

Abstract:

Petrochemical plants are presenting primary sources of hazardous materials, gasses and liquids. Uncontrolled release of hazardous materials could cause catastrophic events, loss of production, property and life.

Definition:

IEC Ex scheme is a globally adopted trend to verify, audit and approve hazardous area located electrical and non-electrical equipment installations, mitigate and control ignition sources, determine site procedures, verification dossier.

Keywords:

IEC Ex scheme, hazardous area installation and third party verification and audit, site verification dossier, regular maintenance inspections, IEC60079-14, IEC60079-17.

FACTS

- Governments and their appointed industry authority regulators of oil & gas installations are developing high level policy documents to control, manage and oversee domestic and internationally developed projects and plants under their jurisdiction.
- These policies are mandatory for electrical, instrumentation equipment to ensure that properly selected equipments are designed, procured and installed (including operation, maintenance, repair, relocation, modification) with correct zone classifications and certificates.
- No clear mandatory requirements are specified in those high level policies for the rest of hazardous area activities such as design, procurement and most importantly site installations and third party inspections and verifications and approvals.
- However if the obligatory project design briefs and specifications are committed to IEC 60079 series of standards applications, this is manifesting a mandatory direction to follow and apply IEC Ex scheme for full compliance with that scheme for the life cycle of project or plant.

CONCLUSIONS

- Good engineering practices established internationally are selected and followed a practical approach.
- The whole design/procurement and implementation process from the beginning shall include a third party IEC Ex auditor entity who acting as hazardous area classification advisor, technical expert, auditor.
- Cost saving related to hazardous area located equipment specification, zone classification and purchase requisition is achievable applying third party advisor's audits and mitigation recommendations.

IND EX ME LLC APPROACH – FOLLOW UP

- ▶ Definition of scope ▶ Design ▶ Specification ▶ Procurement (product, services) ▶ Implementation ▶ Start-up
- ▶ Operation ▶ Relocation ▶ Modification ▶ Maintenance ▶ Repair ▶ Shutdown

In all cases the guidance of Ex personnel Competence shall be part of the project and operational team.

At all steps the knowledge of the necessary minimums like informations about technology, hazardous material, zone classification, requirements for various documentations like SEP, VD, certificates, if possible EPD, lifetime tracking, inspections, competence shall be covered in order to achieve the full Ex Compliance.

All together will make the site Ex for the total length of its lifetime. No other way.

In order to get the plant operational license and maintain it for the total lifetime of site the owner of the site has to be able to prove all above.

NEED Advise?!

(ask our colleagues for the primary checklist)

