

Safety Management

Coromandel is accredited for OSHAS 18001 and has been implementing the occupational health and safety measures across all functions in the existing facility. The possible occupational safety and health hazards associated with operation of proposed facility are presented in below

- Possible hazards due to handling and storage of sulphuric acid are exposure to release of fumes during the accidental releases.
- Possible hazards due to handling and storage of phosphoric acid are exposure to release of fumes during the accidental releases.
- Handling and storage of coal would result in exposure to dust emissions and fire hazards
- The possible hazards associated with steam boiler operations are explosion of drum and pipeline and exposure to steam and metal fragments.

The management of Coromandel has adopted sound safety measures in the existing facility and the following risk mitigation measures are implemented in handling and storage of sulfuric acid and phosphoric acid in the existing facility. Similar practices will be adopted during the upgrade scheme.

The following measures are adopted for storage tanks: Double drain valves for acid storage tanks, level gauges on storage tanks, static bonding of pipeline flanges, dykes to retain 110% of tank volume, all pipeline and tanks painted as per IS colour code, caution note and Material identification and capacity displayed on all storage tanks. Moisture absorbent (Silica gel) provision will be made on sulphuric storage tanks.

Operations and maintenance of the plant is being in accordance with the well-established safe practices. Some of the guidelines adopted by Coromandel are as follows: periodic testing of hoses for leakages and continuity, annual testing of all safety relief valves, planned preventive maintenance of different equipment for their safety and reliable operations, inspection of the storage tanks as per prefixed inspection schedule for thickness measurement, joint and weld efficiency etc, comprehensive colour code scheme to identify different medium pipes, strict compliance of safety work permit system, proper maintenance of earth pits, strict compliance of security procedures.

Although coal fires are infrequent, there is a possibility of coal fires at the coal stock yards during the summer conditions due to burning of volatile compounds. Coal stock yard fires

can be avoided by providing proper stacking design to prevent air movement inside the coal lumps, minimising the duration of coal storage at the site and water sprinkling operations to maintain adequate moisture. Recommended measures to prevent, minimise, and control fire hazards at captive co-generation power plants include:

- Use of automated combustion and safety controls
- Proper maintenance of boiler safety controls
- Implementation of start-up and shutdown procedures to minimise the risk of suspending hot coal particles (e.g., in the crusher) during start-up
- Regular cleaning of the facility to prevent accumulation of coal dust (e.g., on floors, ledges, beams, and equipment)
- Removal of hot spots from the coal stockpile (caused by spontaneous combustion) and spread until cooled, avoid loading of hot coal into the pulverised fuel system
- Use of automated systems such as temperature gauges or carbon monoxide sensors to survey solid fuel storage areas to detect fires caused by self-ignition and to identify risk points
- For planned outages, operators should take every precaution to ensure that all idle bunkers and silos are completely empty and also verify by visual checks. Bunkers and silos should be thoroughly cleaned by washing down their interior walls and any interior structural members but not their horizontal surfaces. Idle bunkers and silos that contain coal/lignite should be monitored frequently for signs of spontaneous combustion by using CO monitors, infrared scanning, or temperature scanning.
- Fire fighting systems and fire hydrant systems shall be installed at all hazard prone areas such as coal stock yards, bunkers and silos as per the applicable fire safety standards.