APL/F&S/2021/ June 22, 2021

The Deputy Chief Inspector of Factories
Govt. of Andhra Pradesh
50-50-35/8, Sri Gurucharan Marg
Seethammadhara
Visakhapatnam – 530 013

Dear Sir,

We acknowledge the receipt of your letter No: Lr. A/No/275247/2021, dated 04.06.2021, we hereby submit our point wise compliance report on the report.

Compliance report on recommendation of Quantitative Risk Assessment (QRA)

S. No	Recommendation	Compliance
1	The emergency response (in case of safety barriers fails) procedures for the facility should be common to the Plant facilities and those of the adjacent industrial facilities. If practical, the emergency response / plan should be developed for the site / complex as a whole, based on understanding of the risks to and from each of the different plants / units / facilities.	The Emergency plan is in place. The OSEP was prepared based on the QRA report. The plan has been tested periodically by conducting mock drills. **Complied.**
2	The emphasis for risk reduction should be on preventive measures, i.e., to eliminate the potential of leaks to occur. This would chiefly be achieved through appropriate design (to recognized standards) and through effective inspection, testing and maintenance plans / procedures	The following procedure is being followed to ensure eliminating the potential of leaks occur in the plant. • Condition monitoring • Onstream inspections • Preventative / predictive maintenance • Statutory Compliance • Plant safety inspections • Safety Audits (Internal & External). • **Complied**
3	Rapid isolation of significant leaks will not eliminate the risks but will help to minimize the hazards and, particularly, the ignition probability (by limiting the total mass of flammable vapor released). For isolation to be effective enough it requires detection at the earliest and hence, best practices for fire and gas detection systems, with associated shutdown systems and procedures, as important mitigation measures.	The following early detection systems are provided for mitigating the risks. • Pre-alarm & Alarms, • Trip logics • Trip hand switches are provided where runway reactions are present. • ESD system is in place • Installed Gas detectors at vulnerable places in the plant. • Smoke detectors are provided at cellars & electrical panels • **Complied.**

23/6/2021

S. No	Recommendation	• Compliance
4	Clearly defined escape routes shall be developed for each individual plots and section of the plant taking into account the impairment of escape by hazardous releases and sign boards be erected in places to guide personnel in case of an emergency.	• Plant (Section wise) escape routes are clearly developed and displayed in the plant. • Sign boards are displayed at various places in the plant to guide the employees in case of emergency. **Complied**
5	All the fire detection and firefighting arrangements inside the plant shall be kept in good working condition.	Fire detection and fire protection equipment are daily tested in the plant and maintained in good working condition. **Complied.**
6	In order to reduce the frequency of failures and consequent risk, codes, rules and standards framed should be strictly followed.	Safety rules and standards are followed with due diligences. **Complied.**
7	Safety valves located on the storage vessels and other places must be tested periodically. The block valves before safety valve must always be kept in open condition when safety valves are in position. It is preferable to provide chain and lock to ensure that the valves provided upstream of Safety Valves are open.	• Safety valves are tested regularly. • Block valves before safety valve are kept in open condition at Spheres & Nitrogen bullets. These block valves are locked with chain. • No block valves are present for safety valves at other pressure vessels. • Block valves are locked with chains where present other places. • **Complied**.
8	In order to further reduce the probability of failure of catastrophic rupture of vessels and equipments, critical equipments shall be identified and inspection methodologies to be finalized for continuous monitoring during operation and shutdown maintenance.	Condition monitoring & on-stream inspections are being done frequently for all critical equipments in the plant. **Complied**.
9	Vehicular traffic as well as entry of personnel inside the plant area must be restricted. The vehicles entering the plant should be fitted with spark arrestors.	Being followed. **Complied.**
10	Use of naked light or hot work must be restricted to the areas designated for the purpose.	Hot works have been restricted in the storage, loading, and unloading area. Work permit system is in place for all works which are coordinated between the departments viz Operations, Maintenance and Safety. **Complied**.
11	The sprinkler system and remote operated valves must be checked regularly for timely actuation of the safety system as being done.	Water sprinklers and isolation valves are checked frequently and maintained in good working condition. **Complied.**
12	The DG sets must be periodically tested on load to ensure that they remain always in operating condition in case of power failure.	Being followed. **Complied.**

S. No	Recommendation	• Compliance
13	Training of all the employees and security personnel for firefighting and use of safety apparatus must be conducted periodically. Mock drills for emergency should be conducted at regular intervals of 3 months, keeping liaison with local administration and firefighting facilities available in the area	• Induction and refreshers trainings are in place. • Refresher training is conducted twice in a year. • Mock drills are conducted once in three months in presence of district administration. APL has mutual aid agreement with neighbouring industries which are liaised with during mock drills. **Complied**.
14	Windsocks shall be considered in the plant at higher elevation to ensure visibility from all directions. This will assist people to escape in upwind or cross wind direction from flammable/ toxic releases.	Windsocks provided at higher elevations i.e., on Spheres, columns, and structures. We are ensuring visibility from all direction in the plant. **Complied**.
15	Safety Audits shall be done as per norms; recommendations and points must be regularly complied.	Being followed. **Complied.**
16	Inspection and testing of the major equipments and pipelines e.g., pumps, compressor connecting lines, pipe-works, etc. shall be done at regular intervals for ensuring their health and condition monitoring.	Engineering department performs condition monitoring of all the equipment regularly and is recorded. **Complied.**
17	The use of PPEs shall be strictly followed.	Being followed. **Complied**.
18	Mutual aid arrangement with fire services and nearby Industries shall be made and need to be strengthened by regular meetings.	Written agreement is in place for mutual aid among neighbouring industries. Regular mock drills are conducted, and meetings held. **Complied.**
19	Gas detectors provided at vulnerable places like Propylene Storage Vessel areas, pump, and compressor house, etc should be checked regularly and calibrated periodically.	Gas detectors in the plant are checked and calibrated periodically as per assigned frequency. Records are maintained. **Complied**.
20	High-level alarm & trips, interlocks and instruments provided at facilities should be checked at regular intervals.	Alarms, trips, interlocks, and instruments are periodically checked, and records maintained. **Complied**.
21	Fire Water Pumps should be checked regularly.	Being followed. **Complied.**

(K. NARASAPPA)
MANAGER OF THE FACTORY