

APPENDIX J

TECHNICAL REPORT ON

EMERGENCY AND SECURITY PLANS

BP CHERRY POINT COGENERATION PROJECT

Prepared ~~for~~by:

BP West Coast Products, LLC

REVISED

~~Submitted by:~~

~~Golder Associates Inc.~~

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EXECUTIVE SUMMARY

This appendix describes various emergency and security plans that exist or will be developed or modified for the BP Cherry Point Cogeneration Plant (Cogeneration Plant). The BP Cherry Point Refinery (Refinery) currently operates adjacent to the proposed location of the Cogeneration Plant. The Refinery has an excellent safety record and has excellent health, safety, and emergency plans. These plans have been in place for many years, are practiced by employees on a periodic basis, are updated regularly, and comply with applicable local, state and federal regulations. In many instances, the potential hazards present at the Refinery are the same as or similar to the potential hazards that may be present at the Cogeneration Plant. Refinery emergency plans that are applicable for the Cogeneration Plant will be modified for use at that facility.

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1. Introduction

This appendix addresses the following events:

- Construction – related emergencies,
- Plant evacuation
- Fire and explosion
- Onsite natural gas release
- Chemical spill or release
- Oil spill or release
- Onsite ammonia release
- Offsite ammonia release
- Abnormal weather
- Earthquake
- Medical emergency
- Plant power failure, and
- Terrorist and bomb threat, civil disorder incident

The plans identified below were developed to provide for the safety of employees and the public, and to protect the environment in case of a natural disaster or major incident relating to or affecting the Cogeneration Plant.

The Refinery has implemented a Fire Emergency Response Operations (FERO) Plan, which provides detailed guidelines to facilitate effective response actions to emergencies. The FERO Plan provides specific information to assist responders, and includes set up of command structure, duties and responsibilities, checklists for responders, equipment lists, instructional guides, and strategic actions for potential or critical incident scenarios that may occur in or around the Refinery. The FERO plan applies to all emergency response activities except oil spill and response, which are covered by regulatory-mandated response plans. General incident and response categories covered by the FERO that will be specifically modified to address the Cogeneration Plant conditions are:

- Fire/explosion,
- Rescue,
- Emergency medical services
- Insulation removal during emergencies,
- Terrorist and bomb threat security,
- Civil disorder security,
- Earthquake,
- Transmission pipeline leak/rupture,
- Natural gas pipeline leak/rupture, and
- Offsite ammonia release.

The FERO Plan is matrixed to the companion Emergency Preparedness Plan (EPP), which provides preparedness and planning information related to preparing for potential emergency conditions. The plan is intended to conform with and incorporate applicable regulatory guidelines of local, state and federal agencies.

General incident and response categories covered by the EPP that will be specifically modified to address the Cogeneration Plant conditions are:

- Emergency notification and alerting,
- Site security and control,
- Personal protection equipment and decontamination,
- Evacuation,
- Emergency response team organization, qualifications and training, and
- Specific emergency incident and response scenarios.

Where appropriate, the Refinery will coordinate emergency response efforts with local emergency agencies (sheriff/fire services/emergency medical services), the Washington Department of Ecology, the local emergency planning commission, and other organizations to mitigate potential emergency situations. All plant employees will receive regular training to ensure that effective and safe action will be taken to limit the effects of an emergency at the Cogeneration Plant.

Each section of this appendix addresses immediate actions, follow-up actions, notifications, evacuation, emergency signals, and responsibilities, as appropriate.

2. Construction

This section discusses the three most probable construction-related emergencies:

- Fire
- Spill or release of hazardous materials
- Medical situations

It should be noted that the Cogeneration Plant construction will be performed by contractors experienced in the construction of gas-fired electrical generation plants and with the construction of gas pipelines, installation of ammonia systems, and power transmission lines. The construction specifications will require that contractors prepare and implement a safety program that includes an emergency plan. The contractors' emergency plans will address all information required by local, state, and federal regulations and the information described in this section.

The Cogeneration Plant will have procedures in place to ensure that the contractors

1. Perform their work in a safe manner,
2. Have the appropriate knowledge and skills,
3. Are aware of the hazards in their workplace,
4. Understand what they should do in the event of an emergency,
5. Understand how to follow the site safety rules, and
6. Plant personnel of any hazards that they find during their work.

This is accomplished by providing the contractors with

1. Process overview,
2. Information about safety and health hazards,
3. Emergency response plan requirements,
4. Training in safe work practices prior to their beginning work.

The Plant owner/operator will evaluate contractor safety programs and performance during contractor selection.

2.1 FIRE DURING CONSTRUCTION

There is potential for an accidental fire to be caused by construction a vehicle operating in dry grass or by sparks thrown from a welding or cutting torch. There is also a risk associated with the use and storage of small quantities of flammable liquids and compressed gases, including construction equipment fuels, paints, and cleaning solvents. Hazards associated with these materials will be mitigated by following the construction safety requirements found in Washington Administrative Code (WAC) 296-155 and 29 Code of Federal Regulations (CFR) 1926 (OSHA).

