

TIER 2 INCIDENT

What happened?

- During routine plant inspections a process controller noticed a leak on the sulphuric acid system from the suction line dosing pump.
- An attempt was made to close the tank outlet valve without any success.
- The valve was sticky and not accessible.
- The released product was contained in a bund wall.
- Due to the quantity released with the clean up costs the incident was classified as a Tier 2.
- The complete tank was drained into the bund area.
- The acid was neutralized and disposed.

Photos



The affected area of suction line A had multiple pinholes and external coating failure.

The excessive wall loss on the elbow could be indicative of localized increase in velocity/turbulence leading to accelerated corrosion.

Learnings

- **Design incorrect** - The material of construction, size and number of bends not being suitable for the application.
- **Inadequate procedures or methods** - Failure to act on concerns raised in the HAZOP
- **Deviation from approved method, procedure or rule by any individual, supervisor, manager**- Verbal concerns were expressed by the maintenance department on the material selection to the project team; a technical query was not submitted to the project team disputing the material selection.
- **Inadequate records or data management**- Final handover documents of projects to the maintenance team could not be found at the time of the investigation, only the code data books, and maintenance manuals are available.
- **Maintenance System, insufficient troubleshooting, detection, monitoring or inspection** -The maintenance activity on these group of lines were visual inspections and x-rays which were conducted only on the discharge lines and not on the suction lines. Not sufficient to prevent a failure on these lines.

Questions