Inherently Safer Design in Plant Layout and Facility Siting

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ABSTRACT

Inherently Safer Design concepts can be applied to plant layout and facility siting. Passive and inherently safer plant layout design practices can lessen the adverse effects of toxic and flammables releases. Examples of such inherently safer practices include:

- Minimizing inventories of flammable and toxic materials
- Attenuating hazardous material with refrigeration or dilution
- Minimizing congestion and confinement
- Controlling ignition sources
- Providing adequate spacing between equipment and buildings
- Providing adequate structural design for buildings
- Providing adequate drainage for flammable liquids
- Utilizing proper mechanical integrity design
- Providing unit layout and orientation to prevailing wind
- Minimizing building infiltration
- Installing air intakes in safer locations
- Providing gas absorbent air intakes

Specific examples of good practices will be illustrated and discussed.