

ATTACHMENT 6

CONTINGENCY PLAN

**CONTINGENCY PLAN
GROUND WATER TREATMENT SYSTEM
TOOELE ARMY DEPOT**

EMERGENCY RESPONSE/CONTINGENCY PLAN

This plan describes contingencies and emergency planning procedures to be implemented at the Tooele Army Depot, Groundwater Treatment System in the event of a release of hazardous waste. It is compatible with local, state, federal disaster and emergency management plans, as appropriate. This plan is also incorporated into Section 10 of the contract operator's Health and Safety Plan, which is maintained at the Site.

Pre-Emergency Planning

During the required site briefings, all employees will be informed of provisions of the emergency response plan, communication systems, and evacuation routes. The plan will be reviewed and revised, by the Site Safety Officer (SSO) every January. This will ensure that the plan is adequate and consistent with prevailing conditions.

Personnel Roles and Lines of Authority

The project manager has primary responsibility for responding to and correcting emergency situations. This includes taking appropriate measures to ensure the safety of site personnel and the public. Possible actions may involve evacuation of personnel from the site area, and evacuation of adjacent residents. He/she is additionally responsible for ensuring that corrective measures have been implemented, that appropriate authorities have been notified, and that follow-up reports are completed. In the absence of the project manager the assistant project manager shall be required to implement emergency response activities. The SSO may be called upon to act on the behalf of the project manager/assistant project manager, and will direct responses to any medical emergency. The individual contractor organizations are responsible for assisting the plant manager in his/her mission within the parameters of their scope of work.

Emergency Recognition / Prevention

Section 2.0 of the Site Specific Health and Safety Plan (SSHSP) provides a listing of physical and health hazards on-site. Personnel will be familiar with techniques of hazard recognition from pre-assignment training and site specific briefings. The SSO is responsible for ensuring that prevention devices and equipment are available to personnel.

Evacuation Routes and Procedures

In the event of an emergency that necessitates an evacuation of the site, the following alarm procedures will be followed:

1. Activate site fire alarm.
2. Proceed to the closest exit.
3. Gather outside at the southwest corner of the GWTP (relocate if necessary)
4. Perform head count to verify all present.
5. Notify appropriate external emergency response agencies.
6. Notify project manager.
7. Notify corporate safety coordinator.

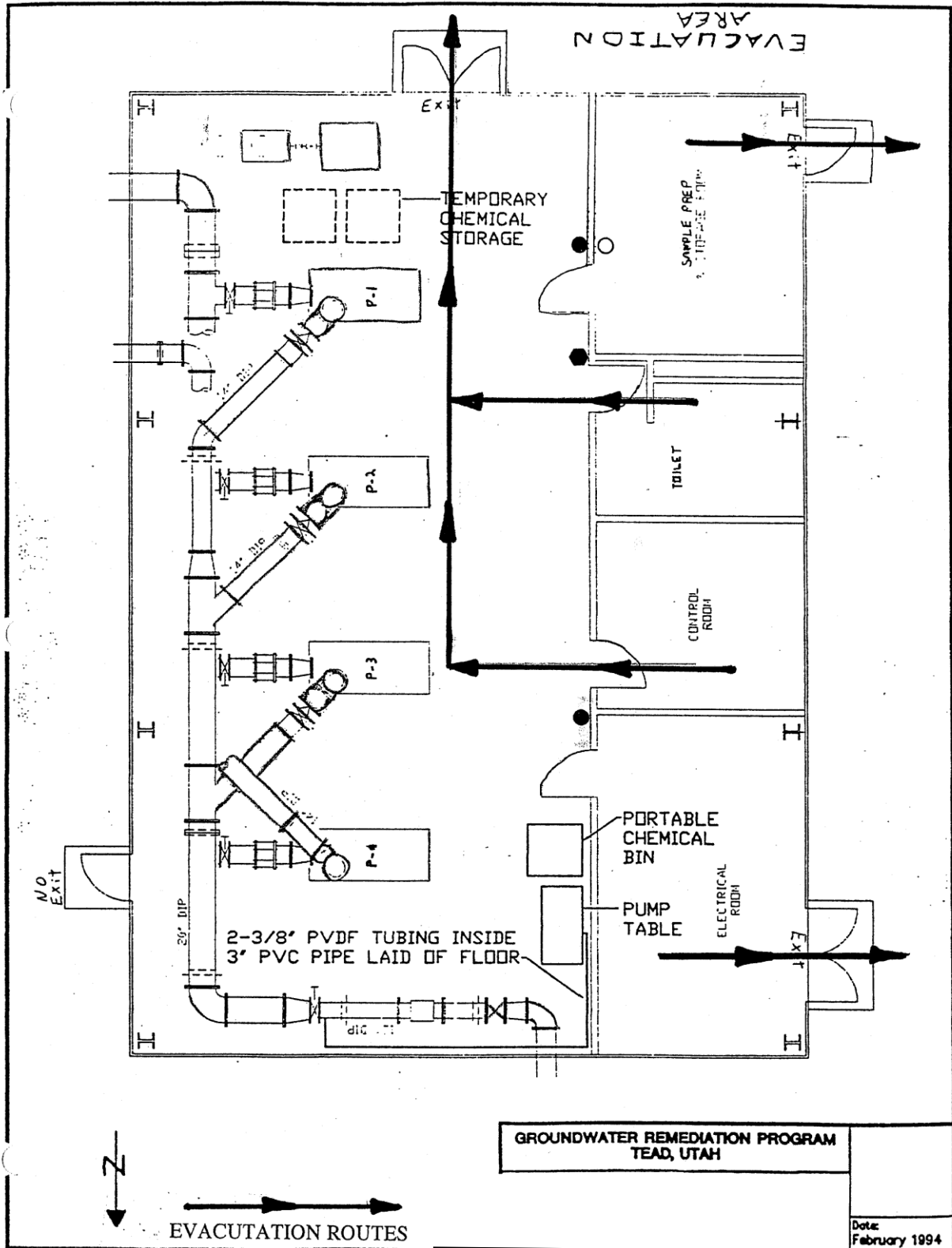
Figure “1” provides a map depicting evacuation routes and assembly areas for the site.

