HOUR EMERGENCY RESPONSE CLASSES

1988

AUGUST 19, 23, 25

Bacastow, J., HSE-3
Strosinski, M., PAWS
Bolton, F., HSE-5
Chroninger, W., ENG-6
Velasquez, W. R. HSE-7
Romero, B., PAWS
Buchholz, J., HSE-7
Esquibel, L., HSE-7
MacDonell, D., HSE-5*
Rodriquez, A., Paws**
Salazar, E., HSE-7
Romero, M., HSE-7
Emerson, M. HSE-8
Meloy, W., Paws*
Cordova, J., Paws**
Montoya, T., Paws**

*Make-up

**Rescheduled after October 1, 1988

AUGUST 29, 31 SEPT 2

Courtright, W., HSE-3
Oliver, C., HSE-3
Girault, P., HSE-5
Vigil, E., HSE-5
Trujillo, D., HSE-5
Archuleta, T., HSE-7
Carter, K., HSE-7
Hupke, L., HSE-7
Sanchez, M. HSE-7
Garcia, J.I. FD
Sanders, W., HSE-7
Volz, D., HSE-7
Purtymun, W. HSE-8
Barnett, C., Paws
Lopez, J. Paws**
Martinez, R., Paws**
Atencio, R., Paws
Danforth, R., Paws
Jackson, A., Paws
Archuleta, L., Paws
Trujillo, S., Paws
Chapman, R., FD
Martinez, R.A., FD
Tapia, P.J., FD
Romero, E., FD
Roybal, R.D., FD
Esparaza, J.S., FD
Quintana, J.L., FD
Romero, P.A., FD
Lujan, J. P., FD
Griffin, J., EM
Talley, G., HSE-5
Pinyan, D., HSE-3
Holm-Hansen, T.,Paws
De Filipo, R., Paws
Lopez, L.B., FD

SEPTEMBER 6, 8, 14

Goldie, R., HSE-3
Schmidt, R. HSE-3
Montoya, A., HSE-7
Vigil, S., HSE-5
Wheat, L., HSE-5
Balo, K., HSE-7
Catanach, K., HSE-7
Koenig, R. HSE-7
Moss, W.D., HSE-7
Martinez, A.B., FD
Reynolds R., HSE-7
Martinez, E.W., FD
Buhl, T., HSE-8
Fitzgibbon, F.,Paws**
Manzanares, B.,Paws**
Martinez, S.G.,Paws**
Alexander, M., Paws
Dyke, C., Paws
Ramsey, R., Paws
Gonzales, J., Paws
Winston, D., EM
Casaus, J., FD
Norris, L.L., FD
Lury, C., FD
Martinez, A.J., FD
Sylvester, M., FD
Archuleta, S., FD
Martinez, R.R., FD
Archuleta, D., FD
Armigo, J., HSE-7
Mahoney, P., HSE-3
Pullium, M., FD

SEPTEMBER 16, 19, 21

Hansen, J., HSE-3
Atencio, W., HSE-5
Robertson, J., HSE-5
Weeks, R., HSE-5
Woodrow, L., HSE-5
Breismeister, A., HSE-7
Emerson, P., HSE-7
Mascarenas, J., HSE-7
Myers, B., HSE-7
Salazar, D.F., HSE-7
Velasquez, E., Paws/7
McLin, E., HSE-8
Van Etten, D., HSE-8
Merhege, J., Paws**
Montoya, E., Paws**
Martinez, S.K. Paws**
Bailey, M., Paws
Graham, J., Paws
Marquez, J. O., ED
Hillman, G., Paws
Lujan, P. D., FD
Vigil, M., FD
Norris, D.T., FD
Archuleta, H.V., FD
Chacon,C.P., FD
Holley, M.V., FD
Roybal, D.F., FD
Naranjo, J.P., FD
Montoya, T.S., HSE-7
MacBain, Z.E., EM
Martinez, M., HSE-7
Moore, T., HSE-5
Hack, A., HSE-5
Talley, M., Paws
Vigil, N.K., FD

November 1, 1989

RCRA/SARA/OSHA ANNUAL REFRESHER
FOR
CHEMICAL WASTE COORDINATORS

FOUR IDENTICAL SESSIONS: SEPTEMBER 23, 26, 27,& NOVEMBER 7, 1988

AGENDA

MODULE	LENGTH	TIME
Hazard Recognition - F. Bolton	37 Minutes	1:00 - 1:40 p.m.
Spills Happen - video	22 Minutes	1:40 - 2:05 p.m.
Responsibilities - P. Josey	10 Minutes	2:05 - 2:15 p.m.
Break	10 Minutes	2:20 - 2:30 p.m.
Waste Disposal - S. Zygmunt	45 Minutes	2:30 - 3:15 p.m.
Hazardous Waste Management at LANL - video	14 Minutes	3:15 - 3:30 p.m.
Emergency Response - G. Van Tiem	40 Minutes	3:15 - 4:00 p.m.

Entire course on videotape

November 4, 1988

The following are the videotapes for the Annual 3.5 Hour Refresher Course for the Chemical Waste Coordinators which meets RCRA/SARA/OSHA requirements.

TAPE I	Hazard Recognition - F. Bolton	37 minutes
	Tape III - Dangerous Properties of Industrial Chemicals	
TAPE II	Spills Happen - video	22 minutes
TAPE III	Responsibilities - P. Josey	09 minutes
	Tape II - Responsibilities of Chem Waste Coordinators	
TAPE IV	Waste Disposal - Stan Zygmunt	45 minutes
	Tape I - 1) Identification of Hazardous Waste	(11 minutes)
	2) Listed Waste	(12 minutes)
	3) Proper Hazardous Waste Management	(22 minutes)
TAPE V	Hazardous Waste Management at LANL	14 minutes
TAPE VI	Emergency Response - George Van Tiem	38 minutes
	Tape I - Emergency Response	(38 minutes)

November 4, 1988

CHEMICAL WASTE COORDINATORS

1988

SEPTEMBER 23	SEPTEMBER 26	SEPTEMBER 27
Jackson, F., M-DO	Vigil, M., M-1	Maxwell, C., M-1
Greichen, D., M-4	Olinger, B., M-6	Powell, B., M-7
Goldstein, S., M-8	Rabie, R., M-9	Hollen, M., MP-DO
Cochran, D., MP-DO	Kleczka, J., C-1	Martin, B., CLS-DO
Hopkins, A., CLS-1	Dahlby, J., CLS-2	Nutter, H., CLS-5
Umphres, J., CLS-7	Wood, B., N-DO	Martinez, J., N-2
Weber, G., IS-DOT	Halladay, J., IS-9	Johnson, K., IS-10
Dyson, A., IS-12	Doehling, D., MAT-1	Ramsey, J., MAT-14
Anderson, B., P-1	Martinez, F., P-15	King, C., P-DO
Joy, K., ESS-DO	Riche, N., ESS-DO	Fitzpatrick, J., INC-4
Kindead, S., INC-4	Longmire, C., INC-11	Bolton, F., MEC-DO
Chase, J., MEC-10	Heimbach, D., IT-DO	Holman, C., IT-6
Meade, R., IT-7	Bowler, N., IT-7	Martinez, J., IT-7
Green, D., HSE-1	Villareal, C., HSE-7	Horn, D., HSE-9
Engstrom, D., J-6	Bradley, W., WX-DO	Torres, A., WX-3
Kelly, W., MST-3	Livak, R., MST-5	Peterson, D., MST-5
Mitchell, J., MST-6	Wood, L., MST-7	Clements, J., MST-7
Foxx, C., MST-12	Cook, J., MST-14	Pafford, J., MEE-11
Legate, G., LANSCE	Holm-Hansen, T., PAWS	Randolph, D. CRMO
Fevig, R., PAWS	Freques, R., PAWS	Bustos, W., PAWS
Mariner, R., PAWS	Martin, G., PAWS	Martinez, M., PAWS
Naranjo, F., PAWS	Padilla, R., PAWS	Sanchez, G., PAWS
Sisneros, M., PAWS	L'Esperance, M., PAWS	Monahan,T.,PAWS

8 HOUR ANNUAL REFRESHER FOR RCRA/SARA/OSHA

FOUR IDENTICIAL SESSIONS: AUGUST 9, SEPTEMBER 28, 29,& NOVEMBER 3, 1988

AGENDA

MODULE	LENGTH	TIME
Overview	.5 Hour	8:15 - 8:45 a.m.
Regulations	45 Minutes	8:45 - 9:30 a.m.
Break	15 Minutes	9:30 - 9:45 a.m.
Radiation	1 Hour	9:45 - 10:45 a.m.
Medical Surveillance	.5 Hour	10:45 - 11:15 a.m.
Lunch	1 Hour	11:30 a.m. - 12:30 p.m.
Hazard Recognition	37 Minutes	12:30 - 1:15 p.m.
Waste Disposal	45 Minutes	1:15 - 2:00 p.m.
Break	10 Minutes	2:00 - 2:15 p.m.
General Safety		
Tape I - Intro/Basic Inst	41 Minutes	2:15 - 3:00 p.m.
Tape II - Explosive Waste	32 Minutes	3:00 - 3:30 p.m.
Emergency Response	1 Hour	3:30 - 4:30 p.m.

Entire course on videotape

October 31, 1988

8 HOUR ANNUAL REFRESHER FOR RCRA/SARA/OSHA

VIDEOTAPES

The following are the videotapes for the Annual 8 Hour Refresher Course which meets RCRA/SARA/OSHA Requirements.

