TA-50 0824 ~~Permit~~ 2-15-1996

Attachment III

Attachment III incorporates both the State and LANL initiated Class I Permit Modifications to LANL's operating Permit EPA ID #0890010515-1 in strikeout/highlight format.

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B.2. TA-50 Controlled-Air Incinerator and Rooms 115, 117, and 118 Storage Area Potential Problems

The controlled-air incinerator system building and Rooms 115, 117, and 118 storage area are routinely inspected for potential problems with safety and emergency equipment, security devices, containers, container storage facilities, and loading and unloading facilities. Inspections of specific equipment and systems are conducted with a frequency appropriate to current operations, as well as appropriate to the equipment and systems. Potential problems include containment failure, fire, explosion, exposure, equipment deterioration or malfunction, and leaks from the incinerator.

B.2.1 Frequency and Content of Inspection

The waste incinerator, storage area, building and emergency equipment are inspected according to the schedule in Table B-1. Standard operating procedures require that process operators "walk through," their operating areas each hour to visually observe, monitor, and record ~~and~~ any leaks, spills, malfunctions or other unusual conditions. The walkthrough and remedial actions will be annotated in the operating log.

B.2.2. Remedial Action

If any defects, deterioration, damage or hazards are discovered during inspection, appropriate remedial actions including repairs, maintenance and replacement will be completed as soon as practical to preclude further damage and reduce the need for emergency repairs. If a hazard is found imminent or if a hazardous situation already exists, remedial action will be initiated immediately and the unit not reused until corrective action is complete. Any remedial action taken due to an inspection will be noted on the operating log.

Remedial actions in the case of containment failure, fire, explosion, or exposure are identical to the measures at the TA-50 batch waste treatment unit and modular container storage area. See Section B.1.2 above. Should any of these problems occur, the waste incinerator can be shut down at the discretion of the operator. Failure of the HEPA filtration system or wet scrubbers, equipment deterioration or malfunction, or leaks from the waste incinerator will be remedied during and following process shutdown. The process operator will assess the situation and decide upon which shutdown method will be most expeditious and efficient. He will supervise the operating area during the shutdown process.

B.2.3. Inspection Logs

General inspections are conducted by the operating group according to checklists associated with the operating log. Results of the inspection (Figures B-5 and B-6), the inspector's name and title, and date and time of inspection are recorded on the inspection log sheet. A copy is sent for records to ESH-19 ~~HSE-8~~ and kept for at least three years after all remedial action is complete. In addition, process operators will fill out process data sheets associated with the operations and every four hours when not feeding wastes. These sheets are a record of operating conditions and provide evidence that the operator has checked and is aware of the operating status of the system. The time at which entries are made and the actual instrument reading for each variable will be entered into each checklist. When shutdown occurs, the log will state the nature of the shutdown, the time it occurred, and the suspected cause. Once each shift, the shift supervisor will inspect the facility for malfunctions, deterioration, operator error, and discharges. The time, individual, and results of this inspection will be entered in the log. Prestarting inspection procedures, general inspection checklists and the operating log will be kept with the incinerator system during operations. The waste storage room will be inspected using Figures B-5 and B-6.

B.3. TA-54, Area L Waste Transfer, Packaging and Container Storage Facilities and Treatment Tanks

B.3.1. Potential Problems

Area L is routinely inspected for potential problems with safety and emergency equipment, security devices, containers, container storage facilities, treatment tanks, and loading and unloading facilities. Potential problems are listed on the weekly inspection checklist. The container storage areas will be inspected weekly. The treatment tanks will be inspected weekly and after storms to detect any leakage, free board, damage, overflow, or cracks. In addition, the interior of each treatment tank will be inspected yearly for thin spots or excessive corrosion. Prior to the interior inspection, the treatment tank will be emptied by pumping into drums following standard procedures. After it is empty, any liner is removed and the tank must be thoroughly cleaned and checked to be sure it is free of flammable, toxic and corrosive vapors and materials before entry. If this requires steaming, the tank must be cooled after cleaning and the rinse water checked to be sure it is essentially neutral. Any nearby operations considered hazardous to tank entry are shut down. The atmosphere

in the tank must be tested for the presence of combustible or toxic vapors and for oxygen content. A sufficient number of standby personnel must be present to give aid in case of trouble. Protective clothing or equipment may be required in some instances. Potential problems at Area L include containment failure, fire, explosion, and exposure.

B.3.2. Frequency and Content of Inspection

Area L is inspected according to the schedule in Table B-1. In addition, the treatment tank's shell and liner will be inspected annually to ensure that the tanks walls and liner have not experienced damage due to corrosion or erosion. The annual inspection precedure is the same as the triennial inspection outlined for the TA-50 Batch Waste Treatment Unit Tanks in Section B.1.1. above.

B.3.3. Remedial Action

If any defects, deterioration, damage or hazards are discovered during inspection, appropriate remedial actions including repairs, maintenance and replacement will be completed as soon as practical to preclude further damage and reduce the need for emergency repairs. If a hazard is found imminent or if a hazardous situation already exists, remedial action will be initiated immediately and the unit will be taken out of service until corrective action is complete. Any remedial action taken due to an inspection will be noted on the operating log.

In the case of failure of run-on or run-off control measures, the HSE-7 Group Leader or his qualified designee will assess the damage by visual observations and sampling and monitoring to determine the type and extent of contamination. Mitigation procedures and repairs, such as sandbagging and building berms, will be instituted immediately. All such action will be entered in the site log.

