

Facility Location Considerations

General considerations

- climate and weather, including natural disasters and wind direction
- site topography
- location of people to processes
- location of process vessels and lines to traffic flow patterns and clearances
- external hazards or threats, such as releases from other facilities or terrorist activity
- emergency exits and procedures

Control room

- location of critical command and alternate command centers
- occupancy rate, emergency response capabilities, and fire protection
- room construction and location to processes
- ventilation and safe rooms
- types and quantities of materials controlled from control room
- operating pressures and temperatures
- presence of ignition sources

Process facilities

- electrical classifications
- access for maintenance and repairs for mechanical integrity
- protection of lines, piping, vessels, and fittings from accidental impact from personnel or vehicles and forklifts
- routing, security, and reliability of utilities, piping, and critical controls
- back-up power supply for critical electrical systems
- locations of vents, drains, and safety relief valve discharges

Storage facilities and loading/unloading

- storage of process materials, including separation distances, dikes, sumps, drains, treatment capacity, and waste
- location and signage for loading or unloading of incompatible materials

Fire protection

- access for fire fighting and any other emergency services
- ignition sources (continuous, occasional/intermittent, uncontrolled)
- access to hydrant, indicator, and deluge valves

Detection and mitigation

- potential for fire or explosions in processes affecting other equipment
- detection capabilities of leaks, ruptures, and fires
- location of critical controls for emergency shutdown, communication, and fire protection
- isolation valve accessibility
- water supply for fire fighting

Personnel protection

- hazardous locations and emergency passageways
- personal protective equipment (PPE) and first aid locations