TAPE I	Overview - Tom Gunderson		32 minutes
TAPE II	Regulations - Deuel & Associates		43 minutes
	Tape I -	Intro to Hazardous Wastes, RCRA	
TAPE III	Radiation - Cheryll Faust		56 minutes
	Tape II -	Biological Effects	(33 mnutes)
		Risk in Perspective	(11 minutes)
		LANL & DOE Regulations	(12 minutes)
TAPE IV	Medical Surveillance Dr. William Greendyke		32 minutes
TAPE VI	Hazard Recognition - F. Bolton		37 minutes
	Tape III -	Dangerous Properties of Industrial Chemicals	
TAPE VI	Waste Disposal - Stan Zygmunt		45 minutes
	Tape I - 1)	Identification of Hazardous Waste	(11 minutes)
	2)	Listed Waste	(12 minutes)
	3)	Proper Hazardous Waste Management	(22 minutes)
TAPE VII	General Safety - Pat Mahoney		40 minutes
	Tape I -	Introduction, The Extra Step video	
TAPE VIII	General Safety - Pat Mahoney		32 minutes
	Tape V -	Explosive Waste	
TAPE IX	Emergency Response - George Van Tiem		1 Hour
	Tape I -	Emergency Response	(38 minutes)
	Tape II -	Community Right to Know	(23 minutes)

REQUIRED 8 HOUR COURSE

AUGUST 9	SEPTEMBER 28	SEPTEMBER 29
Bonner, A., M-6	Creamer, M-7	Goldstein, S., M-8
Jackson, F., M-D)	Maxwell, C., M-1	Torres, D., M-6
Maestas, J., WX-3	Ortiz. S., WX-3	Velarde, P., WX-3
Martinez, J., WX-12	Sharpless, D., WX-12	Borduin, L., HSE-7
Garde, R., HSE-7	Gilley, C., HSE-7	Harris, R., HSE-7
Hutchins, D., HSE-7	Melton, D., HSE-7	Barr, A., HSE-8
Reynolds, R., HSE-7	Royer, G., HSE-7	Rutten, J., HSE-7
Salazar, D., HSE-7	Salazar, M., HSE-7	Vance, D., HSE-7
Vavruska, J., HSE-7	Warner, C., HSE-7	Williams, L., HSE-7
Zygmunt, S., HSE-7	Grieggs A., HSE-8	Bohn, R., HSE-8
Soholt, L., HSE-8	Stoker, A., HSE-8	
Salazar, J., HSE-8		

HEALTH AND SAFETY TRAINING
IN HAZARDOUS WASTE MANAGEMENT OPERATION

Overview of the 24-Hour Initial Course

OVERVIEW

Goal: This overview will explain what material the course will cover and why the course is necessary.

Objectives: After viewing this module hazardous waste personnel will be able to:
(1) Discuss the information in this overview
(2) Explain why the training course is necessary

MODULE 1: RADIATION

Goal: To provide hazardous waste personnel information on radiation so that they will be able to do their job in a safe manner.

Objective: After viewing This module hazardous waste personnel will be able to:
(1) identify radiation hazards
(2) evaluate the magnitude of a radiation hazard
(3) employ safe work practices appropriate for working with the hazard.

A. Basic Physics
B. Quantities and Units
C. Biological Effects of Ionizing Radiation
D. Risk in Perspective
E. Los Alamos and DOE Radiation Protection, Regulations, and Controls
F. Radiation Dosimetry
G. Radiation Detection and Measurement
H. Applied Health Physics
I. Test

MODULE 2: REGULATIONS

Goal: To provide hazardous waste personnel an update on current laws that affect the Laboratory.

Objective After viewing this module hazardous waste personnel will be able to:
(1) identify applicable regulatory laws that apply to hazardous waste management at Los Alamos National Laboratory.

A. Resource Conservation and Recovery Act (RCRA)

B. RCRA Inspections
C. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
D. Superfund Amendments and Reauthorization Act (SARA)
E. National Contingency Plan (NCP)
F. Occupational Safety and Health Administration (OSHA) 29 CFR 1910 (hazardous Waste Operations and Emergency Response)
G. Test

MODULE 3: HAZARD RECOGNITION

Goal: To reinforce employees' ability to recognize hazardous substances and explains the toxicological, physical, and chemical effects of those substances.

Objectives: After viewing this module hazardous waste personnel will be able to:

(1) Recognize hazardous substances
(2) explain the toxicological, physical, chemical effects of those substances.

A. Review of the chemical properties that make substances hazardous
B. Review of the physiological effects of industrial chemicals
C. Brief introduction to toxicology
D. Classifications of hazardous substances, including oxygen-deficient atmospheres
E. Sources of information about hazardous substances
F. Test

MODULE 4: HAZARDOUS SUBSTANCE/WASTE SHIPMENT

Goal: To provide information on the legal requirements for the movement of hazardous materials and substances/wastes.

Objectives: After viewing this module hazardous waste personnel will be able to:

(1) discuss the legal requirements for the movement of hazardous materials.
(2) classify hazardous substances
(3) know how to access resources about hazardous substances.

A. Packaging
B. Labels and manifests
C. Shipment on site and off site
D. Department of Transportation regulations and DOE Orders
E. Laboratory Hazardous Materials Coordinators
F. Test

MODULE 5: MEDICAL SURVEILLANCE OF HAZARDOUS WASTE WORKERS

Goal: Provide information on the Los Alamos National Laboratory's program for monitoring hazardous waste workers.

Objectives: After viewing this module hazardous waste workers will be able to:

(1) explain the Laboratory's program for monitoring employees who come in contact with hazardous materials.

(2) to recognize symptoms that may indicate overexposure to hazardous substances.

A. Purpose of the program and when to report to Occupational Medicine
B. Employees included in the program
C. Medical examinations
   1. Frequency
   2. Scope
D. Records and reporting
E. Biological effects of hazardous materials
   1. Risks and effects
   2. First aid
F. Test

MODULE 10: RESPIRATORY PROTECTION/PERSONAL PROTECTIVE EQUIPMENT

Goal: To provide hazardous waste workers information on the advantages and limitations of protective equipment and clothing.

Objective: After viewing this module hazardous waste workers will be able to:

(1) describe the advantages and limitations of respiratory protective equipment and chemical/anti-contamination protective clothing.

(2) identify mandatory respiratory compliance regulations

(3) identify various types of respirators

(4) discuss how a respirator is fitted

(5) select correct respirator for correct protection factor

A. Mandatory compliance regulations
B. Respiratory protection program
C. Respiratory equipment
   1. Advantages
   2. Limitations
   3. Authorization
   4. Fitting and training
D. Protection factors
E. Respirator and equipment use
F. Respirator cleaning, sanitation and decontamination
G. Protective clothing
H. Levels of protection
I. Test

MODULE 11: EMERGENCY RESPONSE

Goal: To provide hazardous waste workers with information on how to recognize and respond to hazardous waste emergencies.

Objectives: After viewing this module hazardous waste personnel will be able to:

(1) recognize and respond to hazardous waste emergencies.
(2) discuss the emergency management organization and structure
(3) identify what type incidents have to be reported
(4) identify a site safety plan
(5) state spill clean-up procedures
(6) identify spill clean-up equipment
(7) state what community right to know is

A. Emergency Management organization/structure
B. Notification and reporting
C. Emergency Response Plan
D. Site Safety Plan
E. Spill response
F. Spill clean-up procedures/equipment
G. Community right to know
H. Test

MODULE 12: WASTE DISPOSAL

Goal: To provide hazardous waste personnel with information on correct disposal techniques for waste generated at Los Alamos National Laboratory.

Objectives: After viewing this module hazardous waste personnel will be able to:

M (1) describe proper disposal methods for hazardous wastes produced at the Laboratory.
(2) identify types of wastes generated at Los Alamos National Laboratory

A. Types of wastes
B. Types of disposal
C. Economics of disposal
D. Procedures for disposal
E. Packaging of wastes
F. Storing of wastes
G. Test

MODULE 13: SAFE DRUM HANDLING

Goal: To provide hazardous waste workers at Los Alamos information on how to safely handle hazardous substances/wastes stored in drums.

Objective: After viewing this module hazardous waste workers at Los Alamos will be able to:

(1) explain the proper way to handle hazardous substances/wastes stored in drums.

MODULE 14: GENERAL SAFETY CONSIDERATIONS

Goal: Provide hazardous waste workers at Los Alamos National Laboratory information on genral safety considerations.

Objectives: After viewing this module hazardous waste workers at Los Alamos National Laboratory will be able to:

(1) explain general safety considerations for workers dealing with hazardous substances/wastes, including high explosives.
(2) state basic general safety principles
(3) identify a standard operating procedure
(4) discuss how and when to evacuate a hazardous waste site

A. Understanding basic principles
B. Driving defensively
C. Working with safety equipment
D. Handling bulk materials
E. Writing standard operating procedures (SOPs)
F. Handling gas cylinders
G. Handling explosive wastes
H. Responding to emergencies
I. Evacuating waste sites
J. Using Contractors
K. Test

MODULE 15: SIMULATED HAZARDOUS MATERIALS INCIDENT

Goal: To demonstrate to hazardous waste workers the principles and skills necessary to prevent hazardous waste mismanagement.

Objective: After viewing this module hazardous waste workers at Los Alamos National Laboratory will be able to:

(1) discuss the principles and skills of emergency response
(2) discuss skills transfer from the classroom to the job site.

HEALTH AND SAFETY TRAINING
IN HAZARDOUS WASTE MANAGEMENT OPERATION

Overview of the 40-Hour Course

OVERVIEW

Goal: This overview will explain what material the course will cover and why the course is necessary.

Objectives: After viewing this module hazardous waste personnel will be able to:
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MODULE 1: RADIATION

Goal: To provide hazardous waste personnel information on radiation so that they will be able to do their job in a safe manner.

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(1) identify radiation hazards
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B. RCRA Inspections

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F. Occupational Safety and Health Administration (OSHA) 29 CFR 1910 (Hazardous Waste Operations and Emergency Response)
G. Test

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D. Classifications of hazardous substances, including oxygen-deficient atmospheres
E. Sources of information about hazardous substances
F. Test

MODULE 4: HAZARDOUS SUBSTANCE/WASTE SHIPMENT

Goal: To provide information on the legal requirements for the movement of hazardous materials and substances/wastes.

Objectives: After viewing this module hazardous waste personnel will be able to:

(1) discuss the legal requirements for the movement of hazardous materials.
(2) classify hazardous substances
(3) know how to access resources about hazardous substances.

