EMERGENCY RESPONSE PLAN (ERP)

UNITY EXPLORATION PVT. LTD.

Building 146, Block C, Phase 4 Civic Center Bahria Town, Islamabad.

OBJECTIVES

1. The person concerned with the handling of LPG equipment storage commissioning and operations should be familiar with the fundamentals of fire prevention and fire-fighting techniques with particular reference to fire involving LPG.

2. The person handling LPG should be familiar with the correct handling of any fire-fighting and fire control equipment provided at site.

3. The fire drill in this respect should be conducted at frequent intervals to familiarize with the location of isolation switches, valves, fire hydrants, fire control equipment and practicing the specialized techniques required for fighting LPG fire or dispersing LPG vapor cloud.

4. The emergency procedure should be clearly displayed and clearly defined responsibilities to all personnel concerned and trained to handle emergency situations ERP.

BASIC ACTIONS FOR EMERGENCY

1. Ascertain the nature of the emergency.

2. Raise the alarm.

3. Shut down operations.

4. Evacuate unwanted personnel.

5. Cutoff LPG supplies.

6. Isolate electric supplies.

7. Release air pressure.

8. Withdraw vehicles in orderly and safe manner from the site.

9. Prevent all traffic from entering the affected area.

10. Start water spray system on the LPG vessel if exposed to the FIRE.

11. Assess the magnitude of the emergency and contact the local emergency services for assistance if required.

ER – PROCEDURES

0.1 Emergencies Classifications

a) Crisis

b) Emergency

c) Incident

0.1.1. Crisis

When a situation exists, which is beyond the control of the company and there is a threat to life and property, the company will need assistance from Government and other agencies.

0.1.2. Emergency

Where there is no danger to life, the risk to property is minimum and the control of the situation is within the capacity of the company.

0.2 Glossary of Terms Used in The Procedure

0.2.1 Emergency Manager (EM)

Individuals authorized to take command of the whole emergency situation General Manager (in his absence of Operations Manager).

0.2.2 Emergency In charge (El)

The individual who is available at plant at the time of emergency, plant manager (in his absence, Plant Supervisor, / Plant Maintenance Engineer In the night shift, Security

Guard / Supervisor, in case of security Guard the firs individual, e.g. Plant Supervisor / Operations Manager to arrive at the scene will take over as Emergency incharge)

0.2.3 Duty Officer

To be notified beforehand, who will be informed in case of an emergency and who will coordinate information to all key personnel and also arrange back-up help, e.g. fire brigades, medical facilities, etc. The Duty Officer will be responsible in the off hours.

0.2.4 Key Personnel

Plant Manager, Plant Supervisor, Plant Maintenance Engineer, Operation Manager and Administration Manager are the key personnel required to combat emergencies.

0.2.5 Emergency Action Group

This will include General Manager, Operation Manager & Marketing Manager

0.2.6 Emergency Control Centre

Company's Head Office will act as Emergency Control Centre

0.2.7 Emergency Operation Centre

The office of plant Manager at the plant will act as emergency Operations Center

0.2.8 Government Agencies

The following personnel will be responsible to contact with the Government agencies:

1. Operation Manager
2. Plant Manager

0.3 FIRE-FIGHTING SYSTEMS

The fire-fighting facilities available at plant which can be used in case of emergency are as follows:

1 Fire Pump
2 Fire Water Storage Tank

3 Fire Water Line around plant

4 Carbon di Oxide Fire Exitinguishers

5 Dry Powder Fire Extinguishers

6 Sand Bucket

7 Personnel Protective Equipment (PPE)

8 First Aid Box

0.4 Warning System

Warning bells are Provided in four different zones of operation area:

Zone 0 – Storage Tank area

Zone 1 - Cylinder filling shed

Zone 2 - Administration Block

An electrically operated siren is also provided at the admin Block. One 12 Volt battery operated siren is fixed in admin Block for signifying fire alarms.

0.5 Air Safety Cut-Off System

Pneumatic Vales have been provided at the following points for release of Air pressure to close all Pneumatic operated tank outlet valves and the valves at cylinder filling, bulk loading / off-loading points.

Tank Outlet and Inlet Valves

Cylinder Filling Area

Bulk Point, Bowser Area

0.6 Plant Fire Fighting

It has been established that the plant can fully meet an emergency if 5 personnel are available to involve directly and 2 persons as back-up help.

The employees are to be organized as follows:

a) Fire-fighting party
b) Salvage and cordon party

- The fire-fighting party will be necessary Plant Supervisor / Plant Maintenance Engineer.

- The Salvage and cordon party is to be headed by Admin. Mat. Asst. in his absence by the Plant Clerk.

- Apart from two parties, some individuals will have specific jobs as follows.

- Dispatch Supervisor will provide FIRST AID facilities near the main gate and in his absence, Security Supervisor will take over this duty.

0.7 Duties and Responsibilities of Emergency In-Charge

- To make sure that all the shut-down operations have been carried out

- To communicate with adjoining Companies and Head Office regarding nature of emergency.

- To coordinate with the fire-fighting agencies and to inform them about nature and extent of emergency.

- To make sure that a supply of water to reservoir is commissioned.

- To set up a fire control center

- To inform all key personnel & Emergency Manager, nature of emergency

- To ensure that the personnel at the time of fire are all accounted for.

0.7.1.1 Action of the Individual who Notice the Fire

For LPG fire, the initial few seconds are very important and the person who notices it and does not take proper action immediately is risking his own life and that of his fellow workers as well as damage to the Company's property.

The following steps must be taken by an individual who notices the fire:

- Rises the alarm
- Warn Others
- If possible, isolate gas lines by releasing hydraulic / air pressure
- Report the exact nature of the fire to the Plant Manager
- In case of small fire, which can be controlled with a portable fire extinguisher, he should make effort to do so immediately.
- Plant Supervisor / Sr. Filler Should rush to the pump house / Admin

  Block as soon as an emergency is declared.
- He should start the Fire pump immediately.

0.8 Fire-fighting Party

Emergency In charge, who is the head of this party, must take following action immediately.

- Release the pressure of hydraulic and air valves to stop the discharge of gas, if not done already.
- Shut down the Product pump.
- Switch off all the electrical systems.
- In the meantime, the members of his party must carry with them the fire extinguishers, sand buckets and shovels to the place of fire.

- He must assess the nature of fire.

- If the fire is on the cylinder valves or can be controlled by the fire extinguishers, these may be operated immediately to extinguish the fire.

- Other members of the party must isolate the surrounding cylinders (full ones first and empty later) by water / fog nozzles.

- Shut off the ball valves of all manifolds of product and vapor lines even if there is no fire.

- The fire hydrants are to be operated in the following manner:

    a. The member must rush to the emergency area and run out the hoses as required. Water must be sprayed immediately to the top of vessel shells, supports and to pipeline structures along with equipment exposed to the fire.

    b. Water sprinkles must be started on vessels if involved in or exposed to the fire.

    c. If the only valve which can be used to stop the leakage is not approachable due to fire and or heat radiator, it may be possible to close it by protecting a man by means of a water spray (fog), fireproof heat reflection suit, other available approved equipment, the man will be equipped with a safety harness and a manned lifeline.

    The following points should be borne in mind when such a step is taken:

        i. Fire fighters and personnel dealing with vapor clouds must be protected continuously by water spray.

        ii. The fighters should advance toward a fire down-wind if possible protected by streams of water from the hose.

        iii. Water protection for fire fighter should never be shut off, even though the flame appears to have been extinguished until all are safely out of the danger area.

        iv. If escaping vapor cannot be stopped, jets of water should be directed to the point of leakage to assist, in rapid dispersion / dilution. Leaking LPG liquid should be deflected from following towards work areas and other properties.

v. LPG storage vessel exposed to fire should be protected from over-pressure, by their pressure relief valves. However, in some circumstances, PRVs may not provide total protection and attention should always be paid to the pressure in vessels. If pressure gauges are malfunctioning the only indication if the rate of product escape from the PRVs (or the point of leakage). Any rapid increase in pressure or noise level of product discharge should be regarded as a warning of over pressurization and all personnel should be evacuated immediately.

0.9 Fire-fighting Procedure

Some firefighting procedures are illustrated in the following examples:

Example 1: Leak of burning valve at the outlet of a cylinder valve

Extinguish the fire by means of portable fire extinguishers or smother it with a cloth (preferably wet) or earth etc.

Immediate extinguishing is recommended because if facilities closure of the valve which enable the gas leak to stop.

If the valve cannot be closed, the cylinder should be moved carefully to a safe location to vent under controlled conditions.

Example 2: Fire at pressure relief valves of vessels exposed to adjacent fire

Allow the fire at the relief valve to continue, meanwhile cool the vessel and tackle the adjacent fire. When the vessel has cooled sufficiently, the pressure drops and the PRVs closed automatically extinguishing their own jet fire.

Example 3: Fire in other area adjacent to LPG storage

Start water spray only on those LPG Vessels exposed to fire.

Isolate affecting vessels and run out fire water hoses in case hose stream cooling become necessary.

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If LPG vessels PRVs below, take no further action unless vessel pressure continues to rise.

If fire enters LPG storage area, concentrate available cooling water on LPG vessels most affected.
Do not try to empty LPG vessel exposed to fire, they become more vulnerable to over - heating as their liquid content decreases.

0.10 Salvage and cordon Party

To be headed by Plant Maintenance Engineer and in his absence by the Admin & Mat. Asst.

0.10.1 Protection Procedure

It is the responsibility of all members of staff to save human life and Company's property in case of fire. It is therefore, emphasized that all the laid down procedures must be followed to ensure the safety of both the workers and property from such risks. When both of them are equally involved in an accident, it is essential to try to save the human life first.

The following steps must be followed to protect persons involved in normal circumstances:

- It is the responsibility of each and every person to use the following safety wears for normal operations. They must however be Checked by Plant Supervisor.
- The use of safety footwear is always recommended.
- Safety helmets must be used on the premises.
- Use goggles or eye-shields for filling of cylinders to protect the eyes. Wearing gloves for handling the LPG.

It must be noted that no one is allowed to come to work in a state of intoxication.

0.10.2 Responsibility of Salvage / Protection Party

a) If any worker is engulfed in a fire and is required to be rescued by man, he should be protected by means of water spray equipment. The man should also be equipped with safety harness and a manned lifeline.

b) Fire fighters working in or close to ignited vapor clouds or close to fires must wear protective clothing and equipment including safety harness and manned lifeline.

c) Fire fighters and personnel dealing with vapor clouds, etc. must be protected continuously by water spray. Continuity of water supply for this purpose must be ensured by means of two hoses connected to different supply points.

d) Fire fighter should advance toward a fire, downwind if possible, protected by streams of water from hoses.

e) Water protection for fire fighters should never be shut off even though the flame appears to have been extinguished until all are safely out of the danger area.

f) All movable material must be shifted to a safer place in the following order of preference:

   i. All full cylinders

   ii. Empty cylinders.

   iii. All other containers containing inflammable material

g) The fire-affected area should be cordoned off area.

h) Personnel who are not engaged in fire-fighting operations should not be allowed to enter the cordoned off area.

i) Stop loading / unloading operations.

0.10.3 Duty Timings

From 08:00 hours to 17:00 hours

0.10.4 Emergency Reporting Procedure

Plant Manager / Security Staff must report to the Duty Officer on telephone in case of all classes of emergencies i.e. Crisis, Emergency and Incident.

APPENDIX - A
FIRE FIGHTING PLAN

1. ANY BODY WHO NOTICES THE FIRE
   Will sound the bell/hooter.

2. PLANT SUPERVISOR
   Will isolate the Air & Electrical System

3. OPERATOR / HELPER
   Will operate Fire-Fighting System

4. ADMIN ASST. / PLANT CLERK
   First Aid Box.

5. DRIVER ON DUTY
   Will drive the vehicle out from premises of the plant.

6. IMPORTANT
   At the time of emergency all staff must report in front of Admin Block.

APPENDIX B
LIST OF IMPORTANT PHONE NUMBERS

PLANT MANAGER	0315-9693695
Super Visor	0334-8843600
FIRE BRIGADE	091-2566666
POLICE HELP LINE	15
EDHI AMBULANCE	091-2264224-25