Emergency

Response

Plan

METROPOLIS WORKS

AlliedSignal Inc.

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INTRODUCTION

This written document sets forth the procedures for responding to site emergencies in accordance with the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120. The Metropolis Works' Emergency Response Plan (ERP) is designed to facilitate the rapid, orderly assembly of plant personnel and to activate trained Emergency Response personnel to assist in personnel rescue, controlling and containing an emergency condition on-site. The Radiological Contingency Plan (RCP) located in the last section of the ERP is used in accordance with Regulatory Guide 3.67 "Standard Format and Content for Emergency Planning for Fuel Cycle Materials Facilities" as a condition of Source Material License No. Sub-526, Docket No. 40-3392, to respond to area site emergencies involving radioactive material releases and spills.

The intent of the Emergency Response Plan is to identify and characterize the potential hazards on-site and prevent personnel injury while minimizing environmental, equipment and property loss or damage. Within the scope of OSHA 29 CFR 1910.120, section (q), Emergency Response of Hazardous Substances Releases, the following items of concern will be addressed:

- Pre-emergency planning, coordination with outside agencies
- Personnel roles, lines of authority, training and communication
- Emergency recognition and prevention
- Safe distances and places of refuge
- Site security and control
- Evacuation routes and procedures
- Decontamination
- Emergency medical treatment and first aid
- Emergency alerting and response procedures
- Personal protective equipment and emergency equipment
- Critique, debrief, and follow-up procedures

Additional information or clarification of the Emergency Response Plan or Radiological Contingency Plan can be obtained by contacting the Health Physics or Safety/Medical Departments.

ACTIVATION OF EMERGENCY RESPONSE PLAN

Communication is extremely critical in successfully activating the Emergency Response Plan. Expeditious mustering of all personnel involved, as well as effective maintenance of a communication system is essential during the emergency incident.

If a Metropolis Works employee is witness to an event that could result in the uncontrolled release of radiological or non-radiological hazardous materials and present a danger to either employees or the general public, that individual should contact the control room operator in either the Feed Materials Building, South Fluorine Plant or Powerhouse, identify themselves and give a brief description of the problem, the area affected, and request that the evacuation alarm be sounded.

The plan is activated by sounding the Emergency Response Alarm. Emergency alarm witches are located in the UF_6, South Fluorine Plant and Powerhouse Control Rooms. The person activating the alarm system will dial the public address system using the plant phone system and announce, "This is a (give short description)", stating the nature and location of the emergency, followed by a wail of the siren mounted on the fluorine building. Repeated announcements of the emergency would follow shortly thereafter. All announcements should be repeated three (3) consecutive times. Proper notification shall be made immediately following the announcement (See Chain Alert System, page A-2).

In the event an emergency condition exists over an extended period, a follow-up announcement will be made to alert Plant personnel the emergency condition still exists. All precautions shall be maintained until the " All Clear " notice is given.

Classification of Emergencies

Two levels of emergency classification are defined in the Emergency Response Plan for non-radiological releases of hazardous materials on-site. An "Alert" is when a hazardous materials event occurs and effects employees outside of the immediate area yet is not expected to require assistance from off-site organizations to protect persons beyond the MTW facility perimeter.

A "Site Area Emergency" results when an uncontrolled release is already in progress and/or has the potential to lead to significant releases of non-radiological hazardous materials that may require assistance from off-site organizations to protect persons off-site. Evacuation of plant personnel or relocation of assembly areas may be necessary under this type of classification.

Reference:

Classes of Radiological Contingencies Section 3.0 RCP

NIGHTS, WEEKENDS, HOLIDAYS

The Production Shift Supervisor present in the plant will immediately become the Acting Chief Officer until relieved. The Acting Chief Officer is responsible for assuring that the control room operator activates the Chain Alert System as listed below.

NORMAL PLANT ORGANIZATION

The normal plant organizational structure is depicted in Figure 1. Due to plant operations, supervisory personnel are on duty 24 hours per day, seven days per week. In the case of radiological contingencies under the plan, the Production Shift Supervisor on duty has the responsibility for initiating the UF_6 Release Control Procedure (see Appendix A-1).

NORMAL ON-SITE EMERGENCY ORGANIZATION

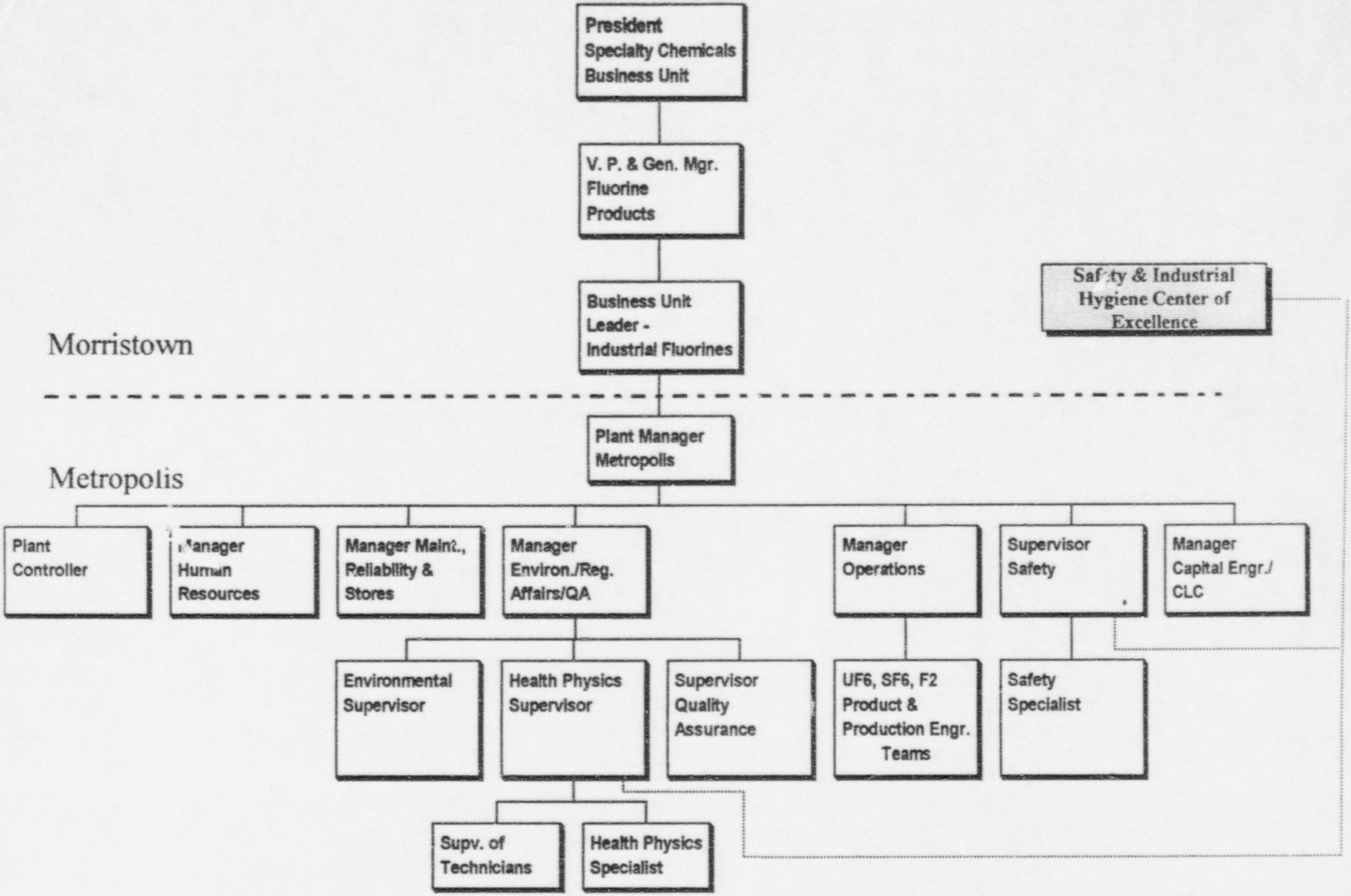
The normal on-site Emergency Response Plan Organization is shown in Figure 2. The Emergency Response Plan Organization used in conjunction with "The UF_6 Release Control Procedure" defines responsibilities for assuring prompt reaction and control for a major UF_6 release or other hazardous materials incident that may have an impact upon employee health or members of the public.

CHAIN ALERT SYSTEM

Upon notification that the Emergency Response Plan is to be activated, the control room operator will notify or cause to be notified the appropriate emergency personnel or their designated alternate.

In the event the Emergency Officers are not in the plant when the emergency arises, all officers will check in with the senior officer on-site upon arrival at the plant, prior to proceeding to duty assignment, to facilitate communication and organization.

Figure 1
ORGANIZATIONAL CHART



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NRCORG21

Fig 2

EMERGENCY RESPONSE ORGANIZATION
(Radiological Contingency Plan Organization)

CHIEF OFFICER
Plant Manager
Environmental/Regulatory Affairs/QA Mgr. (Alternate)

Assistant Chief Officer Capital/CLC Mgr. Engineer (Alternate)	**Chief Control Officer** Operations Mgr. Production Team Leader (Alternate)

First Aid Officer Lab Team Supv. Lab Team Supv. (Alt.)	**Communications Officer** Plant Controller Leader Acct Services (Alt.)	**Operations Officer** Production Team Leader Area Day Foreperson (Alt.)	**Maintenance Officer** Maintenance/Stores Mgr. Maintenance Supv. (Alt.)
Procurement Officer Purchasing Supv. Storeroom Foreperson (Alt.)	**Security Officer** Human Resources Mgr. Supervisor Acct. (Alt.)	**Control Room Officer** Supervisor QA Engineer (Alt.)	**Radiation Officer** Health Physics Supv. HP Supv. of Techs. (Alt.)
		Environmental Officer Environmental Supv. Environ. Eng. (Alt.)	**Emergency Response Off.** Safety Supv. Emergency Resp. Team Leader (Alt.)

All officers have radios. The Environmental & Regulatory Affairs Manager has a VHS radio which can be used to communicate with the local ESDA Coordinator.

DUTIES OF OFFICERS

Chief Officer

The Plant Manager is the Chief Officer for emergency situations including Radiological Contingencies. The Chief Officer will normally invoke the plan and direct it while it is in effect and will normally approve final termination of an emergency situation. His responsibilities include overall coordination of the plan. The Chief Officer will establish headquarters in the Plant Manager's Office.

During the emergency period, he will establish and maintain communication and act as a liaison with local, state and federal agencies and pertinent Corporate personnel. He coordinates and reviews all releases of information to the public and news media in the event of a "Site Area Emergency". No information will be released to outside agencies (including the press) without prior approval of the Chief Officer or his designate. He is advised of controls implemented through the Chief Control Officer, and apprised of support readiness through the Assistant Chief Officer.

After the emergency is under control, he will direct salvage and re-establishment of operations.

Chief Control Officer

The Chief Control Officer will assist the Chief Officer as required. Following an emergency signal, the Chief Control Officer will promptly proceed to the affected area and establish a local command and communications control point from which he will contact the Chief Officer and apprise him of the situation. Following establishment of the control point the Chief Control Officer will make an announcement of its location over the plant PA system He will coordinate the group effort from the control point allocating available manpower required to establish control of the incident site. This officer will be responsible for the decision to escalate or downgrade the class of emergency declared.

In addition, the responsibilities of the Chief Control Officer include the following duties:

- Prepares and organizes the background review of the hazardous materials incident.
- Briefs the field Emergency Response Team Leader(s) on their specific assignments.
- Communicates with the Emergency Response Officer to ensure that safety requirements are met.
- Maintains ongoing communications with all teams and Emergency Response Team Leaders.
- Arranges for personal protective equipment and supplies, in consultation with each officer.
- Keeps a log of all response activities and maintains records.

- Appoints census takers, timekeepers, and sees that effective control of personnel is maintained in and out the incident area or Feed Materials Building.

The Chief Control Officer has the overall responsibility for coordinating efforts to control UF_6 releases as indicated under Regulatory Guide 3.67 of the Metropolis Works, Nuclear Regulatory License No. Sub-526, Docket No. 40-3392. Refer to the Section 6.1 of the Radiological Contingency Plan for the location of the control point.

Assistant Chief Officer

The Assistant Chief Officer will assist the Chief Officer as required to coordinate the activities of the four support officers. He will advise the Chief Officer of current developments.

Communications Officer

The Communications Officer is responsible for all in-plant communications. He will have at his disposal, the administrative clerical staff, and Service/Stores personnel, and will direct activities in these areas with the help of the Security Officer. His responsibilities include the following duties:

- Reports directly to the Chief Officer.
- Establishes communications with outside authorities and media under the direction of the Chief Officer.
- Arranges for ongoing communication and updates appropriate parties.

Security Officer

The Security Officer is responsible for all plant security and traffic control, and will maintain liaison with public law enforcement agencies as required to provide crowd and traffic control. In addition to these duties, the Security Officer will be responsible for the accountability of outside contractor personnel and visitors during the evacuation procedures. He will utilize the plant security force to notify area residents, if required, during a "Site Area Emergency." His responsibilities include the following duties:

- Reports directly to the Chief Officer.
- Coordinates evacuation, as assigned by the Chief Officer.
- Secure entrance/exit of plant site.

First Aid Officer

First Aid Operations will be set up in the plant dispensary. Following the emergency signal, the First Aid Officer will designate an aide to secure a plant vehicle and provide the following equipment:

- (1) Oxygen Therapy Unit
- (1) Bag Mask Resuscitator
- (1) Stretcher and Blankets

A vehicle will be kept on standby for prompt dispatch to the emergency site. Health Physics personnel will be organized into First Aid teams to care for injured under direction of the First Aid Officer or his designee who will also request physicians and/or ambulances as required. First Aid Teams are to assist the medical staff (physician, nurse, first aid responders) in the treatment of injured personnel. Names of injured and extent of injuries will be supplied to the Chief Officer by telephone communication only.

Alternate First Aid facilities are available in the north laundry room in the Administration Building. In the event the dispensary becomes over-crowded, the alternate facilities will be used.

Maintenance Officer

The Maintenance Officer will arrange for emergency shut-off of utilities as necessary and will arrange for procurement of auxiliary equipment required to cope with the emergency. He will initiate and direct all emergency maintenance work to facilitate control of the emergency situation to prevent injury to personnel and minimize damage to property, product or materials. For Radiological Contingencies he will notify the Control Room Officer of all work performed and maintenance personnel at the scene of the release.

He will assist the Operations and Emergency Response Officers as requested. He will assist in restoration of production facilities, utilities, communications and roadways following control of the emergency. He will initiate a debrief and critique of the response for non-radiological emergencies only.

Emergency Response Officer

The Emergency Response Officer reports directly to the Chief Control Officer. He will coordinate with the Maintenance Officer and organize Maintenance personnel into fire and rescue teams as required. He will establish liaison with any community fire-fighting organizations that may be called into Metropolis Works and provide pertinent information to assist their fire-fighting efforts and avoid process and plant hazards. He advises the Chief Control Officer and Emergency Response Team Leader(s) on appropriate personal protective equipment and proper decontamination methods.

He will also coordinate with the First Aid Officer and arrange for movement of all injured personnel from the scene of the emergency. Following the emergency signal, he will designate an Emergency Response Team member to obtain the emergency response vehicle that contains a supply of rescue gear to be brought to the emergency area.

Following emergency control - the Emergency Response Officer will:

1. Assemble the rescue crews and check for any additional First Aid or medical treatment that may be needed.
2. Assemble and inventory all special safety gear. Arrange to return same to storage following cleaning and repair. Replace all damaged gear promptly.

Procurement Officer

The Procurement Officer will be responsible for obtaining all material and equipment necessary to control or contain the emergency situation. He will arrange for meals and comfort items for plant personnel as required depending on the duration of the emergency.

Radiation Officer

The Radiation Officer will be responsible for directing activities through the Chief Control Officer to minimize public and employee exposure in the event of a release of radioactive materials, and will be responsible for hospital and ambulance decontamination, if required.

He will coordinate with the Security Officer in determining potential public exposure, and the need to notify off-site residents.

Environmental Officer

The Environmental Officer will advise the Chief Officer of the proper response and reporting requirements related to the notification of all regulatory agencies. He will consult with the Chief Control Officer regarding the containment of the release and spill control measures to be taken.

Control Room Officer (UF_6 Release)

The Control Room Officer has the responsibility of staying in the UF_6 Control Room to control and advise people, record data, and relay information to the Chief Control Officer from that point. All personnel involved in investigating or containing the release must do so through this officer. He will remain on standby on an as needed basis for non-radiological emergencies.

Operations Officer

The Operations Officer will ascertain condition of all operating units and be prepared to take action to correct spills, leaks or similar operational problems as required. During a UF_6 release, the Operations Officer is to investigate the source of the release, make recommendations on how to stop the leak and direct any operational changes at the scene.

Emergency Response Team Leaders

Emergency Response Team Leaders are comprised of the Fluorine day and shift Maintenance forepersons responsible for leading each shift of Emergency Response Team Members. The Emergency Response Team Leader reports directly to the Chief Control Officer. He establishes work zones, in accordance with the Chief Control Officer, to protect personnel and coordinate containment of the release. He prepares and executes specific tasks as assigned by the Chief Control Officer. His responsibilities throughout the response effort include the following duties :

- Supervises activity of entry and back-up teams.
- Records and tracks entry team work duration and rotation.
- Analyzes resources of necessary safety protective equipment.
- Coordinates and supervises activities of the decontamination Emergency Response Team Members.
- Communicates with Emergency Response Officer on appropriate personal protective equipment and decontamination methods.