A. Packaging
B. Labels and manifests
C. Shipment on site and off site
D. Department of Transportation regulations and DOE Orders
E. Laboratory Hazardous Materials Coordinators
F. Test

MODULE 5: MEDICAL SURVEILLANCE OF HAZARDOUS WASTE WORKERS

Goal: Provide information on the Los Alamos National Laboratory's program for monitoring hazardous waste workers.

Objectives: After viewing this module hazardous waste workers will be able to:

(1) explain the Laboratory's program for monitoring employees who come in contact with hazardous materials.
(2) to recognize symptoms that may indicate overexposure to hazardous substances.

A. Purpose of the program and when to report to Occupational Medicine
B. Employees included in the program
C. Medical examinations
   1. Frequency
   2. Scope
D. Records and reporting
E. Biological effects of hazardous materials
   1. Risks and effects
   2. First aid
F. Test

MODULE 6: RECYCLING AND RECLAMATION

Goal: To explain the potential for reducing/recycling the total quantity of hazardous substances/wastes generated at the Laboratory.

Objectives: After viewing this module hazardous waste personnel will be able to:

(1) Explain the procedures for recycling or storing used motor oil.
(2) How to dispose of excess equipment and material.
(3) how to reclaim lead

(4) how to reclaim precious metals.
(5) how to conserve and reclaim water.

A. Procedures for recycle/storage of used motor oil
B. Excess equipment and material
C. Lead reclamation
D. Precious metal recycling
E. Water conservation and reclamation
F. Test

MODULE 7: UNDERGROUND STORAGE TANKS

Goal: To provide hazardous waste personnel with information on the requirements for storage of hazardous substances/wastes, petroleum products and procedures for removal of underground tanks.

Objectives: After viewing this module hazardous waste personnel will be able to:
(1) To explain the requlations for storage of hazardous substances/wastes, and petroleum products.
(2) to identify the standards and schedules for upgrading storage facilities.
(3) to state the procedures for excavation, decontamination, and removal of underground tanks.
(4) to detect when a tank is leaking
(5) to discuss safe work practices

A. Regulations
B. Standards and schedules for upgrading storage facilities
C. Excavation, decontamination, and disposal technology
D. Detection of leaks
E. Inspections
F. Safety of workers
G. Test

MODULE 8: AIR MONITORING

Goal: To inform hazardous waste workers with methods available for measuring air quality.

Objectives: After viewing this module hazardous waste workers will be able to:
(1) discuss the reasons for sampling
(2) be able to identify equipment to do on-site evaluation.
(3) be able to recognize when laboratory analyses is necessary
(4) be able to identify the stages of site monitoring

A. Reasons for sampling
B. On-site evaluation and equipment
C. Laboratory analyses
D. Stages of site monitoring
1. Immediately dangerous to life and health (IDLH)
2. Periodic monitoring

3. Perimeter monitoring

E. Test

MODULE 9: SAMPLING

Goal: To explain to hazardous waste workers methods of sampling waste and environmental media.

Objectives: After viewing this module hazardous waste workers will be able to :

(1) discuss a work plan strategy
(2) discuss a surface geophysical survey
(3) identify various sampling methods
(4) discuss remedial investigations
(5) identify proper drum sampling techniques
(6) state environmental surveillance sampling requirements at Los Alamos National Laboratory

A. Work plan strategy
B. Surface geophysical survey
C. Surface soil sampling
D. Subsurface soil sampling
E. Vadose zone sampling
F. Water sampling
G. Soil gas sampling
H. Gasoline leak remedial investigation
I. Radionuclide site remedial investigation
J. Drum sampling
K. Los Alamos National Laboratory environmental surveillance
L. Test

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(2) identify mandatory respiratory compliance regulations
(3) identify various types of respirators
(4) discuss how a respirator is fitted
(5) select correct respirator for correct protection factor

A. Mandatory compliance regulations
B. Respiratory protection program
C. Respiratory equipment
1. Advantages
2. Limitations
3. Authorization
4. Fitting and training

D. Protection factors
E. Respirator and equipment use
F. Respirator cleaning, sanitation and decontamination
G. Protective clothing
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B. Types of disposal
C. Economics of disposal
D. Procedures for disposal
E. Packaging of wastes
F. Storing of wastes
G. Test

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Objective: After viewing this module hazardous waste workers at Los Alamos will be able to:

(1) explain the proper way to handle hazardous substances/wastes stored in drums.
(2)

MODULE 14: GENERAL SAFETY CONSIDERATIONS

Goal: Provide hazardous waste workers at Los Alamos National Laboratory information on genral safety considerations.

Objectives: After viewing this module hazardous waste workers at Los Alamos National Laboratory will be able to:

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(2) state basic general safety principles
(3) identify a standard operating procedure
(4) discuss how and when to evacuate a hazardous waste site

A. Understanding basic principles
B. Driving defensively
C. Working with safety equipment
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E. Writing standard operating procedures (SOPs)
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G. Handling explosive wastes
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Goal: To demonstrate to hazardous waste workers the principles and skills necessary to prevent hazardous waste mismanagement.

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(1) discuss the principles and skills of emergency response
(2) discuss skills transfer from the classroom to the job site.

ATTACHMENT 6

GENERATOR

TRAINING PROGRAM

RCRA INSPECTION TRAINING OUTLINE

I. Introduction.

A. Brief description of applicable regulations.

B. Who must comply. (Who is responsible)

1) Anyone storing a hazardous waste must comply. Virtually anyone who uses a regulated solvent also produces a hazardous waste.

2) At LANL, ultimate responsibility falls to the Group Leader.[1] The Group leader is responsible for insuring that personnel receive proper training in hazardous waste procedures. The site inspector should be responsible for day to day operations. It is the responsibility of HSE-8 to insure reg. compliance by assisting and advising the generators.

C. Consequences of failure to comply.

1) Owners/operators may be subject to civil and criminal prosecution, possibly resulting in imprisonment and fines. Liability extends to the individual.

2) The use of a temporary storage area can be a great convenience to a program. The loss of a storage site can add further strain to a usually tight budget by siphoning funds and man-hours.

II. Inspections.

A. Designation of inspector and duties. (<90 DAY STORAGE)

1) Operating groups should designate inspectors.

2) Inspectors will be responsible for daily, weekly, and monthly inspections as required.

3) Inspectors are responsible for contacting proper organizations for cleanup and disposal.

4) Inspectors will keep original copies of all inspection forms a minimum of 3 years for < 90 day storage facilities. Copies of all inspection sheets should be submitted to HSE-8, Regulatory Compliance at MS K490.

5) Inspectors should be familiar with the site SPCC Plan[2] and, know who their site Spill Coordinator and safety officers are.

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1 LANL Health and Safety Manual, Administrative Requirement 10-3
2 Spill Prevention, Control and Countermeasures Plan for LANL

B. Summary of requirements for <90 day storage sites.[3]

1) Condition of loading/unloading areas. Area must be free of obstacles or deterioration that could cause a spill or accident.

2) Condition of storage area. Storage area should be kept free of obstacles that could prevent free access by emergency personnel. Containers should be spaced far enough apart to allow for visual inspection and entry by emergency personnel with equipment. Area should be free of possible ignition sources.

3) Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding a hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous waste. (See attached compatibility chart or contact HSE-8, HSE-7 for guidance)

4) Container material must be compatible with the waste. Do not store a waste that is corrosive to or otherwise will cause deterioration of the container. HSE-7 can assist you with choosing the proper container.

5) Container must be in good condition. Containers should be stored in a dry, preferably sheltered location. Deteriorated containers must be replaced immediately. Drums for liquid wastes should have a "bung" top. Do not package solids and liquids together.

6) All containers must be closed.

7) All containers must be properly labeled "HAZARDOUS WASTE." If more than one type of hazardous waste is stored in different containers, then each container should also be labeled by content (e.g. solvents, acids, caustics, etc.).

8) An accumulation start date must be properly marked on all containers, at the time the container first receives waste.

9) No containers may exceed 90 days from date accumulation begins until they are delivered to TA-54 or TA-50. The 90 day period includes transport time by HSE-7. For disposal, contact HSE-7 at 667-7579 and submit a Chemical Waste Disposal Request (CWDR) form to MS J593. Allow for a minimum of two weeks notice.

10) Warning signs with the legend "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT" must be readable and prominently posted. The storage area should be identified by a sign that reads "HAZARDOUS WASTE LESS THAN 90 DAYS STORAGE AREA."

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3 40CFR 262.34 (a).

11) <90 day storage areas must be inspected daily (may vary), and a copy of the inspection record form must be submitted weekly to HSE-8. All records must be maintained for a minimum of three years by the generator. Inspection forms should be sent to Tony Grieggs, HSE-8, MS K490, ph. 665-0451.

12) Questions concerning regulations and the storage of hazardous waste by generators should be directed to Tony Grieggs, HSE-8, MS K490, 5-0451 or Jim White, HSE-8, 5-0677.

13) Hazardous waste leaks or spills must be cleaned up immediately and the resulting material handled as hazardous waste also.

C. Completing Inspection forms for <90 day

Procedures for completion of hazardous waste inspection forms for <90 day storage areas.

1) Complete inspection forms according to schedule (when the responsible person cannot complete the form, an alternate must be responsible for its completion).

2) The individual completing the form must either sign his/her name, or initial next to a typed name, in the space provided.

3) Make sure the date and time of the inspection are recorded in the spaces provided.

4) The "Condition" column of the form should provoke either one of two possible responses for each item listed. The two responses are "OK" or "AR" (action required). If the response is "AR", the action required must be noted at the bottom of the inspection form.

The date any corrective action is taken and a description of the action taken must be entered in the "Action/Date" column of all future inspection forms until corrective action has been completed.

Once corrective action has been completed, the action taken and date completed must be entered in the "Action/Date" column on the current inspection form. Only after corrective action has been completed and recorded on inspection forms can an "OK" be entered in the "Condition" column on the current inspection form.

Corrective action must be completed as quickly as possible once an "AR" appears on an inspection form. Where a hazard is imminent or has occurred, remedial action must be taken immediately.

