An Introduction to EPSC
After Bhopal
“Protecting Society Together”

Legitimate Network

Industrial Best Practices

EPSC
THE PROCESS SAFETY NETWORK
The Network

- Two day Technical meeting in spring and autumn
- Valuable information (documents) with web access
- Working Groups
- Training material

Organisation

- Chosen board: DSM, BASF, Bayer, Total, LyondellBasell
- Founding members: Dechema & EFCE
- Operation Manager & Secretary at Dechema
- Full members
- Associate members
Conferences

Big Data & Digitalization

European Conference on Plant & Process Safety

Participation in: Achema, Hazards, EuroCorr, Loss Prevention
Imploded Storage Tank
EPSC Learning Sheet, June 2019

What Happened:
After cleaning with steam a tank was quenched with cold water to shorten the cooling time (not normal practice). The tank vent was not calculated for the vacuum resulting from this rapid quenching operation, resulting in a collapsed tank (without liquid release).

A larger vent size was installed after the incident

Aspects:
- Atmospheric storage tanks are not designed to withstand external pressure on the tank wall. A pressure as low as 20 mbar below atmospheric pressure can cause tank damage.
- The force on the wall can be high even at low pressure as the tank wall surface area is very large: Force = Area x delta P
- Consider all scenarios resulting in pressures below atmospheric and make sure vent sizes are adequately designed for these, including abnormal operations.
- Make sure vents and safety devices remain operable: fouling bird nests, plastic bags, have all caused tank implosions.

Atmospheric tanks are usually not designed for under pressures and can be damaged easily.
Membership formats & Fee

- Full membership, for asset owners: voting rights, participation at the technical meetings. Fee depend on revenue (2000 – 10,000 euro per year)

- Associate membership for solution providers: Access to website, reports, invited to working groups. Fee 1000.– euro per year
our shared responsibility to protect society