2.1.1 IMMEDIATE ACTIONS

- Stop all hot work.
- Shut down all fuel if necessary.
- Assess the size of the fire and the resources available to suppress it.
- If the fire is small enough, extinguish it.
- Notify others in the area.
- Notify the shift foreman and local fire department if necessary.
- Conduct a head count.
- Evacuate the area if necessary.

2.1.2 FOLLOW-UP ACTIONS

- Assess the size of the fire and the affected areas.
- Determine the cause of the fire and take follow up actions to prevent recurrence.
- Prepare documentation in accordance with incident reporting requirements.

2.1.3 NOTIFICATION

- Notify construction manager and shift foreman.
- Notify Whatcom County Fire Department, [Fire District # 7, at](#) 911 or (360) 384-0303 if the fire cannot be easily extinguished with onsite equipment and personnel.

2.1.4 EVACUATION

The need for evacuation of the construction site as a result of a controllable fire is unlikely. Should evacuation be needed, it will be conducted in accordance with procedures defined in the Cogeneration Plant EPP plan.

2.2 RELEASE OF HAZARDOUS MATERIALS DURING CONSTRUCTION

To minimize the potential release of hazardous materials during construction, Best Management Practices will be employed. These will include good housekeeping measures, regular job-site inspections, the use of containment facilities, and spill prevention practices. Refer to Section 8 for procedures involving an onsite ammonia release during construction.

There is a remote possibility that a release of hazardous materials from the adjacent Refinery could impact the Cogeneration Plant construction site. Possible releases could be from a railcar spill (the railroad spur is located along the west property boundary of the Cogeneration Plant), or an ammonia release. In the event that the spill is of such magnitude that it could compromise the health and safety of workers at the Cogeneration Plant, evacuation procedures will be initiated.

If required, a licensed waste contractor will treat or dispose of spilled materials and affected soil in compliance with all federal, state, and local regulations.

2.2.1 IMMEDIATE ACTIONS

- Determine what type and quantity of substance released.
- Notify others in the area and if necessary have workers relocate to designated safe assembly points.
- Contact the Refinery shift foreman to coordinate response actions as necessary.
- Qualified responders, wearing proper personal protective equipment, would stop the leak if it is safe to do so.
- Qualified responders would contain the spill and mitigate the spill effects.

2.2.2 FOLLOW-UP ACTIONS

- Assess the cause of the release and take action to prevent recurrence.
- Document the incident in compliance with applicable regulations and BP spill policies.

2.2.3 NOTIFICATION

- Notify construction manager and shift foreman.
- Notify the appropriate individuals.
- Notify the appropriate agencies

If it is determined that a reportable quantity has been released (see Section 1.6), the following agencies must be notified:

- National Response Center: (800) 424-8802.
- Washington Community Right-to-Know Unit: (800) 258-5990.
- Washington Department of Ecology: (360) 738-6280.
- Northwest Air Pollution Authority (NWAPA): (360) 428-1617.
- Whatcom County Department of Emergency Services: (360) 676-6681.

If outside resources are required to assist with the cleanup or containment of the release, the following will be contacted:

- Whatcom County Sheriff's Department at 911 or (360) 676-6650.
- Whatcom County Fire Department at 911 or (360) 384-0303.

2.2.4 EVACUATION

The need for evacuation of the construction site due to hazardous materials release is unlikely. Should evacuation be needed, it will be conducted in accordance with procedures defined in the Cogeneration Plant EPP plan.

2.3 MEDICAL EMERGENCIES DURING CONSTRUCTION

Selected construction personnel will be trained in first aid, cardiopulmonary resuscitation (CPR), and rescue breathing in accordance with state, local, and federal regulations. The general contractor will maintain first aid and blood borne pathogen kits onsite.

Emergency medical care is available at St. Joseph Hospital (360) 734-5400. This medical center is approximately 8 miles south of the Cogeneration Plant. The approximate travel time is 20 minutes.

2.3.1 IMMEDIATE ACTIONS

The situation will be assessed. If needed, emergency medical assistance will be summoned by calling 911.

Personnel trained in first aid will be administered first aid until medical assistance arrives. Evaluation of the injured at the scene will be performed using the following steps:

- Determine whether it is safe for the rescuer and victim to remain in the area.
- Survey the victim to make sure that the injured person is breathing, their heart is beating, and they are not bleeding. These issues must be addressed first.
- Obtain offsite medical assistance.
- Keep the victim calm, warm, and quiet until medical help arrives.

2.3.2 FOLLOW-UP ACTIONS

All occupational accidents, injuries, or illnesses will be reported immediately to the construction superintendent and designated site safety officer. Incident investigation procedures will be implemented.

After the incident investigation is completed and root causes identified, Recommended actions will be implemented to prevent recurrence.