6) Submit a readable copy of the completed inspection forms at the end of each week to HSE-8, Regulatory Compliance, MS K490.

7) Keep a record of your original form for at least (3) three years.

D. Summary of requirements for satellite storage sites.[4] (Submittal of weekly forms is not required)

1) Waste must be accumulated in containers at or near the point of generation. Area must be free of obstacles or deterioration that could cause a spill or accident or, prevent access by emergency personnel and equipment. Area should be free of possible ignition sources.

2) Waste must be under the control of the generator.

3) Containers must be in good condition. Containers should be stored in a dry, preferably sheltered location. Deteriorated containers must be replaced immediately. Drums for liquid wastes should have a "bung" top. Do not package liquid and solid wastes together. Containers should be far enough apart to allow for visual inspection and access by emergency personnel with equipment.

4) Container material must be compatible with the waste. Do not store a waste that is corrosive to or otherwise will cause deterioration of the container. HSE-7 can assist you with choosing the appropriate container.

5) Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding a hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous waste. (See attached compatibility chart or contact HSE-8, HSE-7 for guidance)

6) All containers must be kept closed.

7) Containers must be labeled with the words "HAZARDOUS WASTE" and the major hazardous constituents should be listed.

8) Generators may accumulate a total of 55 gals. of hazardous waste or 1 qt. of acutely hazardous waste. This is the maximum allowable volume for a satellite storage area.

9) Wastes in excess of the above stated amounts may not be held more than 3 calendar days from the time the amount is exceeded. Dispose of all waste at this time. For disposal, contact HSE-7, 667-7579, MS J593 and submit a Chemical Waste Disposal Request (CWDR) form.

10) Containers holding the excess accumulation must be labeled as in (7) and marked with the date the excess amount began accumulating.

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4 40CFR 262.34 (c).

11) Signs must be readable and prominently posted. Signs should read "SATELLITE HAZARDOUS WASTE STORAGE AREA." (HSE-8 will provide these)

12) Questions concerning regulations and hazardous waste storage by generators should be directed to Tony Grieggs, HSE-8, MS K490, 5-0451 or Jim White, HSE-8, 5-0677.

13) Hazardous waste leaks or spills must be cleaned up immediately and the resulting material handled as hazardous waste also.

III. Safety considerations.

A. Training.

1) Operators and inspectors should be knowledgeable in the proper handling of hazardous waste. Contact HSE-8 for further guidance.

2) Operators must be knowledgeable in emergency and spill control procedures.

B. Equipment.

1) Spill control kits.
   a) Absorbents
   b) Shovels
   c) Safety glasses
   d) Gloves, boots
   e) Empty drums or "overpacks" where larger quantities are stored.

2) Respirators, etc. if required.

3) Emergency eye wash and showers should be in close proximity and well marked.

4) Communication network operating. (phones, etc.)

IV. Contacts.

A. Inspections.

1) Currently, inspection forms should be sent to Tony Grieggs, HSE-8, MS K490, 665-0451

2) Questions concerning regulations and hazardous waste storage should be directed to Tony Grieggs, HSE-8, MS K490, 665-0451 or Jim White, 665-0677.

B. Disposal and spills.

1) For disposal of waste contact Tom Montoya, HSE-7, MS J593, 667-7579. For Satellite storage areas disposal should be arranged when your site has reached 75% of capacity. For less than 90 day storage areas disposal should be arranged 2 weeks before the 90 day limit is exceeded. Submit a

Chemical Waste Disposal Request (CWDR) to HSE-7, MS J592.

2) Spills should be reported immediately to your site "Spill Coordinator."

PRINTED: July 24, 1989

DETERMINING IF YOU HAVE A HAZARDOUS WASTE

Characteristic Wastes: A material may be a hazardous waste if it exhibits any of the following characteristics:

1) Ignitability - Flash point less than 60°C (140°F).

2) Corrosivity - Aqueous with a pH ≤ 2 or ≥ 12.5, OR it is a liquid and corrodes steel at a rate greater than 6.35 mm (.25")/year at a temperature of 55°C (130°F).

3) Reactivity - A) Normally unstable and readily undergoes violent change without detonating. B) Reacts violently with water. C) Forms potentially explosive mixtures with water. D) Generates toxic gases, vapors, or fumes when mixed with water. E) Capable of detonation or explosive decomposition at standard temperature and pressure.

4) EP-Toxicity - The occurrence of the following metals in the stated concentrations as determined by EP-TOXIC procedures.

Contaminant	Concentration	Units
Arsenic	5.0	mg/l
Barium	100.0	mg/l
Cadmium	1.0	mg/l
Chromium	5.0	mg/l
Lead	5.0	mg/l
Mercury	0.2	mg/l
Selenium	1.0	mg/l
Silver	5.0	mg/l

Listed Wastes: A material may be a hazardous waste if it contains a "listed" hazardous constituent.

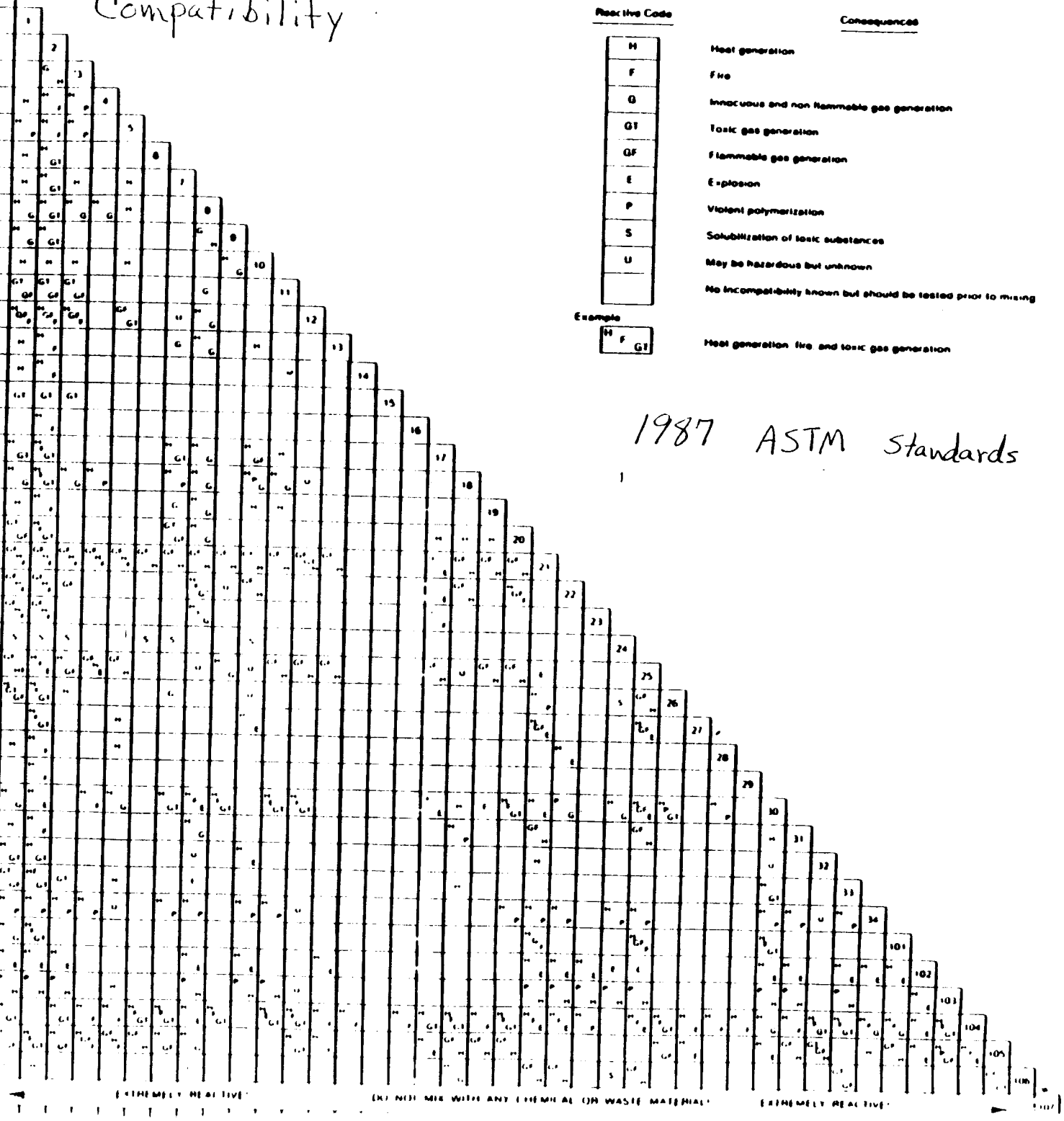
The entire list of hazardous constituents is too extensive to include in this document. Some of the more common hazardous constituents that may be encountered at the laboratory are listed below.

Halogenated solvents	Non-halogenated solvents
Tetrachloroethylene	Xylene
Trichloroethylene	Acetone
Methylene chloride	Ethyl acetate
1,1,1-trichloroethane	Ethyl ether
Carbon tetrachloride	Toluene
Chlorinated fluorocarbons	Methyl ethyl ketone (MEK)

Contact Tony Grieggs, HSE-8, 665-0451 or Jim White, 665-0677 for further information.