Emergency Medical Treatment Procedures

Any person who becomes ill or injured in the work zone must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination will be completed and first aid administered prior to transport. If the patient’s condition is serious, at least partial decontamination will be completed (i.e. complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket). First aid will be administered while awaiting an ambulance or paramedics. All injuries and illnesses must be immediately reported to the SSO, project manager and the corporate health and safety officer.

Any person being transported to a clinic or hospital for treatment will take a copy of the SSHP with him. Copies of the Material Safety Data Sheets also need to accompany the employee to the medical facility. Any vehicle used to transport contaminated personnel will be decontaminated and cleaned. Any person who becomes ill or injured without the concern of contamination shall also seek appropriate medical assistance.

Figure 1. Evacuation Routes and Safety Equipment Locations



Emergency Contact and Notification System

The following list provides names and telephone numbers for emergency contact personnel. In the event of an emergency, personnel will take direction from the project manager or SSO and notify the appropriate emergency organization. In the event of a fire or spill, the project manager will notify the appropriate local, state, and federal agencies. This contact list will be posted by all GWTP telephones.

Organization	Contact	Telephone#
GWTP Contract Operations	Dave Imlay	(801) 557-3501 mobile
TEAD Client	Larry McFarland	(435) 833-3235 office (435) 882-7940 home
Ambulance:	TEAD Health Clinic/Fire Dept.	(435) 822-2911 emergency (435) 833-2575 business
Police:	TEAD Security	(435) 833-2911 emergency (435) 833-2315 business
Emergency Coordinator:	Jeff Principe/IOSC	(435) 833-2568 office (435) 830-5694 mobile
Alternate 1:	Robert Callister	(435) 833-2559 office (435) 882-6530 home
Alternate 2:	Dean Chamberlin	(435) 833-3733 office (435) 833-0585 home
Fire:	TEAD Fire Department	(435) 833-2911 emergency (435) 833-2015 business
Chief, Fire Department	Nestor Talamante	(801) 966-6768 home
Assistant Fire Chief	Charles Grizzell	(435) 882-5540 home
Assistant Fire Chief	Dan Dow	(435) 882-7471 home
Hospital	Mountain West Medical Center	(435) 843-3600
Poison Control Center	Intermountain Region	(800) 222-1222 emergency
U of U Medical Center		(801) 586-0600 business
EPA Region VIII		(800) 227-8917 business

