Report of Mock drill conducted on 19th February 2012 at PAD

**Scenario:** The valve of the acetylene cylinder caught fire during heating and bending of metal bars of the guard of trimming press 1003 as it was touching the fly wheel. Mr. Singh a contract person was working at a height of 7 ft while the acetylene cylinder trolley was on the ground.

**12:30 pm:** Some employees working around the 1003 press observed that the valve of Acetylene cylinder has caught fire. They shouted and informed Mr. Singh who was working at a height of 7 ft repairing the guards. Mr. Singh jumped down from the platform in fright and sprained his right leg.

**12:31 pm:** Mr. S B. Minde a security guard close by immediately reached on the spot to find that there was a fire in an incipient stage at the valve of the acetylene cylinder. He immediately contacted the Security gate/Emergency control centre and informed Security supervisor Mr. M. R. Patil.

**12:32 pm:** Mr. Patil along with guard Mr. K. J. Shirsath rushed to the spot with BC type fire extinguishers but could not extinguish the fire which continued to grow. Heat was generated due to fire near the valve caused the 2 safety fusible plugs of acetylene cylinder to rupture causing the acetylene to come out with pressure.

**12:34 pm:** Mr. Patil immediately called up Asst. Safety Manager Mr. Santosh Kasalkar and Site Controller Mr. Sunilkumar Shinde.

**12:35 pm:** Mr. Kasalkar rushed to the spot to find that the fire had grown wild due to the severe leakage of Acetylene, immediately informed Mr. Sunilkumar Shinde about the situation who in turn declared it an emergency and ordered the Main Gate to be closed and the wailing emergency siren to be sounded.

**12:37 pm:** Fire fighting team members rushed on to the spot with more of BC type fire extinguishers. All the employees evacuated out of the shop and gathered at the safe assembly point.
Communication officer Mr. Padghan immediately called the Ambulance which took Mr. Singh to KEM Hospital, Vadhu for medical treatment. A head count was taken to check for any missing person.

12:40 pm: Fire was completely extinguished with the help of BC and CO2 type extinguishers
The all clear siren was sounded.

A meeting was held on the spot to study the observations and take corrective and preventive action.

Following were the Observations made:

1) Oxygen rubber hose found burnt may be due to back fire.
2) No flash back arrestors at torch and non return valves at both oxygen and Acetylene cylinders were used. This should be used to avoid the backfire to enter the cylinder.
3) Both safety fuses of acetylene cylinder found open.
4) Acetylene cylinder valve found open and wrench was not kept on the same valve for a quick shut off during fire.
5) No inlet and outlet pressure gauges were installed on acetylene cylinder.
6) Took some time for the ambulance to reach PAD to shift Mr. Singh for medical treatment.

Corrective actions taken.

1) All gas cutting sets in the factory to be provided with Flash back arrestors and non return valves. Flash back arrestors eliminate the possibility of explosion in the cylinder and non return valve/check valve allows the gas flow in one direction only.
2) Acetylene cylinder to be fitted with inlet and outlet pressure gauge. Acetylene outlet pressure to b kept below 15psi.
3) The valve wrench should be tied to the valve. so as to shut off quickly in emergency.

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4) For operating oxy-acetylene cylinder inside the shop floor under hot conditions, fire extinguishers of type ABC, BC or CO2 should be kept ready so as to extinguish fire at initial stage itself.

5) Ambulance needs to be checked by the security every day for level of fuel, and every week for battery charge status, condition of first aid box.

6) Response time to be reduced further by swift transfer of extinguishers to the site. Training to be given for fast operation to the fire fighters.

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