Compatibility

REACTIVITY GROUP NO	REACTIVITY GROUP NAME
1	Acids Mineral Non oxidizing
2	Acids Mineral Oxidizing
3	Acids Organic
4	Alcohols and Glycols
5	Aldehydes
6	Amides
	Amines Aliphatic and Aromatic
8	Azo Compounds Diazo Compounds and Hydrazines
9	Carbamates
10	Caustics
11	Cyanides
12	Dithiocarbamates
13	Esters
14	Ethers
15	Fluorides Inorganic
16	Hydrocarbons Aromatic
17	Halogenated Organics
18	Isocyanates
19	Ketones
20	Mercaptans and Other Organic Sulfides
21	Metals Alkali and Alkaline Earth Elemental
22	Metals Other Elemental and Alloys as Powders Vapors or Sponges
23	Metals Other Elemental and Alloys as Sheets Rods Drops Moldings etc
24	Metals and Metal Compounds Toxic
25	Nitrides
26	Nitriles
27	Nitro Compounds Organic
28	Hydrocarbons Aliphatic Unsaturated
29	Hydrocarbons Aliphatic Saturated
30	Peroxides and Hydroperoxides Organic
31	Phenols and Cresols
32	Organophosphates Phosphothioates Phosphodithioates
33	Sulfides Inorganic
34	Epoxides
101	Combustible and Flammable Materials Miscellaneous
102	Explosives
103	Polymerizable Compounds
104	Oxidizing Agents Strong
105	Reducing Agents Strong
106	Water and Mixtures Containing Water
107	Water Reactive Substances



Reactive Code	Consequences
H	Heat generation
F	Fire
G	Innocuous and non flammable gas generation
GT	Toxic gas generation
GF	Flammable gas generation
E	Explosion
P	Violent polymerization
S	Solubilization of toxic substances
U	May be hazardous but unknown
	No incompatibility known but should be tested prior to mixing

Example

H F GT	Heat generation fire and toxic gas generation

1987 ASTM Standards

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS

HAZARDOUS SUBSTANCE

Acenaphthene
Acenaphthylene
Acetaldehyde
Acetaldehyde, chloro-
Acetaldehyde, trichloro-
Acetamide, N-(aminothioxomethyl)-
Acetamide, N-(4-ethoxyphenyl)-
Acetamide, N-9H-fluoren-2-yl-
Acetamide, 2-fluoro-
Acetic acid
Acetic acid, ethyl ester
Acetic acid, fluoro-, sodium salt
Acetic acid, lead salt
Acetic acid, thallium(1) salt
Acetic anhydride
Acetimidic acid, N-
[(methylcarbanoyl)oxy]thio-,
methyl ester
Acetone
Acetone cyanohydrin
Acetonitrile*
3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin
and
salts
Acetophenone*
2-Acetylaminofluorene*
Acetyl bromide
Acetyl chloride*
1-Acetyl-2-thiourea*
Acrolein*
Acrylamide*
Acrylic acid
Acrylonitrile*
Adipic acid
Aflatoxins++
Alanine, 3-[p-bis(2-
chloroethyl)amino]phenyl-,L-
Aldicarb*
Aldrin*
Allyl alcohol*
Allyl chloride
Aluminum phosphide*
Aluminum sulfate
4-Aminobiphenyl++
2-Amino-1-methyl benzene
4-Amino-1-methyl benzene
5-(Aminomethyl)-3-isoxazolol*
4-Aminopyridine*
Amitrole*
Ammonia

HAZARDOUS SUBSTANCE

Ammonium acetate
Ammonium benzoate
Ammonium bicarbonate
Ammonium bichromate
Ammonium bifluoride
Ammonium bisulfite
Ammonium carbamate
Ammonium carbonate
Ammonium chloride
Ammonium chromate
Ammonium citrate, dibasic
Ammonium fluoborate
Ammonium fluoride
Ammonium hydroxide
Ammonium oxalate
Ammonium picrate
Ammonium silicofluoride
Ammonium sulfamate
Ammonium sulfide
Ammonium sulfite
Ammonium tartrate
Ammonium thiocyanate
Ammonium thiosulfate
Ammonium vanadate*
Amyl acetate
iso-
sec-
tert-
Aniline*
Anthracene
Antimony*
Antimony compounds, N.O.S.*
Antimony pentachloride
Antimony potassium tartrate
Antimony tribromide
Antimony trichloride
Antimony trifluoride
Antimony trioxide
Aramite++
Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Arsenic*
Arsenic acid*
Arsenic compounds, N.O.S.*
Arsenic disulfide

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Arsenic (III) oxide
Arsenic (V) oxide
Arsenic pentoxide*
Arsenic trichloride
Arsenic trioxide*
Arsenic trisulfide
Arsine, diethyl-
Asbestos
Auramine*
Azaserine*
Aziridine
Azirino(2',3',3,4)pyrrolo(1,2-a)indole-4,7-dione
6-amino-8-[((aminocarbonyl)oxy)methyl]-
1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-
Barium++
Barium compounds, N.O.S.*
Barium cyanide*
Benz(j)aceanthrylene, 1,2-dihydro-3-methyl-
Benz(c)acridine++
3,4-Benzacridine
Benzal chloride*
Benz(a)anthracene*
1,2-Benzanthracene
1,2-Benzanthracene, 7,12-dimethyl-
Benzenamine
Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
Benzenamine, 4-chloro-
Benzenamine, 4-chloro-2-methyl-hydrochloride
Benzenamine, N,N-dimethyl-4-phyenylazo-
Benzenamine, 4,4'-methylenebis(2-chloro-
Benzenamine, 2-methyl- hydrochloride
Benzenamine, 2-methyl-5-nitro-
Benzenamine, 4-nitro-
Benzene*
Benzene, 1-bromo-4-phenoxy-
Benzene chloro-
Benzene, chloromethyl-
Benzene, 1,2-dichloro-
Benzene, 1,3-dichloro-
Benzene, 1,4-dichloro-
Benzene, dichloromethyl-
Benzene, 2,4-diisocyanatomethyl
Benzene, dimethyl
m-
o-
p-
Benzene, hexachloro-
Benzene, hexahydro-
Benzene, hydroxy-
Benzene, methyl-
Benzene, 1-methyl-2,4-dinitro-
Benzene, 1-methyl-2,6-dinitro-
Benzene, 1,2-methylenedioxy-4-allyl-
Benzene, 1,2-methylenedioxy-4-propenyl-
Benzene, 1,2-methylenedioxy-4-propyl-
Benzene, 1-methylethyl-
Benzene, nitro-
Benzene, pentachloro-
Benzene, pentachloronitro-
Benzene, 1,2,4,5-tetrachloro-
Benzene, trichloromethyl-
Benzene, 1,3,5-trinitro-
Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-
alpha-hydroxy-, ethyl ester
Benzenearsonic acid++
1,2-Benzenedicarboxylic acid anhydride
1,2-Benzenedicarboxylic acid [bis(2-ethylhexyl)]
ester
1,2-Benzenedicarboxylic acid, dibutyl ester
1,2-Benzenedicarboxylic acid, diethyl ester
1,2-Benzenedicarboxylic acid, dimethyl ester
1,2-Benzenedicarboxylic acid, di-n-octyl ester
1,3-Benzenediol
1,2-Benzenediol,4-[1-hydroxy-2-(methylamino)ethyl]
Benzenesulfonic acid chloride
Benzenesulfonyl chloride
Benzenethiol
Benzidine*
1,2-Benzisothiazolin-3-one,1,1-dioxide, and salts
Benzo(a)anthracene
Benzo(b)fluoranthene*
Benzo(j)fluoranthene++
Benzo(k)fluoranthene
Benzo(j,k)fluorene
Benzoic acid
Benzonitrile
Benzo(ghi)perylene
Benzo(a)pyrene*

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

3,4-Benzopyrene
p-Benzoquinone*
Benzotrichloride*
Benzyl chloride*
1,2-Benzphenanthrene
Benzyl chloride
Beryllium*
Beryllium compounds, N.O.S.*
Beryllium chloride
Beryllium dust
Beryllium fluoride
Beryllium nitrate
alpha - BHC
beta - BHC
gamma - BHC
delta - BHC
2,2'-Bioxirane
(1,1'-Biphenyl)-4,4' daimine
(1,1'-Biphenyl)-4,4' diamine, 3,3' dichloro-
(1,1'-Biphenyl)-4,4' diamine,3,3' dimethoxy-
(1,1'Biphenyl)-4,4'-diamine,3,3'-dimethyl-
Bis(2-chloroethoxy) methane
Bis(2-chloroethyl) ether
Bis(2-chloroisopropyl) ether
Bis(chloromethyl) ether
Bis(dimethylthiocarbamoyl) disulfide
Bis(2-ethlhexyl)phthalate
Bromine cyanide
Bromoacetone*
Bromoform*
4-Bromophenyl phenyl ether*
Brucine*
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
1-Butanamine, N-butyl-N-nitroso
Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-
1-Butanol
2-Butanone
2-Butanone peroxide
2-Butenal
2-Butene, 1,4-dichloro-
Butyl acetate
  iso-
  sec-
  tert-
n-Butyl alcohol
Butylamine

HAZARDOUS SUBSTANCE

  iso-
  sec-
  sec-
  tert-
Butyl benzyl phthalate*
n-Butyl phthalate
Butyric acid
  iso-
Cacodylic acid*
Cadmium*
Cadmium acetate
Cadmium compounds, N.O.S.*
Cadmium bromide
Cadmium chloride
Calcium arsenate
Calcium arsenite
Calcium carbide
Calcium chromate*
Calcium cyanide*
Calcium dodecylbenzene sulfonate
Calcium hypochlorite
Camphene, octachloro-
Captan
Carbamic acid, ethyl ester
Carbamic acid, methylnitroso-,ethyl ester
Carbamide, N-ethyl-N-nitroso-
Carbamide, N-methyl-N-nitroso-
Carbamide, thio-
Carbamimidoselenoic acid
Carbamoyl chloride, dimethyl-
Carbaryl
Carbofuran
Carbon bisulfide
Carbon disulfide*
Carbonic acid, dithalium (1) salt
Carbonochloridic acid, methyl ester
Carbon oxyfluoride*
Carbon tetrachloride*
Carbonyl chloride
Carbonyl fluoride
Chloral*
Chlorambucil*
Chlordane*
Chlordane (alpha and gamma isomers)++
Chlordane, technical
Chlordane (technical mixture and metabolites)
Chlorinated benzenes, N.O.S.*
Chlorinated ethanes, N.O.S.*