Utah Department of Environmental Quality Division of Solid & Hazardous Waste	(801) 538-6170
National Response Center	(800) 424-8802
Center for Disease Control	(404) 488-4100
Chemtrec	(800) 424-9555

Contingency Plan Structure

The primary objective of any safety program is to prevent accidents. Constant vigilance and awareness of potential hazards and a continuing effort to eliminate or control them are prime requisites to accident prevention. However, emergencies sometimes develop. An important part of any safety program is preparation for potential events, so proper action may be taken. Emergencies that might arise may fall within the following categories:

Waste-Related

1. Spills/leaks of toxic materials
2. Fires
3. Explosions
4. Release of toxic vapors
5. Power failures
6. Discovery of radioactives

Worker-Related

1. Minor accidents (slips, trips, falls)
2. Chemical exposure
3. Medical problems (heat stress, heat stroke)
4. PPE failures (breakthrough)
5. Physical injury (equipment operation, serious falls)
6. Electrical (shocks, burns, electrocution)

If an emergency situation arises, the person on duty or responding must take the time to assess the situation, decide on the course of action, and then carry out the plans in a safe, orderly and controlled manner. If the procedure required to correct an emergency situation is too extensive or unsafe to be handled by the personnel on hand, the additional personnel required to correct the situation must be contacted. This could include the fire department, police, ambulance and other emergency agencies.

Emergency Coordinators:

The GWTP plant manager is the primary emergency coordinator. The GWTP operations personnel will act as the alternate coordinators. The coordinator is responsible for coordinating

emergency response efforts at the GWTP. The coordinator will also serve as an advisor and information resource to outside agencies. The coordinator will also direct and advise on cleanup activities following an emergency incident.

Emergency coordinators have full authority to commit all available facility emergency equipment and resources in response to an incident. They are also fully authorized to direct internal emergency response efforts.

Operations Personnel:

The GWTP operations personnel will act as alternate emergency coordinators.

Major responsibilities include the following:

1. Shut down the GWTP to limit the extent of the incident at the direction of the emergency coordinator.
2. Keep a log of the emergency incident.
3. Stock and maintain emergency response equipment.

Initial Notification:

The first link in any emergency action is the person discovering a problem or dangerous situation. Upon observing an emergency situation, the person will immediately warn any nearby personnel of the potential hazard and then alert the plant manager or the acting emergency coordinator.

Emergency Coordinator Action:

Upon receiving an alert, the emergency coordinator will immediately go to the site of the problem to evaluate conditions. After identifying the character, source, and amount of materials and or wastes involved, the coordinator will assess the incident.

Contingency Plan Implementation Criteria

The emergency response measures in the contingency plan will be implemented but not limited to, whenever any of the following criteria are met:

Spills:

1. The spill could result in the release of flammable liquids or vapors creating a fire or gas explosion hazard.
2. The spill could cause the release of toxic liquids or vapors posing a potential threat to nearby populations or environment.
3. The spill can be contained on-site but the potential exists for groundwater contamination.
4. The spill cannot be contained on-site resulting in off-site surface water contamination with the accompanying potential threat to human health and the environment.

Fire:

1. The fire could cause the release of toxic vapors posing a potential threat to the environment and nearby populations.
2. If the fire spreads, it could ignite other materials or cause heat-induced explosions.
3. The use of water or water and chemical fire suppressants could result in contaminated runoff.

Incident Follow-up Action Procedures

Following an incident of any type, there will be wastes and residues remaining at the location of the incident. These materials will consist of released materials, contaminated soil or water, and residues from materials used in efforts to control the situation, such as fire fighting chemical residues and contaminated sorbent materials. Corrective action to neutralize these wastes and residues will be initiated within 24 hours to prevent any further contamination or threat to human health, and to return the facility to proper operating conditions. Collected residues and wastes will be managed and disposed of as hazardous wastes unless testing indicates that the materials are non-hazardous.

The following general procedures will be applied following any incident:

1. After a spill clean up, repair or replace any damaged or affected operating equipment and any spill response equipment used. Return spill response equipment to its original location.
2. Decontaminate or replace any PPE used and return it to its original location in a state of readiness.