In cases of significant injury, the injured person's next of kin will be notified either in person or by telephone, at the discretion of the construction superintendent.

The Washington Department of Labor and Industries (WDOL&I) will be notified in compliance with their reporting requirements.

2.3.3 NOTIFICATION

The construction manager and construction safety and health officer will be notified in the event of a medical emergency. Information concerning the time, nature, location, and extent of injury will be given, if possible. The plant safety and health coordinator will be responsible for reporting accidents in accordance with state, local, and federal requirements.

2.3.4 EVACUATION

Evacuation of any injured personnel from the construction site who require additional care will generally be by ambulance.

3. Operations

3.1 EMERGENCY PLANT EVACUATION

Should an emergency situation deteriorate to the point where the safety of personnel working in the Cogeneration Plant is compromised, the plant manager or a designated individual will activate an evacuation alarm. The evacuation will be conducted in accordance with procedures defined in the Cogeneration Plant Emergency Preparedness Plan (EPP) plan.

3.1.1 IMMEDIATE ACTIONS

- Activate the EPP. The steps to be taken will depend upon the nature of the emergency, but generally the following steps would be taken.
- Sound the appropriate alarm to notify all employees.
- Notify the Refinery Shift Supervisor as to the extent of the emergency, coordinate emergency response plan actions and communicate resource needs.
- Engage automatic equipment shutdown systems as required.
- Shut down all hot work (such as welding, cutting, drilling, grinding, and smoking).
- Ensure that automatic safety systems are actuated as required and are functioning properly.
- Secure sources of fuel as required.
- Escort visitors and contractors to the designated assembly area (this should be done by the visitor's key contact person).

Personnel not involved with emergency response will walk to the designated assembly area. Should any person not be accounted for, the plant manager or designated individual will be notified.

3.1.2 ASSEMBLY AREA

Signs posted around the plant will define the primary and alternative emergency assembly areas. The choice of the assembly area selected will depend on the type of emergency and other relevant factors.

All personnel will remain at the emergency assembly area until otherwise instructed by the plant manager or a designated individual. All personnel will sign out prior to leaving the assembly area.

3.1.3 NOTIFICATION

Does not apply.

3.1.4 EVACUATION

Does not apply.

4. Fire or Explosion

4.1 FIRE OR EXPLOSION AT THE FACILITY

Operation of the Cogeneration Plant has an inherent risk of fire through mechanical failure, malfunctions in the electrical system, and human error. The risks associated with fire can be minimized through safe work habits, fire prevention, and training.

4.1.1 IMMEDIATE ACTIONS

- Assess the situation and activate the FERO plan. Based on the nature of the emergency, the following steps would be taken:
- Stop all hot work and evacuate nonessential personnel as required.
- Sound the fire alarm; call for emergency medical assistance if needed.
- Contact the Refinery Shift Supervisor and notify him of the nature of the emergency. Coordinate emergency response actions.
- Activate automatic safety and equipment shutdown systems if required.
- The incident response team (staffed by qualified personnel) will extinguish fires if this can be safely done, otherwise they will prevent the spread of the fire and call for outside assistance.
- Secure energy sources (fuel valves, circuit breakers and the like) as necessary.
- Verify that the fire control valves are open and operating near the fire and check the operational status of the fire pumps.

4.1.2 FOLLOW-UP ACTIONS

- Assess the size and condition of areas affected by the fire or explosion.
- Determine the cause of the fire, and take actions to prevent recurrence.
- Document the incident in compliance with regulatory and BP requirements.
- Notify the appropriate individuals and regulatory agencies in the event of smoke emissions.

4.1.3 NOTIFICATION

- Plant manager and shift foreman
- Whatcom County Sheriff's Department at 911 or (360) 676-6650.
- ~~Whatcom County Fire Department at 911 or (360) 384-0303.~~
- Fire Jurisdiction Having Authority, Fire District # 7, at 911 or (360) 384-0303.

4.1.4 EVACUATION

Evacuation of the Cogeneration Plant in the case of a fire or explosion would proceed as outlined in Section 3 Plant Evacuation.

5. Onsite Natural Gas Release

5.1 NATURAL GAS RELEASE (ONSITE)

The Washington Utilities Transportation Commission (WUTC) is responsible for enforcement of pipeline safety rules pertaining to construction, maintenance, and operation of pipelines that transport natural gas in the State of Washington. The regulatory authority is found in WAC 480-93. This regulation reads:

“In compliance with the provisions and general intent of the federal Natural Gas Pipeline Safety Act, 49 CFR, Part 192, every gas company shall develop appropriate operating, maintenance, safety, and inspection plans and procedures and an emergency policy. Such plans and procedures, and all subsequent changes and amendments, initiated by the gas company or pursuant to changes in state and federal rules and regulations, shall be promptly filed with the commission, for review and determination as to their adequacy, when properly executed, to achieve an acceptable level of safety.