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Chlorinated fluorocarbons, N.O.S.++
Chlorinated naphthalene, N.O.S.*
Chlorinated phenol, N.O.S.*
Chlorine
Chlorine cyanide
Chlornaphazine*
Chloroacetaldehyde*
Chloroalkyl ethers, N.O.S.*
p-Chloroaniline*
Chlorobenzene*
Chlorobenzilate++
4-Chloro-m-cresol
p-Chloro-m-cresol*
Chlorodibromomethane
1-Chloro-2,3-epoxypropane
Chloroethane
2-Chloroethyl vinyl ether*
Chloroform*
Chloromethyl methyl ether*
beta-Chloronaphthalene*
2-Chloronaphthalene
2-Chlorophenol
o-Chlorophenol*
4-Chlorophenyl phenyl ether
1-(o-Chlorophenyl)thiourea*
Chloroprene++
3-Chloropropionitrile*
Chlorosulfonic acid
4-Chloro-o-toluidine, hydrochloride
Chlorpyrifos
Chromic acetate
Chromic acid
Chromic acid, calcium salt
Chromic sulfate
Chromium*
Chromium compounds, N.O.S.*
Chromous chloride
Chrysene*
Citrus red No. 2++
Coal tar creosote++
Cobaltous bromide
Cobaltous formate
Cobaltous sulfamate
Coke Oven Emissions
Copper
Copper Compounds
Copper cyanide*
Coumaphos
Creosote*

HAZARDOUS SUBSTANCE

Cresol(s)*
m-
o-
p-
Cresylic acid*
m-
o-
p-
Crotonaldehyde*
Cumene
Cupric acetate
Cupric acetoarsenite
Cupric chloride
Cupric nitrate
Cupric oxalate
Cupric sulfate
Cupric sulfate ammoniated
Cupric tartrate
Cyanides (soluble cyanide salts and complexes), N.O.S.*
Cyanogen*
Cyanogen bromide*
Cyanogen chloride*
Cycasin++
1,4-Cyclohexadienedione
Cyclohexane
Cyclohexanone
2-Cyclohexyl-4,6-dinitrophenol++
1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
Cyclophosphamide*
2,4-D++
2,4-D Acid
2,4-D Esters
2,4-D, salts and esters*
Daunomycin*
DDD*
4,4' DDD
DDE*
4,4' DDE
DDT*
4,4' DDT
DDT Metabolites
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c.d]-pentalen-2-one
Diallate*
Diamine
Diaminotoluene
Diazinon

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Dibenz[a,h]acridine++
Dibenz[a,j]acridine++
Dibenz[a,h]anthracene*
1,2:5,6-Dibenzanthracene
Dibenzo[a,h]anthracene
7H-Dibenzo[c,g]carbazole++
1,2:7,8-Dibenzopyrene
Dibenzo[a,e]pyrene++
Dibenzo[a,h]pyrene++
Dibenz[a,i]pyrene*
1,2-Dibromo-3-chloropropane*
Dibutyl phthalate*
Di-n-butyl phthalate
Dicamba
Dichlobenil
Dichlone
S-(2,3-Dichloroallyl) diisopropylthiocarbamate
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide
Dichlorobenzene, N.O.S.++
Dichlorobenzene (mixed)
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
m-Dichlorobenzene*
o-Dichlorobenzene*
p-Dichlorobenzene*
Dichlorobenzidine
3,3'-Dichlorobenzidine*
Dichlorobromomethane
1,4-Dichloro-2-butene*
Dichlorodifluoromethane*
Dichlorodiphenyl dichloroethane
Dichlorodiphenyl trichloroethane
1,1-Dichloroethane
1,2-Dichloroethane
Dichloroethylene, N.O.S.++
1,1-Dichloroethylene*
1,2-trans-Dichloroethylene
1,2-Dichloroethylene++
Dichloroethyl ether*
Dichloroisopropyl ether++
Dichloromethoxy ethane++
Dichloromethyl ether++
2,4-Dichlorophenol*
2,6-Dichlorophenol*
2,4-Dichlorophenoxyacetic acid, salts and esters

HAZARDOUS SUBSTANCE

Dichlorophenylarsine*
Dichloropropane, N.O.S.*
1,1-Dichloropropane
1,3-Dichloropropane
1,2-Dichloropropane
Dichloropropane - Dichloropropene (mixture)
Dichloropropanol, N.O.S.*
Dichloropropene(s), N.O.S.*
2,3 - Dichloropropene(isomer)
1,3-Dichloropropene*
2,2-Dichloropropionic acid
Dichlorvos
Dieldrin*
1,2:3,4-Diepoxybutane*
Diethylamine
Diethylarsine*
1,4-Diethylene dioxide
1,4-Diethyleneoxide++
Diethylhexyl phthalate++
N,N'-Diethylhydrazine
O,O-Diethyl S-[2-(ethylthio)ethyl]phosphorodithioate
O,O-Diethyl S-methyl dithiophosphate*
Diethyl-p-nitrophenyl phosphate*
Diethyl phthalate*
O,O-Diethyl O-pyrazinyl phosphorothioate*
Diethylstilbestrol*
1,2-Dihydro-3,6-pyridazinedione
Dihydrosafrole*
Diisopropyl fluorophosphate (DFP)*
Dimethoate*
3,3'-Dimethoxybenzidine*
Dimethylamine
p-Dimethylaminoazobenzene++
7,12-Dimethylbenz(a)anthracene*
3,3'-Dimethylbenzidine*
alpha,alpha-Dimethylbenzylhydroperoxide
3,3-Dimethy-1- (methylthio)-2-butanone,O-[methylamino)carbonyl] oxime
Dimethylcarbamoyl chloride*
1,1-Dimethylhydrazine*
1,2-Dimethylhydrazine*
O,O-Dimethyl O-p-nitrophenyl phosphorothioate
Dimethylnitrosamine
alpha,alpha-Dimethylphenethylamine*
2,4-Dimethylphenol*
Dimethyl phthalate*
Dimethyl sulfate*

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Dinitrobenzene (mixed), N.O.S.*
  m-
  o-
  p-
4,6-Dinitro-o-cresol and salts*
4,6-Dinitro-o-cyclohexylphenol
Dinitrophenol
  2,5-
  2,6-
2,4-Dinitrophenol*
Dinitrotoluene
  3,4-Dinitrotoluene
2,4-Dinitrotoluene*
2,6-Dinitrotoluene++
Dinoseb*
Di-n-octyl phthalate*
1,4-Dioxane
Diphenylamine++
Diphenylhydrazine
1,2-Diphenylhydrazine*
Diphosphoramide, octamethyl-
Dipropylamine
Di-n-propylnitrosamine*
Diquat
Disulfoton*
Dithiobiuret++
2,4-Dithiobiuret
Dithiopyrophosphoric acid, tetraethyl ester
Diuron
Dodecylbenzenesulfonic acid
Endosulfan*
alpha-Endosulfan
beta-Endosulfan
Endosulfan Metabolites
Ensodulfan sulfate
Endothall*
Endrin*
Endrin aldehyde
Endrin metabolites*
Epichlorohydrin*
Epinephrine*
Ehtanal
Ethanamine, 1,1-dimethyl-2-phenyl-
Ethanamine, N-ethyl-N-nitroso-
Ethane, 1,2-dibromo-
Ethane, 1,1-dichloro-
Ethane, 1,2-dichloro-
Ethane, 1,1,1,2,2,2-hexachloro-
Ethane, 1,1'-[methylenebis(oxy)]bis(2-

HAZARDOUS SUBSTANCE

chloro-
Ethane, 1,1'-oxybis-
Ethane, 1,1'-oxybis(2-chloro-
Ethane, pentachloro-
Ethane, 1,1,1,2-tetrachloro-
Ethane, 1,1,2,2-tetrachloro-
Ethane, 1,1,2-trichloro
Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-
1,2-Ethanediylbiscarbamodithioic acid
Ethanenitrile
Ethanethioamide
Ethanol, 2,2'-(nitrosoimino)bis-
Ethanone, 1-phenyl-
Ethanoyl chloride
Ethenamine, N-methyl-N-nitroso
Ethene, chloro-
Ethene, 2-chloroethoxy
Ethene, 1,1-dichloro-
Ethene, 1,1,2,2-tetrachloro-
Ethene, trans-1,2-dichloro-
Ethion
2-Ethoxyethanol
Ethyl acetate
Ethyl acrylate
Ethylbenzene
Ethyl carbamate (Urethan)*
Ethyl cyanide*
Ethyl 4,4-dichlorobenzilate
Ethylene dibromide*
Ethylene dichloride*
Ethylene glycol monoethyl ether*
Ethylene oxide*
Ethylenebis (dithiocarbamic acid), salts and esters*
Ethylenediamine
Ethylenediamine tetraacetic acid (EDTA)
Ethylenethiourea*
Ethylenimine*
Ethyl ether
Ethylidene dichloride*
Ethyl methacrylate*
Ethyl methanesulfonate*
Famphur*
Ferric ammonium citrate
Ferric ammonium oxalate
Ferric chloride
Ferric dextran (Removed by 53 FR 43881, October 31, 1988)

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Ferric fluoride
Ferric nitrate
Ferric sulfate
Ferrous ammonium sulfate
Ferrous chloride
Ferrous sulfate
Fluoroacetic acid, sodium salt
Fluoranthene*
Fluorene
Fluorine*
Fluoroacetamide*
Fluoroacetic acid, sodium salt++
Formaldehyde*
Formic acid*
Fulminic acid, mercury (II) salt
Fumaric acid
Furan
Furan, tetrahydro-
2-Furancarboxaldehyde
2,5-Furandione
Furfural
Furfuran
D-Glucopyranose, 2-deoxy-2-
(3-methyl-3-nitrosoureido)-
Glycidylaldehyde*
Guanidine, N-nitroso-N-methyl-N'-nitro
Guthion
Haloethers
Halomethanes, N.O.S.++
Heptachlor*
Heptachlor metabolites
Heptachlor epoxide*
Heptachlor epoxide (alpha, beta, and gamma isomers)++
Hexachlorobenzene*
Hexachlorobutadiene*
Hexachlorocyclohexane (all isomers)
Hexachlorocyclohexane (gamma isomer)
Hexachlorocyclopentadiene*
Hexachlorodibenzo-p-dioxins++
Hexachlorodibenzofurans++
1,2,3,4,10,10-Hexachloro-6,7-epoxy-
1,4,4a,5,6,7,8,8a-octahydro-endo, endo-
1,4:5,8-dimethanonaphthalene
1,2,3,4,10,10-Hexachloro-6,7-epoxy-
1,4,4a,5,6,7,8,8a-octahydro-endo, exo-
1,4:5,8-dimethanonaphthalene
Hexachloroethane*
Hexachlorohexahydro-endo, edno-