The emergency coordinator will have the following specific responsibilities with regard to follow-up operations:

1. Direct the facility support personnel in collecting, storing, testing, and disposing of recovered waste and contaminated soil, water, and other material resulting from the incident.
2. Verify that cleanup procedures are properly completed and any damaged emergency or operating equipment is completely repaired or replaced prior to resuming treatment operations.
3. Notify the Tooele Army Depot, Director of Environmental Management prior to resuming operations that cleanup and equipment repairs have been completed.
4. Submit a written report to the Tooele Army Depot, Director of Environmental Management and the State of Utah, Department of Environmental Quality, Division of Solid and Hazardous Waste which includes:

-Name, address, and telephone number of the facility

- Date, time, and type of incident
 - Name and quantity of material involved
 - The extent of any injuries
 - An assessment of actual or potential hazards to human health, or the environment, where this is applicable
 - Estimated quantity and disposition of recovered material that resulted from incident
5. The plant manger will also complete a PSG incident report and submit to the Regional Safety Manager at the Houston Corporate office

Spill Control Plan

The Groundwater Treatment System (GWTP) uses a series of pumps, piping, process tanks and unit processes that convey water and chemicals throughout the plant for treatment. The possibility exists for equipment failures or accidents that can result in spill or leak emergencies. Spills can occur by using incorrect chemical handling procedures and equipment failure. Leaks can occur during equipment failure (i.e. piping connections, valves etc.).

Spill and Leak Control Measures

A comprehensive inspection and maintenance program of the GWTP process equipment is in place. This provides an effective means of preventing accidents that can cause spill or leak emergencies. Many imminent equipment failures can be identified and prevented through the inspection program, and regular maintenance will protect against equipment failures.

The GWTP is also equipped with several interlocks on the process equipment to prevent spills. These interlocks shall be manually activated annually (every July) to ensure proper operation They are as follows:

Surge Tank High Level:

Outside the treatment facility there is a 50,000-gallon influent equalization tank. This tank has several engineered spill prevention controls. The tank is self-contained within a concrete secondary containment wall. The secondary containment will hold the contents of the surge tank A process interlock to control over filling and spillage of the groundwater is incorporated. The "SURGE TANK HIGH LEVEL" alarm interlock will open or close the influent flow control valve (FCV-50) adjusting flow to the surge tank in relation to the process control set point.

Surge Tank Containment High Level:

As backup, if the surge tank overflows or leaks the water will flow to a sump (sump #1) and be pumped back into the tank. If or when the sump fills the "SURGE TANK CONTAINMENT HIGH LEVEL" alarm interlock will close the influent control valve and stop influent flow.

Stripper Tank High Level:

The air stripping towers are self-contained within a secondary containment wall. Overfilling and/or leaks in this area are also controlled by alarm interlocks. "STRIPPER TANK HIGH LEVEL" alarm interlock will close the stripper feed water control valves (FCV-63 and/or FCV-64) stopping flow to the respective tower.

Stripper Tank Containment High Level:

If the stripper tank(s) overflow or leak the water will flow to a sump (sump #2) similar to the sump in the surge tank containment and be pumped back to the surge tank. If the containment area fills and activates the "STRIPPER TANK CONTAINMENT HIGH LEVEL" alarm interlock, plant operations personnel are notified through the alarm enunciator panel.

Stripper #1 and #2 Low Air Flow:

If air flow to the air strippers is low or stops and water is unable to be treated, alarm interlocks "STRIPPER #1 LOW AIR FLOW" and/or "STRIPPER #2 LOW AIR FLOW" will close flow control valves (FCV-63) and/or (FCV-64). All outside mechanical secondary containment alarm systems are checked daily for obstructions. All above ground process piping and fittings are checked daily for leaks. Alarm interlocks are checked annually to insure proper working order.

Pump Failure #1 or #2 or #3:

Inside the treatment facility, spills or leaks in the process area may enter a series of floor drains emptying into the surge tank containment sump to be processed. If a process pump and/or piping should leak (GPM), a low flow alarm interlock will shut off the process pump(s) and this will be indicated by a "PUMP FAILURE" notification on the control panel. All inside process piping systems and fittings are checked daily for leaks. Alarm interlocks are checked annually to insure proper working order.

Extraction Well Pump High Discharge Pressure:

Each extraction well (16) has three engineered spill prevention controls. Each extraction well is designed to activate a shut off alarm interlock if a preset high-pressure condition should exist.