Entry/Backup Emergency Response Team Members

The entry Emergency Response Team Members are comprised of emergency responders designated by the Emergency Response Team Leader to perform various activities in response to the emergency hazardous materials incident through personnel rescue, containment and confinement of the release and fire fighting measures. The entry team will consist of at least two Emergency Response Team Members. An equal number of backup Emergency Response Team Members are available to replace entry Emergency Response Team Members when needed. The roles and responsibilities are to include:

- Reports to entry Emergency Response Team Leader.
- Implements entry plan.
- Dons appropriate personal protective equipment, as assigned.
- Performs tasks, as assigned.
- Follows decontamination procedures, as assigned.
- Provides back-up to other entry Emergency Response Team Members.
- Utilizes the "buddy system" before entry can be made.

Decontamination Emergency Response Team Members

Decontamination Emergency Response Team Members have the responsibility of setting up the decontamination line prior to entry of the entry Emergency Response Team Members into the "hot zone", and decontaminating both safety equipment and personnel throughout and following the response effort. Their responsibilities include the following:

- Reports directly to the Emergency Response Team Leader.

- Implements the decontamination plan.
- Dons appropriate personal protective equipment, as assigned.
- Performs tasks at assigned stations.
- Follows decontamination procedures, as assigned.

Production Safety Operator

The Production Safety Operator has the responsibility of maintaining necessary emergency equipment during the emergency response effort. After reporting in for census purposes, the Production Safety Operator will proceed to the Safety Shack or control point and stand by to service emergency gear as required.

SAFETY EMERGENCY EQUIPMENT AND SUPPLIES

All safety emergency equipment shall be stored and maintained in strategic areas throughout the plant for immediate access and availability to facilitate the swiftness of response efforts. A listing of emergency equipment shall be posted at each location and inspected on a monthly basis. (See Exhibit "A" and attachments)

Reference:

Radiological Contingency Plan	Section 6.5	RCP
Decontamination of Personnel, Personal Protective Equipment and Emergency Equipment	Section I	ERP

SITE LAYOUT AND SECURITY

The AlliedSignal Metropolis Works plant is located on approximately 1000 acres of land in Massac County at the southern tip of Illinois, along the North bank of the Ohio River.

The site perimeter is formed by U.S. Highway 45 to the North, the Ohio River to the South, and privately owned land to the East and West.

Plant operations are conducted in a double-fenced restricted area covering approximately 59 acres in the North central portion of the tract.

Contract Security Guards make key-clock rounds during off-shifts and on weekends and holidays.

Routine access to the plant is controlled by three electrically operated gates with security personnel in attendance

SITE SECURITY AND CONTROL

The purpose of site security and control is to minimize potential contamination of emergency responders, protect plant personnel and the public from site hazards and organize cleanup activities. The degree of site control necessary depends on the extent of the natural disaster or hazardous materials emergency involved.

Site Security

The Security Officer will assume the responsibility of maintaining plant security during a site area emergency. (See A-6).

Site security is necessary to:

- Prevent the exposure of unauthorized, unprotected personnel and public to the hazard site.
- Avoid interference with safe working procedures.
- Maintain the entry and exit requirements while a site area emergency exists.

During an emergency situation, all personnel will remain on duty, ignoring shift change schedules, until relieved by a supervisor or until the emergency has been controlled. Employees reporting to work will assemble in the locker room and wait for assignment.

Normally, an all clear announcement will be made on the plant P.A. System after the emergency is brought under control on direction of the Chief Officer or his alternate.

Site Work Zones

Upon activation of the Emergency Response Plan, a local command and communications control point will be established by the Chief Control Officer. Site work zones will be then be established based on hazardous materials characteristics and conditions which determine the level or degree of the response effort.

The establishment of site work zones will help to ensure that:

- Personnel involved in the response activities are aware of the location of potential hazards and risks.
- Site isolation and control exists and is maintained throughout the response effort.
- Establishment of designated hot, warm and cold safety zones are identified where necessary.

Reference:

Civil Disturbance	Section F	ERP
Decontamination Procedures	Section I	ERP
Radiological Contingency Plan	Section 2.1.3.1.3	RCP

EMERGENCY ESCAPE PROCEDURES AND EVACUATION PROCEDURES

Spills of process materials or hazardous waste products may create a vapor cloud (Example HF and F_2). Employees are instructed to move away from the area at a right angle to the drift path. Do not go through the vapor cloud to report to the designated accounting area. Employees who must remain at their post to operate the plant are advised to secure all building openings, turn off the heating/air conditioning systems and remain inside until the vapor cloud passes.

Reference:

HVAC Equipment Shutdown Responsibility	Section H	ERP

SPECIFIC PLANT PERSONNEL EVACUATION AND ACCOUNTABILITY PROCEDURES

PRODUCTION-Days, Nights, Weekends, Holidays

Production Department personnel are to assemble and report as specified on the Emergency Assembly and Notification Chart provided in Appendix C.

The Production Department census for personnel accountability will be taken by the Fluorine Products shift foreperson or the area day foreperson.

The Production Department census will be reported by phone or radio to the Chief Control Officer control point by the Fluorine Products Shift Foreperson or Fluorine Products Area Day Foreperson. The Fluorine Products Foreperson should (when directed by the Emergency Response Officer) be prepared to move additional personal protective equipment to affected area. This additional equipment is stored per attached Exhibit "A". (Page A-15)

The Powerhouse operator will complete the following:

1. Start the standby generator in the event of a power outage. (This unit starts automatically in the event of a power failure. If not, the operator must start it manually.)

2. Ensure that inert and instrument air systems are at normal operating pressure.
3. In the event of power failure, switch boilers to standby generator power and restore steam.
4. In the event of a power failure, provide standby power to sanitary well to provide water.

MAINTENANCE-Days

Maintenance personnel are to assemble and report as specified in the Emergency Assembly and Notification Chart in Appendix C.

All Maintenance Forepersons, the Supervisor of Reliability and Supervisor of Plant Engineering will report their census to the Maintenance Supervisor, Fluorine Products, as quickly as possible.

All personnel should remain in the locations specified until released by their Foreperson, Supervisor, or alternate. The total Maintenance Engineering census will be reported by radio or phone to the Chief Control Officer, by the Maintenance Supervisor (Fluorine Products).

MAINTENANCE-Nights, Weekends, Holidays

For UF_6 Release:

A. Maintenance personnel will report directly to the control point (primary: south door of Distillation or Ore Storage Building, or alternate: Cylinder Wash Building).

B. The Shift Maintenance Foreperson will be required to make a decision as to whether to proceed to the UF_6 Control Room to act as Maintenance Officer or to the control point to direct rescue operations. The Shift Maintenance Foreperson may designate someone to assist him/her in the performance of these duties.

NOTE: Rescue takes precedence over all other activities.

For all Non-Radiological Emergencies:

C. Once the Chief Control Officer establishes the control point and announces it over the PA system Emergency Response personnel will report to that control point.

ALL OTHER PLANT PERSONNEL-Days, Nights, Weekends, Holidays

All other plant personnel and non-plant personnel will assemble and report as specified on the Emergency Assembly and Notification Chart in Appendix C.

NOTE: Employee accounting will be by exception only. As each group assembles as prescribed above, census will be reported to the Chief Control Officer after the location has been announced. Immediately following emergency control, the officers will assemble crews and:

1. Check personnel for injuries and arrange for treatment as required.
2. Assemble and return all safety equipment to the laundry.
3. Inventory emergency equipment and arrange for repairs and replacement of damaged units and recharging of various spent cylinders (breathing air, oxygen, fire extinguishers, etc.). Thereafter, supervisors and operators will return to routine assignment and resume normal operations.

EMERGENCY RESPONSE CRITIQUE AND FOLLOW-UP PROCEDURES

A debrief and critique meeting will be held in the Plant Administrative Conference Room or the Training Room following restoration of plant operation. All key personnel involved in responding to the incident shall be present for the critique to assess the response efforts and determine a plan of action for follow-up procedures. All follow-up actions assigned will be completed in a timely manner.

Copies of documentation for the critique will be kept in the Safety Office for future reference. A review of the critique information will be made available to all Emergency Response Team Members during annual refresher training.

EXHIBIT "A"

EMERGENCY RESPONSE VEHICLE

Personal Protective Equipment:

Self-Contained Breathing Air Packs	4
Additional Air Pack Cylinders	2
Full Face Canister Gas Masks	6
Half Face Respirator Cartridges	6
Total Encapsulated Suits	4
Chemical Protective Acid Suits	9 sets
Confined Space Rescue Kit	2 kits
Safety Body Harness	2

First Aid Equipment:

First Aid/Bloodborne Pathogens Kit	1
Oxygen Therapy Unit	1 unit
Backboards (Full body and half)	1 each

Emergency Response Tools:

14" Pipe Wrench	2
#430 Channel Locks	1
9/16" - 1 1/4" Combination Wrench	1set
10" and 12" Adjustable Wrench	1each
6" and 8" Long Standard Blade Screwdriver	1each
1 1/2 lb. Ball Pin Hammer	1
Blade Scraper	1

Miscellaneous:

Flashlights	6
Fire Extinguishers	
-Dry Chemical	2
-CO_2	2
Extension Ladder	1
Decontamination Equipment (Ref. I-9, ERP)	

DISTILLATION/ORE STORAGE CABINET SAFETY EQUIPMENT

18 each	Chemical Coats
18 pair	Chemical Pants
16 pair	Chemical Boots
18 pair	Chemical Gloves
6 each	Gas Masks With Canisters* (Date: _____)
4 each	MSA "Dual Purpose" Air Packs
4 each	Medium Air Mask Face Pieces (Spare)
2 each	Large Air Mask Face Pieces (Spare)
1	Small Air Mask Face Piece (Spare)
4 each	Spare Air Cylinders
1	Megaphone
1 set	Megaphone Batteries
6	Flashlights
12	Flashlight Batteries
2 each	Oxygen Therapy Units
1	Orange Vest
2	Tool Bags
1	Blanket
1 box Large	Nitrile Gloves
1 box X-Lg	Nitrile Gloves
2	Radio Holders
1	Loud-mouth speaker

1. One (1) Bag marked "Bolt-Up Tool" containing:

   (1) 3/4" Combination Wrench
   (1) 7/8" Combination Wrench
   (1) 15/16" Combination Wrench
   (1) 1 1/16" Combination Wrench
   (1) 1 1/8" Combination Wrench
   (1) 1 1/4" Combination Wrench
   (1) 10" Adjustable Wrench
   (1) 12" Adjustable Wrench

2. One (1) Bag market "Misc. Tools" containing:

   (1) 6" Long Standard Blade Screwdriver
   (1) 8" Long Standard Blade Screwdriver
   (1) 1 1/2 lb. Ball Pin Hammer
   (1) Blade Scraper
   (1) 14" Pipe Wrench
   (1) 18" Pipe Wrench
   (1) Pinch Bar, 1" Wide Blade, 5/8" stock x 16" long
   (1) Linoleum Knife
   (1) #430 Channel Lock

*Replace canister(s) if in service over twelve months.

UF_6 EMERGENCY KIT

1 OF 4

DESCRIPTION		SIZE	NUMBER IN STOCK
Acid Resistant Jacket		XL	2
Acid Resistant Pants		XL	2
Chemical Gloves Prs.			2
Chemical Boots		X-LRG-Pr	1
Chemical Boots		Giant Pr.	1
Hardhat with Faceshield			2
*Canister Gas Masks	Canister Date: _____		2
MSA Respirators			2
Lif-O-Gen Oxygen Unit			1
1½" Box-end Wrench			1

UF_6 EMERGENCY KIT
2 of 4

5 lb. CO_2 Fire Extinguishers	2
$^3/_8$" X 12' Welded Chain	2
$^3/_8$" Chain Boomers	2
14" Pipe Wrench	1
10" Crescent Wrench	1
6" Pipe Wrench	1
8" Screw Driver	1
10" Screw Driver	1
2 lb. Sledge Hammer	1
2 Blade Work Knife	1

UF_6 EMERGENCY KIT
3 OF 4 AND 4 OF 4

Patch for UF_6 Cylinder	2

Additional air pack storage is located in:

- GF_2 Control Rooms (1 each)
- DUF_6 Control Room (1 each)
- Laboratory Hallway (2 each)
- Safety Shack (spare cylinders)

Additional Personal Protective Equipment is located in:

- Powerhouse Safety Laundry
- CF_x Safety Supply Room
- Safety Shack (Encapsulated suits)

Attachment 1

MSA TOTAL ENCAPSULATED SUIT INTEGRITY CHECK

SUIT NUMBER	DATE CHECKED	LOCATION	CONDITION	INITIALS
1				
2				
3				
4				
5				
6				

NOTES: _____

_____

Attachment 2

MSA SCBA INSPECTION

Mask# _____ :			
	DATE CHECKED	**CONDITION**	**INITIALS**
Check Gaskets			
Check Clarity of Lens			
Check whether rubber is hard or distorted			
Check exhalation valve			
Check whether plastic bag is O.K.			
SCBA# _____ :			
Check air pressure in tank (2216 psi minimum)			
Check for leaks (by covering outlet and opening yellow valve)			
Check pressure at which bell starts (520 psi)			
Check pressure at which bell stops (0 psi)			
All valves properly closed			
All harness straps fully extended			
SCBA properly installed in case			
Inspection sticker signed			
All guards in place			

NOTES: _____

Attachment 3
HAZARDOUS MATERIAL INCIDENT
RISK EVALUATION

SUBSTANCE INFORMATION

CHEMICAL NAME: _____ UN/NA #: _____ EPA WASTE #: _____

COMMON or TRADE NAMES: _____ MANUFACTURER/SHIPPER: _____

CHEMICAL FORM: ☐SOLID ☐LIQUID ☐GAS/VAPOR ☐POWDER VOL. or WEIGHT INVOLVED: _____

IMMEDIATE HAZARDS:

☐FLAMMABLE ☐CORROSIVE ☐REACTIVE (w/ _____) ☐RADIOACTIVE ☐INFECTIOUS
ALL RELEASED SUBSTANCES MUST BE CONSIDERED TOXIC UNLESS DETERMINED OTHERWISE

FLASH POINT: _____ IGNITION POINT: _____ BOIL POINT: _____ VAPOR DENSITY: _____
FLAMMABLE LIMITS (UPPER) _____ WATER SOLUBLE: _____ VAPOR PRESSURE: _____
(LOWER) _____ SPECIFIC GRAVITY: _____

MEASURED RISK PARAMETERS

AIR-BORNE CONCENTRATION (ppm): _____ PERCENT OF LEL: _____
pH: _____ RADIOACTIVE : _____

SITE INFORMATION

☐INDOOR ☐OUTDOOR LOCATION _____
ACCESS _____
WIND DIRECTION (FROM) ☐NORTH ☐SOUTH ☐EAST ☐WEST

ENVIRONMENTAL THREATS:

TYPE	LOCATION TO INCIDENT
☐STORM DRAIN	_____
☐SOIL	_____
☐EFFLUENT/RIVER	_____
☐PROPERTY LINE	_____

(sketch the incident scene on reverse side)

VICTIMS/PERSONNEL CONTAMINATION

IS ANYONE INJURED OR CONTAMINATED? ☐YES ☐NO
IF YES, DESCRIBE _____

BASED ON THE ABOVE INFORMATION, THE RISK IS ESTIMATED AS: ☐HIGH ☐LOW

*** **RESPONSE PROCEDURES** ***

PERSONNEL

PRIMARY	BACK-UP	RESOURCES
_____	_____	☐HEALTH PHYSICS
_____	_____	☐SAFETY/MEDICAL
_____	_____	☐ENVIRONMENTAL
_____	_____	☐INDUSTRIAL HYGIENE

PPE TO USE

GENERAL PROTECTION LEVEL: ☐LEVEL A ☐LEVEL B ☐LEVEL C ☐LEVEL D
BODY COVERING: ☐ENCAPSULATING ☐COVERALLS ☐JACKETS ☐TYVEK
ACID SUITS: ☐PVC ☐NEOPRENE
GLOVES (outer): ☐NEOPRENE ☐NITRILE ☐PVC ☐LATEX ☐BUTYL
GLOVES (inner): ☐NITRILE ☐LATEX
BREATHING PROTECTION: ☐SCBA ☐AIRLINE ☐AIR PURIFYING/CARTRIDGE _____ ☐NONE
HEAD/EYE PROTECTION: ☐HARD HAT ☐FACE SHIELD ☐ACID HOOD
FOOT PROTECTION: ☐PULL-OVER BOOT COVERS ☐STEEL-TOED RUBBER BOOTS

MUTUAL AID

There is presently a mutual aid organization in operation between the Massac County Fire Department and AlliedSignal's Metropolis Works facility. A letter of agreement to participate in a mutual aid organization between the above mentioned parties is located in the Safety Office files for further review.

It would normally be expected that plant personnel would be sufficient to handle any emergency. In the event that an emergency could exceed the capabilities of the MTW Emergency Response Team, assistance and can be called upon. All outside personnel would be required to be cleared through the Communications Officer, who would be in touch with their headquarters.

OFF-SITE ASSISTANCE TO FACILITY

The Illinois Chemical Safety Act specifies off-site agency responsibilities. The Chairman of the County Commissioners has signed an agreement in accordance with this act. A current telephone list is maintained in the event other outside organizations might be needed during an emergency. The Chief Officer is responsible for contacting off-site agencies, if required.

The plant also has an emergency services agreement with Massac Memorial Hospital, approximately one mile from the plant, which provides rapid and efficient ambulance and emergency medical treatment for injured plant personnel who cannot be properly treated in the Plant Dispensary. The plant Physician is trained and aware of the potential chemical hazards and injury treatment required for chemical exposures to UF_6. Hospital emergency treatment personnel have also been trained in the standard treatment procedure to be used on plant personnel.

