The Air Liquide Large Industries (Air Liquide Rodeo)
The Air Liquide Large Industries is located in Rodeo, CA. The primary purpose of this facility is to manufacture gaseous hydrogen for the neighboring Phillips 66 Refinery in Rodeo, California, which they use as part of the refinery operation. The plant also produces steam and electricity, sold directly to Phillips 66 Refinery. The plant is designed for using a varying mixture of feed stock. The fuel used for their reformer furnace is natural gas, refinery fuel gas, and off-gas from the hydrogen purification system (PSA).

The Air Liquide Rodeo facility started operation in summer of 2009. This plant has 13 full time employees and operates around the clock with a maximum amount of 78,000 pounds of 19% aqueous ammonia and 25,000 pounds of flammable gas containing 64% hydrogen and 36% methane, by weight, at any given time.

Hazardous Substances Stored or Produced Onsite and their Immediate Health Effects

- Hydrogen: an odorless, extremely flammable gas. Inhalation can cause dizziness, shortness of breath and unconsciousness.
- Aqueous Ammonia: colorless liquid with pungent odor. May cause nausea, breathing difficulty and convulsions. Made by dissolving anhydrous ammonia in water.
Safety Features and Recent Improvements
(Updated September 2017):
The Air Liquide Rodeo Hydrogen Plant is a new facility that started operation in summer of 2009. The safety features include modern fire monitors, process safety valves (PSVs), instrumentation including indications, alarms and controls; and inherent design that includes lower concentrations of ammonia (19%) and physical layout of the plant. The site has continued to update and refine their site specific documents to clarify the ISO requirements.

Summary of Most Recent Audit
(February 2016):
The CalARP Programs have been established and found to be functioning as required. However, senior management needs to allocate more time and resources to implement all of the Safety Program elements in the County Industrial Safety Ordinance (ISO). Improvements are needed in ensuring expertise in Inherently Safer Systems (ISS) and training of Human Factors program. Many of the ISO Program requirements are in need of improvement including the development of a more complete definition of responsibilities for their safety program elements; improvements needed in developing expertise in Human Factors; reviewing of operating and maintenance procedure for human factors deficiencies and writing effective procedures; ensuring that the PHA deficiencies are tracked through resolution; training of plant personnel in writing effective procedures; more timely studies of seismic and safety culture assessments, and additional effort in looking for ways to make the overall process safer (inherently safer systems/design).

For more information:
Copies of the latest audit findings may be found in the following locations:

CCHS Hazardous Materials Office
4585 Pacheco Blvd., Suite 100 Martinez, CA 94553

Rodeo Public Library
220 Pacific Avenue, Rodeo, CA 94572

Crockett Public Library
991 Loring Avenue, Crockett, CA 94525

Visit our website at www.cchealth.org/groups/hazmat or call 925-335-3200

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