

4. Operational Requirements

- 4.1. The operational safety related to flammable and combustible liquid storage, handling and usage and management methodology used to identify, evaluate and control hazards shall comply with **Table 13.10.**

Table 13.10.: Operational Requirements

ITEM	REQUIREMENTS
1. GENERAL	<ul style="list-style-type: none"> i. The fire protection system shall be maintained in proper operating condition, in accordance with design intent. ii. The quantity and quality of the water supply and extinguishing agents, if any, shall be continuously monitored in accordance with Chapter 9 and manufacturer's recommendations and approved design basis. iii. Permanent connections between fire water system and process system shall be prohibited. iv. The emergency management system shall be established and maintained in accordance with Section 5. v. Maintenance and operational procedures shall be established and implemented to control leakage and prevent spillages. vi. Combustible waste materials and residues in operating areas shall be kept to a minimum, stored in covered metal container and disposed of daily. vii. Aisles established for movement of personnel shall be clearly marked and shall not be obstructed.
2. HAZARD ANALYSIS	<ul style="list-style-type: none"> i. All operation involving flammable and combustible liquid or aerosol shall be reviewed on continuous basis to ensure fire and explosion hazards are addressed by fire prevention, fire control and emergency management procedures. The evaluation shall include but not limited to following. <ul style="list-style-type: none"> a. Analysis of fire and explosion hazard of the operation. b. Analysis of emergency relief from process vessels. c. Analysis of applicable facility design requirements. d. Analysis of applicable requirements for liquid handling, transfer, and use. e. Analysis of local conditions such as exposure to and from adjacent properties and other possible natural calamities. f. Analysis of the compatibility and response from all emergency services and mutual aids. ii. Such hazard analysis shall be revisited and reviewed whenever there are changes in the premises, changes in conditions, such as, but not limited to, <ul style="list-style-type: none"> a. When major change takes place in management of the facility. b. When change occurs in the materials involved in the process. c. When changes occurs in the process, process controls and related equipment. d. When changes occur in operation procedures. e. When notable change occur in the property and nearby property constructions. f. When changes occur in emergency management procedures.
3. HOTWORK AND CONTROL OF IGNITION	<ul style="list-style-type: none"> i. Precaution shall be taken to prevent the ignition of liquids or aerosol and related flammable vapors due to sources such as open flames, lighting, hot surface, radiation heat, smoking, fabrication, friction, static electricity and stray current. ii. Smoking shall be permitted only in designated areas. iii. Proper hot work permit system shall be established and implemented. iv. All metallic equipment such as tanks, machineries, and piping shall be properly bonded and grounded.