The Chief Officer will report a "Site Area Emergency" or test drills of a "Site Area Emergency" to the following off-site agencies as soon as possible. The Illinois Department of Nuclear Safety (IDNS) has agreed to specifc notification requirements when a "Site Area Emergency" (non-radiological) is declared. Contact to the regional office in Springfield, Illinois shall be made within four (4) hours of the declaration for such an emergency condition. The NRC Operations Center shall be notified immediately after notification has been made to the local and state agencies. A letter of the above agreement can be located in the Health Physics Office files for further review.

Agency	Phone Number
Illinois Emergency Service and Disaster Agency (ESDA) Massac County	(618) 524-2002

Agency	Phone Number
ESDA coordinator (Home)	(618) 524-2918
Radiological Duty Officer IL Dept. of Nuclear Safety (Telecopier) 1035 Outer Park Drive Springfield, IL 62704	(217) 785-0600 (217) 782-9762 (217) 785-9900 (24-hr. notification)
U.S. NRC Operations Center	(301) 816-5100 (301) 951-0550 (301) 415-0550
U.S. NRC, Region III Glen Ellyn, IL	(630) 829-9500

If conditions during a "Site Area Emergency" should exceed the plant capabilities for control, or assessment of radiological hazards, the following agencies will be notified for assistance:

Agency	Phone Number
Illinois Emergency Management Agency Springfield, IL	(217) 782-7860
Office of Radiological Assistance	(708) 972-4800
U.S. Department of Energy, Region V Chicago, IL	(Evenings, Weekends, & Holidays) (708) 972-5731

NOTE: An inventoried listing of hazardous chemicals stored on-site is presented in the following Tables 1 and 2.

Off-Site Response

In the event of a "Site Area Emergency", the Chief Officer will coordinate off-site emergency response through the Massac County 911 emergency system. The Massac County 911 emergency system may notify, based on the need expressed by the Chief Officer, the Fire Department, the Sheriff and the Massac County Illinois Emergency Service and Disaster Agency (ESDA) Coordinator.

The Massac County Fire Department will be utilized in the event an emergency exceeds MTW Emergency Response Team capabilities. The Sheriff will coordinate activities with the Illinois State Police that may be necessary as a result of a plant emergency. The ESDA Coordinator is responsible for the sounding of eight sirens, one each located at:

1. Joppa
2. Brookport
3. Mt. Mission Road
4. Franklin School
5. Massac County High School
6. Massac County Grade School
7. Woodhaven Subdivision
8. Hospital Drive

The sirens are initiated in accordance with the attached procedure and guidelines provided by and updated by the ESDA Coordinator.

Any decision to evacuate local residents will be the responsibility of the ESDA Coordinator with information supplied by the Chief Officer.

O.D. Troutman
Director, Coordinator

METROPOLIS-MASSAC COUNTY
EMERGENCY SERVICES & DISASTER AGENCY

P.O. Box 716 • Metropolis, IL 62960
(618) 524-2002

Dear Massac County Citizen:

Recently the County installed some new emergency warning sirens, one in Brookport, one in Joppa, and six in and around Metropolis. Each siren can be activated remotely and can sound three different signals. The attached sheet lists the description of each signal and the appropriate response to each signal. It is suggested that you and your family familiarize yourselves with this information.

It is also suggested that you retain the attached document for future reference, perhaps in the front of your telephone book.

If you have any questions about this matter, you should contact the emergency services and disaster agency office which is located in the basement of the County Court House.

MASSAC COUNTY SIREN SYSTEM

"ALERT SIGNAL"
A Steady Sound
For 3-5 Minutes

For general notification of the public; typically used for weather alerts, or other natural emergencies. Tune your radio to WMOK 920 AM or WREZ 105.5 FM for emergency information.

"TAKE COVER"
A Wailing Sound
Rapid Rise And Fall In
Pitch For 3-5 Minutes

For notification of a manmade emergency such as an enemy attack, a hazardous material or chemical release, etc. Find shelter as quickly as possible and tune your radio to WMOK 920 AM or WREZ 105.5 FM for emergency information.

"FIRE SIGNAL"
A Wailing Sound Slow
Rise And Fall In Pitch
For 0.5 - 2.5 Minutes

For notification of the Volunteer Fire Departments in Brookport and Joppa. Stay away from the actual emergency and out of the way of the emergency responders, unless you are a part of the agency that is responsible.

If the emergency is a hazardous material or chemical release, and you are located near the release, take the following additional actions:

1. If you are outdoors, find shelter in a building or vehicle.
2. Close all windows, doors, and vents.
3. Turn off all air conditioners, fans, and ventilators.
4. If you are in a vehicle, turn off the engine.
5. Tune in to WMOK 920 AM or WREZ 105.5 FM for information.
6. Stay indoors until you hear on the radio or other official source that the emergency situation is over.
7. If you are told to protect your breathing, cover your nose and mouth with a wet cloth.
8. If you are told to evacuate, leave as quickly as possible and follow the route prescribed.
9. If you are outdoors and can't find shelter, move away from the visible cloud so that the wind is blowing from your left to right, or right to left; but not directly into your face or from behind you. This will allow you the best opportunity to get away from the highest concentration of a hazardous material or chemical release.
10. After the emergency situation is over, open windows and air out your house or vehicle.

The Massac County Siren System is tested on the first Tuesday of each month at 10:00 A.M. The test consists of a one minute "ALERT" signal followed by one minute of silence, followed by one minute of "TAKE COVER" signal.

If your hear the siren system at a time other than that of the test time or for a period of time greater than the specified test time on the test day, take the actions indicated above.

PLEASE KEEP THIS SHEET IN THE FRONT OF YOUR PHONE BOOK

TABLE 1

LIST OF HAZARDOUS CHEMICALS*

Chemical	Typical Quantities (lbs.)	Location of Use and Storage
Ammonia	56,356	Tank Farm
Ammonium Sulfate	19,475	Sodium Removal bldg.; #3 & #4 Ponds
Ant. Pentafluoride	988	IF_5 Unit; F_2 Products Area
*Boron Trifluoride		
Calcium Fluoride	106,866,593	CaF_2, Storage Bldg.; Ponds at EPF
Calcium Hydroxide	26,550,360	Lime Silo at EPF; Ponds at CaF_2/EPF Ore Storage Bldg.
Ethylene Glycol	34,520	Process Tank in FMB; Storage Drums @ Ore Storage and Stores
Ferrous Sulfate	21,500	Ore Storage; FMB South Pad
Fluorine	34,905	Liquid Fluorine Trailers at liquid LF_2 Unit
Fluorspar	697,537	Calcium Fluoride Warehouse; Ore Storage; FMB
Fuel Oil, No. 2 *G-114 *G-502 *G-11 *G-12 *G-123 *G-134A	66,373 14,454	Tank Farm Tank Farm; FMB
*Hydrochloric acid		Wastewater Treatment Plant
Hydrofluoric Acid	122,609	Tank Farm; FMB; Fluorine Plants
Iodine	16,726	Ore Storage Bldg.; Fluorine Products Bldg.
Iodine Pentafluoride	26,736	Fluorine Products Bldg. & Storage Pad
KOH (spent & regen)	24,395	Scrubbers outside SF_6, inside SF_6, FMB, Fluorine Plts; Various Tanks outside EPF Bldg.; Tank Farm Storage
Liquid Nitrogen	45,944	Liquid Nitrogen Storage Tanks; Liquid Nitrogen Jacket on Liquid Fluorine trailer

* Less than Threshold Planning Quantities.

TABLE 1

Chemical	Typical Quantities (lbs.)	Location of Use and Storage
LPG	140,622	LPG Storage; Vehicle fueling area of 'A' Pond
Molybdenumhexafluoride	481,743	FMB; Cyl. At storage yard
Potassium Bifluoride	733,466	Fluorine Plants; Ore Storage; Various tanks at FMB South Pad; Fluorine Plant; EPF; SF_6 & Fluorine Products Scrubbers
Potassium Hydroxide	45,140	
Soda Lime	19,250	Ore Storage; Waste Storage Pad, SF_6 Bldg.
Sodium Bicarbonate	19,321	Ore Storage Bldg.
Sodium Carbonate	14,750	Outside EPF; Ore Storage Bldg.; FMB
Sulfur	26,093	Sulfur Storage Tank - outside and inside SF_6; Waste Storage Pad
Sulfur Hexafluoride	368,296	SF_6 Storage Tanks; SF_6 cylinders in Fluorine Products
Sulfuric Acid	49,107	Tank inside SF_6 bldg.; Tank outside EPF bldg.; Tank Farm

Note: Information as of February, 1998.

CODE ONE

This program is designed to provide rapid, trained assistance to personnel involved in serious injury or life threatening situations.

Under this concept, individuals involved in or observing such a situation need only activate the plant public address system, announce "CODE ONE", and give the location of the problem. An Emergency Response Team and a First Aid Responder will respond to the scene. The plant guard will be alerted to the possible need for an ambulance and the Plant Nurse and/or Dispensary personnel will stand by to assist as/if needed.

This system is to be used only in instances involving serious injury, i.e., extensive chemical exposure, fractures, unconsciousness, employee distress or collapse, etc., where it would be advisable to start treatment at the accident scene.

It must not be used to summon routine first aid that will continue to be administered in the Dispensary or Health Physics Department.

Emergency Rescue

In instances where rescue operations are required to remove injured persons from buildings or hazardous areas, such operations will be handled by the Emergency Response Team. Rescue will be accomplished using the most suitable rescue technique consistent with the immediate hazard and the patient's condition. In all emergency situations, personnel welfare will be the first consideration.

Medical Treatment Assessment

Triage is the screening and classification of sick, wounded or injured persons to determine priority needs in order to ensure the efficient use of medical manpower, equipment and facilities. Within the scope of the Emergency Response Plan, triage will be performed only by competent medical personnel trained to carry out such decisions. In the absence of the Plant Physician, the Occupational Health Nurse at MTW, will perform these duties.

I. Guidelines for Serious Injuries During Off-Shifts:

A. Call **911** and request an ambulance. Be prepared to give employee's sex, age (approximate), and condition and/or nature of injury or illness.
   1. Medical information needed for each employee may be found in the Rolodex file in the Dispensary.
   2. **DO NOT SEND CARD WITH EMPLOYEE TO HOSPITAL**, but be prepared to give hospital necessary information (i.e., any chronic health problems, allergies to medication, etc.).

B. Notify Guard to open gate. If Guard does not respond, send someone to open the gate.

C. If the injury is due to exposure to Hydrofluoric acid, the treating technician should go in the ambulance with the patient and continue the **ZEPHIRAN®** soaks while en route to the hospital.

D. ON ALL SUSPECTED HEART ATTACK PATIENTS, TAKE NO CHANCES; **CALL 911 FOR AN AMBULANCE**, HAVE PATIENT TRANSPORTED TO HOSPITAL.

E. In case of any **severe accident** where an employee was sent to the hospital and **all Hydrofluoric Acid** exposure requiring injections call:
   1. **Company Physician:** Call Company Physician (Refer to Plant Telephone List).
      a. Identify yourself from AlliedSignal.
      b. Give information regarding the injured personnel and extent of injuries that you observed.
      c. Give name of hospital where victim or victims were transported.
   2. **DO NOT CALL COMPANY PHYSICIAN IF THE INJURY IS MINOR** (i.e., sprained ankle, small lacerations requiring sutures, etc.).

F. For all hospital cases, call as soon as possible the following persons (Refer to Plant Telephone List):
   1. Occupational Health Nurse
   2. Safety/Medical Supervisor
      Safety Specialist (Alternate)
   3. Appropriate Department Manager:

G. If the employee leaves the plant wearing plant clothing, call one of the following persons:

   Health Physics Supervisor
   Supervisor of Health Physics Technicians
   Health Physics Specialist

II. Guidelines for Minor Injuries During Off-Shifts:

A. If the injury or illness is minor (whether work-related or personal), but a physician's examination is advisable or requested, employee may be transported by taxi, or if not available, in the Security Guard's pickup truck by Health Physics personnel. The employee is allowed to drive his/her personal car upon the discretion of the First Aid Responder.

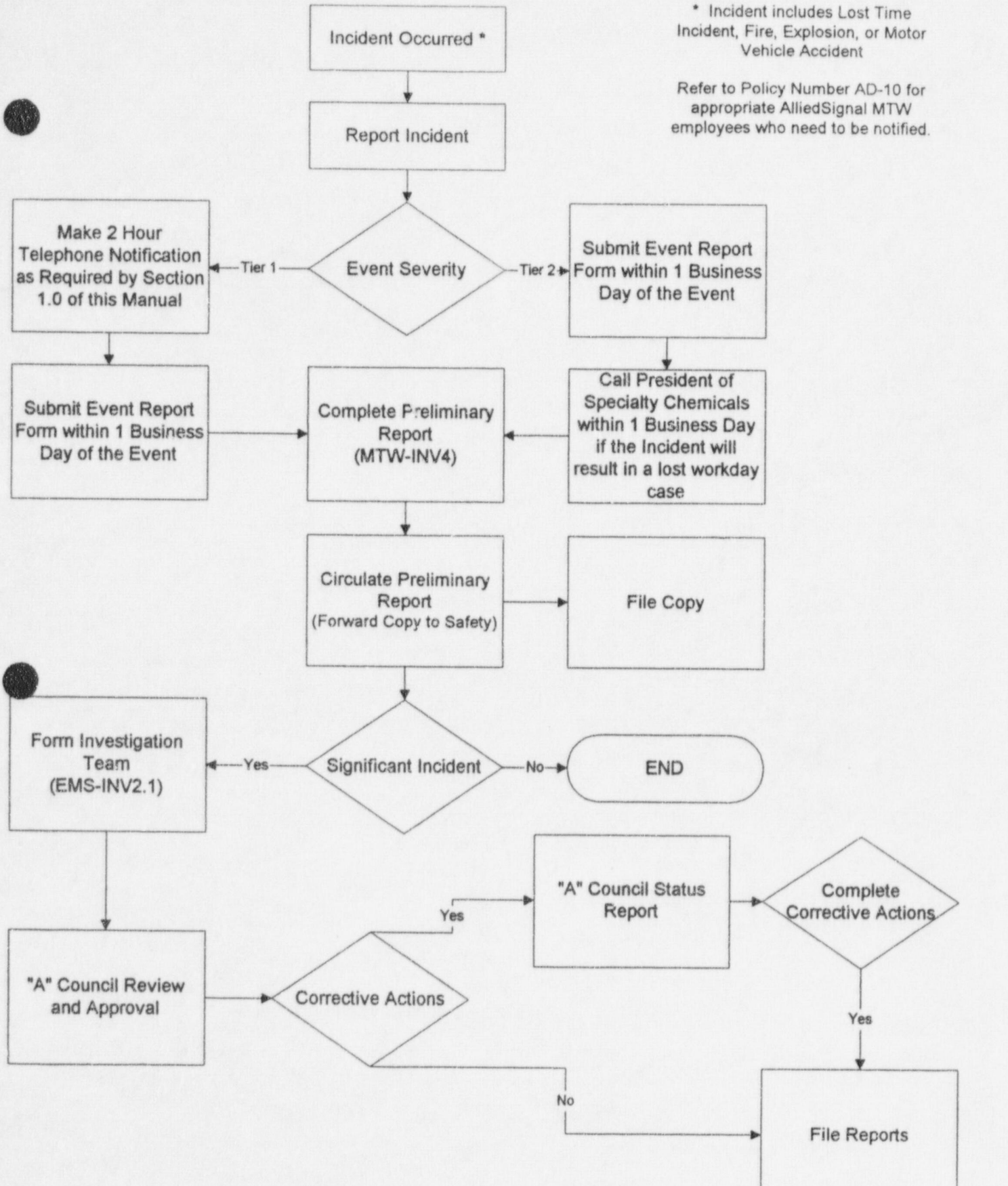
III. Guidelines on Hospitalization of Employees Directly From Metropolis Works

A. If the patient's condition is, or is suspected to be, work-related, patient should be transported to Massac Memorial Hospital and examined by the physician on call. At that point, consideration will be given to moving patient to another hospital, if requested.

B. If the patient's condition is not work-connected and the patient is conscious of actions, he/she may request to be taken directly to Western Baptist or Lourdes Hospital. This decision rests with the ambulance attendant, who will render judgment depending upon the patient's condition.

For all injuries or illnesses, work-related or personal, the incident is to be logged on the Medical Log and the employee instructed to contact the Plant Occupational Nurse, if the medical absence continues more than one (1) day.

If an incident results in an employee death or hospitalization of three (3) employees within thirty (30) days after the incident occurs, notification by the Safety Supervisor to OSHA must be perfomed within eight (8) hours after receiving the information.



* Incident includes Lost Time Incident, Fire, Explosion, or Motor Vehicle Accident

Refer to Policy Number AD-10 for appropriate AlliedSignal MTW employees who need to be notified.

	Home	Office	Mobile/Pager
T. Roy	908-852-2393	973-455-4907	
M. Corcoran	973-644-0866	973-455-6062	
B. Scanlon	732-873-9410	973-455-4009	800-616-6962
President Specialty Chemicals		973-455-4539	
OSHA **		708-891-3800	

** OSHA requires that you report an incident within 8 hours involving either death or 3 or more hospitalized employees

FIRE EMERGENCY

In the event of fire, the person discovering the fire should activate the plant public address system and announce three times, "Fire at _____", being sure to give location.

If duties permit and the fire is small, persons in the area may attempt to suppress the fire with fire extinguishers. If the fire involves chemicals or if the smoke is heavy, the area is to be evacuated immediately without attempting extinguishment.

The Plant Emergency Response Team will respond to the call. Upon arrival, the Emergency Response Team Leader will assume command of the area and all associated personnel.

