

16th Chemical Process Safety Sharing (CPSS)

Safety Moment : Williams Olefins Plant Explosion and Fire

Mr. Kamonchai Sriprasit

E-mail: kamonchai@thaioilgroup.com

Thai Oil Public Company Limited



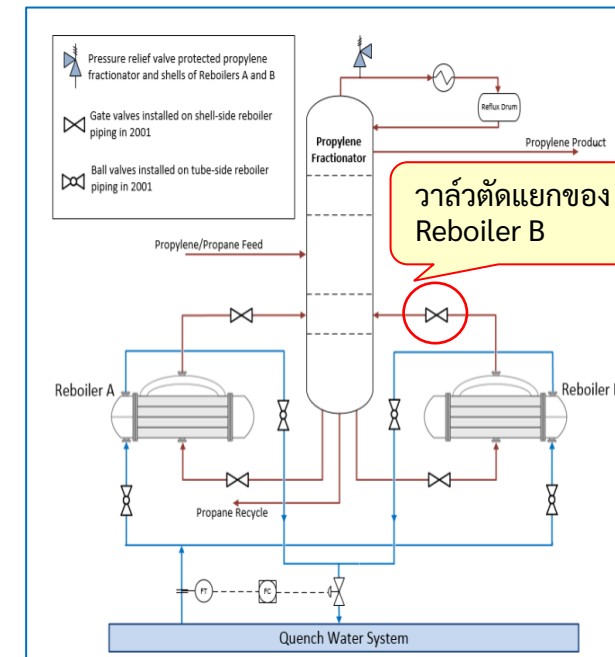


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Safety Moment : Williams Olefins Plant Explosion and Fire



| Incident Detail | |
|-----------------|--|
| Incident | Fire and Explosion at William Geismar Olefin Plant, LA |
| Date | June 13 th , 2013 |
| Detail | The incident occurred that introduced steam as heat source to spare “Reboiler” of propane/propylene fractionator column while the HX was isolated from its pressure relief device in cold side. This creates dramatically pressure rise due to thermal expansion from block in condition. The reboiler shell catastrophically ruptured, causing a boiling liquid expanding vapor explosion (BLEVE) and fire. |
| Cause | De-efficiency in some PSM elements as below: <ul style="list-style-type: none"> • Management of Change (MOC) : The installation of block valves at propylene fractionator reboilers didn't perform MOC (MOC execution after implement). • Pre-Startup Safety Review (PSSR) : Williams did not response in key safety checklist (B/V CSO/RV line up) • Process Hazard Analysis (PHA) : The PHA team did not follow the CSO implementation in both Reboilers as PHA recommendation |
| Consequence | <ul style="list-style-type: none"> • 2 fatalities and 167 injuries |
| Reference | <ul style="list-style-type: none"> • The CSB's investigation Final Report |





Thank you for your attention