HAZARDOUS SUBSTANCE

dimethanonaphthalene
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,-hexahydro-
1,4,5,8-endo, endo-dimethanonaphthalene
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,-hexahydro-
1,4:5,8-endo, exo-dimethanonaphthalene
Hexachlorophene*
Hexachloropropene*
Hexaethyl tetraphosphate*
Hydrazine*
Hydrazine 1,2-diethyl-
Hydrazine 1,1-dimethyl-
Hydrazine, 1,2-dimethyl-
Hydrazine, 1,2-diphenyl-
Hydrazine, methyl-
Hydrazinecarbothioamide
Hydrochloric acid
Hydrocyanic acid
Hydrofluoric acid
Hydrogen cyanide*
Hydrogen fluoride*
Hydrogen phosphide
Hydrogen sulfide*
Hydroperoxide, 1-methyl-1-phenylethyl-
Hydrosulfuric acid
Hydroxydimethylarsine oxide
2-Imidazolidinethione
Indeno(1,2,3-cd)pyrene*
Iron dextran (Removed by 53 FR 43881, October 31, 1988)*
Isobutyl alcohol*
Isocyanic acid, methyl ester
Isodrin++
Isophorone
Isoprene
Isopropanolamine dodecylbenzenesulfonate
Isosafrole*
3(2H)-Isoxazolone, 5-(aminomethyl)-
Kelthane
Kepone*
Lasiocarpine*
Lead*
Lead acetate*
Lead compounds, N.O.S.*
Lead arsenate
Lead chloride
Lead fluoborate
Lead fluoride

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Lead iodide
Lead nitrate
Lead phosphate*
Lead stearate
Lead subacetate*
Lead sulfate
Lead sulfide
Lead thiocyanate
Lindane*
Lithium chromate
Malathion
Maleic acid
Maleic anhydride*
Maleic hydrazide*
Malononitrile*
Melphalan*
Mercaptodimethur
Mercuric cyanide
Mercuric nitrate
Mercuric sulfate
Mercuric thiocyanate
Mercurous nitrate
Mercury*
Mercury compounds, N.O.S.*
Mercury, (acetato-O)phenyl-
Mercury fulminate*
Methacrylonitrile*
Methanamine, N-methyl-
Methane, bromo-
Methane, chloro-
Methane, chloromethoxy-
Methane, dibromo-
Methane, dichloro-
Methane, dichlorodifluoro-
Methane, iodo-
Methane, oxybis(chloro-
Methane, tetrachloro-
Methane, tetranitro-
Methane, tribromo-
Methane, trichloro-
Methane, trichlorofluoro-
Methanesulfonic acid, ethyl ester
Methanethiol
Methanesulfenyl chloride, trichloro-
4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-
3a,3,7,7a-tetrahydro-
Methanoic acid
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-
3a,4,7,7a-tetrahydro-
Methanol
Methapyrilene*
Methomyl*
Methoxychlor*
Methyl alcohol
2-Methylaziridine
Methyl bromide*
1-Methylbutadiene
Methyl chloride*
Methyl chlorocarbonate*
Methyl chloroform*
4,4'-Methylenebis(2-chloroaniline)*
2,2'-Methylenebis(3,4,6-trichlorophenol)
3-Methylcholanthrene*
Methylene bromide*
Methylene chloride*
Methylene oxide
Methyl ethyl ketone (MEK)*
Methyl ethyl ketone peroxide*
Methyl hydrazine*
Methyl iodide*
Methyl isobutyl ketone
Methyl isocyanate*
2-Methyllactonitrile*
Methylmercaptan
Methyl methacrylate*
Methyl methanesulfonate++
N-Methyl-N'-nitro-N-nitrosoguanidine
Methyl parathion*
4-Methyl-2-pentanone
Methylthiouracil*
Mevinphos
Mexacarbate
Mitomycin C*
MNNG++
Monoethylamine
Monomethylamine
Mustard gas++
Naled
5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
Naphthalene*
Naphthalene, 2-chloro-
1,4-Naphthalenedione

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt
Naphthenic acid
1,4-Napthoquinone*
1-Naphthylamine
2-Naphthylamine
alpha-Naphthylamine*
beta-Naphthylamine*
2-Naphthylamine, N,N-bis(2-chloroethyl)-
alpha-Naphthylthiourea*
Nickel*
Nickel compounds, N.O.S.*
Nickel ammonium sulfate
Nickel carbonyl*
Nickel chloride
Nickel cyanide*
Nickel(II) cyanide
Nickel hydroxide
Nickel nitrate
Nickel sulfate
Nickel tetracarbonyl
Nicotine and salts*
Nitric acid
Nitric oxide*
P-Nitroaniline*
Nitrobenzene*
Nitrogen dioxide*
Nitrogen mustard++
Nitrogen mustard, hydrochloride salt++
Nitrogen mustard, N-oxide++
Nitrogen mustard, N-oxide, hydro-chloride salt++
Nitrogen (II) oxide
Nitrogen (IV) oxide
Nitroglycerine*
Nitrophenol (mixed)
m-
o-
p-
p-Nitrophenol*
2-Nitrophenol
4-Nitrophenol
Nitrophenols
2-Nitropropane*
Nitrosamines, N.O.S.*
N-Nitrosodi-n-butylamine*

HAZARDOUS SUBSTANCE

N-Nitrosodiethanolamine*
N-Nitrosodiethylamine*
N-Nitrosodimethylamine*
N-Nitrosodiphenylamine
N-Nitrosodi-n-propylamine
N-Nitroso-N-ethylurea*
N-Nitrosomethylethylamine++
N-Nitroso-N-methylurea*
N-Nitroso-N-methylurethane*
N-Nitrosomethylvinylamine*
N-Nitrosomorpholine++
N-Nitrosonornicotine++
N-Nitrosopiperidine*
N-Nitrosopyrrolidine*
N-Nitrososarcosine++
Nitrotoluene
m-
o-
p-
5-Nitro-o-toluidine*
5-Norbornene-2,3-dimethanol,1,4,5,6,7,7-hexachloro,cyclic sulfite
Octamethylpyrophosphoramide*
Osmium oxide
Osmium tetroxide*
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
1,2-Oxathiolane,2,2-dioxide
2H-1,3,2-Oxazaphosphorine,2-[bis(2-chloroethyl) amino]tetrahydro-2-oxide
Oxirane
Oxirane,2-(chloromethyl)-
Paraformaldehyde
Paraldehyde*
Parathion*
Pentachlorobenzene*
Pentachlorodibenzo-p-dioxins++
Pentachlorodibenzofurans++
Pentachloroethane*
Pentachloronitrobenzene (PCNB)*
Pentachlorophenol*
1,3-Pentadiene
Phenacetin*
Phenanthrene
Phenol*
Phenol, 2-chloro-
Phenol, 4-chloro-3-methyl-
Phenol, 2-cyclohexyl-4,6-dinitro

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Phenol, 2,4-dichloro-
Phenol, 2,6-dichloro-
Phenol, 2,4-dimethyl-
Phenol, 2,4-dinitro-
Phenol, 2,4-dinitro-6-(1-methylpropyl)
Phenol, 2,4-dinitro-6-methyl-, and salts
Phenol, 4-nitro-
Phenol, pentachloro-
Phenol, 2,3,4,6-tetrachloro-
Phenol, 2,4,5-trichloro-
Phenol, 2,4,6-trichloro-
Phenol, 2,4,6-trinitro-, ammonium salt
Phenyl dichloroarsine
Phenylenediamine++
1,10-(1,2-Phenylene)pyrene
Phenylmercuric acetate*
N-Phenylthiourea*
Phorate*
Phosgene*
Phosphine*
Phosphoric acid
Phosphoric acid, diethyl p-nitrophenyl ester
Phosphoric acid, lead salt
Phosphorodithioic acid, O,O-diethyl S-methylester
Phosphorodithioic acid, O,O-diethyl S-(ethylthio), methyl ester
Phosphorodithioic acid, O,O-dimethyl S-[2(methylamino)-2-oxoethyl] ester
Phosphorofluoridic acid,bis(1-methylethyl)ester
Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
Phosphorothioic acid, O,O-dimethyl O-[p-[(dimethylamino)-sulfonyl]phenyl] ester
Phosphorus
Phosphorus oxychloride
Phosphorus pentasulfide
Phosphorus sulfide
Phosphorus trichloride
Phthalic acid esters, N.O.S.*
Phthalic anhydride*
2-Picoline*
Plumbane, tetraethyl-

HAZARDOUS SUBSTANCE

Polychlorinated biphenyls (PCBs), N.O.S.*
Polynuclear Aromatic Hydrocarbons
Potassium arsenate
Potassium arsenite
Potassium bichromate
Potassium chromate
Potassium cyanide*
Potassium hydroxide
Potassium permanganate
Potassium silver cyanide*
Pronamide*
1-Propanal, 2,3-epoxy-
Propanal, 2-methyl-2-(methylthio)-,O-[(methylamino) carbonyl]oxime
1-Propanamine
1-Propanamine, N-propyl-
Propane, 1,2-dibromo-3-chloro-
Propane, 2-nitro-
Propane, 2,2'-oxypis(2-chloro-
1,3-Propane sultone*
Propanedinitrile
Propanenitrile
Propanenitrile, 3-chloro-
Propanenitrile, 2-hydroxy-2-methyl-
1,2,3-Propanetriol, trinitrate-
1-Propanol, 2,3-dibromo-, phosphate (3:1)
1-Propanol, 2-methyl-
2-Propanone
2-Propanone, 1-bromo
Propargite
Propargyl alcohol*
2-Propenal
2-Propenamide
Propene, 1,3,-dichloro-
1-Propene, 1,1,2,3,3,3-hexachloro-
2-Propenenitrile
2-Propenentrile, 2-methyl-
2-Propenoic acid
2-Propenoic acid, ethyl ester
2-Propenoic acid, 2-methy-, ethyl ester
2-Propenoic acid, 2-methyl-, methyl ester
2-Propen-1-ol
Propionic acid
Propionic acid, 2-(2,4,5-trichlorophenoxy)-
Propionic anhydride
n-Propylamine*
Propylene dichloride*
Propylene oxide

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
++Listed in 40 CFR Part 261, Appendix VIII, only.
*Listed in 40 CFR Part 302 and Part 261.

LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

Thallium(I) carbonate*
Thallium(I) chloride*
Thallium(I) nitrate*
Thallium(III) oxide
Thallium(I) selenide*
Thallium(I) sulfate*
Thioacetamide*
Thiofanox*
Thioimidodicarbonic diamide
Thiomethanol*
Thiophenol*
Thiosemicarbazide*
Thiourea*
Thiourea, (2,chlorophenyl)-
Thiourea, 1-naphthalenyl-
Thiourea, phenyl-
Thiram*
Toluene*
Toluenediamine*
Toluene-2,4-diamine++
Toluene-2,6-diamine++
Toluene-3,4-diamine++
Toluene diisocyanate*
o-Toluidine*
o-Toluidine hydrochloride*
p-Toluidine*
Toxaphene*
2,4,5-TP acid
2,4,5-TP acid esters
1H-1,2,4-Triazol-3-amine
Trichlorfon
1,2,4-Trichlorobenzene*
1,1,1-Trichloroethane
1,1,2-Trichloroethane*
Trichloroethene
Trichloroethylene*
Trichloromethanesulfenyl chloride
Trichloromethanethiol++
Trichloromonofluoromethane*
Trichlorophenol
  2,3,4-Trichlorophenol
  2,3,5-Trichlorophenol
  2,3,6-Trichlorophenol
  2,4,5-Trichlorophenol*
  2,4,6-Trichlorophenol*
  3,4,5-Trichlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenoxyacetic acid

HAZARDOUS SUBSTANCE

Trichloropropane, N.O.S.++
1,2,3-Trichloropropane++
Triethanolamine dodecylbenzenesulfonate
0,0,0-Triethyl phosphorothioate++
Triethylamine
Trimethylamine
1,3,5-Trinitrobenzene++
sym-Trinitrobenzene
1,3,5-Trioxane, 2,4,6-trimethyl-
Tris(1-aziridinyl)phosphine sulfide++
Tris(2,3-dibromopropyl) phosphate*
Trypan blue*
Unlisted Hazardous Wastes
(Wastes Characteristic of EP Toxicity)
  Characteristic of Ignitability
  Characteristic of Corrosivity
  Characteristic of Reactivity
  Characteristic of EP Toxicity
Uracil, 5-[bis(2-chloroethyl)amino]-
Uracil mustard*
Uranyl acetate
Uranyl nitrate
Vanadic acid, ammonium salt
Vanadium (V) oxide
Vanadium pentoxide*
Vanadyl sulfate
Vinyl acetate
Vinyl chloride*
Vinylidene chloride
Warfarin and salts*
Xylene (mixed)
  m-
  o-
  p-
Xylenol
Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-
  [(3,4,5-trimethoxybenzoyl)oxy]-,
methylester
Zinc
Zince Compounds
Zinc acetate
Zinc ammonium chloride
Zinc borate
Zinc bromide
Zinc carbonate
Zinc chloride
Zinc cyanide*
Zinc fluoride

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
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LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE

1,2-Propylenimine*
Propylthiouracil++
2-Propyn-1-ol
Pyrene
Pyrethrins
4-Pyridinamine
Pyridine*
Pyridine,2-[(2-(dimethlyamino)ethyl)-2-thenylamino]-
Pyridine, hexahydro-N-nitroso-
Pyridine,2-methyl-
Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
Pyrophosphoric acid, tetraethyl ester
Pyrrole, tetrahydro-N-nitroso-
Quinoline
Radionuclides
Reserpine*
Resorcinol*
Saccharin and salts*
Safrole*
Selenious acid
Selenium*
Selenium compounds, N.O.S.*
Selenium dioxide*
Selenium disulfide
Selenium oxide
Selenium sulfide++
Selenourea*
L-Serine, diazoacetate (ester)
Silver*
Silver compounds, N.O.S.*
Silver cyanide*
Silver nitrate
Silvex (2,4,5-TP)*
Sodium
Sodium arsenate
Sodium arsenite
Sodium azide
Sodium bichromate
Sodium bifluoride
Sodium bisulfite
Sodium chromate
Sodium cyanide*
Sodium dodecylbenzene sulfonate
Sodium fluoride
Sodium hydrosulfide

HAZARDOUS SUBSTANCE

Sodium hydroxide
Sodium hypochlorite
Sodium methylate
Sodium nitrite
Sodium phosphate, dibasic
Sodium phosphate, tribasic
Sodium selenite
4,4'-Stilbenediol, alpha,alpha'-diethyl-
Streptozotocin*
Strontium chromate
Strontium sulfide (Removed by 53 FR 43883, ~~October 31, 1988)*
Strychnidin-10-one, and salts
Strychnidin-10-one, 2,3-dimethoxy-
Strychnine and salts*
Styrene
Sulfur hydride
Sulfur monochloride
Sulfur phosphide
Sulfur selenide
Sulfuric acid
Sulfuric acid, dimethyl ester
Sulfuric acid, thallium (I) salt
2,4,5-T*
2,4,5-T acid
2,4,5-T amines
2,4,5-T esters
2,4,5-T salts
TCDD++
TDE
1,2,4,5-Tetrachlorobenzene*
Tetrachlorodibenzo-p-dioxins++
Tetrachlorodibenzofurans++
2,3,7,8-Tetrachlorodibenzo-p-dioxin(TCDD)
Tetrachloroethane, N.O.S.++
1,1,1,2-Tetrachloroethane*
1,1,2,2-Tetrachloroethane*
Tetrachloroethylene*
2,3,4,6-Tetrachlorophenol*
Tetraethyldithiopyrophosphate*
Tetraethyl lead*
Tetraethyl pyrophosphate*
Tetrahydrofuran
Tetranitromethane*
Tetraphosphoric acid, hexaethyl ester
Thallic oxide*
Thallium*
Thallium compounds, N.O.S.
Thallium(I) acetate*

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.
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LIST OF REGULATED CHEMICAL WASTE CONSTITUENTS (CONTINUED)

HAZARDOUS SUBSTANCE	HAZARDOUS SUBSTANCE
Zinc formate	
Zinc hydrosulfite	
Zinc nitrate	
Zinc phenolsulfonate	
Zinc phosphide*	
Zincsilicofluoride	
Zinc sulfate	
Zirconium nitrate	
Zirconium potassium fluoride	
Zirconium sulfate	
Zirconium tetrachloride	

Chemicals without footnotes are listed in Table 302.4 of 40 CFR Part 302 only.

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ATTACHMENT 7

ENVIRONMENTAL

COMPLIANCE

SEMINAR OUTLINE

ENVIRONMENTAL COMPLIANCE SEMINAR

LOCATION: TA 3, SM 43 Administration Building Auditorium

TARGET AUDIENCE: All: Los Alamos National Laboratory , Pan American World Services, Inc., and Mason Hanger employees

TARGET PRESENTATION DATES: October 18 thru 26 and October 30 and 31, 1989

TIME: Daily at 9:00 a.m. and 2:00 p.m.

PROGRAM LENGTH: 1 hour and 30 minutes

PRESENTERS: Introduction: Allen J. Tiedman, ADO
Presentation: Charlie Nylander, HSE-8

OUTLINE

I. Introduction

II. The Environmental Compliance Climate

- A. Who makes environmental regulations, how, and why?
- B. Federal versus State regulations.
- C. DOE's role in environmental regulation.
  - 1. DOE: regulator and defendant.
- D. Affects on Los Alamos National Laboratory.
- E. Complexity of environmental regulations.
  - 1. Over-lapping laws and regulations.
  - 2. Federal versus State laws and regulations.
  - 3. Individual legal liabilities.
- F. The role of the news media.
  - 1. Impacts of news media.
    - a. Local, regional, national.
    - b. Time and money expended.
    - c. Citizen groups, congressmen, public.
    - d. Employee morale.

III. Examples of Environmental Problems at the Laboratory.

- A. Hazardous and Solid Waste.
  - 1. Problems that prompt enforcement.
  - 2. Examples and Why?
    - a. No labels on drums.
    - b. Faded labels on drums.
    - c. Dates and storage times.
    - d. Spill containment.
    - e. Employee training regarding handling.
    - f. Record-keeping.

B. Wastewater.
   1. Problems that prompt enforcement.
   2. Examples and Why?
      a. Excessive pollutants in effluents.
      b. Unpermitted discharges.
      c. Chemicals down the drain.

C. Air Quality.
   1. Problems that prompt enforcement.
   2. Examples and Why?
      a. Asbestos.
      b. Beryllium.
      c. Air toxics.

D. Toxic Chemicals.
   1. Problems that prompt enforcement.
   2. Examples and Why?
      a. Polychlorinated Biphenyls (PCBs).

IV. What You Can Do.

A. Housekeeping.
B. Employee Training.
C. Internal Inspection (Self-Inspection).
D. Communication.

V. The Future at Los Alamos National Laboratory.

A. Realities of increasing environmental pressures.
B. Affects on public relations.
C. Public participation (public hearings).
D. Affects on programmatic interruptions.
E. Affects on employee morale.
F. Affects on Laboratory mission.

VI. Distribution of Handouts.

TIME DISTRIBUTION

I. 10 minutes.
II. 20 minutes.
III. 30 minutes.
IV. 20 minutes.
V. 10 minutes.