Only Emergency Response Team personnel will be allowed to enter a building for fire fighting purpose. Responding Team members shall wear full turn-out gear and self-contained breathing apparatus. Turn-out gear will consist of:

Fireman's Helmet with face shield
Nomex Head Cover
Turn-out Coat
Turn-out pants
Fireman's gloves
Boots-knee length - insulated

Turn-out gear is stored in #2 and #4 hose houses and the Emergency Response Vehicle. Turn-out gear is to be used only for fire fighting purposes.

Reference:

Organization and Activation Section A ERP

EMERGENCY RESPONSE TEAM DUTIES

Duties of the Emergency Response Team will include interior and exterior fire fighting, spill and leak control, personnel rescue, and emergency control procedures where their expertise and training may be utilized.

The Emergency Response Team will consist of Shift Maintenance personnel, plus a selected group of day Maintenance personnel assigned by the Manager of Maintenance.

For the purposes of fire fighting, the initial duty assignments are as follows:

Team Leader:	Shift Foreperson
1st Man Reporting:	Nozzle Man
2nd Man Reporting:	Hydrant Man
3rd Man Reporting:	Assistant Nozzle Man
Additional Personnel:	As Assigned

NOTE: Canister Gas Masks are not suitable protection and are not to be worn as a substitute for SCBA during fire fighting activities.

The Emergency Response Team will receive a minimum of twenty-four hours formal training per calendar year.

Training will consist of both classroom and "hands-on" practical experience.

Reference:

Emergency Response Preparedness	Section J	ERP

FIRE HAZARD ANALYSIS

A Fire Hazard Analysis was completed in December of 1994 for the Metropolis Works facility. In summary the fire hazards associated with the plant operations were reviewed and deemed low in comparison to other AlliedSignal locations. The Fire Hazard Analysis report is located in the Safety Office files for review.

FIRE SUPPRESSION

Metropolis Works maintains an inventory of fire extinguishers. These extinguishers provide minor fire suppression capability for all classes of fires and are conveniently located in all plant areas. Fire suppression and prevention equipment are under the control of the Safety Supervisor.

FIRE SUPPRESSION EQUIPMENT

FIRE EXTINGUISHERS:

Carbon Dioxide:	Flammable liquids, electrical
Dry Chemical:	Flammable liquids, electrical
Met 1-X Dry Chemical:	Burning metals - magnesium
Water:	Solids, e.g., wood, paper

Carbon Dioxide: Computers - electronic gear

HOSE HOUSES:

There are six completely equipped fire hose houses at Metropolis Works. Each has a fire water hydrant either pre-connected or in close proximity.

Each hose house contains a minimum of 300' of fire hose, and accessory fittings.

In addition, hose houses numbers 2 and 4 contain complete turn out gear for six persons plus 4 self-contained breathing apparatuses. (Ref. A-17, ERP)

SPRINKLER SYSTEMS:

Several plant areas are protected by automatic sprinkler and/or deluge systems.

SHOP/STORES:

Protected by automatic "wet pipe" sprinkler system (always pressurized to sprinkler head)
Shut off/control valve located west of A & B Fluorine Plant.

FLUORINE PLANT RECTIFIERS:

Protected by automatic "dry pipe" sprinkler deluge system. (Pipe is dry until system is tripped by a heat actuated system.)

LIQUID PROPANE DELUGE:

Protected by manual dry pipe (underground) system. Deck guns, (water cannon) activated from valve at #1 hose house at northwest corner of laboratory building.

STAND PIPES:

Several buildings are also provided interior hose stations, i.e., stand pipes. These stand pipe cabinets or reels contain fifty feet of 1½" fire hose pre-connected to the fire water line.

*Administration Building
*Laboratory
Stores
Maintenance Shop
UF_6 Process

*These buildings are supplied fire water from process water line.

EMERGENCY PHONE SERVICE

In an emergency situation, including power outage, the following phones will be in service:

Plant Location	Extension	Emergency No.*
Feed Materials Building	6233	524-2114
Guard Office	6202	524-2111
Guard Office	6203	524-2112
Laboratory	6299	524-2115
Maintenance Office	6207	524-2116
Production Office	6219	524-2117
Manager - Regulatory Affairs office	6400 or	502-442-1968
Plant Manager's office	6402 or	502-443-3677
Cylinder Wash Building, Phone Booth (Outside Distillation), Ore Storage Building	6383	524-2113
	6280	502-442-9402

*** During a power outage the above listed emergency phones will remain in normal use from the plant's UPS system for a period of 8-12 hours. After that time the emergency number listed in the far right-hand column is to be used to reach those locations within the plant or for outside calls. Use of these phones will be closely monitored and is reserved for emergencies only.**

Regular Plant Phones

All of the regular phones (other than the above listed emergency phones) are supplied only with power from the plant's UPS system (batteries) during a commercial power outage. This system will last for approximately 8-12 hours under the current emergency load.

Other Telephones

In addition to the above listed telephones, there are several cellular phones that can be used during a power failure if necessary.

RADIO COMMUNICATIONS

Metropolis Works is equipped with two-way hand-held radios, two cradle phone-type radios, a base station which is located in the Guard Office and a Mobile Unit in the Guard vehicle. These radios operate on the following two assigned FCC frequencies:

464.4750	Designated F1
464.8250	Designated F2

Depending on the crystals installed, these radios are capable of transmitting and receiving on one, two or three frequencies.

It is the frequency designation and not the channel capability that determines how the unit may be used.

SINGLE FREQUENCY units transmit and receive on frequency 464.4750 regardless of where the channel selector is set. They cannot transmit or receive any other frequency. This frequency is for general plant traffic.

DUAL FREQUENCY units transmit and receive on frequencies 464.4750 (Channel 1) and 464.8250 (Channel 2) selectively.

Frequency 464.8250 (Channel 2) is for Emergency Response and Emergency Maintenance traffic only.

MULTIPLE FREQUENCY units transmit and receive on frequencies 464.4750 (Channel 1), 464.8250 (Channel 2) selectively.

911 is for contact with the Metropolis Police Department, Ambulance and Massac Memorial Hospital only.

METROPOLIS WORKS
RADIO CHECK

		CHANNEL		
NO.	ASSIGNED TO	1	2	REMARKS
82	B. Lessig	*		
80	M. L. Shepherd	*	*	
27	A. Del Priore	*		
84	G. Timmons	*		
P-45	B. A. Vandermeulen	*		
23	W. W. Gholson	*		
P-46	G. R. Hester	*		
85	P. G. Gasperini	*	*	
92	C. L. Blanden (CR)	*		
30	R. Allshouse (CR)	*		
28	J. E. Pratte, Jr.	*	*	
26	C. W. Wilkins	*		
29	L. G. Bruce	*		
24	C. Flannery (ERT)	*	*	
81	C. L. Blanden	*	*	
25	E. M. Miller	*		
91	B. Hensley	*		
87	GF_2 Shift Supervisor	*		
86	C. Flannery	*	*	
101	K. Keene	*	*	
Base	Guard	*		
Mobile	Guard	*		
83	C. Flannery (ERT)	*	*	
93	M. Davis	*	*	
95	Plant Nurse	*	*	
100	H. C. Roberts	*	*	

*Indicates Channel Capability

METROPOLIS WORKS

DISASTER CONTROL PLAN FOR

BOMB THREATS, RIOTS

AND

CIVIL DISTURBANCES

ALLIEDSIGNAL INC. PROCEDURES

SUBJECT: Emergency Response Plan
Bomb Threats, Riots and Civil Disturbances

PURPOSE: To supplement established Emergency Response Plans and Procedures in effect at Company locations to cover Bomb Threats, Riots and Civil Disturbances.

RESPONSIBILITIES:

A. Corporate Safety and Loss Prevention: Develop and provide functional management of Emergency Response Plans including procedures for contending with bomb threats, riots and civil disturbances at Company locations.

B. Division Management: Implement and direct appropriate action to be taken by local personnel.

C. Location Management: Maintain an Emergency Response Plan and comply with bomb threat, riots and civil disorder defense procedures as outlined.

PROCEDURE - BOMB THREATS:

Bomb threats may be received at an Allied location by telephone, mail, or in person. Company personnel likely to receive such threats should be informed of their responsibility to report any bomb threat immediately to designated location or divisional management. Personnel that may receive such threats are:

- Plant Guards
- Mail Room
- Supervisors or Managers

If a bomb threat is received by telephone, the following action should be taken:

1. Obtain as much information as possible from the caller as outlined in the attached Bomb Threat Checklist. Note the time of the call, the exact wording of the message and the time the bomb is supposed to explode.
2. Immediately notify the designated company official and relay the message.
3. Do not discuss with others unless advised to do so.
4. The official receiving the notification of a bomb threat should contact the key personnel designated in the location's Emergency Response Plan.

The action to be taken will be decided by the location executive or designated official. Proper evaluation of the threat depends on the circumstances surrounding each threat. The main objective is to protect company personnel. The secondary objective is to prevent or minimize damage to company property.

The local Police should be notified immediately advising them of the bomb threat received. Any request for a Bomb Squad to report to the scene should be made by the Police Department.

DECISION TO EVACUATE OR SEARCH:

A. Evacuation

Minimizing the possible consequences of a bomb threat can result in serious injuries to personnel. Therefore, in event any such threat is received, the first consideration must be given to the need for evacuation of an area, part of plant or entire plant. It may be prudent to promptly evacuate any unneeded personnel from the threat area.

If threat is to an operating area, shutdown procedures should be started immediately.

The location executive must decide on the extent of the evacuation.

If evacuation is determined necessary, then the following steps should be taken:
If during working hours,

1. The Plant Emergency Response Team should report to the scene.
2. Line managers and all supervision in the area affected will be notified to evacuate all personnel in their areas and affect emergency shutdown procedures. The Emergency Response Team will quickly search the area affected to insure that all employees are out of the area.
3. Employees evacuated will be instructed to stand by to be ready to return to work when notified. Employees normally will not be sent home.
4. If feasible, a search of the area for a bomb will be conducted. If a search is negative and with the lapse of sufficient time, employees may be instructed to return to their work areas.

If during off hours:

1. The Emergency Response Officers named in the Emergency Response Plan (Page A-6) will be notified and report to the scene.

B. Search

If management and the Police have reason to believe the threat is valid and that sufficient time remains before the bomb is scheduled to explode, an area search should be made. The extent of the search will vary based on the evaluation of the threat. In searching a plant, supervisory personnel are required to assist Police because they are familiar with the physical layout of the location, can provide access to locked areas, know vital operating equipment, and can identify objects foreign to the premises.

Limited search might include:

1. An initial search of the more public area at the location; i.e., restrooms, corridors, stairwells, unlocked rooms off corridors such as pipe shafts, etc.
2. A thorough search of key and critical areas such as boiler house, electrical substations, water supplies, computer rooms, telephone switching rooms.
3. A more detailed search of a specific area or location in the plant if indicated by the threat.
4. To prevent exaggerated rumors, employees in the immediate area should be kept informed by their supervisor and if a search is ordered, the immediate area should be evacuated.

In searching for an explosive device, be alert to such things as:

- A lunch box in an unexpected area.
- A piece of pipe closed at ends.
- A ticking sound.
- An object with wires.
- An object that is out of place in surroundings such as a package.
- Items in storage closets or lockers used by cleaning personnel.
- In mail room or delivery areas look for:
- A crudely lettered package.
- A package wrapped in an unusual manner.

If something suspected to be a bomb is found, do not touch the object. Do not put it in water. Leave it strictly alone for the experts to handle.

C. Discovery of a Bomb

In the event a bomb or incendiary device is discovered:

1. Evacuate the Area - All personnel should be evacuated from the area including those in the adjacent buildings.
   Do not attempt to disarm or to move the device.
2. Request the local Police Department to secure the services of a Bomb Squad.
3. Block the area where the bomb was discovered and permit no one to go in the area except plant officials, police or Bomb Squad members.
4. Telephone the local Fire Department and any available ambulance services and request them to stand by.
5. Notify the nearest office of the Federal Bureau of Investigation.

Complete details of any bomb threat should be reported to appropriate Division Management and Corporate Safety and Loss Prevention.

PROCEDURE - RIOTS AND CIVIL DISTURBANCES:

Riots and civil disturbances involving our Company could occur at any time. We cannot foretell what location may be affected by an area riot or become the target for demonstrations, violence or harassment by dissident groups.

Security measures to be taken should be preliminary planning and procedures during disturbances. Primary consideration must be given to the protection of our employees and property. The key is to have a procedure that can be put into effect quickly and efficiently.

Preliminary Planning

A. Plans should be made for safe guarding of records at the location that are not already covered under previously established disaster control plans which would disrupt operations if destroyed. Important records should be duplicated and stored remotely from the location.

B. A survey should be made of critical equipment which would seriously curtail the ability of the plant to resume or maintain production if damaged. Electrical substations, transformers and vital instruments for process equipment would be in this category.

C. A survey should be made of plant equipment that could be for used for the destruction of other equipment (i.e., bull- dozers, cranes) and plans made to minimize seizure of such equipment for that purpose.

D. Plans for evacuation of employees, calling in of personnel or keeping them at the location should be considered in terms of the best forecast of what might be expected and the probably time of day or night.

E. The most common device used in civil disturbances if the Molotov Cocktail. This is usually a bottle of gasoline with a burning wick which ignites the gasoline when the bottle is broken. Flat building roofs are often targets for these incendiary devices. The best protection is to have charged dry chemical fire extinguishers on hand. Filling roofs which can hold water safely with a couple of inches of water is a protective method. Otherwise, hose lines ready on the roofs or nearby backed up with dry chemical extinguishers are good defenses.

F. Good housekeeping is essential in minimizing damage. Trash is not only a source of ignitable materials, but can be used as weapons to break into buildings and to damage equipment. Where materials such as pipe and lumber must be stored outside, the storage area should be as remote as practical from operating and work areas.

G. If the location has security guards, the decision should be made as to whether tney should be armed. The primary objective should be peaceful protection of property without resort to arms. Armed guards may provoke a more serious situation than the one existing.

H. Protective lighting is one of the best measures available. Most riot and fire bomb damage occurs after dark, and nothing discourages hit and run types like full coverage, glare lighting. You may be able to reposition existing lighting for this purpose. consider stand by lights and power supply to provide additional emergency protection for the location. Several other points on lighting to consider:

1. Continuous lighting may not be needed in remote areas, but plans for directing light into these areas from existing or portable units should be reviewed.
2. Movable lighting, such as manually operated search lights which may be available in an emergency from local police, fire or guard armories could prove a valuable addition to emergency equipment. Whether operated continuously or lighted during hours of darkness, such systems would normally supplement conventional lighting.
3. continuous lighting of plant entrances where such entrances are under guard surveillance is important, except where intrusion detection devices can be considered adequate substitutes. Continuous lighting should be provided also for ground floors and parking lots.
4. Lights vulnerable to thrown objects should be protected by screening.

I. Where windows face on streets, the need for protection such as removable plywood covers which can be put on if necessary in a few moments should be considered. Where windows or doors are in vulnerable entry positions, steps to protect them should be planned.

J. The need for emergency equipment such as bull horns for communication should be considered.

K. Adequate plant fencing should be a requirement. Where invasion of premises can be limited, it is easier to control damage from thrown objects such as Molotov Cocktails.

PROCEDURE - DURING RIOTS OR DISTURBANCES:

A. Be prepared to initiate the emergency plan quickly.

B. Limit activities within the plant or premises to safeguard personnel, buildings and equipment. Discontinue activities that could result in exposure of personnel such as working in open structures, or going to or from isolated parts of the plant such as pump houses. Avoid confrontations with protesters.

C. Have communication lines ready for contact with Police and other law enforcement agencies.

D. Let law enforcement agencies handle out-of-hand situations.

E. Peaceful picketing should present no problems. confrontations should be avoided

BOMB THREAT CHECK LIST

Bomb Threat Information Received:

Date: _____ Time: _____

Place: _____

If by phone:

Internal Extension: _____
Other: _____

EXACT MESSAGE RECEIVED: _____
_____

IF BOMB OR EXPLOSIVE:
Where: _____
Type of Explosive: _____
When - Time: _____
Why: _____

WHO THE CALLER IS:
Name (if given): _____ Male ___ Female ___
Voice - Pitch of Voice: Low ___ Moderate ___ High ___
Estimate of Age: _____
Speech Characteristics: Stuttering _____
Unusual Accent _____
Peculiar Grammar _____
Other _____

WHERE HE IS:
Background and Level of Noise: _____

OTHER HELPFUL INFORMATION:
If the caller hasn't given his name, ask for it; sometimes it is blurted out unintentionally. This should be done as a final attempt for more information since it could also have the effect of abruptly ending the conversation.