Remedial action in the case of drum or container failure, fire, explosion, or exposure is handled as described for the TA-50 batch waste treatment unit. In addition, soil and water samples will be taken down gradient from the release. At the transfer, packaging and storage facilities in Area L releases from drum or container failure collect ~~In~~ in sumps as well as berms.

If leakage, corrosion, overflow or any other damage is detected in the treatment tanks, the contents will be pumped into a drum or another treatment tank. At least 33 empty drums are always

B.5 Preparedness and Prevention Requirements

B.5.1. Equipment Requirements Internal Communication/Alarm Equipment

The following internal communication/alarm equipment is available at LANL to provide emergency instruction for rapid evacuation and to initiate emergency response:

- Centrex telephone system
- Medium range radio nets (30-60 miles)
- Limited range radio nets (3-10 miles)
- Telephone/radio paging
- Two-way hand held radios
- Emergency central alarm system
- Mechanical central alarm system

Since this equipment is laboratory-wide, it allows all personnel to get in contact with emergency coordinators in all areas of the laboratory. All hazardous waste handling personnel have immediate access to internal alarms or emergency communication devices.

The TA-50 batch waste treatment unit is equipped with telephones, one pull alarm, one automatic thermal alarm, and one automatic smoke alarm. There is an intercom system at each telephone. In the case of an emergency, the nearest source of communication for personnel handling wastes is the intercom/paging systems on each telephone.

The TA-50 controlled-air incinerator ~~waste incinerator~~ and storage area is equipped with telephones throughout the facility. A radio with microphones at remote locations is available. Other communication/alarm equipment available at this facility includes:

- One portable radio
- One radio-equipped vehicle telephone paging system
- Internal telephone communication line
- Two-channel work station intercoms for direct communication from process area to offices and labs.
- Eleven pull alarms
- Two automatic thermal alarms

The trailer at Area L is equipped with a telephone. A radio-equipped vehicle is available for use at Area L. In addition, Area L is equipped with an alarm system and intercom to area G for evacuation. These are the nearest communication sources for use in the case of an emergency. Because of the proximity of the TA-50 Storage Pads and modular storage units to other TA-50 facilities and because only contained waste is handled at these facilities, individual emergency equipment is not required.

B.5.2. External Communication/Alarm Equipment

The Laboratory has established external communication capabilities with the Los Alamos Police Department and the Los Alamos County Hospital. The following external communication/alarm equipment is available at LANL:

Centrex telephone system

Private telephone lines (if Centrex fails)

Medium range radio nets (30-60 miles)

Limited range radio nets (3-10 miles)

Two national Warning System Stations (NAWAS)

Direct lines from Emergency Operations Centers to KRSN (local radio station)

B.5.3. Emergency Equipment

A list of emergency equipment available at LANL, including types of equipment, locations, and contact phone numbers is shown in Permit Attachment D.

Emergency vehicles are inspected quarterly, according to the schedule in Table B-1. Medical supplies include self-contained breathing apparatuses, wheel chairs, manual resuscitation, portable oxygen ~~units.~~units, blankets, blood supplies, and medical kits.

B.5.4. Water for Fire Control

The Department of Energy (DOE) is responsible for overall water production, transmission, and storage for the Laboratory and Los Alamos County. Storage capacity is adequate to provide water for fire fighting purposes.

physician assistants, ten nurses, six x-ray technicians, and two laboratory technicians.

HSE-2 is supported by HSE-5, Industrial Hygiene. HSE-5 can provide exposure and treatment information via telephone access to Chemtrec and the National Library of Medicine, and via computer access to TOXLINE, CHEMLINE, and Toxicity Data Bank.

Those cases which cannot be handled by HSE-2 would be forwarded to the Los Alamos County Hospital, where the Laboratory maintains a fully equipped decontamination ~~room,~~ room. The HSE-2 staff meets with the hospital's emergency staff monthly to go over procedures. In the event that a case is sent to the hospital, staff from HSE-2 provide assistance at the hospital.

D.2.1.2 HSE-3 Safety
HSE-3 reviews and approves fire protection procedures. They may assist in process shutdown and evacuation.

D.2.1.3 HSE-5 Industrial Hygiene
In addition to medical support, HSE-5 provides site field testing to determine the nature (nonradiological) and extent of contamination, provide information on current handling of chemicals, and specify protective clothing and equipment.

D.2.1.4 HSE-7 Waste Management
Provides cleanup operations and proper treatment and disposal of hazardous materials and supervises emergency response operations. Since HSE-7 normally handles hazardous waste, the group is highly trained and equipped. This group represents the nucleus of the hazardous waste emergency response.

D.2.1.5 HSE-8 Environmental Surveillance
Provides field surveys of soils, water, air and biota to determine environmental effects of exposure. The group includes expertise in geohydrology and meteorology.

D.2.1.6 Fire Department
The Fire Department provides fire protection for the Laboratory as well as the communities of ~~Los Alamos~~ Los Alamos and White Rock. The department includes 98 personnel.

In case of an emergency within the Laboratory, the Fire Department puts itself under the direction of the Laboratory response team. The Fire Department personnel make regular tours of the Laboratory facilities to detect and discuss hazards associated with individual facilities and are instructed in hazardous material handling and

emergency procedures. They are aware of the hazardous waste practices at the Laboratory, and are well equipped to handle any credible emergency situation.

D.2.1.7 Mason & Hanger Protective Force (Pro-Force)
The Pro-Force consists of more than 300 personnel who are responsible for Laboratory security. ~~the~~ The security force is provided by Mason & Hanger, Silas Mason, under contract to the Laboratory.