Extraction Well Pump Low Flow Cutout:

If a leak should develop at one or more of the extraction wells, a low flow cut out alarm interlock will shut down the respective pump. If an extraction well or wells should experience a loss of power, a timed delay of 60 minutes will not allow the well to restart. Each extraction well vault and respective discharge piping is checked weekly for any leaks. All extraction well alarm interlocks are checked annually to insure proper working order.

Sampling:

When sampling from dedicated sample taps (i.e. influent, effluent, and extraction wells), the operator shall take all necessary steps to prevent any spillage of water. A bucket shall be placed under the sample tap to contain any purge water. The operator shall open the valve, so to create a low laminar flow, and to avoid the possibility of any water splashing outside of the bucket.

When sampling from a monitoring well, the operator shall take the following precautions to avoid spillage of water. A bucket will be placed under the sample tap, when sampling for water quality parameters, and for chromium. When using a bailer, a paper towel will be used to wipe off any excess water from the outside while raising the bailer out of the well. A bucket with plastic laid beneath it will also be used under the bailer while taking samples. All purge water will be pumped directly from the well into a tank. All decon water will be contained in a plastic lined trough, then pumped into a holding tank.

All water collected from either sampling procedure will be disposed of at the Tooele Army Depot Groundwater Treatment Plant.

Extended Shutdown Procedure:

The purpose of this procedure is to ensure that during any extended plant shutdown the extraction wells will not restart and overflow the influent surge tank. This includes controlled shutdowns as well as extended power outages.

The following procedures will be followed.

1. The influent flow control valve (FCV 50) will be closed manually to ensure that no water can enter the surge tank.
2. All extraction well variable frequency drives (VFD's) will be turned to the off position with the hand/off/auto switch located inside the VFD cabinets. The extraction well VFD's are labeled as follows E-1, E-2.1, E-2.2, E-3.1, E-3.2, E-4, E-5, E-6, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15.

Spill Response Plan

In the event of a release the coordinator shall implement the spill response plan, he/she will take the following action:

- 1) The coordinator will shut down the GWTP to ensure that the incident does not recur or spread to other areas. He/she will also monitor the shutdown and equipment for leaks, pressure build-up or any other potential problems.
- 2) Evacuate the GWTP if evacuation is required.
- 3) Summon ambulance assistance if required.

- 4) Notify the Tooele Army Depot, Director of Environmental Management.
- 5) Collect water or soil samples from the affected spill area.
- 6) Contained hazardous wastes from chemical spills must be containerized, labeled and disposed of adhering to all applicable DSHW, EPA and DOT regulations.
- 7) A written report will be completed by the project manager and submitted to the Tooele Army Depot, Director of Environmental Management and to the State of Utah, Department of Environmental Quality, Division of Solid and Hazardous Waste.

The report will at least include:

- a) Name and telephone number of reporting individual.
- b) Name and address of the GWTP.
- c) Time and type of incident.
- d) Name and quantity of materials involved.
- e) The extent of any injuries.
- f) The possible hazards to human health or the environment outside the facility.
- g) Appropriate sampling analytical results

Actions to control, contain, and cleanup spills are to begin when a spill is observed. The following items outline the actions to be taken in various situations.

The Emergency Coordinator will:

- 1) Identify the source of the spill and direct the shutdown of the appropriate equipment pumping to the spill source. He/she will close the proper valves in the piping leading to the source spill.
- 2) Direct the shutdown of other operating equipment affected by the shutdown of equipment leading to the source of the spill.
- 3) Institute monitoring of all equipment that was shutdown.
- 4) Determine the equipment, material and personnel needed for cleanup efforts based on;
 - type of spilled materials
 - extent of spill
 - procedures to be followed
- 5) Direct the spill clean-up effort.
- 6) Authorize the resumption of GWTP operations when the spill clean up is completed.

Process Water Spills:

Process water spills in the process area will enter a floor drain system emptying into the surge tank containment sump (#1). The pump in sump #1 will transfer collected water to the surge tank. Response measures in this event will be limited to shutting down operations, controlling and repairing the source of the spill, and flushing residual contaminated water on the floor into the drainage system. Clean up will involve hosing and washing down affected floor areas into the floor drain system. The water collected in sump #1 and the surge tank will be processed through the treatment system resulting in a closed loop for spill control and cleanup.