_____ _____
_____

ACTION TAKEN (Who was notified, etc.): _____
_____

_____
(Name)

STANDBY POWER ACTION PLAN

	Action	Responsibility
1.	Determine that the power failure is of sufficient duration to switch to standby power.	Shift Supervisor Shift Foreman
1.01	Go to main switch house and determine if problem is with CIPS or MTW switch gear.	Shift Electrician or Shift Maint. Foreman
1.02	Check volt meters on all three mains. If no voltage, problem is with CIPS.	Shift Electrician or Shift Maint. Foreman
2.	Notify Guard and Laboratory personnel to proceed with standby power action plan. Use radio or make direct contact if telephones are not operative.	Shift Supervisor
2.01	In Administration Building north boiler room. Power Panel 5 - Leave main switch and circuits 1, 2 Computer UpS Power Pack, 6, 9 and 10 ON; all others OFF. Lighting Panel (Adm) Circuit No. 5L1 - Leave Circuit 3 to lighting panel ON. Turn Circuits 1, 2 and 4 OFF. Lighting Panel (Adm) circuit No. 5L1-1 - turn OFF Circuits 12, 13, 15, 17, 18, 19, 24, 25, 28 and 30. Leave all others ON. Turn parking lot and street light control selector switches to OFF. NOTE: The motorized gates can be opened manually during a power outage. There is an emergency operator release on each motorized gate. This release looks like a locking tab for the housing over the motorized drive unit. By depressing the tab, the clutch is disengaged and the gate can be manually opened.	Guard

STANDBY POWER ACTION PLAN

	Action	Responsibility
2	In the Administration Building south boiler room, open "Main Switch SWBD 5A". This shuts off power to the medical facilities. Then throw the power transfer switch to "Down, Standby" position. This disconnects normal feeder BF-1 and connects standby feeder BF-4 to the Administration Building.	Guard
2.03	In the Laboratory Building boiler room, open the main breaker to "Power Panel #1" located on the north wall immediately to the right of the door from the main hallway. This will shut off all power to the Laboratory.	Laboratory Personnel
	NOTE: Limited power can be restored to the Administration Building and to the Laboratory by Lab personnel and Guard after the standby generator and power house operation have been stabilized. The standby feeder from the power house to Substation B is rated at 100 amperes maximum and the total load between the Administration Building should not exceed that maximum. An ammeter located on the top section of the power transfer switch in the south boiler room in the Administration Building and an ammeter located on the main panel in the Laboratory boiler room are for use in adjusting the load.	
3.	Assure that the nitrogen is valved properly to maintain the instrument air, inert gas, and fluidizing air systems.	pH Operator
3.01	All consumption to be minimized. Start cooling down all fluidized beds.	Shift Foremen

STANDBY POWER ACTION PLAN

	Action	Responsibility
4.	The standby generator starts automatically when power to SWBD (A) is interrupted (west panel, power house mezzanine). Check that diesel is operating properly and that adequate fuel is available. Adjust AC volts to 480V. NOTE: The oil pressure gauge on the generator panel indicates plus 80 psig and the oil pressure gauge on the west side of diesel engine indicates plus 100 psig when operating. NOTE 2: Transfer of auxiliaries to standby power is done with a manual selector switch at the upper right hand corner of the transfer switch cabinet located at the north end of the west electrical panel on the power house mezzanine, as described in paragraph 7 of this plan.	pH Operator Shift Electrician to be summoned as required
5.	Manually shut off all three boilers, all four boiler feed pumps, and all five chemical feed pumps. Leave off until a water supply from the sanitary water well can be established.	pH Operator
6.	Close off the 3" valve at the main process water inlet header to the power house which normally supplies water to the water softeners. Open the two block valves at the backflow preventer overhead just north of #8 water softener. This valves sanitary water directly to the inlet of the ee large water softeners to supply the boilers. NOTE: If any of the three large water softeners or the two dealkalization units are in the process of regenerating, valve the individual unit that is regenerating off at the inlet water supply. This is done because there is insufficient water supply for regenerating the resin beds.	pH Operator

STANDBY POWER ACTION PLAN

	Action	Responsibility
7.	Turn the power transfer selector switch in the upper right hand corner of the transfer switch cabinet (north end of west electrical panel, power house mezzanine) to "Standby Power" which will transfer power house auxiliaries #1, #2 and #3 boilers to standby power. NOTE: This selector switch will not operate the transfer switch unless there has been an interruption of power to SWBD (A)2. This is to prevent an unintentional transfer during normal operation.	pH Operator Shift Electrician to be summoned as required
8.	On the west electrical panel, power house mezzanine, close the "Standby Feeder to Substation B". An ammeter for this feeder is located on the east side of #1 boiler control cubicle - do not exceed 100 amperes (100%) on this feeder for an extended period of time.	pH Operator Shift Electrician to be summoned as required
9.	Check that the following circuits are ON in the "Standby Power Panel, 240/120 Volt". Reset if necessary. Circuit 2 sometimes kicks out if all five chemical feed pumps try to start at once. Circuit 1 - Fire Pump Start Alarm Circuit 2 - #1 Boiler Instrument Panel and Boiler Chemical Feed Pumps Circuit 3 - #1 Oxygen Analyzer Circuit 4 - #2 Oxygen Analyzer Circuit 8 - Water Softeners Circuit 11 - #2 Boiler Instrument Panel Circuit 12 -Standby lights Circuit 15 - Liquid Nitrogen Unit	pH Operator Shift Electrician to be summoned as required

STANDBY POWER ACTION PLAN

	Action	Responsibility
10.	At Substation B, open BF-3 and close BF-4 (key interlocked).	pH Operator Shift Electrician to be summoned as required
	10.1 Notify Guard that standby power has been established to the Administration Building.	
	10.2 Check that the sanitary well has restarted (has a maintain switch). If the well does not restart automatically, try to start one time. contact power house operator if any problem is encountered. (Standby power supply is through BF-4 and the standby power transfer switch in the south boiler room of the Administration Building.)	Guard
11.	Check the sanitary water pressure in the power house to see that a water supply has been established. If a delay is encountered, coordinate with the Shift Foreman, and the Guard to resolve the problem.	pH Operator
12.	Check the LN_2 storage tank level and pressure.	pH Operator Shift Foreman
13.	With a water supply established, start up #1, #2, or #3 boiler feed pump. (#4 BFP is not on standby power.)	pH Operator
14.	Start up #1, #2, or #3 boiler on manual and bring up slowly so water level can be maintained. (#3 boiler, Circuit 2P21 has been added to standby power.)	pH Operator Shift Instrument to be summoned as required
15.	When one boiler operation has been sufficiently established, bring up a second boiler and then a third boiler if needed.	pH Operator Shift Instrument to be summoned as required
16.	Start up a second boiler feed pump if needed.	pH Operator
17.	Start up chemical feed pumps as needed.	pH Operator
18.	When the power house and standby generator operation have been stabilized, establish	Laboratory Personnel Guard

STANDBY POWER ACTION PLAN

	Action	Responsibility
	standby power to critical areas and equipment. (Standby generator capacity is 450 amps, feeder capacity to Substation B is 100 amperes.)	Shift Electrician to be summoned as required
18.1	Medical facility - Turn off the two air conditioning unit disconnect switches, leaving ON only the light panel. Open all breakers on panel 5A in the south boiler room in the Administration Building except 5A-11 which is the feeder to the medical facility. Then close "Main Switch, SWBD5".	Laboratory Personnel
18.2	Administration Building - In the north boiler room, restore lights and heating selectively. All air conditioning units must remain down.	Guard
18.3	Laboratory - Restore lights and heating selectively. Air conditioning units and hood blower must remain down. A "Normal" full load to the Laboratory is aopproximately 170 to 180 amperes. (Too high for standby power system.)	Laboratory Personnel
	NOTE: Total electrical load to the Administration Building and the Laboratory cannot exceed 100 amperes.	
	Ammeters located at the power transfer switch in the south boiler room in the Administration Building and on the main electrical panel in the Laboratory boiler room can be used to adjust the load.	
19.	Maintain a check on diesel fuel consumption and liquid nitrogen supply. Arrange for replenishment as needed.	pH Operator Shift Foreman

STANDBY POWER ACTION PLAN

	Action	Responsibility
NORMAL POWER RESTORED		
20.	When normal power is restored to the plant, keep the boilers and the boiler feed pumps on standby power while proceeding with the following steps:	
20.1	Start up process water wells, first #2 then others as needed. Isolate sanitary well water. Return water softeners to normal supply - open 3" valve at main water header and close the two block valves from the sanitary water line at the backflow preventer.	pH Operator
20.2	Start up air compressors.	pH Operator
20.3	Start up an inert gas generator.	pH Operator
20.4	At Substation B, open BF-4 and close BF-3 (key interlocked) to restore normal power to the Laboratory. Check that BF-1 is closed - normal power supply to the Administration Building.	pH Operator Shift Electrician to be summoned as required
20.5	Return the power transfer switch in the south boiler room at the Administration Building to normal. close all breakers on SWBD5 and return all breakers on the electrical panels in the north boiler room to normal. Check that the sanitary water well restarts.	Guard Shift Electrician to be summoned as required
20.6	Return the Laboratory electrical panels to normal. Start up equipment as needed.	Lab Personnel Shift Electrician to be summoned as required
20.7	Check disposition of feeder 2F2 and BF4. Return any equipment being operated on standby power through these feeders to normal power.	Power House Operator Shift Electrician to be summoned as required

STANDBY POWER ACTION PLAN

	Action	Responsibility
21.	With other power house equipment operating, back the load off of the boilers, which are still on standby power, and proceed as follows:	pH Operator Shift Electrician and Shift Instrument to be summoned as required
21.1	Turn the power transfer selector switch to "Normal Power" position. The standby diesel generator will continue to run and can be shut down at the operator's discretion by pushing the "Diesel Stop" button.	
21.2	The power transfer switch operates so quickly that normally the equipment operating on standby power will not be affected. Check equipment and restart as necessary (#1, #2 and #3 boilers, boiler feed pumps, and chemical feed pumps).	
21.3	Check all circuits in the "Standby Power Panel, 240/120 Volt". Reset as necessary.	
21.4	Open the standby feeder to Substation B.	
22.	Notify production units when power house operation has stabilized so that operation of those units can resume.	Shift Supervisor Shift Foremen
23.	Check standby generator fuel supply and liquid nitrogen inventory and make arrangements to replenish as necessary.	pH Operator Shift Foreman
24.	Review events of the power outage and forward any pertinent comments and/or information to the appropriate Supervisor.	All Personnel
25.	Additional power-related information.	
25.1	The fluidizing air compressor and #2 plant air compressor operate from MCC-51, which is fed from Substation 1	

STANDBY POWER ACTION PLAN

Action	Responsibility

and are not affected by Substation A outages. These two compressors represent approximately 50% of our total compressed air capacity. Conversely, an outage of Substation 1 will reduce compressed air capacity even though Substation A remains in service and the power house remains on normal power.

25.2 The standby generator can be operated to supply standby power to the Laboratory and the Administration Building without the power house being on standby power. The Laboratory can go on standby power without affecting normal power to the Administration Building. The Administration Building cannot go on standby power without affecting normal power supply to the Laboratory.

25.3 Feeder 2F2 comes off the standby feeder on the power house mezzanine and can be used to provide standby power to the Feed Materials Building. There are two double-throw transfer switches in the UF_6 control room production office storage room.

22P1 - Ash Dust Collector Blower

(10 MCC)

10P6-3A	-Alkaline pump P-411
10P18-A-1	-F_2nation exit vacuum pump P-481
10P19	-control positive pressure blower P-640
10P21	-`A' F_2nator coke box blower P-435

STANDBY POWER ACTION PLAN

	Action	Responsibility
	10P26 -Standby control room lighting and power	
25.4	Feeder 2F4 off of the standby feeder on the power house mezzanine can provide standby power to the north fuel oil pump at the Tank Farm (18P7). A double-throw transfer switch is located behind panel 18 at the Tank Farm.	
25.5	Circuit 2F11, west panel (AF2), power house mezzanine, is the power supply for the Fire and Disaster Siren. Control power is supplied by a starter control transformer on Circuit 2P11. The siren can be activated as follows:	
	25.5.1 - UF_6 Control Room fluorination panel - one test button that will activate the siren only as long as it is held in. At the same location - a push button that activates a 60-second timing circuit after release of the push button.	
	25.5.2 - One timing push button on the south end of the south gaseous fluorine plant control panel.	
	25.5.3 - One timing push button in the power house on the wall between the office door and the rest room door.	
	(See MTW Drawing 0199 for disaster siren wiring details.)	
	(See MTW Drawing 0903 for elec. standby power single line.)	

Metropolis Works

POWER PANEL LOCATION

PANEL NO.	LOCATION	SUBSTATION	FEEDER NO.
1	Powerhouse (East Panel)	A	AF1
2	Powerhouse (West Panel)	A	AF2
3	Scale House (By Sampling Plant)	E	EF4A
4	Laboratory Building	B	BF3
4A	Laboratory	B	BF3
4B	Tech Department (Closet)	B	BF3
5	Administration Building	B	BF1
5A	Administration Building (South End)	B	BF1
6	Old Shop Area	H	HF 4
6A	Shop & Stores (In Stores)	H	HF 4 A
7	South Fluorine Plant (West end)	B	BF 5-29
7A	South Fluorine Plant (East end)	B	BF 5-29
8	Feed Material Building (1st floor north)	C	CF3
9	Feed Material Building (1st floor east)	F	FF1
10	Feed Material Building (1st floor east)	F	FF2
10A	Feed Material Building (1st floor east)	F	FF2
11	South Fluorine Plant (East end)	D	DF1
12	Feed Material Building (2nd floor)	C	CF2
13	Feed Material Building (3rd floor)	F	FF4
13A	Feed Material Building (3rd floor)	F	FF 4 A
14	Feed Material Building (Basement northwest)	E	EF1
15	Feed Material Building (Basement northwest)	E	EF2
16	Feed Material Building (Basement south corner)	E	EF3
17	Sewage Disposal Pumphouse	A	AF1
18	Tank Farm	F	FF2 (10 F1)
18A	Pond Muds Calciner	F	FF2 B
19	Feed Material Building (4th floor, north corner)	C	CF4
20	Feed Material Building (4th floor, north corner)	D	DF2
21	Feed Material Building (5th floor, north corner)	D	DF3
22	Feed Material Building (6th floor, north corner)	D	DF4
23	Feed Material Building (6th floor southeast)	F	FF3
24	Feed Material Building (2nd floor north corner)	C	CF1
25	Feed Material Building (Basement northwest G-114)	G	GF1
26	Future		
27	Sodium Removal (2nd floor, Cont. Room)	E	EF 5
28	Future		
29	South Fluorine Plant (Southwest)	B	BF 5
30	SF 6 Compressor Room (Northwest)	H	HF 3
31	"U" Recovery (1st floor north under control room)	E	EF 5
31A	"U" Recovery (Soda Ash Room)	E	EF 5
32	SF6 Building (2nd floor)	I	IF 3
33	IF5 AND SbF5	H	HF 3
34	AB Fluorine Plant (Northeast South Fluorine)	G	GF 2
35	Cylinder Wash Building (North Wall)	F	18F 1
36	Feed Material Building (Basement South corner)	G	GF 3
37	Ore Sampling Plant & #3 Well	E	EF 4
37A	Ore Sampling Plant (West)	E	EF 4
38	Ore Calciner (Drum Dumper Building)	C	CF 3 A

Metropolis Works

POWER PANEL LOCATION

39	Feed Material Building (5th floor Northwest)	D	DF 5
40	Feed Material Building (2nd floor Northwest)	C	CF 5
41	Powerhouse (2nd Floor Center South wall)	A	AF 5
42	LPG Facility & #1 Well	B	BF 2
43	EPF Facility (2nd floor)	H	HF 1
44	D & E Fluorine Plant (2nd floor)	G	GF 5
45	Dealkalization Building (South of Powerhouse)	H	HF 3 B
46	KOH Building (1st Floor Southeast)	E	EF 5
47	Drum Crusher	I	IF 2
48	Calcium Fluoride Recovery	H	HF 5
49	CFX	I	IF 3
50	Sandblasting Area	F	(35P9-FF2)
51	Powerhouse (2nd floor south corner)	I	IF 5
	*#2 Deep Well Pump (Starter located on side of Sub H)		HF 2
	*Large S&W Dissociator (Starter located in basement by "B" elevator) 33 OKW		GF 4
	*Number 3 Plant Air Compressor	A	AF 4
	*Fire Pump & Jockey Pump	A	AF 3
52	North F2 Plant (2nd floor)	J	JF-1

ALLIEDSIGNAL INC.

METROPOLIS WORKS

EMERGENCY SHUT DOWN PROCEDURES

SERVICE AND PROCESS LINES

Service and process lines to different buildings and areas in the plant sometimes have to be sent off for maintenance and operational reasons. There is also the possibility of having to shut off these lines in case of an emergency or disaster situation.

Because of the infrequency of the need for such action, personnel are not usually familiar with process and service lines other than those involved in the immediate operation or area. Having to trace back lines, often through a myriad of other piping and insulation, can be costly and frustrating, and in an emergency contribute to more serious personnel injuries and more extensive equipment damage.

These information sheets have been prepared to enable all personnel to refresh their minds and enhance their knowledge of process and service lines. The plant has been broken down into the following areas:

- Administration Building
- Fluorine Plant
- Feed Materials Building
- Fluorine Products Bldg. (SF_6)
- Tank Farm
- Uranium Process
- Cylinder Wash Building
- Pond Muds Calciner
- Calcium Fluoride
- KOH Recovery
- Laboratory Building
- Shop and Stores Building
- Power House
- Liquid Fluorine Area
- Sodium Removal
- Calciner and Drum Dumping
- Wastewater Treatment Plt.
- Sampling Plant
- Carbon Fluoride

The following process and service lines are covered:

- Fire Water
- Steam
- Fuel Gas
- Instrument Air
- Nitrogen
- Sodium Hydroxide
- Sulfur
- Sanitary Water
- Electric Power
- Inert Gas
- Hydrofluoric Acid
- Ammonia
- Fluorine
- Vacuum
- Process Water
- Fuel Oil
- Plant Air
- Sulfuric Acid
- Softened Water
- Potassium Hydroxide

LABORATORY BUILDING

Process Water - Color Code - Solid light gray - block valve located in northeast corner of boiler room. A shut off valve marked by four yellow posts is located just east of the railroad track west of #3 process well; also shuts off water to Administration Building firewater standpipes.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve located in southwest corner of boiler room. No other valve between there and sanitary water well.

Natural Gas - Color Code - high-visibility yellow/fire protection red (strip) - block valve plug cock located in southwest corner of boiler room. No other valve between there and LPG facility.