During an emergency, the Pro-Force activities include maintenance of security, direction of traffic within the Laboratory, and control of access to the emergency site. The Pro-Force maintains the necessary equipment to perform these functions such as crowd equipment, patrol cars, etc.

D.2.1.8 PAWS
PAWS provides a maintenance support force on contract to the Laboratory. This support force is under the Laboratory's direction in an emergency. PAWS conducts inspections of Laboratory equipment, maintains equipment, and participates in emergency cleanup.

D.2.1.9 Los Alamos County Police
In keeping with the principle of handling emergencies internally, the Los Alamos County Police have only a minimal interaction with the laboratory in an emergency. That interaction is limited to traffic control on DOE roads with public access. The limits of interaction are included in a signed agreement, a copy of which is included as an attachment to this document. There are no agreements with other agencies.

D.2.1.10 WX and M Division Personnel
Personnel in WX and M Divisions are trained to safely handle and dispose of highly reactive materials (High Explosives). Any spill or uncontrolled release of material at the burning grounds (TA-14 and-16) or the detonation pads (TAs 14, 15, 36, and 39) will be cleaned up by personnel from these divisions. The Fire Department may be called to respond if a burn or detonation results in an uncontrolled fire.

D.2.1.11 Operational Management Group I (Emergency Management)
This group provides a 24-hour duty officer, called the Laboratory Emergency Duty Officer (LEDO), to respond to all credible emergencies, including hazardous materials releases. The LEDO is the On-Scene Commander (OSC) for all emergencies, including releases of hazardous materials when an On-Scene Control Group (OSCG) is formed. Emergency Management maintains the Emergency Operations Center (EOC) in operational ready status should the center be required.

D.2.2 Emergency Equipment

A list of emergency equipment for use at the laboratory and the location of this equipment can be found in Table D-3. The equipment immediately available for use is located at TA-54, Area L, the TA-50 batch treatment system and modular container storage buildings, the TA-50 waste incinerator and Room 117 storage, the TA-16 incinerator, and the TA-50 storage pads.

In addition, PAWS, the Fire Department, and HSE-2 maintain emergency equipment. Major emergency facilities are shown in Figure D-4.

D.2.3 Communications

Effective emergency response at Los Alamos National laboratory requires an efficient communication system which will integrate all personnel into the emergency response procedure.

There are two central alarm systems (CAS) at the Laboratory; an emergency CAS and a mechanical CAS. The emergency CAS is activated by:

Telephone communication (9-911)

Automatic Fire Alarms

Manual Pull Alarms

Computer Interface (to warn of critical events or loss of confinement at selected facilities)

Break-in Security

Radio Communications

The emergency CAS is located in the central control room in Building 440 at TA-3. The control room is manned 24 hours a day and is equipped with telephones, medium and short range radios, direct line telephones, a National Warning System (NAWAS) station, and an emergency power system. The fire alarm board at the control room gives the location of automatic and pull fire alarms.

The maintenance CAS board, located in Building 223 at TA-3, is manned by PAWS personnel ~~245~~ 24 hours a day. The maintenance CAS board interfaces with computers which monitor critical equipment throughout the Laboratory. Activation of an alarm triggers a call-out procedure to provide maintenance personnel and management supervision to correct the malfunction. The maintenance CAS does not directly trigger an emergency response.

Internal communication systems at the Laboratory include:

Centrex telephone system
Medium range radio nets (30-60 miles)
Limited range radio nets (3-10 miles)
Telephone/radio paging
Two-way hand held radios

Off-site communications with Federal, state, county and other agencies are maintained by the following:

Centrex telephone system
Private telephone lines (if Centrex fails)
Medium range radio nets (~~30-6~~ 30-60 miles)
Limited range radio nets (3-10 miles)
Two National Warning System Stations (NAWAS)
Direct line to KRSN (local radio station)
470-2657 telephone to Santa Fe switchboard

All alarm systems and internal and external communication systems are available for use by all employees.

Activation of the emergency CAS automatically alerts the Fire Department, the Mason Hanger Pro-Force, and the CAS dispatcher. For hazardous waste emergencies, the CAS dispatcher notifies the Emergency Preparedness Office Deputy Officer (EPODO) who notifies upper management of the problem.

HSE-7 has access to all communications systems including a short wave radio base station located at TA-50-4. During normal working hours, communications to support response groups can be handled by HSE-7. During off hours, the EPODO uses the CAS Dispatcher to contact support groups.

D.3 NONSUDDEN RELEASES

Nonsudden releases include those incidences which, if uncontrolled, impact the environment over a long period of time. Such incidences include minor leaks of containers, loss of integrity of secondary containment, incomplete treatment, and leachate migration from disposal areas.

D.3.1 Responsibility

Correction of nonsudden release shall be the responsibility of the operating group and can be handled with normal maintenance and management procedures. Correction methods for nonsudden releases that have resulted in environmental contamination shall be coordinated with the New Mexico ~~Environmental Improvement Division (NMEID)~~ Environment Department (NMED).

16, 36 and 39. HE waste handling is the responsibility of M and WX divisions, who have developed Standard Operating Procedures (SOPs) based on safe handling practices designed to eliminate the risk of fire and explosions. Unplanned detonation or combustion of HE renders the HE waste nontoxic. In some cases, residuals contain barium. Cleanup of barium contaminated areas due to unplanned detonations shall be coordinated with the EPODO. The EPODO can be reached during working hours by contacting the Emergency Management Office (7-6211) or the CAS dispatcher during off-hours (Table D-4).

