



SAFETY BULLETIN 07/11

ASIA INDUSTRIAL GASES ASSOCIATION

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Safety at Customer Sites

Recent incidents at customer sites highlight the importance for the gas supplier to maintain and observe safety procedures at off-site locations. While events may not be entirely under the control of the gas supplier, a simple safety audit checklist is recommended to better understand the hazards and risks at customer sites and to be prepared for any emergency situation.

Case (1) Chlorine gas incident at chemical plant (July 2010)

A gas company driver (and teammate) was delivering argon cylinders to a chlor-al chemical plant. While they were inside the facility, a fiberglass tank containing sodium hypochlorite collapsed and broke a hydrochloric acid pipe in the vicinity. The spilled chemicals reacted, resulting in the generation of toxic chlorine gas, and the plant employees, contractors and suppliers were evacuated from the plant. Except for the chemical plant employees, none of the other people inside the plant were equipped with chemical masks. However, the evacuation route required the delivery team to go through the accident area. One of the delivery men followed the chemical plant employees to the assembly point but suffered breathing difficulties due to chlorine gas inhalation. The other person managed to get into their truck, wound up the windows and drove across the affected area to the gate. As a result he was less affected by inhaled chlorine gas and received outpatient treatment in the hospital. The one who ran across the incident area was hospitalized for several days for observation. Fortunately, he recovered.

Case (2) Fatality at aluminum plant (September 2010)

A gas company employee was commissioning a nitrogen pipeline system at a steel mill. The piping system in the plant was extensive and commissioning was delayed by the customer. To expedite the process, the gas company employee was obliged to help to check the line system within the customer area although he was not familiar with the site.

While in the plant, he accidentally walked right into a molten aluminum tank, thinking that it was solidified aluminum. He was partly submerged in it and struggled but was unable to get out. When he was finally pulled out, he had already suffered severe burns on his body. He was able to relate what had happened before he succumbed to his injuries and died on arrival at the hospital.

Case (3) Fatality at gas loading premises (October 2010)

A contract liquid tanker driver was killed inside a supplier's premises while he was conducting a post fill inspection. He was hit by a third party truck which had apparently been driven above the permitted speed limit. The truck could not brake in time to avoid him.

Lessons to be learned

What went wrong? At the customer site, many unforeseen things can and do happen.

The above three incidents illustrate the potential risks when working at customer or third party facilities. Industrial gases companies have good HSE standards for safety considerations, hazards identification and safety management control. These standards are well observed inside the gases companies, but should not be taken for granted at the customer's premises.

We should recognize the presence of three engaged parties when a gas supplier carries out work or makes a delivery to the customer's site.

- **The Supplier** – the industrial gases company.
- **The Supplier's employees** (or contracted delivery persons), who represent the company that supplies products or services at the customer's site.
- **The Customer** – where delivery is made or where work is done.

Each of the above parties has roles and responsibilities to ensure that the work is carried out safely. Below are some guidelines concerning their respective responsibilities.

Supplier's responsibilities

- Prepare Preliminary Risks Identification – identify probable hazards during initial project stage.
- Before first delivery, conduct a site assessment/inspection.
- Whenever possible, send out trained delivery drivers and Customer Installation (CI) personnel who are familiar with the environment at the Customer's premises.
- Give safety training to delivery drivers and CI personnel specifically for such environments.
- Gas masks which may be required during an emergency should be carried in the delivery vehicle.
- Drivers and CI personnel should have the Customer's Product Safety Datasheets.
- Keep records, documents and other information on all Customers that may present safety concerns for drivers and CI personnel. Conduct periodic Safety Induction refreshers.
- If possible, request Customers to provide Safety Induction for delivery drivers and CI personnel who are new to their sites.
- Periodically update the risks identification and assessment of the Customer's premises as there may be new developments which could pose additional hazards to the Supplier's employees.

Supplier employees' responsibilities

- Be familiar with emergency evacuation procedures for the Customer sites.
- Be prepared with the correct type of PPE for each site.
- Report any changes or safety hazards in the areas around the designated delivery points to the Customer.
- Report any Supplier-owned equipment that is faulty or needing maintenance within the Customer premises.

Customer's responsibilities

- Ensure a safe work area by complying with and following regulatory requirements.
- Communicate with the supplier and the supplier's employees all the applicable safety policies and procedures when they are on site.
- Wherever possible, involve the Supplier and/or Supplier's employees in Emergency Drill exercises.

References

The following extract from the Safety Management System OHSAS* 18001:2007, Section 4 states that the company is required to develop, implement and maintain procedures to control how OH&S matters are communicated to contractors and visitors.

4.4.3 Establish Communication and Participation

4.4.3.1 Establish OH&S Communication Procedures

- Establish an internal OH&S communication procedure.
 - Develop a procedure to control internal communications.
 - Implement your internal communications procedure.
 - Maintain your internal communications procedure.
- Establish a contractor and visitor OH&S communication procedure.
 - Develop a procedure to control how you communicate about OH&S with your contractors and visitors.
 - Implement a procedure to control how you communicate about OH&S with your contractors and visitors.
 - Maintain a procedure to control how you communicate about OH&S with your contractors and visitors.
- Establish an external OH&S communication procedure.
 - Develop a procedure to control external communications.
 - Implement a procedure to control external communications.
 - Maintain a procedure to control external communications

* OHSAS 18000 is an international occupational health and safety management system specification. OHSAS 18001 is an *Occupation Health and Safety Assessment Series* for health and safety management systems. It is intended to help organizations to control occupational health and safety risks. It was developed in response to widespread demand for a recognized standard against which to be certified and assessed.

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