In case of a natural gas release, an evacuation may be required if the release is in an amount sufficient to cause, or have the potential to cause, fire or explosion in the Plant. After it is determined that there is a natural gas release, the plant manager or shift foreman will be notified immediately.

Plant operators will be trained to recognize hazardous conditions within the plant related to the gas pipeline. Suspected natural gas leaks will be investigated using the site atmospheric monitor that measures the percentage of oxygen and explosive gases in the ambient air. This equipment is available to trained personnel.

5.1.1 IMMEDIATE ACTIONS

In the event of an onsite natural gas release (assuming that there is no related fire), the following immediate actions will be taken:

- Assess the seriousness of the situation and activate the fire alarm, if needed.
- Immediately stop all hot work
- Notify the Refinery Shift Supervisor to coordinate response actions
- Activate automatic safety and equipment shutdown systems as appropriate.
- The incident response team will determine how to safely stop the leak, including the use of automated shutoff valves if appropriate
- If the leak threatens the health of employees, notify nonessential personnel to assemble in designated assembly areas upwind of the leak.

5.1.2

5.1.2 FOLLOW-UP ACTIONS

In case of an onsite natural gas release, the following follow-up actions will be taken:

- Assess the cause of the leak and take actions to prevent recurrence.
- Begin the internal and external notification procedures, as necessary.

5.1.3 NOTIFICATIONS

Notify the plant management team:

- Plant manager or shift foreman
- Plant safety supervisor or lead engineer
- As appropriate, the WUTC will be notified of releases or anomalous conditions, as required in WAC 480-93-183, below.

All gas companies shall establish a maximum operating pressure for a pipeline or system, in accordance with this chapter, and notify the commission of the following pressure related changes:

- (1) When a pipeline or system pressure exceeds the established maximum operating pressure, the commission shall be notified within six hours, to be followed by written explanation within thirty days;
- (2) When a gas company proposes to raise any pipeline's pressure 250 psig, the gas company shall petition the commission for a waiver of WAC 480-93-030, if applicable, before increasing the pressure;
- (3) When a gas company proposes to raise any pipeline's pressure above 500 psig, the gas company shall petition the commission for a waiver of WAC 480-93-020, if applicable, before increasing the pressure;
- (4) When a pipeline or system operating at low pressure drops below the safe operating conditions of attached appliances and gas equipment; and
- (5) When a pipeline, operating in excess of 250 psig, is taken out of service for any reason the commission shall be notified within six hours, followed by written explanation within thirty days.

5.1.4 EVACUATION

Evacuation of the Cogeneration Plant in the case of an onsite natural gas release would proceed as outlined in Section 3, Plant Evacuation.

6. Chemical Spill or Release

6.1 CHEMICAL SPILL OR RELEASE

Many regulations in the State of Washington apply to uncontrolled releases of chemicals to the environment. In case of an accidental release of hazardous chemicals, an evacuation may be required if the release is in an amount sufficient to cause, or has the potential to cause, harm to employees. The majority of chemicals at the Cogeneration Facility will be chemicals used for water treatment. Spills of fuels or oil that may occur from equipment or on-site transformers are addressed in Section 7, Oil Spill or Release.

In case of a chemical spill or release, the following will apply:

- Qualified responders, wearing the appropriate personnel protective equipment will respond to a chemical leak or spill of any hazardous material.
- It is doubtful any chemical release or spill would warrant plant evacuation, but if such were the case, all nonessential employees would be directed to proceed to the designated assembly area.

6.1.1 IMMEDIATE ACTIONS

In case of a chemical spill or release, the following immediate actions will be taken:

- Activate the SPCC plan.
- Assess the seriousness of the situation and the chemicals involved; activate the plant alarm if needed.
- Notify the plant manager, shift foreman, and safety/environmental coordinator.
- Qualified responders would stop the leak and contain the spill as close to the source as possible.
- Clean up the spill and remediate any soil contamination.

6.1.2 FOLLOW-UP ACTIONS

- Determine the cause of the spill or release and implement actions to prevent recurrence.
- Assess the damage caused by the release or resulting in the release.
- Obtain pertinent facts:
 - Name of the individual reporting the release
 - Date and time of the release
 - Type and concentration of the material released
 - Source and cause of the release
 - Location of the release
 - Quantity released
 - Medium (land, water, and air) affected by the release
 - Threat posed by the release
 - Number and type of injuries or fatalities, if any
 - Cleanup status

- Weather conditions
- Document the spill in accordance with regulatory and BP requirements.

6.1.3 NOTIFICATIONS

After it is determined that there is a hazardous chemical emergency, the plant manager and safety/environmental coordinator will be notified immediately.

Notification procedures will be implemented if spilled oil material or a Reportable Quantity (RQ) of a hazardous substance contaminates soil or water. Any oil (or petroleum product) that is released into public waters that results in an oily sheen is a reportable quantity.

Once it is determined that a reportable quantity has been released, the following agencies must be notified, as appropriate:

- Washington State Department of Ecology: (360) 407-6103.
- Whatcom County Department of Emergency Services at (360) 676-6681
- Northwest Air Pollution Authority (NWAPA) at (360) 428-1617
- Washington Division of Emergency Management at (800) 562-6108

If outside resources are required to assist with the cleanup or containment of the release, the following will be contacted:

- Whatcom County Sheriff's Department, at 911 or (360) 676-6650.
- Whatcom County Fire Department at 911 or (360) 384-0303.

6.1.4 EVACUATION

Evacuation of the Cogeneration Plant in the case of a chemical spill or release would proceed as outlined in Section 3, Plant Evacuation.

6.1.5 PRIMARY RESPONSIBILITIES

The primary responsibilities of the plant manager or designated individual, in case of a chemical spill or release, are as follows:

- Coordinate and direct the response efforts at the scene of discharge to ensure an effective response.
- Collect pertinent facts about the discharge or release, such as the source and cause.
- Determine the nature, amount, and location of the discharged or released materials.
- Determine the probable direction and time of travel of discharged or released materials.
- Determine the likely pathways to human and environmental exposure.
- Assess the potential impact on human health, welfare, safety and the environment.

- Estimate the potential impact on natural resources and property that may be affected.
- Set priorities for protecting human health, welfare, safety and the environment.
- Document costs.

7. Oil or Fuel Spill

Oil spill potential exists at the Cogeneration Plant from transformers, and rotating equipment. Oil or fuel spills could also occur from vehicles driven onto the Cogeneration Project site. Oil or fuel spills from the majority of these sources would typically result in the release of a small quantity of oil. A Spill Prevention, Control and Countermeasure Plan (SPCC) has been prepared for the Refinery, and would be significantly modified for the Cogeneration Plant. This plan would meet the requirements of WAC 463-42-205, WAC 463-42-525 and CFR 112. The major components of the existing plan include the following:

- Description of facility components.
- Spill prevention technology and procedures, which include;
 1. Facility drainage and wastewater treatment
 2. Bulk storage tanks
 3. Facility transfer operations (Not applicable)
 4. Marine terminal (Not applicable)
 5. Truck loading rack (Not applicable)
 6. Refinery-use fueling station (Not applicable)
 7. Spill prevention procedures
- Inspections and records
- Refinery security
- Spill prevention training

Site-specific components of the SPCC are identified below:

Spillage Prevention and Control Plan for Temporary Equipment used During Construction

Construction machinery fluids including diesel fuel, gasoline, motor oil and hydraulic fluid could potentially spill during construction. The EPC contractor's responsibility includes implementation of oil spill control measures and training of all construction personnel and subcontractors in oil spill avoidance and, if spills occur, in containment, clean up, and reporting procedures consistent as appropriate with applicable regulations and the current Refinery practices.

Construction equipment refueling will be closely supervised to avoid leaks or releases. Should a spill occur during refueling, it will be properly cleaned up by the general contractor and reported. If fuel tanks are used during construction, the fuel tank(s) will be located within a secondary containment with an oil proof liner sized to contain the single largest tank volume plus an adequate freeboard allowance for rainwater.

Lubricating oil stored on site in barrels will be temporarily stored in a secondary containment area to contain any spillage or in temporary warehouses.

Transformer oil will be pumped from a truck within a temporarily secondary containment area. Spills that occur during filling of the transformer will be properly cleaned up and reported.

Spillage Prevention and Control Plan for the Permanent Power Plant Equipment

Transformer Oil

Transformers will be installed within secondary containment areas that will hold the transformer's volume plus an adequate freeboard to accommodate rainwater.

Oil-Water Sewer

The Cogeneration facility will be provided with an oil-water sewer (OWS) system that collects water from selected equipment drains and rainfall or washdown runoff from curbed areas where water could come in contact with oil. Collected water will be drained or pumped to the existing Refinery water treatment system.

7.1.1 IMMEDIATE ACTIONS

In case of an oil or fuel spill or release, the following actions will be taken immediately:

- Activate the SPCC plan.
- Notify plant manager and other personnel.
- Stop the leak if possible.
- Contain the spill as close to the source as possible.
- Clean up the spill and remediate any affected soil.
- Protect all drains.
- Estimate all quantities (meaning the total spill released to the environment or to water).

7.1.2 FOLLOW-UP ACTIONS

Follow the same actions discussed above in Section 6, Chemical Spill or Release, follow-up actions.

7.1.3 NOTIFICATION

After it is determined that there is an oil or fuel spill or release, the plant manager and safety/environmental coordinator will be notified immediately. BP requires all oil spills to be promptly reported to its environmental department.

Any release of oil or petroleum product into public waters that results in an oily sheen is a reportable quantity. It is unlikely that this will occur in relation to the Cogeneration plant based on lack of proximity to navigable waters. If it is determined that a reportable quantity has been released, the following agencies must be notified:

- National Response Center: (800) 424-8802
- Washington Community Right-to-Know Unit: (800) 258-5990.
- Washington Department of Ecology: (360) 738-6280.

If outside resources are required to assist with the cleanup or containment of the release, the following will be contacted:

- Whatcom County Sheriff's Department, at 911 or (360) 676-6650.
- Whatcom County Fire Department at 911 or (360) 384-0303.

7.1.4 EVACUATION

Evacuation of the Cogeneration Plant, if required, would proceed as outlined in Section 8, Plant Evacuation.

8. Ammonia Release

8.1 AMMONIA RELEASE

The Cogeneration Project would use anhydrous ammonia, which will vaporize if spilled. Ammonia vapor is harmful to the skin, eyes, and respiratory tract above certain concentrations.

In case of an accidental release of ammonia at the plant, an evacuation may be required if the release is in an amount sufficient to cause, or has the potential to cause, harm to employees.

In case of an ammonia release, the following will apply:

- Nonessential employees will remain clear of release, and would be directed to a designated upwind assembly area if the leak threatens employee safety.
- Qualified responders would address the situation wearing proper personal protective equipment (PPE).
- The ammonia tank water deluge system and/or fire monitors could be used to mitigate the effects of an ammonia vapor release. The use of water would be controlled to prevent more rapid ammonia vaporization.
- Local authorities will be contacted immediately if the potential exists for off-site impacts.

8.1.1 IMMEDIATE ACTIONS

- Assess the seriousness of the situation and activate the plant alarm if needed.
- Notify the Refinery Shift Supervisor and coordinate emergency response actions.
- Provide emergency medical assistance if personnel are injured, call for outside assistance if needed.
- Qualified personnel would isolate the source of the leak from the ammonia system, stop the leak and mitigate its effects.
- Assess the potential for off-site impact and notify authorities of the leak. Coordinate notification procedures for people located downwind as needed, and request traffic control on downwind roads.

8.1.2 FOLLOW-UP ACTIONS

- Determine the cause of the spill or release and take action to prevent recurrence.
- Assess the damage caused by the release or resulting in the release.
- Obtain pertinent facts:
 - Name of the individual reporting the release
 - Date and time of the release
 - Source and cause of the release
 - Location of the release
 - Quantity released
 - Medium (land, water, air) affected by the release
 - Threat posed by the release
 - Number and type of injuries or fatalities, if any
 - Cleanup status

- Weather conditions
- Document the incident in compliance with regulatory and BP requirements.

8.1.3 NOTIFICATIONS

If it is determined that an ammonia release has occurred, the plant manager and safety/environmental coordinator will be notified immediately.

Notification will take place in accordance with regulatory requirements. The following agencies must be notified:

- National Response Center; (800) 424-8802.
- Washington Community Right-to-Know Unit: (800) 258-5990.
- Washington Department of Ecology: (360) 738-6280.

If outside resources are required to assist with notification of the leak, cleanup or containment of the release, the following will be contacted:

- Whatcom County Sheriff's Department, at 911 or (360) 676-6650.
- Whatcom County Fire Department, at 911 or (360) 384-0303.

8.1.4 PRIMARY RESPONSIBILITIES

The primary responsibilities of the plant manager or designated individual, in case of an ammonia release, are as follows:

- Coordinate and direct response efforts at the scene of discharge to ensure an effective response.
- Implement emergency response procedures if necessary.
- Collect pertinent facts about the discharge or release, such as the source and cause.
- Determine the amount and location of discharged or released materials.
- Determine the probable direction and time of travel of discharged or released materials; notify local officials if an offsite hazard may exist.
- Assess the potential impact on human health/welfare/safety and the environment.
- Estimate the potential impact on natural resources and property that may be affected.
- Set priorities for protecting human health/welfare/safety and the environment.
- Document costs.

9. Inclement Weather (Fog and Icing)

9.1 INCLEMENT WEATHER

The plant will be designed to operate in all weather conditions. Abnormal weather, such as fog and icing, is not expected to affect plant operations.

9.1.1 IMMEDIATE ACTIONS - EMERGENCY FOG PROCEDURES

The following procedures will be in effect as weather forecasts, newspapers, television, radio, and outside temperatures dictate:

- Personnel onsite at the time inclement weather sets in will remain on duty until replacement staff arrives at the plant.
- Energize the plant lights so that all crucial areas are adequately illuminated - specifically hazardous areas, fuel lines, aboveground tanks, and buildings.
- Ensure that all plant lighting is working effectively.

9.1.2 FOLLOW-UP ACTIONS

- Restrict or terminate all chemical transfers until weather conditions improve.
- Monitor weather reports on the radio or television for changing weather conditions.

9.1.3 NOTIFICATION

Does not apply.

9.1.4 EVACUATION

Does not apply.

9.2 EMERGENCY FREEZE PROCEDURES

The following procedures will be in effect as weather forecasts and outside temperatures dictate:

9.2.1 IMMEDIATE ACTIONS

- Personnel onsite at the time inclement weather sets in will remain on duty until replacement staff arrives at the plant.
- Drain all liquid carrying piping that is not freeze-protected; close valves as needed to prevent the flow of water into unprotected piping.
- Set thermostats and energize electric heaters as needed. Ensure proper operation.

- Ensure that essential vehicles are freeze-protected, fueled, and equipped for ready operation, and that maintenance for cold weather operation is completed in advance of the onset of icing conditions.
- Ensure that preparations are made for snow and ice removal.
- Ensure the following, and put in the daily log report to verify (any problems should be noted and recorded in the remarks section of the operations log sheets):
 - Heaters are operating normally.
 - Water tank temperature is within operating parameters.
 - All exposed equipment and materials that could be covered with snow are marked with flags or other means to ensure location control.

9.2.2 NOTIFICATION

Not required.

9.2.3 EVACUATION

Not required.

10. Earthquake

10.1 EARTHQUAKE POTENTIAL

There is potential for seismic activity in the form of a serious earthquake in the area of the Cogeneration Plant. Historically the Puget Sound region has been subjected to frequent earthquakes of moderate intensity. Recent analysis by Easterbrook et al. (unpublished) infers the existence and recent activity of two northeast-southwest-trending faults to the east of the Proposed Cogeneration Project site. Easterbrook et al. do not know the western extent of these faults and the location and coseismic activity of these faults is controversial. However, neither fault trends into the Proposed Cogeneration Project site. The project site is indicated in the Uniform Building Code as Seismic Zone 3.

An earthquake is a rapid shaking of the earth's crust caused by shifting plates beneath the earth's surface. Movement of sufficient magnitude can cause damage to land and structures. If the damage were to cause an unsafe operating condition, then the plant would be immediately shutdown until repairs were made and then restarted only when the plant is deemed safe to operate.

During construction of the Cogeneration Plant, seismic issues will be addressed through engineering design constraints and practices.

10.1.1 IMMEDIATE ACTIONS

The following procedures will be implemented in case of an earthquake:

- Employees will move away from windows and unsecured equipment and furniture.
- If employees are indoors and it is not feasible to exit the building, employees will place themselves under desks or doorway columns.
- When the shaking stops, employees will assess their immediate areas for possible damage and report to the plant manager.

10.1.2 FOLLOW-UP ACTIONS

- The plant manager or shift supervisor will appoint individuals to inspect, secure, and shut down the plant, if necessary.
- When possible, fires will be extinguished with systems provided at the plant.
- The plant manager will give directions to assess damages and to formulate and initiate rescue or salvage operations.
- Because of the danger of aftershocks, personnel will stay away from weakened structures until a thorough assessment of all damages can be completed.

10.1.3 NOTIFICATION

Not required.

10.1.4 EVACUATION

If necessary, an evacuation of the Cogeneration Plant would proceed as outlined in Section 3, Plant Evacuation.

11. Medical Emergencies

11.1 MEDICAL EMERGENCIES

Depending on the severity of the injury, standard first aid will be provided by plant personnel or an emergency medical service (EMS) contacted by calling 911. First aid kits and blood borne pathogen kits will be located throughout the plant.

Emergency medical care is available at St. Joseph Hospital (360) 734-5400. This medical center is 8 miles south of the Cogeneration Plant. The approximate travel time is 20 minutes.

Communications equipment for emergency response will be provided throughout the plant.

11.1.1 IMMEDIATE ACTIONS

The severity of the emergency will be assessed and, if needed, emergency medical assistance will be summoned by calling 911.

An individual trained in First aid will administer first aid until medical assistance arrives. Evaluation of the injured at the scene will be performed using the following steps:

- Determine whether it is safe for the rescuer and victim to remain in the area.
- Survey the victim to make sure that the injured person is breathing, has a detectable heartbeat, or is bleeding. These items must be reported to the emergency aid first-responders.
- Obtain offsite medical assistance.
- Keep the victim calm, warm, and quiet until medical help arrives.

11.1.2 FOLLOW-UP ACTIONS

All occupational accidents, injuries, or illnesses will be reported immediately to the safety/environmental coordinator. Incident investigation procedures will be implemented.

In cases of severe personnel injury, the injured person's family members will be notified, at the discretion of the plant manager.

In cases of death, which can only be declared by a medical practitioner, the victim will not be moved, even if it appears that death is certain.

WISHA will be notified within 8 hours of a death at the facility, or when three or more people have been hospitalized.

11.1.3 NOTIFICATION

After a medical emergency has been identified, the plant manager, shift foreman, and safety/environmental coordinator will be notified. Information concerning the time,

nature, location, and extent of injury will be given, if possible. The plant safety and health coordinator will be responsible for reporting accidents in accordance with state, local, and federal requirements.

11.1.4 EVACUATION

Evacuation of any injured personnel from the plant will generally be by ambulance.

12. Facility Power Failure

12.1 FACILITY POWER FAILURE

When events occur that result in loss of Cogeneration Plant service power, certain activities will be necessary to prevent equipment-related hazards from developing. The Cogeneration facility will be designed to react to a partial or total power failure without damage to equipment. Battery backup systems for critical process control equipment and automatic shutdown systems with “fail safe” modes will be used to safely shut down equipment. A standby diesel generator, connected to a 480V bus, will be provided for use during the loss of utility power for maintaining the safe shutdown of the plant. This bus will supply power to the essential services, such as plant battery chargers, uninterruptible power supply system, and loads required for maintaining the safe shutdown conditions of the CTGs and STG, control room HVAC and selected lighting. ~~The use of steam turbine driven pumps will prevent rapid loss of lubricating oil pressure or cooling water.~~

12.1.1 IMMEDIATE ACTIONS

The following immediate actions will be taken:

- Assess the operating state of the facility, switchyard via unit control consoles and the transmission grid through the network SCADA system.
- Ensure that battery backup systems and automatic controls are working properly to react to the power failure.
- Notify the Refinery Shift Supervisor of the power failure and coordinate response activities.
- Qualified personnel will take action to determine how to restore power to the Refinery if power was also lost to that location. Tend to major equipment that should be secured due to the shutdown, if applicable.
- Determine the cause of the power failure and isolate that component.

12.1.2 FOLLOW-UP ACTIONS

The following follow-up actions will be taken:

- Bonneville Power Administration (BPA) will be contacted by the plant manager or designated individual to apprise them of the plant's condition and estimated restart time.
- If the transmission system is shut down, the generator circuit breaker connecting the Cogeneration Plant to the 230-kilovolt (kV) transmission system will be opened immediately, if it is not already open. Station service switchgear will be checked, and breakers not opened by under-voltage will be opened.
- Once the transmission system is reenergized, equipment at the Cogeneration Plant will be restarted as needed for protection and the unit will be restarted as permitted by the utility contact.

12.1.3 NOTIFICATION

Not required.

12.1.4 EVACUATION

Evacuation of the Cogeneration Plant would proceed, if necessary, as outlined in Section 3, Plant Evacuation.

13. Terrorist and Bomb Threat, Civil Disorder Incident

13.1 TERRORIST AND BOMB THREAT, CIVIL DISORDER INCIDENTS

Threats of harm to the Cogeneration Plant and similar facilities from outside sources are uncommon. However, such threats are possible and would likely be made by telephone.

Site security for the Cogeneration Plant will be provided in conjunction with the security provided for the adjacent Refinery. The Cogeneration Plant will be located within the general Refinery-owned property, which is entirely enclosed by a chain-link fence approximately 8-feet high, topped with barbed wire. Perimeter security is maintained on an around-the-clock basis. The Cogeneration Plant electrical substation will have its own perimeter fence and gates to prevent unauthorized access to the high-voltage equipment in the substation. Other sensitive equipment will be similarly protected. Exterior lighting will be provided throughout the site as required for security and safety. Illumination levels will be sufficient to provide safe access and visibility to all major thoroughfares and walkways.

13.1.1 IMMEDIATE ACTIONS

If a Plant threat call is received, the person receiving the call must remain calm and keep the caller on the line as long as possible by asking that the message be repeated, obtaining as much information as possible.

Operating personnel will immediately search their work areas. All areas will be investigated, including areas not intended for human occupation (crawl spaces, ceiling cavities, mechanical areas).

The discovery of any suspicious or unknown items will be reported to the plant manager immediately. Personnel will be instructed not to disturb suspicious or unfamiliar items. The area will be secured to prevent any contact or exposure.

1. The person receiving the threatening call will ask the following:

- When is the bomb set to go off?
- Where is the bomb located (be specific)?
- What kind of bomb is it?
- What does it look like?
- Do you represent any organization?
- Why was the bomb put in the Cogeneration Facility?
- How did you get into the Facility?
- What is your name?

2. The person receiving the threatening call will determine the following:

- Background noise

- Gender of caller
- Approximate age of caller
- Nationality of caller
- Emotional stability of caller
- Caller's knowledge of the plant
- Caller's education (proper grammar)
- Caller's tone of voice (pitch – high, low, or normal)
- Was voice disguised, muffled, thin, nasal, or has a speech defect?

3. The shift supervisor will notify the plant manager and do the following:

- Call the Whatcom County sheriff's department and request assistance.
- Make a decision concerning evacuation.

13.1.2 FOLLOW-UP ACTIONS

Not required.

13.1.3 NOTIFICATION

Notify the following authorities:

- Whatcom County Sheriff's Department, at 911 or (360) 676-6650

13.1.4 EVACUATION

If the Cogeneration Plant is evacuated, evacuation will proceed as outlined in Section 3, Plant Evacuation. No one will re-enter the plant until the Sheriff's department has given an all clear to the plant manager.