The EPODO shall respond to all incidents involving the release of hazardous wastes including spills, fires, or explosions; assess the possible hazards to human health or the environment; and use whatever response group or emergency equipment needed to control and contain the wastes.

D.4.2 HWF Emergency Contingency Plan
This section defines the guideline used to initiate the HWF Emergency Contingency Plan and the resulting actions taken.

D.4.2.1 Guidelines for Implementation
The decision to implement the HWF Emergency Contingency Plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The following guidelines shall be ~~sued~~ used by the EPODO in making the decision whether or not to institute the HWF Emergency Contingency Plan.

The HWF Emergency Contingency Plan could be implemented in the following situations involving hazardous wastes or hazardous materials:

Spills
A hazardous waste or hazardous material spill cannot be contained with secondary containment or application of absorbents,

Precipitation threatens to move spilled material off-site,

A hazardous waste or hazardous material spill causes the release of flammable material, creating a fire or explosion hazard.

A hazardous waste or hazardous material spill results in toxic fumes which threaten human health, or

An earthquake or other natural disaster threatens containment integrity.

Explosions
An unplanned explosion involving hazardous wastes occurred (except at TA-14, 15, 16, 36, and 39), or

An imminent danger exists that an explosion involving hazardous wastes or hazardous material could occur.

Fires
Any fire involving hazardous wastes or hazardous material (except planned burning of HE waste), or

Any building, grass, forest, nonhazardous waste fire that threatens to ignite hazardous wastes.

D.4.2.2 Emergency Notification
Immediately upon discovery of an imminent or actual incident involving hazardous wastes or hazardous materials, the EPODO will be notified first. In the case of fire involving hazardous wastes or hazardous materials, this is superseded by the Laboratory fire alarm system. A fire is reported by dialing 9-911, activation of automatic alarms, or activation of a fire pull box. All fire alarms simultaneously alert the CAS Dispatcher, the Fire Department, and the Mason and Hanger pro-Force. For fire involving hazardous wastes, hazardous materials, or hazardous waste units, the CAS Dispatcher shall contact the EPODO (Figure D-5). Orange 1 signs on building which contain HE are a warning to fire fighters not to approach or enter the building without obtaining information from WX or M Division personnel about the nature and location of HE materials in the building.

During off-hours, all incidents involving hazardous wastes or hazardous materials shall be reported to the CAS Dispatcher, who will contact ~~eh~~ the on-call EPODO.

The EPODO shall proceed to the incident and assess the nature of the problem. On an as-needed basis, the EPODO shall contact response groups directly or instruct the CAS Dispatcher to contact them or contact the HSE-Duty Officer (HSE-DO) who will notify the appropriate HSE groups. Table D-2 shows the assistance available from each emergency response group. The EPODO will use this list as criteria to determine which groups to contact in an emergency.

Each response group maintains an on-call person and/or a call-down procedure to answer emergencies.

4. Warn the remaining personnel of imminent or actual hazards using the radio and/or the PA system.

5. DOE LAAO through the Emergency Management office will notify the New Mexico ~~Environmental Improvement Division~~ Environment Department (505) 827-9329, and the National Response Center (800) 424-8802, reporting:

   - Name and telephone number of the reporter
   - Name and address of the facility
   - Time and type of incident
   - Name and quantity of materials involved, to the extent known
   - The extent of injuries, if any
   - The possible hazards to human health or the environment outside the facility

6. Advise the response groups as needed to minimize personnel exposure and expedite control; and

7. For the Batch Treatment Plant and Controlled Air Incinerator, where the emergency stops operations, HSE-7 personnel must monitor for leaks, pressure buildup, gas generation or equipment ruptures. The instruments that are monitored during the shutdown and what they are monitored for are shown on Table D-5 for the Batch Treatment Plant and Table D-6 for the incinerator.

Once control of the emergency is established, the EPODO shall:

1. Arrange for site cleanup

2. Provide for treating, storing, or disposing of recovered wastes, contaminated soil or contaminated surface waters

3. Provide for decontamination of equipment as needed

4. Replace and/or repair equipment as needed

5. Conduct testing as needed to verify successful cleanup

6. Within 15 days of the incident, submit to the Regional Administrator and ~~Environmental Improvement Division~~ Environment Deparment the report described in Section D.10.

D.5 SPECIFIC EMERGENCY RESPONSE PROCEDURES FOR HAZARDOUS WASTE UNITS

The following section summarizes the guidelines for handling emergencies.

D.5.1 Chemical Spills

Hazardous wastes are handled and stored in small containers, lab packs, 55-gal. drums, and dumpster tanks. The individual volumes handled are small. Handling of hazardous materials may involve truckload quantities of material such as solvents, fuels, acids, and bases.

The general steps in handling hazardous wastes are:

Containment including spreading of absorbents or forming of temporary dikes

Waste pickup and packaging in sound containers, and

Decontamination followed by testing to assure adequate clean-up.

The emergency preparedness procedures related to flammable organic solvent spills call for stabilization of the spilled material with the organic solvent spill kit. Other chemical spills are to be stabilized using the acid and caustic spill kits or by the addition of absorbents such as vermiculite. Personnel protective equipment will be worn during spill control and cleanup. The stabilized material will be treated as hazardous waste. Runoff which might occur from spills outside containment areas during precipitation must be contained and handled as a hazardous waste unless analyzed and found to be nonhazardous. Temporary dikes can be constructed to contain runoff.

D.5.1.1 Spill Control Procedures

Vermiculite or Pell-O-Cell will be used to control all chemical spills except hydrofluoric acid spills. Vermiculite and Pell-O-Cell are compatible will all chemicals except fluorine and hydrofluoric acid. Hydrofluoric acid is generally only handled in very small volumes, in small containers, so that a spill would be limited to a very small volume (less than one gallon). A hydrofluoric acid spill will be neutralized by carefully adding calcium hydroxide or other caustic to the spill. After an excess of caustic has been added and the reaction has ceased, the resulting solution will be cleaned up using vermiculite. Vermiculite and caustic are stored at all the TSD units at the Laboratory.

is discouraging the use of portable fire extinguishers by employees and encouraging the immediate evacuation and notification of the Fire Department. The person fighting the fire must wear appropriate protective equipment. If the fire spreads or increases in intensity, all personnel should evacuate to an upwind point at least 100 yards away from the fire. For any fire involving hazardous waste, the EPODO must be contacted immediately, and he will alert all necessary emergency management personnel. The Fire Department is automatically alerted when the CAS is activated. The EPODO should remain near the site, but at a safe distance, so he can advise the personnel responding to the fire of the known hazards. The EPODO is familiar with RCRA provisions, spill response, and emergency actions and therefore, is qualified to advise firefighting personnel of the potential hazards involved. Upon arrival at a fire, the Fire Department Officer-in-Charge will be in command of fire fighting. He will accept and evaluate the advice of Los Alamos personnel and emergency management organization members, but he will retain the responsibility to select the fire fighting methods and tactics. The EPODO will be in overall control of the Laboratory's emergency response efforts until the emergency is terminated.

D.5.3 Explosion

In the case of explosions, all personnel will immediately evacuate the area. Any injured personnel will be immediately transported to the Medical Department for treatment. The EPODO must be contacted immediately upon activation of the CAS, and ~~they he~~ he must alert all necessary emergency response personnel. The Fire Department is notified automatically upon CAS activation. The EPODO will remain near the site, but at a safe distance, so he can advise the personnel responding to the explosion of the known hazards.

Upon arrival at the site, the Fire Department Officer-in-Charge will be in command of fire fighting. He will accept and evaluate the advice of Los Alamos personnel and emergency management organization members, but he retains the responsibility to select the fire fighting methods and tactics. The EPODO will be in overall control of the laboratory's emergency response efforts until the emergency is terminated.

D.5.4 Exposure

Chemical material in the eye or on the skin will be washed either with the entire contents of the portable eye wash station or for at least 15 minutes. The eyelids will be held open during washing. The injured person will then be quickly transported to the Medical Department for evaluation. If possible, the chemical material involved in the injury will be ascertained and the information given to the Medical Department.

In the event of an evacuation of only a portion of the building, one of the out buildings, or outlying work areas, the Group Leader will designate a control point at the closest and/or the most convenient location. This area will be outside the affected area and will serve as a muster point and provide control of the affected area to prevent further spread of the hazard.

Sweep Team personnel will remain in the area for a visual inspection of all the affected work areas, laboratories, and offices. At least two persons will do the sweep to insure that if an injured person is found or if a single person is fighting a small fire, turning off equipment or activating fire suppression systems, one sweep team member can give assistance while the other reports to the muster area or control point to obtain additional aid. If the building is evacuated during normal working hours, the secretary will remove the personnel attendance roster that is posted near the secretary's desk, unless an electronic badge reader is in use, take it to the muster area, call roll, and report the personnel accounting to the Group Leader, unless an electronic badge reader is in use. During second or third shift operations, the lead engineer will be responsible for evacuation and roll call. The evacuation procedure follows:

Group Leader determines cause and probable extent of hazard.

Group Leader will sound the evacuation alarm or make an announcement on the PA system.

Group Leader will designate an assembly area if other than muster area.

Group Leader will notify the on-call EPODO.

Personnel will shut down equipment that might contribute to the hazard.

Personnel will activate fire suppression systems.

Personnel will not remain in affected area except to assist injured personnel.

Personnel will report to the muster area or designated control point.

Roll call (general evacuation) or personnel accounting (partial evacuation).

Building or Area sweep by assigned personnel.

For a small scale evacuation, the Group Leader takes control. For a large-scale evacuation, the CAS will be activated, the EPODO will be notified and will be responsible for the evacuation.

D.6.2 Process Shutdown

Personnel are instructed to shut down equipment prior to evacuating a building unless an immediate building evacuation is announced. To ensure efficient shutdown, training and exercises in process shutdown are required. In the case of an immediate evacuation, a selected team may shut down designated equipment in an evacuated area. The team will be equipped with the proper equipment, clothing and breathing apparatus. If present, HSE-1, HSE-3, and HSE-5 will provide advice and assistance. Process shutdown procedures only apply to the TA-50 batch treatment system and waste incinerator and the TA-16 Industrial Incinerator. Process shutdown procedures are as follows.

D.6.2.1 TA-50 Batch Treatment System

The Batch Treatment System will be operated in accordance with current Standard Operating Procedures. If a fire or evacuation alarm sounds during the operation of the Batch Treatment System, the operating crew ~~sill~~ will initiate a process shutdown. Because the process is a batch treatment, cessation of treatment is adequate to bring the process to a safe condition. In general, the process shutdown should include the following:

Shutdown of treatment chemical feeds,

Shutdown of the waste pump discontinuing waste transfer or circulation,

Shutdown of steam/hot water to the reactor jacket, if any,

Shut down cooling water only if there is a risk of contamination of the water with waste (continued cooling removes residual heat from the system), and

Allow the reactor mixer to operate unless its operation poses a unique hazard (operation helps remove heat and prevents stratification).

D.6.2.2 TA-50 Waste Incinerator

If a fire or evacuation alarm sounds during the operation of the controlled air incineration process, the operating crew will initiate a process shutdown in accordance with the current operating instructions. Three logic sequences are provided to shut down the process in a safe and orderly manner.

D.7 SALVAGE AND CLEANUP

The affected area will be surveyed by appropriate representatives from HSE Groups before salvage, cleanup and return to normal operations. Visual inspections of the affected area will be supplemented by sampling to determine whether cleanup is complete. After determination of any existing hazards from toxic or hazardous gases or fumes, electrical hazards, or other unsafe conditions, personnel or selected teams, equipped with proper breathing apparatus and protective clothing, will reenter the ~~are~~ area to perform designated tasks to affect decontamination, repairs, and salvage to allow the return to normal operations. After an emergency, the EPODO will:

Provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion. Contaminated material will be treated as a hazardous waste and temporarily stored at one of the permitted hazardous waste storage areas at the laboratory. HSE-7 will be responsible for determining the final disposition of the waste. This determination will be made in compliance with the permit and RCRA standards.

Remain at the site to ensure that no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.

Ensure that emergency equipment is cleaned and fit for its intended use before operations are resumed. Equipment will be visually inspected and sampled to determine the type and degree of contamination and appropriate cleanup measures will be used.

Prior to resuming operations, appropriate local authorities will be notified that cleanup procedures are completed and emergency equipment is cleaned and fit for its intended use.

Damage assessment and recovery shall be performed within the reporting and investigative requirements of DOE Order 5484.1. The EPODO has general responsibility for coordinating post-emergency actions, particularly during the time period immediately after the emergency. Such actions include cleanup operations, repair of vital equipment, or interim hazard-removing operations (such as demolition of unstable walls). The services of the affected operational organizations, HSE Division, the PAWS, and other on-site talent will also be utilized to estimate cleanup costs and operational impact. The EPODO declares the end of the emergency; an Incident Report is filled out, and the Group Leader and his staff review emergency actions.

D.8 POST-EMERGENCY ASSESSMENT

When the emergency is over, the causes of the emergency and the effectiveness of the response are investigated, in order that future emergencies may either be prevented, or that the response to them ~~amy~~ may be more effective. Following each event requiring the implementation of the HWF Contingency Plan, the EPODO shall meet with representatives of all response functions to determine the adequacy of the response.

D.9 EMERGENCY RECORDS

The details of any incident that requires implementation of the HWF Emergency Contingency Plan must be noted in that unit's log book. This record must include the time, date, and full description of the incident.

D.10 EMERGENCY REPORTS

Any emergency that requires implementation of the HWF Emergency Contingency Plan will be reported in writing within 15 days to the EPA Regional Administrator and to the New Mexico ~~Environmental Improvement Division (EID)~~ Environment Department (NMED).

The report shall include the following ~~date~~ data:

Name, address, and phone number of owner or operator

Name, address and phone number of the facility

Date, time, and type of incident (e.g. fire, explosion, spill)

Name of material involved

Quantity of material involved

Extent of injuries (if any)

Assessment of actual or potential hazards to human health or the environment

Estimated quantity and disposition of material recovered from the incident

D.11 CONTINGENCY PLAN AMENDMENT

The Contingency Plan shall be reviewed by EPODO, HSE-7, and HSE-8 and immediately amended if determined to be inadequate to handle nonsudden and sudden releases, and whenever:

TABLE D-1

SUMMARY OF HAZARDOUS WASTE UNITS
LOS ALAMOS NATIONAL LABORATORY

Technical Area and Building or Area Designation	Wastes Handled	Activity Description
TA-14, 15, 16, 36, and 39	High explosives (HE)	Open burning/open detonation units used to reset waste HE and HE-contaminated material
TA-50-01	Electrochemistry Isotope separation wastes	Chemical batch treatment by neutralization, metal precipitation, and cyanide destruction
TA-50 Modular Storage Units	Shops department wastes, Wastes from Basic and Applied Chemistry R&D programs	Storage of wastes prior to treatment, incineration
	Electrochemistry wastes Iotope separation wastes	
TA-50-37	Combustible liquids and solids, including chlorinated and fluorinated hydrocarbons, and carcinogenic materials	Waste incineration with flue gas treatment
TA-50-37 Rooms 117 and 118 Storage Areas	Combustible liquids solids, including chlorinated and fluorinated hydrocarbons, and carcinogenic materials	Storage/Staging area for incinerator
TA-50 Storage Pads	Shops department wastes, Wastes from Basic and Applied Chemistry R&D programs	Waste storage prior to treatment, incineration, or shipment off-site.
TA-54 Area L	Shops department wastes, wastes from Basic and Applied Chemistry R&D programs.	Wastes are segregated and stored prior to treatment, incineration, recycling, or shipment off-site

TABLE D-7 (continued)
WASTE ANALYSIS PARAMETERS AND TEST METHODS

Parameter	Test Method	Reference[1]
Mercury	Manual Cold Vapor Technique (S) SW7471	(L) SW7470
Free Liquids	Paint ~~Filler~~ Filter Liquids Test	(S) SW9095

[1]"A" refers to Sampling and Analysis Methods for Hazardous Waste Combustion, EPA-600/8-84-002, February 1984.
"ASTM" refers to American Society for Testing Material Standards.
"SW" refers to Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition, EPA, November 1986.
"L" refers to liquid waste.
"S" refers to solid waste.

[2]Methods for cyanide and sulfide gas generation are pending. SW-846 methods will be used when they become available. Methods recommended by the EPA will be used in the interim.

[3]If EP Toxicity and other analyses do not permit identification of an unknown chemical waste, digested metal samples (per SW3020) will be analyzed for the metals noted.

ATTACHMENT J

INCINERATOR OPERATIONAL SYSTEM

J.1 LIMITING CONDITIONS FOR PROCESS OPERATION

J.1.1 Objective

To ensure safety and protection of the environment the CAI process operations will be conducted within the limits herein, and the following equipment, as appropriate to the activities, must be operating or available before process operations can be conducted.

J.1.2 Process Feed Operations

J.1.2.1 Plant Utilities

Electrical service (normal and auxiliary generator in 10-second standby model); compressed air (designed and standby compressors); and building fire protection systems (the main water supply is integral to the supply for the wet ~~an~~ and dry-pipe fire sprinkler systems) must be available. Prior to operations in the liquid feed preparation area, the special HALON[R] fire protection system must be available. The process area HEPA filtered ventilation system must be operating.

J.1.2.2 Plant Instrumentation

Prior to liquid waste operations, a survey of the ambient air in the Liquid Feed Preparation Room must be made, and instruments for measuring combustibles and oxygen concentrations must be at hand during preparation of volatile liquids.

J.1.2.3 Personnel

At least two persons must be on hand during any feed preparation operations.

J.1.3 Low-Temperature Check-Out Operations for the CAI

At low temperatures (below 500°F) the following are required:

J.1.3.1 Equipment

In addition to the minimum equipment requirements listed in J.1.2 above, low temperature operations for instrumentation and equipment checkout ~~nd~~ and calibration require the following:

J.1.3.2 Utilities

Liquid (diesel oil) and/or fuel gas (natural gas) supply systems; auxiliary cooling water system; uninterruptable power supply (UPS); and instrument air supply (designated and standby compressors).

J.1.3.3 Equipment in the CAI

Quench column pumps and sprays; incinerator induced draft (ID blower or automatic crossover to the HEPA filter plenum in building exhaust); process off-gas HEPA filter banks.

J.1.3.4 Instrumentation

All instrumentation and control panels must be on and operating. Prior approval of the Section Leader for Technical Support must be obtained to disable any safety interlock. If any interlocks are disabled, the front of the instrument chassis must be tagged and the interlock identified. An appropriate entry must be made in the Operations Log Book when any interlock is disabled or restored to operational condition.

J.1.3.5 Personnel

At least two persons must be present during operation of the incinerator. These are a shift supervisor and an additional process engineer.

J.1.4 High-Temperature Operations for the CAI

During incinerator startup for operation at temperatures above 500°F, and in addition to the items listed in J.1.3, the following must be fully functional:

The ~~NMEID~~ NMED permit for incineration of RCRA-listed ~~an~~ and characteristic wastes specifies minimum operating temperatures, minimum percent oxygen in the secondary chamber, maximum carbon monoxide levels in the off-gas, maximum feed rates, and other parameters for hazardous waste feed operations. These parameters are detailed in Permit Module V for RCRA waste.

J.1.6 Process Off-gas Treatment

The following are required for off-gas treatment:

J.1.6.1 Equipment

Gas stream exit temperature from the quench column not greater than 350°F; gas stream exit temperature from the packed-column scrubber not greater than 180°F; gas stream inlet temperature to the process HEPA filters not greater than 250°F; scrubber solution temperature not greater than 180°F.

J.1.6.2 Personnel

In addition to the shift supervisor and process engineer, operations personnel shall be assigned to each shift as required to meet programmatic goals of the incinerator run plan.

J.1.7 Basis

Basis for limiting conditions for process operations is the 1979 AL/OSD Facility and Process Operational Safety Review and subsequent approval of the Operational Safety Requirements, the Technical Development Facility (TDF) Quality Assurance Manual (which includes requirements for reviews by the TDF experiment safety committee and design committee), and Administrative ~~Requirements~~ Requirements 1-8 of the Los Alamos Health and Safety Manual, Chapter 1.

J.2 DESIGN FEATURES

J.2.1 Construction

Except for the office addition, the TDF is constructed of precast, prestressed, retensioned concrete double-

J.2.6.1 Fire Protection Systems

In addition to the facility wet pipe, antifreeze filled, deluge, ~~an~~ and dry pipe sprinkler systems, the process has several engineered fire protection systems:

The liquid feed preparation room has a HALON[R] 1301 fire protection system, also initiated by UV detectors, temperature sensors, or manual pull station. The air supply louvers and exhaust blowers are interlocked with the alarm system to isolate the room prior to the HALON[R] release.

The chemical storage area deluge sprinkler system is provided with a Fire Department connection for the addition of foam fire suppressant from a tanker truck.

The blowers supplying and exhausting air from the CAI process area and the waste storage/staging area are shut down upon the initiation of a fire alarm, to limit the oxygen available to a fire.

The floor drains in the CAI process and support areas and the sump in the radioactive waste storage area are connected to the facility sump tank in pit in Room 112. This tank discharges to the double contained and instrumented industrial waste water pipe line to the treatment plant at TA-50, Building 1. Fire water from the CAI process and support area sprinkler systems is collected by the floor drains. The radioactive waste storage area fire water is collected in a floor sump and is pumped to the facility sump tank. This floor sump is provided with an overflow drain to one of the chemical storage area sumps in the event that sprinkler flow in this room exceeds the pump capacity. Fire sprinkler water in Bay 2 and the main HEPA filter plenum system flows through floor drains and directly into the industrial waste line to the treatment plant. Rooms 115, 117 and 118 are drained to the sump in Room 112 manually, if necessary.