Fire Water - Color Code - red - fire water supplied from process water main.

Electric Power - Building main breaker, power panel #1, located on north wall of boiler room. Supplied from Feeder BF-3 (or emergency breaker) in Substation B.
Instrument Compressed Air - Color code - black/fire protection red (stripe) - block valve located overhead just east of sink in boiler room. Next cut off block valve on north wall and in A and B Fluorine plant.
No other service or process lines to Laboratory building.

SHOP AND STORES BUILDING

Process Water - Color Code - solid light gray - No process water into this building.

Sanitary Water - Color Code - light gray/custom white/(stripe) - block valve located in room, vestibule, northeast corner. No other shutoff valve between there and sanitary well.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) - block valve (plug cock) located in vestibule room, east wall. No other shutoff valve between there and LPG facility.

Fire Water - Color Code - fire protection red - block valve located in vestibule room, east wall. Post indicated valve located due east across road.

Electric Power - Building main breaker and electrical panel located on north wall of shop area. Supplied from Feeder HF-4 Substation H.

Plant Compressed Air - color code - black/custom white (stripe) - block valve located in new shop, southeast wall. Next block valve just south of fire water tank.

No other service or process lines to this building.

POWER HOUSE

Process Water - color code - solid light gray - block valve inside north wall by water testing cabinet. No other shut off between there and process water wells. Water to inert gas generator overhead at this point.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve inside north wall in corner under stairs to deaerator platform. No other shutoff between there and sanitary well. Note: Sanitary water and process water can be tied together at manifold where process water line enters Power House.

Fuel Gas - Color Code - high-visibility yellow/fire protection red (stripe) - block valve (plug cock) inside north wall by boiler feed water pressure controller. Block valve to inert gas generators overhead at number 3 boiler feed pump. Block valve to feeds building inside north wall by boiler feed water pressure controller.

Fire Water - Color Code - fire protection red - enters Power House in fire pump room. Can be valved into water softeners for boiler feed water if necessary. Check valve in fire pump room lets process water into fire water system if pressure drops below that of the process water header.

Fuel Oil - Color Code - rust (Epoxy) - enters Power House over office. Block valve at oil pressure regulator at north wall by water testing cabinet.

Nitrogen - color Code - solid black - block valves located above Power House office just east of water heater. Nitrogen system will supplement inert gas, fluidizing air, or instrument air in case of low pressure. In emergency, nitrogen system must be supplied with emergency power and steam.

Electric Power - Substation A - AF1 feeds east panel, AF2 feeds the west panel, and AF3 goes to the fire pump. AF4 feeds LF_2, LN_2, SF_6 and IF_5 by way of disconnect switch on east panel; AF5 feeds panel 41, which is the power supply for #3 inert gas generator and auxiliaries.

FLUORINE PLANT

Process Water - Color Code - solid light gray - block valves to north and south plants located in southwest corner of "blower" room just south of south plant Control Room. No shutoff between there and number 1 and number 3 process water wells.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve located in southwest corner of "blower" room south of south plant Control Room. No valve between there and sanitary water well.

Fuel Gas - Color Code - high-visibility yellow/fire protection red (stripe) - no natural gas to either fluorine plant. Line through floor in "blower room" comes off old gas header to FM which has been removed from service.

Fire Water - Block valves located in southeast corner of "G" rectifier room supplies water to the "G" plant main rectifier transformer and the north plant A and B rectiformers. Post indicator valve located outside due east by substation D supplies the above system. Block valve inside D and E area at southeast corner supplies D and E rectifier transformers. Post indicator valve for this system is due east or southeast corner across walk, northwest of calcining facility.

Electric Power - Panel B-7 in south plant conditioning rectifier room is supplied by Feeder BF5 in Substation B. Panel DF1 in "G" rectifier room is supplied from Feeder DF1 in Substation D. Panel G-34 (A and B plant auxiliary equipment) is also located in "G" rectifier room and is supplied from Feeder GF2 in Substation G. Panel Go-44 (D and E plant auxiliary equipment) is located in second floor control room north plant and is supplied from Feeder GF5.

Plant Compressed Air - Color Code - black/custom white (stripe) - block valve on top of fluorine plant office. Next block valve at plant air receiver in Power House. (Main header). Plant air to north plant takes off south plant header overhead by northeast cell room door. Block valve at that location.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) - block valve in line on top of fluorine plant office. Next valve at instrument air receiver in Power House. (Main) This line services both north and south plants.

Inert Gas - Color Code - black/high-visibility yellow (stripe) - south plant block valve outside blower room south door, overhead. (Lazy rod). Next block valve over Power House office at nitrogen tie in. (Main header). A and B plant block valve over Production Office off main header to FM. Block valve for D and E outside and overhead at south east corner of plant.

Steam - Color Code - aluminum silver bright - block valve on top of fluorine plant office for south plant. Steam supply to north plant is off a separate header and block valve is at Power House.

Vacuum Line - Color Code - custom white - block valve (plug cock) on top of fluorine plant office south plant. No vacuum line to north plant.

Hydrofluoric Acid - Color Code - precaution blue (solid) - block at cell line subheaders for G, H, A, and B lines. No block valves at subheaders for D and E lines. No block valve at exit of south plant vaporizer. Both vaporizers serving the north plant have block valves at exits. Block valves before and after all vaporizer level control valves. Next block valve at storage tank for south plant. Block valve over Production Office to north plant. Block valve to D and E located outside at southeast corner of A and B plant.

Potassium Hydroxide (KOH) - Color code o- high-visibility yellow/custom white (stripe) - block valve outside south wall of south fluorine plant at fluorine scrubber. Next valve at Tank Farm which also shuts off KOH to SF_6 and north fluorine plant. Block valves at each north plant scrubber.

Treated Water - Color Code - light gray/precaution blue (stripe) - supplied to north and south plant tempered water tanks. Block valves at each tank. A block valve to D and E plant is located overhead inside northeast corner of south plant. Next block valve overhead in Power House by boiler feed pump pressure control station.
No other service or process lines to this building.

FLUORINE PRODUCTS BUILDING (SF_6, IF_5, SbF_5)

Process Water - Color Code - solid light gray - three process water lines serve the fluorine products building. Typically, two of these lines are not in service, as the revised water supply to the building is made through a 6" main rising through the floor of SF_6, along the west wall. This line may be blocked by the 6" valve provided just above floor level, or may be blocked by the underground valve located on the NW side of the gas holder. This supply line is fed from three process wells, which in turn receives electrical feed from HF2 in Substation H.

Two other process water lines serve the building. One comes off the water header going to the LF unit and can be shut off at the pipe bridge on the north side of SF_6. The other line serves only the SF_6 building and the block valve is located adjacent to the water testing cabinet in the Power House.

Electric Power - Electric power feeds from HF3 in Substation H and feeds panel boards located at the west wall of SF_6 and west wall of SbF_5 (labeled SF_6, MCC).

Electric power also feeds from IF_5 in Substation I to the panel board located on the east wall of the SF_6 mezzanine.

Steam - Color Code - aluminum silver bright - the block valve to SF_6 is located overhead, outside northwest corner of building on the west wall.
The block valve to IF_5 and SbF_5 is located overhead, outside northwest corner of building on north wall.

A block valve which shuts off steam to SF_6, IF_5, SbF_5, LF_2 and LN_2 areas is located just inside the east entrance to the Power House. This overhead valve is operated by chain.

Plant Compressed Air - Color Code - black/custom white (stripe) - plant air supply to fluorine products building may be blocked by the overhead valve inside the southeast corner of the Power House.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) instrument air supply to the fluorine products building may be blocked by the overhead valve coming off pipe bridge on north side of building. Supply may also be blocked by overhead valve in southeast corner of Power House which also shuts off instrument air to LF_2 unit.

Potassium Hydroxide (KOH) - Color Code - high-visibility yellow/ custom white (stripe) - Potassium Hydroxide is supplied to the fluorine products building by batch transfers from the Tank Farm to a 2,000 gallon KOH storage tank (U-8).

The block valve at Tank Farm will shut off KOH to U-8 and also to the fluorine plant. Additionally, the inlet to U-8 is provided with a block valve, located at the top of the tank, accessible from the stairway and platform on the west wall of SF_6.

To block KOH transfers from U-8 to the building, a block valve is provided at the bottom of U-8, along the tank supports.

Sulfuric Acid (H_2SO_4) - Color Code - precaution blue/high-visibility yellow (stripe) - sulfuric acid is supplied to F_2 products by periodic trailer truck transfers to sulfuric acid storage tank, (U-7)_. To block H_2SO_4 transfers from U-7 to the fluorine products building, a block valve is provided at the north, bottom end of U-7.

Treated Water - Color Code - light gray/precaution blue (stripe) - one tempered water line serves the fluorine products building. The block valve is located to the left of #2 water softener, 9' above the floor. Alternatively, flow may be blocked at the tempered water flow totalizer located at the top of the Power House mezzanine stairway, by shutting meter and meter bypass valves.

Sulfur - Color Code - high-visibility yellow/safety green (stripe) - sulfur is supplied by periodic trailer truck transfers to sulfur storage tank (U-10). Supply to the building is blocked by closing the valve located at the immediate bottom, east end of U-10.

Fluorine - Color Code - alert orange - fluorine can be supplied from either or both G and H headers in the SGF_2 plant. Blanks must be installed at the fluorine plant to isolate the SF_6 unit. Additionally, blanks may be installed in the F_2 drop legs serving each reactor. Drop legs are located on the west wall.

Liquid Fluorine - Color Code - alert orange - liquid fluorine serves the SbF_5 and IF_5 units. To block LF_2 flow from a LF_2 trailer, close the inboard F_2 valve first, then pause for a moment to allow any LF_2 between the inboard and outboard valves to vaporize before closing the outboard F_2 valve.

No other service or process lines to this building.

LIQUID FLUORINE

Process Water - Color Code - solid light gray - block valve south of LF_2 Control Room at "Hairpin" cooler. Next block valve in Power House on north wall outside office.

High Pressure Steam - Color Code - aluminum silver bright - Chain valve overhead just inside east door of Power House.

Electrical Supply - Main breaker, H26, located south of LF_2 Control Room and is supplied by Feeder HF3 in Substation H.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) -o block valve overhead in the southeast corner of Power House.

Liquid Nitrogen - Color Code - solid black - block valve at Linde Liquid nitrogen unit.

Gaseous Nitrogen - Color Code - solid black - chain valve overhead at southwest corner of liquid nitrogen pad.

TANK FARM

Process Water - Color Code - solid light gray - block valve second floor distillation area against east wall.

Electrical Power - Main disconnect at panel 18 located at Tank Farm. Panel feed by 10F1 off of first floor FMB south pond.

Steam - Color Code - aluminum silver bright - block valve overhead at HF tank car unloading dock. Next block valve at Power House shutting down steam header.

Plant Compressed Air - Color Code - black/custom white (stripe) - block valve overhead near #2 HF storage tank. Next block valve at southeast corner of FMB.

Inert Gas - Color Code - black/high-visibility yellow (stripe) - block valve overhead at HF tank car unloading dock. Next block valve in pipe rack underneath far west end of third floor cat walk outside FMB.

FEED MATERIALS BUILDING

Process Water - Color Code - solid light gray -o block valve located in southwest corner of basement. No other valves between there and process water wells.

Sanitary Water - Color Code - gray with white stripe - block valve located in southwest corner of basement. Line is routed overhead to Power House with block valve by water softeners.

Fire Water - Color Code - fire protection red - block valve located on west side of basement. Post indicator shut off valve outside west end Feed Materials building across from the Production Office Building. Next valve back is post indicator valve outside fire pump room which also shuts off fire water main to the rectifier transformer sprinkler system, the fire hydrant by liquid nitrogen storage tank, and the fire hydrant northwest of Feed Materials building.

Plant Compressed Air - Color Code o- black/custom white (stripe) - block valve in southwest corner behind "A" bottom hydrofluorination blower on second floor mezzanine. Next valve back at Power House. Block valve for new annex located in southwest corner of first floor, overhead at south wall.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) - block valve in southwest corner behind "A" bottom hydrofluorination blower on second floor mezzanine. Next valve back at Power House. Block valve for new annex located in southwest corner of first floor, overhead at south wall.

Inert Compressed Gas - Color Code - black/high-visibility yellow (stripe) - block valve at bottom of stairs from second floor stairway landing to second floor mezzanine. No other valve between there and Power House (original nitrogen header). Block valve for new annex located in southwest corner of first floor, overhead near block wall.

Steam - Color Code - aluminum silver bright - block valve to all parts of building except distillation and uranium recovery overhead in southeast corner of first floor, above outside air duct. Block valve to distillation area is on third floor at south wall between distillation crane and Dravo unit duct work. Block valve to uranium recovery (also wet process) is in third floor Oliver Filter Room at south wall.

Vacuum (Air Sampling) - Color Code - custom white - block valve at each pump. Pumps located second floor near west man lift.

Dry Fluidizing Compressed Air - Color Code - black/safety green (stripe) - comes off instrument air receiver and number 3 dryer at Power House. Supplies dry air for fluorination fluidizing and filter bumping. Also used in the distillation area. Enters building at southwest corner of second floor mezzanine - no block valve here. Block valves and distribution lines located overhead on second floor above A/C crusher; four valves in all.

Hydrofluoric Acid (HF) - Color Code - precaution blue (solid) - block valve on G/S south pad above the cinder block retaining wall where HF meter is located. Next block valve at Tank Farm.

Ammonia - Color Code - high-visibility yellow/precaution blue (stripe) - block valve at each inlet of the three dissociators in the basement. Next block valve at control valve at Tank Farm.

Potassium Hydroxide (KOH) - Color Code - high-visibility yellow/custom white (stripe) - block valve behind fluorination scrubber pump tank, below KOH meter. Next valve at Tank Farm.

Fuel Gas - Color Code - high-visibility yellow/red stripe. Block valve in basement southwest corner near southwest stair well.

Electric Power

- Basement, east panel, FM (14), Feeder EF-1.
- Basement, west panel, FM (15), Feeder EF-2.
- Basement, south panel, FM (16), Feeder EF-3.
- Basement G114A Compressor, FM (25), Feeder EF-4.
- First floor, northwest corner, FM (8), Feeder CF-3 (Feeder CF-3 also supplies power to calciner and drum dumper area panel number 38).
- Second floor, west of north stairwell, east panel, FM (12), Feeder CF-2.
- Second floor, west of north stairwell, west panel, (FM924), Feeder CF-1.
- Second floor, northwest panel FM (40), Feeder CF-5.
- Third floor, east panel FM (13A), Feeder FF-4.
- Third floor, west panel FM (13B), Feeder FF-4.
- Fourth floor, east panel, FM (20), Feeder DF-2.
- Fourth floor, west panel, FM (19), Feeder CF-4.
- Fifth floor, northwest corner, FM (12), Feeder DF-3.
- Fifth floor, northwest corner (near man lift).
- Sixth floor, north panel (fluorinator filters), FM (22) Feeder CF-4.
- Sixth floor, southeast panel (east of hoist well), FM (23), Feeder FF-3.
- First floor, north panel (distillation wall), FM (9), Feeder FF-1.
- First floor, south panel (distillation wall), FM (10), Feeder FF-2 (Tank Farm).

No other service or process lines to this building.

SODIUM REMOVAL

Process Water - Color Code - solid light gray - block valve inside southwest corner on upper level over U-60 tank. Next block valve in basement of FMB by hoist well.

Electrical Power - Substation C, Feeder CF2A. sodium removal main breaker and panel in Control Room. Next breaker at second floor FMB, north wall, near stair well. (Breaker CF2A).

Steam - Color Code - aluminum silver bright - block valve on second floor of FMB above ore concentrate dryer surge hopper (U-405).

Plant Compressed Air - Color Code - black/custom white (stripe) - block valve on second floor of FMB at plant air header by green salt elevator.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) - block valve on second floor of FMB at instrument air header by green salt elevator.

Ammonia - Color Code - high-visibility yellow - precaution blue (stripe) - block valve for ammonia sulfate tower located inside southeast corner of sodium removal building. Block valve for reslurry tanks located middle of south wall on second level. Next block valve at Tank Farm over #1 ammonia storage tank.

Sulfuric Acid (H_2SO_4) - Color Code -o precaution blue/high-visibility yellow stripe - first block valve at control valve inside southeast corner of sodium removal building. Next block valve located at second floor FMB (outside) can reach from emergency entrance to FMB Control Room platform. Next valve at storage tank.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve at safety water tank and pump on second floor Feed Materials building distillation side.

No other service or process lines to this building.

POND MUDS CALCINER

Process Water - Color Code - solid light gray - no block valve in the pond muds calciner. Next block valve located in pipe rack above the ammonia compressor at the Tank Farm.

Electrical Power - Panel 18A with main disconnect at the Tank Farm Panel No. 18. Panel 18A feed is from Panel 18, which is supplied by 10F1.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) - first block valve at west end of pond muds calciner, on south side near the pad. The next valve is located in the pipe rack near the third floor cat walk just below "A" train HF scrubber lines.

Steam - Color Code - aluminum silver bright - first block valve in pipe rack at northwest corner of PM calciner. Next block valve above "A" and "B" NH_3 vaporizer at Tank Farm.

Plant Compressed Air - Color Code - black/custom white (stripe) - first block valve above U-661 tank. Next block valve in pipe rack near #2 ammonia storage above the ammonia compressor at the Tank Farm.

Dry Fluidizing Compressed Air - Color Code - black/safety green (stripe) - valve in pipe rack above PM calciner pad, east end.

No other service or process lines to Pond Muds Calciner.

URANIUM RECOVERY

Process Water - Color Code - solid light gray - supplied from sodium removal main header. Block valve underneath fan on second level sodium removal near U-59 tank. Next block valve in basement of FM building overhead by hoist well.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve at safety water tank and pump on second floor Feed Materials building distillation side.

Electrical Power - Substation C, Feeder CF-2A. Uranium Recovery main breaker and panel on ground floor of sodium removal, underneath Control Room. Next breaker at second floor FMB, north wall, near stairwell (Breaker CF2A).

Steam - Color Code - aluminum silver bright - ore block valve on walk way by T-51 in sodium removal. This is the line from second floor of FMB where block valve is located behind scrap recover mill, near the distillation wall

Plant Compressed Air - Color Code - black/custom white - supplied from sodium removal main header. The block valve is located underneath the stairs, going to U-63 tank on the lower level. Next block valve on second floor FMB at plant air header near green salt elevator.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) - supplied from sodium removal main header. Block valve located above U-60 at southwest corner of sodium removal. Next valve on second floor FMB at instrument header by green salt elevator.

No other service or process lines to Uranium Recovery.

CALCINER AND DRUM DUMPER

Process Water - Color Code - solid light gray - valve above "A" fluorinator blower on first floor.

Electrical - Panel 38, main disconnect switch in drum dumper shack. Next shut off point is Panel 8 first floor FMB northwest corner, Feeder CF3A. Substation C.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) -o block valve at south end on east side of calciner. Next block valve located on second floor FMB near ceiling above calciner elevator discharge screw (C-420).

Steam - Color Code - aluminum silver bright - block valve on steam header second floor FMB next to green salt elevator.

Plant Compressed Air - Color Code - black/custom white (stripe) - block valve located on first floor FMB overhead between ore blender and stairwell. Next block valve at plant air header first floor by green salt elevator.

Instrument Compressed Air - Color Code - black/fire protection red (stripe) - block valve located on first floor FMB overhead between ore blender and stairwell. Next valve located at instrument header first floor by green salt elevator.
No other service or process lines to Calciner and Drum Dumper.

CYLINDER WASH BUILDING

Process Water - Color Code - solid light gray -o block valve located in northwest corner of building near hydrostatic pump. No other valves between there and process water wells number 1, number 2 and number 3.

Sanitary Water - Color Code - light gray/custom white (stripe) - no sanitary water line into cylinder wash building.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) - no fuel gas line into cylinder wash building.

Electric Power - Main breaker located on north wall - supplied from Feeder FF-2 in Substation F.

Steam - Color Code - aluminum silver bright - block valve in pipe rack on west side of number 1 ammonia and potassium hydroxide tanks, above ammonia vaporizer.

Inert Gas - Color Code - black/high-visibility yellow (stripe) - block valve in pipe rack directly above southwest corner of pond muds calciner pad.

Dry Fluidizing Compressed Air - Color Code - black/safety green (stripe) - block valve on center of north wall near wash platform and emergency light. Next block valve in pipe rack directly above southwest corner of pond muds calciner pad.

Nitrogen - Color Code - solid black - block valve on south side of liquid nitrogen pad opposite east liquid nitrogen storage. Lines run across fluorination south pad, then to Tank Farm, on to cylinder wash building.

No other service or process lines to cylinder wash building.

ENVIRONMENTAL PROTECTION FACILITY

Process Water - Color Code - solid light gray - block valve located first floor by roll-up door. Next valve located in Power House on cat walk between number 1 and number 2 boilers.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve located first floor by roll-up door, next to process water line. Next valve located in Power House on cat walk, beside process line, between number 1 and number 2 boilers.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) - no fuel gas line into Wastewater Treatment Plant.

Electric Power - Main breaker in Control Room - supplied from Feeder HF-1, Substation H.

Plant Compressed Air - Color Code - black/custom white (stripe) - no valve within Wastewater Treatment Plant. First block valve in Power House on pipe rack along south wall.

Instrument Compressed Air - Color Code - black/fire protection red-block valve behind instrument panel in Control Room. Next valve in Power House behind instrument air dryers.

Steam - Color Code - aluminum silver bright - no main valve inside of Wastewater Treatment Plant. First cutoff valve on south outside wall of Power House. Next valve on main header.

Sulfuric Acid - Color Code - precaution blue/high-visibility yellow (stripe) - block valve located by U-805 storage tank. Next step is to depressurize storage tank at Tank Farm.

Spent Potassium Hydroxide - Color Code - high-visibility yellow/custom white (stripe) - no valves in line at Wastewater Treatment Plant. Turn off pumps at SF_6, north and south fluorine plants and Feed Materials Building south pad.

Dilute WASte Hydrogen Fluoride - Color Code - precaution blue (solid) - two lines going into Tank 801, no block valves at Wastewater Treatment Plant. Turn off pumps at IF_5, SF_6 HF unloading scrubber, FMB south pad and north and south fluorine plants. Valves overhead on FMB south pad, on roof of Production Office, at SF_6 sump and IF_5 sump.

Regenerated Potassium Hydroxide to Consuming Units - Color Code - high-visibility yellow/safety green (stripe) - block valve on Wastewater Treatment Plant east pad. Breakers for both recycle pumps in Control Room.

Pond Effluent Return Water - Color Code - light gray/high-visibility yellow (stripe) - switch located by pumps on pond bank. Breakers in Control Room for both pond pumps.
Waste Alkali - Color Code - light gray/high-visibility yellow (stripe) - turn off pumps at number 2 spill control pond and at U-Recovery. Valves exit number 2 spill control pond and in U-Recovery.

Other process or service lines to this building.

SAMPLING PLANT

Process Water - Color Code -o solid light gray -o process water into Sampling Plant (firewater standpipes) has a block valve located just east of the railroad track at #3 well - rail car dock ramp.

Sanitary Water - Color Code - light gray/custom white (stripe) - block valve located in northeast corner of maintenance shop. No other shutoff valve between there and sanitary water well.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) - block valve (plug cock) located in northeast corner of maintenance shop. Next block valve (plug cock) located northeast of Sampling Plant, just inside of fenced area.

Fire Water - Color Code - fire protection red - no fire water line into Sampling Plant.

Electric Power - Main breaker located on northwest corner of Sampling Room - supplied from Feeder EF-4, Substation E.

No other service or process lines to this building.

KOH RECOVERY

Steam - Located on third floor Feed Materials building on steam Christmas tree across from the ore dryer.

Soft Water - Located in the dealkalization building, which is located by the Power House. The valve is located on the discharge line of P-683, which is located in front of No. 9 and No. 10 water softeners.

Well Water Supply to No. 9 and N0. 10 Water Softeners - Valve located on second level south wall of Power House behind electrical Panel No. 1.

Instrument Air - Located on second floor Feed Materials building on instrument air header on fluorination side. Valve located at ceiling level.

Plant Air - Located on second floor Feed Materials building on distillation side.

Drinking Water - Valve in KOH Recovery unit on second level at north well by F-634 filter. Next disconnect is the main disconnect in the north stairwell first floor.

Electrical Power - Main disconnect for building on first floor KOH Recovery building at the southeast corner. Next disconnect is at Substation E.

Safety Shower Water - Main shutoff is on second floor FMB in southeast corner on distillation side. The KOH Recovery unit runs off the U-Recovery system.

CARBON FLUORIDE

Electricity - Main breaker in northeast corner of SBR room. Power panel is fed from substation I Feeder IF_3.

Fluorine - Solid alert orange - block valve on north wall of SBR room. Next valve is on LF_2 platform. Remote operator valve on trailer is activated by push buttons on control panel or by each exit from ATR building and in IF_5 building. Next valve is located on liquid fluorine trailer labeled Inboard Product Valve.

Instrument Air - black with protection red stripe. Valve located on side of SBR building on west pad. Next valve in Power House.

Instrument Air - black with protection red stripe. Valve located at side of SBR building on west pad. Next valve in Power House.

Nitrogen - solid black - valve at side of SBR building on west pad and on west wall of second floor. Next valve located above emergency power generator building at corner of Power House.

Process Water - solid light gray - valve in center of west pad and on second floor of ATR building. Next valve in Power House.

generated KOH - high-visibility yellow with green stripe. Valve on top of pump tank U-789.

Safety Shower Water [illegible] with green stripe - no valve in SBR or ATR buildings. Shut off second floor FMB.

Sanitary Water - light gray with white stripe. Valve near ceiling outside north wall of service room. Next valve in Power House.

Spend KOH - high-visibility yellow with custom white stripe. Valve at side of ATR building on north pad.

Steam - solid aluminum silver bright. Valve located at side of ATR building on west pad. Next valve in Power House.

Treated Water - light gray with precaution blue stripe. Valve located near ceiling at west wall first floor of ATR building. Next valve at water softeners.

Vacuum - solid alert orange. Valve and bypass valve located on Nash Vacuum Pump on outside second floor platform. Nash Vacuum Pump switch on post on north pad.

No fuel oil, natural gas or plant air service to CF_x area.

ADMINISTRATION BUILDING

Process Water - Color Code - solid light gray - block valve located in the south end of laundry room. A shutoff valve marked by four yellow posts is located just east of the railroad track west of #3 process well; it also shuts off process water to laboratory.

Sanitary Water - Color Code - light gray/custom white (stripe) block valve located in southwest corner of laundry room. No other valve between there and sanitary water well.

Natural Gas - Color Code - high-visibility yellow/fire protection red (stripe) - block valve (plug cock) located just east of outside door of south boiler room. No other shut off valve between there and LPG facility.

Fire Water - Color Code - Fire protection red - no fire water line into Administration building. Fire protection provided by process water.

Electric Power - Mainbreaker is located on north wall of boiler room. Supplied from substation B, feeder BF-1 (or emergency breaker) in substation B.

No other service or process lines to Administration building.

EMERGENCY SHUTDOWN PROCEDURES

All emergency shutdown procedures for operating equipment in process area units in the facility should be referred to the standing operating procedures for that specific area.

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

	Normal Mon. - Fri. Day Shift		Other Than Mon. - Fri. Day Shift		
Bldg./Location	**Primary**	**Alternate**	**Primary**	**Alt.**	**Dept. Mgr./O.E. Team Leader**
Administration	Acct. Specialist	--	Guard	--	B.Vandermeulen
Laboratory	Lab Team Supervisor	Sft.Leader	Sft.Leader	--	M. Shepherd
Maint.-Engr.	Shop F'man	--	Stores Per.	--	J. Pratte
Stores	Purchasing Supervisor	Storeroom Foreperson	Stores Per.	--	J. Pratte
Lunch Room	Shop F'man	--	Stores Per.	--	J. Pratte
Training Room	Shop F'man	--	Stores Per.	--	J. Pratte
Powerhouse	Operator	--	Operator	--	R. Adams
EPF - CaF_2	Operator	--	Operator	--	R. Adams
S.Fluorine Plt.	Operator	--	Operator	--	B. Hensley
N.Fluorine Plt.	Operator	--	Operator	--	B. Hensley
Prod. Offices	SGF_2 Oper.	--	SGF_2 Oper.	--	B. Hensley
SF_6,IF_5, SbF_5	SF_6 Oper.	--	SF_6 Oper.	--	R. Adams
Sampling Plt.	S.P. Oper.	--	S.P. Oper.	--	D. Huffman
Wet Process	W.P. Oper.	--	W.P. Oper.	--	C. Blanden
KOH Muds	KOH Oper.	--	KOH Oper.	--	C. Blanden
Planning Eng.	Shop F'man	--	Stores Per.	--	J. Pratte
Inst/Elect Shop	Shop F'man	--	Stores Per.	--	J. Pratte
U-Recovery	U-Rec. Oper.	--	U-Rec. Oper.	--	C. Blanden

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

MAINTENANCE BUILDING	LOCATION
A. Cir. 6AP21-Q-8-Purchasing Office	South wall of Purchasing Office
B. Cir. 6P19-Q-103 6P19-1-104 - Lunchroom	South wall of Purchasing Office
C. Cir. 6AP1-Q-10 - Training Room	South wall of Purchasing Office
D. Cir. 61P8-Q-9 - Reliability/Planning	South wall of Purchasing Office
E. Cir. 6AP7-Q-6 - Plant Engineering	South wall of Purchasing Office
F. Cir. 6L1B-15, 17 & 19 Q-102 - Maintenance Foremen	North wall of Machine Shop (light panel)
G. Cir. 6AP6-Q-7 - Instrument/Electrical Shops	South wall of Purchasing Office

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

ADMINISTRATION BUILDING

PANEL: 5L1-1 **LOCATION: OLD BOILER ROOM**

CIRCUIT BREAKER	DESCRIPTION
12	Ex.Fans-P-166, P-163 (W.-Hrly. Men's Locker Room)
18	Ex.Fans-P-162 (H.M.L.R.), P-164, P-165 (H.M. Shower)
12	P-169 (S.M.L.R.)
24	E-189, E-188 (H.M.L.R.)
25	E-191 (S.M.L.R.)

PANEL: 5A **LOCATION: NEW BOILER ROOM**

3	D-109, Dryer, Laundry
4	D-109, Dryer, Laundry
6	D-110, Dryer, Laundry
9	D-110, Dryer, Laundry
10	Computer Room A/C
14	Accounting A/C
15	Plant Manager A/C

PANEL: 5AL1 **LOCATION: NEW BOILER ROOM**

10	E-334, H.M.L.R., N.E. Corner
20	Ex.Fan-P-370, H.M.L.R., N.E. Corner
24	Ex.Fan-P-365 (H.W.L.R.), P-363 (H.M. Shower)
25	Ex.Fan-P-371 (H.W.Shower), P-368 (H.W.R.R.), P-359 (S.W.R.R.), P-360 (S.W. Shower)
26	Ex. Fan, Laundry
27	E-331, S.W.L.R.
28	Ex.Fan-P-361, S.M.R.R., E-329 S.M.L.R.
29	Ex. Fan - S.W.L.R.
30	Ex. Fan - P-367 S.M.L.R.
32	Q-18-Window A/C Unit - S.W.L.R.

PANEL: 5L1-2 **LOCATION: PLANT MANAGER'S OFFICE CLOSET**

CIRCUIT BREAKER	DESCRIPTION
21	Ex. Fan-P-362, P-364-M & W.R.R.
22	E-170, E-171, E-172 - OFF - Man-Maint., Prod., Proc. Tech., Rec. Area
24	E-167, E-168, E-169; OFF - Man-E.R., E.R., E.R. Sec.

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

ADMINISTRATION BUILDING

PANEL: 5L1-2 **LOCATION: PLANT MANAGER'S OFFICE CLOSET**

CIRCUIT BREAKER	DESCRIPTION
25	Window A/C Unit - Xerox & Mail Room
27	Window A/C Unit - Xerox & Mail Room

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

	DESCRIPTION
POWER HOUSE	
Cir. 2L1-28 & 30 - Q-518-P.H. Cntr.Rm.	South of C.R.
EPF/CaF_2	
Cir. 43L6-21-Q-809 EPF Cntr. Rm.	In C.R., South wall
SGF_2/PRODUCTION OFFICES	
A. Cir. 11P27 - Q-132-SGF_2 Cntr. Rm.	G Rect. Room, West wall
B. Cir. 11P26 - Q-513- Prod. Offices	G Rect. Room, West wall
NGF_2	
Cir. 44P31-Q-700-NGF_2 Cntr.Rm.	Above NGF_2 Cntr. Room
SF_6	
Cir. 32L4-9 & 11-Q-4-SF_6 Cntr.Rm.	Above SF_6 Cntr. Room
SAMPLING PLANT	
A. Cir. 37P5-P-386-A/C.-Offices	1st Floor
B. Cir. 37P14-Q-303-A/C-Offices	1st Floor
C. Cir 37L2-32-Q-304-Window A/C-3rd Floor	1st Floor

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

LABORATORY BUILDING

PANEL: 5B	**LOCATION: MED. FAC. CLOSET**
CIRCUIT BRK.	**DESCRIPTION**
5BP1-30A	Q-20-HUAC-Med. Fac.
5BP1-60A	Q-21-HUAC-Rec. Stor.
PANEL: 5BL1-2	**LOCATION: MED. FAC. CLOSET**
Lighting Panel 5BL1	Ex. Fan, Med. Fac. R.R.
PANEL: 4AL1	**LOCATION: TECH. OFFICE CLOSET**
6	Ex. Fans, P-353, P-373, Tech. Off. R.R.'s
PANEL: BRB	**LOCATION: TECH. OFFICE CLOSET**
3	Tech. Off. A/C, Q-13
PANEL: 4L1A	**LOCATION: OLD BOILER ROOM**
10	Ex. Fan - H.P.R.R.
21	Ex. Fan - Men's R.R.
22	Ex. Fan - Women's R.R.
PANEL: 4L1B	**LOCATION: OLD BOILER ROOM**
1	Ex. Fan - Resp. Fit Lab
22	Window A/C - Fluor. Lab

HVAC EQUIPMENT SHUTDOWN RESPONSIBILITY

PANEL: MISC. **LOCATION: OLD BOILER ROOM**

CIRCUIT BRK.	DESCRIPTION
4AP4-1	P-140, Blower - Supv. Area
4AP6	P-149, Vent Scrubber Blower
4P5	P-143, H.V.A.C. Blower
B4A-7	Q-2, Q-3 H.P. H.V.A.C. Units
CF_x	**LOCATION:** OLD CF_x BLDG., N. WALL
Cir. 49L1-11 & 13	Q-780 CF_x Control Room
Cir. 49L1 - 4 & 6	Q-781 Room, south of C/R

DECONTAMINATION OF PERSONAL PROTECTIVE EQUIPMENT AND EMERGENCY EQUIPMENT

Introduction

The role of decontamination is critical in controlling and removing contamination from personal protective equipment and emergency equipment while eliminating or reducing the exposure to personnel. Decontamination procedures contain and control the spread of hazardous materials to people and the environment through neutralization of harmful contaminants.

Methods of Decontamination

Determination of methods and extent of decontamination of emergency personnel and equipment will depend on four factors:

- Type of contamination present
- Amount of contamination present
- Type of emergency activity performed
- Level of personal protective equipment worn

Two types of decontamination methods, physical and chemical removal, are performed at Metropolis Works on both personnel and emergency equipment. Physical removal of gross contaminants can be accomplished through rinsing, wiping, scrubbing or scraping using brushes and high-pressure spray units. The use of safety showers located throughout the Plant can be considered an adequate form of initial physical contamination removal in most situations. Dust and vapors can be removed with water or a liquid rinse. Volatile liquid contaminants can be removed through evaporation followed by a water rinse.

Chemical decontamination shall consist of dissolving contaminants in a liquid solution, usually detergent and water. Neutralization of hazardous materials can be accomplished through the use of low-suds detergents or sodium carbonate diluted with water (10 gallons water + 4 pounds of carbonate). Infectious agents can be disinfected using a detergent solution, such as Microquat®, or a 10 percent bleach solution with water.

Reference:

MTW Bloodborne Pathogens Exposure Control Plan

Decontamination Line Procedures

The decontamination line will be set up in an organized sequence. Separate stations will be arranged in order of decreasing contamination levels. All decontamination procedures are performed in the Warm Zone or Contamination Reduction Zone. The Chief Control Officer will determine the best location for the decontamination line based upon the following criteria:

- Upwind from the Hot Zone or Exclusion Zone
- Levels and types of decontamination needed
- Potential for injury or exposure based on responder activities
- Proximity and movement of personnel and equipment to the work zone
- Lighting and visibility in nighttime or adverse conditions

Levels of protection worn and the type of decontamination needed will determine the basis for properly setting up the decontamination line. Location of the decontamination line should begin with a contaminated equipment drop in the Hot Zone or Exclusion Zone. All other activities are contained in the Warm Zone or Contamination Reduction Zone (CRZ). Entry and exit pathways shall be designated and recognizable to emergency response personnel (yellow barrier tape and/or orange traffic cones).

Levels of Personal Protective Equipment

The Environmental Protection Agency (EPA) defines four levels of protection based on the degree of protection needed for the emergency.

Level — Provides the highest level of skin, respiratory and eye protection. MTW personal protective equipment worn for Level A consists of:

- MSA, Betex, fully encapsulated chemical suit with integral boots and gloves
- Positive pressure, full-face piece Self-Contained breathing apparatus (SCBA), pressure demand or positive-pressure supplied-air respirator with SCBA for escape
- Inner chemical-resistant gloves (nitrile or Silver Shield®)
- Inner pull-over boots
- Hard hat

Level B — Provides the highest level of respiratory protection, but a lower level of skin protection. MTW personal protective equipment worn for Level B consists of:

- Hooded chemical-resistant clothing or acid suit (neoprene or polyvinyl chloride)

- Positive pressure, full-face piece Self-Contained breathing apparatus (SCBA), pressure demand or positive-pressure supplied-air respirator with SCBA for escape

- Outer, chemical-resistant boots with steel-toed shank
- Inner chemical-resistant gloves (nitrile or Silver Shield®)
- Outer, chemical-resistant gloves
- Hard hat

Level C Provides a lower level of skin, respiratory and eye protection; used only with specific known substances at acceptable concentrations.
MTW personal protective equipment for Level C consists of:

- Chemical resistant clothing or acid suit (neoprene, polyvinyl chloride)
- Full-face or half-mask air purifying respirator (NIOSH approved)
- Inner chemical-resistant gloves (nitrile or Silver Shield®)
- Outer, chemical-resistant gloves
- Outer, chemical-resistant boots with steel-toed shank
- Hard hat
- Safety glasses

Level D Provides minimal protection from chemical exposure.
MTW personal protective equipment for Level D consists of:

- Coveralls
- Chemical-resistant boots or shoes with steel-toed shank
- Hard hat
- Safety glasses

Decontamination Procedures for Personal Protective Equipment

Outer chemical protective clothing and self-contained breathing air equipment should be decontaminated first then removed, followed by facepiece, inner boots, and inner gloves last.

All emergency personnel assisting in decontamination procedures must themselves be decontaminated before entering the cold or Support Zone. The sequence of decontamination follows the basic rule that each individual in the same level of protection will decontaminate each other. The next lowest level of protection will assist until all remaining personnel are decontaminated. For example, Level B personnel decontaminate

Level B personnel until it is safe for Level C personnel to assist. Similarly, Level C personnel decontaminate each other until it is safe for Level D personnel to assist.

The following list details the procedure and layout of decontamination stations for Level A, B, and C decontamination for AlliedSignal's Metropolis Works facility.

Procedure for Level A Decontamination

Station 1: Segregated Equipment Drop (Hot Zone)
Personnel enter the decontamination area and deposit equipment (tools, sampling devices, containers, radios, etc.) on plastic drop cloths or plastic-lined containers on the contaminated side of decontamination line. Personnel proceed to Station 2.

Station 2: Encapsulated Suit Wash
The decontamination team members assist the entry team in decontamination procedures. Scrub outer gloves, boots and fully encapsulated chemical suit with appropriate decontamination solution in a diked area or wading pool. Note: Decontamination solution may vary depending upon the type and concentration of contaminant(s) involved. For most types of contamination contained on-site, low-suds detergent and water is considered adequate decontamination solution. Personnel proceed to Station 3.

Station 3: Encapsulated Suit Rinse
Decontamination team members rinse off decontamination solution with adequate amounts of water in a diked area or wading pool. Repeat as needed. Any run-off liquid must be controlled in the decontamination line. At this point a pH check with litmus paper can be performed after each rinse to ensure adequate decontamination. Personnel proceed to Station 4.

Station 4: Encapsulated Suit Removal
With assistance, remove fully encapsulated suit and place on contaminated side of the decontamination line on plastic drop cloths or in available plastic-lined containers. Caution will be taken to remove the suit from the inside out so as to avoid skin contact with contaminants on the outside of the suit. Inner gloves, pull-over boots and SCBA equipment will remain intact. Personnel proceed to Station 5.

Station 5: SCBA Removal/Air Tank Exchange
While still wearing the facepiece, disconnect air hose from regulator valve and hold hose above waist level. With assistance, remove SCBA backpack and place on contaminated side of decontamination line. Air tank exchange can occur at this point. The entry team member then returns to the hot zone. Otherwise, personnel proceed to Station 6.

Station 6: Facepiece, Pull-over Boot and Inner-Glove Removal
Remove facepiece and place on contaminated side of decontamination line. Remove pull-over boots. Place in decontamination container. Remove inner gloves last and place in proper container for disposal. Personnel proceed to Station 7.

Station 7: Personnel Medical Evaluation
Personnel shall receive immediate medical attention as deemed necessary. All emergency response team members responding to an emergency incident will receive a medical evaluation following decontamination procedures. Emergency medical treatment is performed in accordance with the MTW "Emergency Medical Procedures Manual".

Emergency personnel will exit the decontamination area or contamination reduction zone following medical evaluation. Personnel will remove personal work clothing, shower and redress in clean clothing before returning to work.

Follow-up medical evaluation or attention may be necessary in certain circumstances. In such cases, personnel shall report to the Dispensary for follow-up medical evaluation by the Plant Occupational Nurse or Physician on duty.

Reference:

MTW Emergency Medical Procedures Manual

Procedure for Level B Decontamination

Station 1: Segregated Equipment Drop
Personnel enter the decontamination area and deposit equipment (tools, sampling devices, containers, radios, etc.) on plastic drop cloths or containers on the contaminated side of decontamination line. Personnel proceed to Station 2.

Station 2: Chemical Protective Suit Wash
Scrub outer gloves, boots and chemical suit with decontamination solution. Note: Decontamination solution may vary depending upon the type and concentration of contaminant(s) involved. For most types of contamination, soap detergent and water is considered adequate decontamination solution. Personnel proceed to Station 3.

Station 3: Chemical Protective Suit Rinse
Rinse off decontamination solution with adequate amounts of water. Repeat as needed. Remove outer gloves and place in proper container. Any run-off liquid must be controlled

in the decontamination line. At this point a pH check with litmus paper can be performed after each rinse to ensure adequate decontamination. Personnel proceed to Station 4.

Station 4: SCBA Removal/Air Tank Exchange
While still wearing the face piece, disconnect hose from regulator valve and hold hose above waist level. With assistance, remove SCBA backpack and place on contaminated side of decontamination line. Air tank exchange can occur at this point. The entry team member then returns to the hot zone. Otherwise, personnel proceed to Station 5.

Station 5: Chemical Protective Suit Removal
With assistance, remove chemical protective suit and place on contaminated side of the decontamination line on plastic drop cloths or in available containers. Caution will be taken to remove the suit from the inside out so as not to come in contact with the outside of the suit. Inner gloves, pull-over boots and face piece will remain intact. Personnel proceed to Station 6.

Station 6: Face Piece, Pull-over Boot and Inner-Glove Removal
Remove face piece and place on contaminated side of decontamination line. Remove pull-over boots. Place in decontamination container. Remove inner gloves last and place in proper container for disposal. Personnel proceed to Station 7.

Station 7: Personnel Medical Evaluation
Personnel shall receive immediate medical attention as deemed necessary. All emergency response team members responding to an emergency incident will receive a medical evaluation following decontamination procedures. Emergency personnel will exit the decontamination area or contamination reduction zone following medical evaluation. Personnel will remove personal work clothing, shower and redress in clean clothing before returning to work.

Follow-up medical evaluation or attention may be necessary in certain circumstances. In such cases, personnel shall report to the Dispensary for follow-up medical evaluation by the Plant Occupational Nurse or Physician on duty.

Procedure for Level C Decontamination

Station 1: Segregated Equipment Drop
Personnel enter the decontamination area and deposit equipment (tools, sampling devices, containers, radios, etc.) on plastic drop cloths or containers on the contaminated side of decontamination line. Personnel proceed to Station 2.

Station 2: Chemical Protective Suit Wash
Scrub outer gloves, boots and chemical suit with decontamination solution. Note: Decontamination solution may vary depending upon the type and concentration of contaminant(s) involved. For most types of contamination, soap detergent and water is considered adequate decontamination solution. Personnel proceed to Station 3.

Station 3: Chemical Protective Suit Rinse
Rinse off decontamination solution with adequate amounts of water. Repeat as needed. Remove outer gloves and place in proper container. Any run-off liquid must be controlled in the decontamination line. At this point a pH check with litmus paper can be performed after each rinse to ensure adequate decontamination. Personnel proceed to Station 4.

Station 4: Chemical Protective Suit Removal
With assistance, remove chemical protective suit and place on contaminated side of the decontamination line on plastic drop cloths or in available containers. Caution will be taken to remove the suit from the inside out so as not to come in contact with the outside of the suit. Inner gloves, pull-over boots and face piece will remain intact. Personnel proceed to Station 5.

Station 5: Respirator, Pull-over Boot and Inner-Glove Removal
Remove respirator and place in decontamination container. Remove pull-over boots. Place in decontamination container. Remove inner gloves last and place in proper container for disposal. Personnel proceed to Station 6.

Station 6: Personnel Medical Evaluation
Personnel shall receive immediate medical attention as deemed necessary. All emergency response team members responding to an emergency incident will receive a medical evaluation following decontamination procedures. Emergency personnel will exit the decontamination area or contamination reduction zone following medical evaluation. Personnel will remove personal work clothing, shower and redress in clean clothing before returning to work.

Follow-up medical evaluation or attention may be necessary in certain circumstances. In such cases, personnel shall report to the Dispensary for follow-up medical evaluation by the Plant Occupational Nurse or Physician on duty.

Emergency Decontamination of Personnel

Emergency decontamination of personnel will be required when personnel show signs of acute chemical exposure and whether a medical emergency elicits other action. Emergency decontamination consists of a quick wash and rinse, followed by protective

clothing removal and another quick wash. If medical assistance is needed immediately for life support, then decontamination must be delayed. The personnel can be wrapped in a blanket, plastic or rubber to reduce cross-contamination to other personnel.

For heat stress emergencies, PPE must be removed immediately. In other cases, it may be deemed necessary to remove PPE immediately to aid in minimizing further contamination to the victim. Off-site emergency medical personnel must be alerted about the specific decontamination procedures if necessary.

Medical decontamination and treatment involving radiation hazards is performed in accordance with the "Medical Procedures Manual".

Reference:

MTW Medical Procedures Manual	Uranium	
Radiological Contingency Plan	Section 5.5- 5.7	RCP

Decontamination of Equipment

Safety equipment involved in a radiological hazardous materials incident shall be considered potentially contaminated until determined otherwise as specified in the Radiological Contingency Plan.

Reference:

Radiological Contingency Plan	Section 9.2	RCP

Assessment of Effective Decontamination

Effective decontamination for chemical and radioactive contamination require follow-up evaluation. The effectiveness of personal protective equipment decontamination will be determined at Metropolis Works by utilizing the following methods:

1. Visual inspection by natural light to detect:
   a. discoloration, stains, corrosive effects
   b. visible dirt or alterations in clothing material
2. pH sampling
   a. wiping tools, equipment, PPE (inside and outside) with pH or litmus paper

b. analyzed by Safety personnel

3. Monitoring
   a. Health Physics survey instruments

Reference:

Radiological Contingency Plan Section 6.5 RCP

Decontamination Equipment List

Materials used in decontamination of personnel and safety equipment involved in a hazardous materials incident, can be found in the Decontamination Cabinet, located outside the Production Office or in the Emergency Response Vehicle.
Decontamination items used in the decontamination line set up may include:

- Plastic pre-formed wading pools
- High-pressure spray unit
- Long-handled, soft-bristled scrub brushes
- Buckets, 3-gallon
- Plastic liner, 100 foot
- Traffic cones
- Absorbent socks, bags
- Safety barrier tape
- Hose
- Detergent
- Litmus or pH paper
- Step stools

Disposal of Contaminated Materials

Contaminated material and equipment that cannot be decontaminated must be disposed of properly. Disposal involves containment and proper labeling of those containers in accordance with local, state and federal regulations.

Reference:

Low Level Radioactive Waste Manual

EMERGENCY RESPONSE PREPAREDNESS

Emergency Response Training Requirements

Members of the Emergency Response Team who respond to a hazardous materials incident as defined within the scope of OSHA 29 CFR 1910.120 will receive an initial 24-hour course of training with an annual refresher training of 24-hours as defined by the Nuclear Regulatory Commission's license agreement for AlliedSignal's Metropolis Works. "UF_6 Release Control Procedure" plantwide training is provided for personnel through "B" Council Safety Meetings to ensure the effectiveness of the program. Supervisors will be trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices.

A program that uses both audiovisual materials in a classroom setting with hands-on application has been prepared for Emergency Response Team members. Each team along with the Team Leader (Shift Maintenance Foreperson) will be trained in fire safety, spill control, personnel rescue, and emergency control procedures to ensure safe and efficient team operation.

Initial 24-hours of training includes the following requirements under OSHA 29 CFR 1910.120, (q)(6)(iii), Hazardous Material Technician level:

- Understand hazard and risk assessment techniques
- Know how to secure the hazardous materials incident scene
- Proper selection and use of personal protective equipment.
- Physical hazards of chemicals (potential for fire, explosion, etc.)
- Health hazards associated with exposure to chemicals.
- Procedures to protect against hazards (personal protective equipment required, proper use and maintenance, work practices or methods to assure proper use and handling of chemicals and procedures for emergency response).
- Know how to implement basic decontamination procedures
- Know how to perform basic confinement and control measures
- Know the emergency response plan and basic standard operating procedures
- Recognize information found on Material Safety Data Sheets, labels, and other resources.
- Understand how to operate air monitoring equipment

Annual refresher training is performed quarterly and emphasizes those items listed above in addition to the following material:

- Be able to function within an assigned role in the on-site emergency response organizational structure
- Know how to implement the MTW Emergency Response Plan
- Identify and understand hazards normally found on-site
- Know how to select and use site-specific respiratory and personal protective equipment in an emergency response
- Understand personnel rescue techniques and equipment for both confined spaces and removal out of buildings on-site
- Know where MSDS's are located, how to read and interpret the information on both labels and MSDS's and how employees may obtain additional hazard information.
- Certification in first aid and Cardiopulmonary Resuscitation (CPR)

The Health Physics/Safety/Medical Supervisor will review the employee training program and advise the Emergency Response Team members on training or retraining needs. Retraining is required when the hazard changes, a new hazard is introduced into the workplace, or the coordinator deems it necessary.

Under the Radiological Contingency Plan, the officers will be retrained when necessary as the plan is changed. The Health Physics Staff is responsible for providing appropriate training for radiological monitoring. Health Physics First Aid personnel are trained annually in Cardiopulmonary Resuscitation (CPR) and applicable First Aid certification. Periodic first aid training is provided through the Plant Occupational Nurse.

A standby offer has been made to off-site support groups (Massac Hospital; City, County and State Police; etc.) for initial training of new personnel and retraining of current personnel whenever these agencies judge necessary.

Medical, Occupational Health and Environmental support and training is also provided by the Company Headquarters Staff as needed.

Documentation

As a part of the assessment of the training program, the Health Physics/Safety/Medical Supervisor or Facility Training Personnel will obtain input from employees regarding the training they have received and their suggestions for improving it. All training and critique documentation will be kept by the Health Physics/Safety/Medical Supervisor in Health Physics, Safety or Medical offices.

Emergency Exercises

Plant drills and tests will be conducted according to the Radiological Contingency Plan schedule.

Reference:

Radiological Contingency Plan	Section 7.0	RCP