Chemical Spills:

The only bulk chemical stored at the TEAD GWTP is sodium Hexametaphosphate (CL-50). In the event CL-50 is spilled in the GWTP, personnel will flush it into the floor drain system with copious amounts of hot water.

Spillage of Oil on Water:

The dispersion of the spill will be controlled by placement of a floating boom in such a manner that the spilled material is encircled and contained within the boom. Sorbent pillows and pads will be placed on the water inside the boom to absorb residual material or low volume spills. If the spilled material is of sufficient volume, a subcontractor will be called to remove the material with a skimmer-type vacuum pump that will be used to collect the material from the surface of the water. All collected wastes will be packaged and disposed of in accordance with applicable state and federal regulations.

Fire/Explosion and Vapor Release Emergencies

The GWTP is constructed with materials that possess a low combustion rate; however the potential of fire exists from the electrical systems.

Fire/Explosion and Vapor Release Control Measures

The GWTP has been provided with multi-purpose dry chemical fire extinguishers. The specially formulated, dry chemical in the extinguishers is more effective than water on Class A fires and is also extremely effective on Class B and C fires. The following is a definition of different classes of fires and how each type of extinguisher works on the fire.

CLASS A Paper, wood, cloth, etc. The chemical in the extinguisher forms a smothering film and prevents re-flash.

CLASS B Burning liquids such as gasoline and oils that have to be smothered. The chemical smothers the fire and prevents re-flash.

CLASS C Fire in live electrical equipment such as motors, switches and electrical cabinets. Covers the fire with a non-conducting smothering film that screens the operator from heat.

GWTP staff may use the extinguishers to respond to small fires. Figure “1” provides a map of the location of the extinguishers. Personnel are familiar with their locations and are trained in their use. All fires regardless of size shall be reported to the TEAD Fire Department.

Fire/Explosion and Vapor Release Response Plan

If a fire is extremely small in size and has limited fuel with little likelihood of spreading, e. g., wastebasket or a small pile of rags, facility personnel will neutralize it with fire extinguishers. For all other fires, the GWTP fire alarm box will be activated and facility personnel will not attempt to control the fire. Fire extinguishers will only be used to extricate personnel from burning areas. All personnel will evacuate the facility upon hearing the fire alarm .

All firefighting will be performed by the TEAD Fire Department which will respond to the alarm using information and advice from the coordinator regarding materials on fire and facility layout.

The following general procedures will be applied to fight all fires at the GWTP:

1. Determine the identity of materials involved in the fire.
2. Evacuate any endangered persons from the site.
3. Define the limits of the fire and estimate the potential dangers of spread to other materials in the immediate vicinity.
4. Firefighting personnel are to wear full protective clothing and breathing apparatus, as appropriate, and based on the advice of the coordinator.
5. Specific technical decisions such as the use of fog equipment, use of water vs. foam or chemical suppressants, and firefighting strategy will be made by the firefighting personnel based on the constraints of the situation.
6. When the fire has been extinguished the procedures outlined in this document will be followed.

If any fire involves the release of a hazardous material, that migrates off-site as a liquid, solid, gas or vapor, the Tooele Army Depot, Director of Environmental Management must be immediately notified.

Power Failures

Power failures typically occur as a result of storms or accidents that disrupt power lines. A loss of power at the GWTP would result in the complete shutdown of the system. Shutdown of the GWTP for a few hours or even a few days is not expected to have an adverse effect on the remediation of the groundwater; however, the DSHW needs to be contacted if loss of power exceeds 24 hours.

Power Failure Control Measures

If the power supply to the GWTP fails, the GWTP telemetry system will notify the operating personnel and response will be approximately 20 minutes.

Emergency Plant Shut Down

If a failure occurs that requires shut down of the GWTP, the operations personnel will shut down the extraction wells using the GWTP computer (SCADA System) and then will be able to shut down additional equipment and valves in response to an emergency. Equipment shut down can be achieved with the use of manual switches and valves as appropriate.

If a failure occurs when personnel are not present, the interlocks will accomplish the GWTP shut down. The following activates automatic shut down of the extraction well pumps:

1. Surge Tank High Level:
2. Surge Tank Containment High Level:
3. Stripper Tank High Level:
4. Stripper #1 and #2 Low Air Flow:
5. Pump Failure #1 or #2 or #3:
6. Extraction Well Pump High Discharge Pressure:
7. Extraction Well Pump Low Flow Cutout: