Westwood
MECHANICAL INC.

#3-PROPANE- SAFE JOB PROCEDURE (Revised Feb./07)

1. PURPOSE:

This safety procedure is intended to provide information for workers for the safe handling and use of propane in the work place. It is proposed to provide practical information related to the requirements and regulations pertaining to propane. For specific regulatory requirements regarding propane , consult the regulations adopted under the Workplace Safety and Health Regulations.

2. GENERAL:

Propane is liquefied petroleum gas stored under pressure and under ambient conditions it becomes a gas. Propane is a highly flammable and toxic gas. Under normal conditions propane is colorless, odorless and a tasteless gas. Propane has been odorized to give it a foul and uncommon odour that smells like boiling cabbage or rotten eggs, so that leaking gas can be detected before a flammable mixture has accumulated. It has been recognized that the odorants are not completely effective warning agents in all cases. Certain odorants can fade away. Your sensitivity to odors generally decreases with impaired physical conditions such as a cold or respiratory allergies. If you have any of the above you should confirm that you can detect the odour before working with the gas.

When accidents involving propane cylinders occur they can cause serious injury or even death..
The main causes of accidents are:

- **Inadequate training and supervision.**
- **Poor installation.**
- **Poor maintenance.**
- **Faulty equipment and/or design (i.e. badly fitted valves and regulators.)**
- **Poor handling.**
- **Poor storage**
- **Inadequately ventilated working conditions.**

Propane is heavier than air , therefore it collects in low-lying areas such as crawlspaces, basements, trenches, excavations or pits. Cylinders are not to be used or stored below ground level. Propane is readily absorbed in the clothing , for this reason workers must be extremely cautious and be aware of any leaks or discharges when handling propane. (Revised Feb. /07)

When propane is burned it uses up oxygen and releases carbon monoxide and nitrogen oxide. To keep these gasses at acceptable levels ensure that there is an adequate supply of fresh air by providing and maintaining a proper ventilation system.

3. SCOPE & DEFINITION:

Propane is used as a heat source in the union of pieces of metal by fusing the opposing surfaces, which have been made molten by heat. Heat is applied to the metal by the flame from a torch in which a gas such as propane is burnt .

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The main hazards associated with propane are:

- **Impact from the blast of a gas cylinder explosion or rapid release of compressed gas.**
- **Impact from parts of gas cylinders that fail or any flying debris.**
- **Contact with the released gas or fluid (such as oxygen) enhancing fires and explosions.**
- **Leaks(from joints, fittings etc.) causing fires and explosions.**
- **Burns**
- **Eye injury (heat, intense light, ultra –violet radiation)**
- **Explosion from over pressurization.**
- **Manual handling injuries from cylinders.**

4. **PROCEDURE:**

- Use personal protective clothing as recommended.
- **Ensure that there is sufficient ventilation in the area you will be using it.**
- **Check propane cylinders for damage or expiry prior to use.**
- **All propane burning systems must have a functional regulator.**
- **Only hoses and fittings should be used approved for LP-GAS PROPANE services. They must have a minimum working pressure of 350 psi.**

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- **Propane cylinders are to be stored or transported in the upright position and secured. Cylinders lying horizontally allow liquid gas to communicate with the relief valve. If a abnormal pressure was to occur and the relief valve was required to function, liquid gas would emit from the valve.**

- **DO NOT STORE PROPANE FOR ANY LONG PERIOD OF TIME (MORE THAN ONE HOUR) IN BASEMENTS, CRAWLSPACES, CONFINED AREAS, OR INDOORS (WHERE POSSIBLE).**

- **Keep valve fully open when in use to prevent freezing and fully closed when not in use. The propane tank valve should be closed snugly, but do not over tighten. Because the propane tank valve is made of copper , excess pressure will strip the threads..**

- **Use a flint lighter not matches to light the propane torch. Matches will bring your fingers to close to the flame.**

- **Keep the propane tip pointed away from your body.**
- **When equipment will not ignite on the first attempt, ventilate before retrying.**

- **Do not operate equipment if you can detect the foul smell. Ventilate and vacate the area until the smell dissipates.**

- **NO SMOKING WHILE HANDLING PROPANE OR PROPANE FUELED EQUIPMENT.**

- **When finished turn the propane nozzle off properly. The nozzle should be turned off when there is no flame to prevent propane from escaping and filling the work area with gas.**

- **Remove the propane nozzle from the canister when finished. When you are finished for the day , remove the nozzle from the canister to prevent any gas from escaping.**

5. EQUIPMENT/MATERIAL REQUIRED:

The following personal protective equipment may be required when using propane, refer to the MSDS sheet on propane :

- **Eye protection**
- **Hand and arm protection**
- **Flame retardant protective clothing.**

A fire extinguisher type ABC must be available within the workers sight at all times..

6. SPECIAL CONSIDERATIONS:

In the event of a fire :

- **Shut off gas, if possible.**
- **Evacuate area**
- **Implement fire-fighting procedure (call fire department etc.)**

After changing cylinders or making hose connections , all connections should be checked with soap or leak detectors.. DO NOT USE MATCHES OR OPEN FLAME.. repair all leaks before use.

Training :

Anyone who uses a gas cylinder should be suitably trained and has the necessary skills to carry out the job safely. They should understand the risks associated with the gas cylinder and its contents.

In particular :

New employees should receive training and be supervised closely.
Users should be able to carry out an external visual inspection of the gas cylinder and any attachments.

Store full or empty cylinders in a well ventilated area , where they will be protected from tipping over , physical damage or tampering with. Cylinder valves must be closed with protective collar s or caps in place.

When handling a leaking cylinder , remember that your clothing can be saturated with propane and you can draw a trail of gas behind you. Stay away from all ignition sources