There are no floor drains in the bermed liquid feed preparation area. The chemical storage area is provided with sumps of sufficient volume to contain the entire contents of the storage area containers and not

less than thirty minutes of the deluge sprinkler system flow.

J.2.6.2 Liquid Blend/Feed System

Except for the transferring of liquids from the shipping containers to the waste feed tanks (which requires hands-on operations), liquidblend/feed station operations are performed from the control panel outside the liquid feed enclosure. ~~Selected controls and instrument readouts are also located at the incinerator main control panel and the liquid burner station at the incinerator.~~

J.2.6.3 Incinerator Controls and Interlocks

Incinerator startup and operation are automatically controlled and the systems are interlocked to prevent unsafe operation. Three shutdown modes (controlled, fast and scram), with automatic and/or manual initiation, are provided to ensure safe shutdown of the process. Both visible and audible alarms are provided for fault indication.

J.2.6.3.1 Pre-Ignition Interlocks

Incinerator startup is prevented if faults are detected in the incinerator negative pressure, burner fuel supplies, and off-gas cleaning and cooling systems.

J.2.6.3.2 Startup Controls

A sequential timer or a programmable logic controller controls air purge, pilot ignition, burner ignition, and flame failure shutdown.

J.2.6.3.3 Temperature Controllers

After startup, the incinerator is brought to temperature manually or automatically by a single station microprocessor-based controller. In the run mode, incinerator temperatures are maintained at set levels by temperature controllers.

J.2.6.3.4 Waste Feed Interruption and Cut-Off Interlocks

During operation, certain fault conditions require that liquid and solid waste feed be interrupted. In the case of solid waste feed, ~~the loading cycle timer is disabled and~~ the ram feeder is placed into standby mode. Liquid waste feed is instantaneously interrupted by closing of a solenoid shutoff valve on the liquid waste feed line.

J.2.6.3.5 Shutdown Controls

The detection of certain faults in the process equipment controls and interlocks will initiate one of three logic sequences (controlled, fast or scram) provided to shut down the process in a safe and orderly manner, as dictated by the nature and potential consequences of the fault.

J.3 ADMINISTRATIVE CONTROLS

J.3.1 Responsibilities

Ultimate safety of the TDF operations lies with the HSE Division Leader, who appoints personnel to be responsible for the daily operation of the facility. These responsibilities include oversight of all engineering functions associated with maintenance and modifications of the building and with operating, maintaining, and modifying the CAI process.

J.3.2 Training

Training requirements for personnel assigned to the incinerator operations are delineated in Permit Attachment C.

J.3.3 Other Controls

The Technical Support Section maintains an emergency plan that is reviewed annually and updated as changes occur. Each employee assigned to the TDF has a copy of the emergency plan.

J.3.4 Internal Safety Review System

CST-27 ~~HSE-7~~ maintains a safety committee and appoints a safety officer to oversee safety functions of the group. The safety committee performs routine safety inspections of all CST waste management ~~HSE-7~~ facilities. A representative of ESH-5 ~~HSE-3~~, Industrial Safety, is an ad hoc member.

J.3.5 Documentation of Operating Procedures

J.3.5.1 Operating Manual

An Operating Manual for the CAI process is maintained at the TDF. This manual is reviewed and updated as required. Each person assigned to TDF operations has access to ~~receives a~~ copy of the manual. Manual contents are as follows:

1. Technical Support Section Organization
2. Operational Safety Requirements (OSRs)
3. Safe ~~Standard~~ Operating Procedures
4. The TDF Emergency Plan
5. Facility Description
6. Facility Operating Procedures ~~Instructions (OIs)~~
7. Process Description
8. Process Operating Procedures ~~Instructions (OIs)~~
9. Utility Operating Procedures ~~Instructions (OIs)~~

J.3.5.2 Safe ~~Standard~~ Operating Procedures

Safe ~~Standard~~ Operating Procedures (SOPs) are in effect for operations in the TDF, as specified in Administrative Requirement 1-3 of the Los Alamos Health and Safety Manual. The Technical Support Section reviews all SOPs at least annually and submits updates and revisions to the ESH ~~HSE~~ Division SOP Committee for review and approval.

J.3.5.3 Special Work Permits

A Special Work Permit (SWP) must be obtained prior to conducting potentially hazardous activities not covered by an SOP. The appropriate disciplines in Facilities Engineering (ENG-5), Health Physics Operations (ESH-1), Facility Risk Management (ESH-3), and Industrial

Hygiene and Safety (ESH-5) review the SWPs. ~~The building manager reviews and approves SWPs.~~ The appropriate disciplines in Facilities Engineering (ENG-5), Radiation Safety (HSE-1), Industrial Safety (HSE-3), and Industrial Hygiene (HSE-5) also review the SWPs.

J.3.5.4 Detailed Operating Procedures ~~Operating Instructions~~

Detailed Operating Procedures (DOPs) ~~Operating Instructions (OIs)~~ are the detailed process equipment operating procedures and check lists required to safely start, operate, and shut down the CAI process, utilities, and other mechanical equipment. Members of the Group's ~~section's~~ engineering staff write and/or review the DOPs ~~OIs~~, which are then submitted for peer review within the Group ~~section~~. The DOPs ~~OIs~~ are revised as operational requirements dictate.

Attachment IV

Attachment IV consists of clean copies of both the State and LANL initiated Class I Permit Modifications to LANL's operating Permit EPA ID #0890010515-1, which are to be inserted into the Permit.