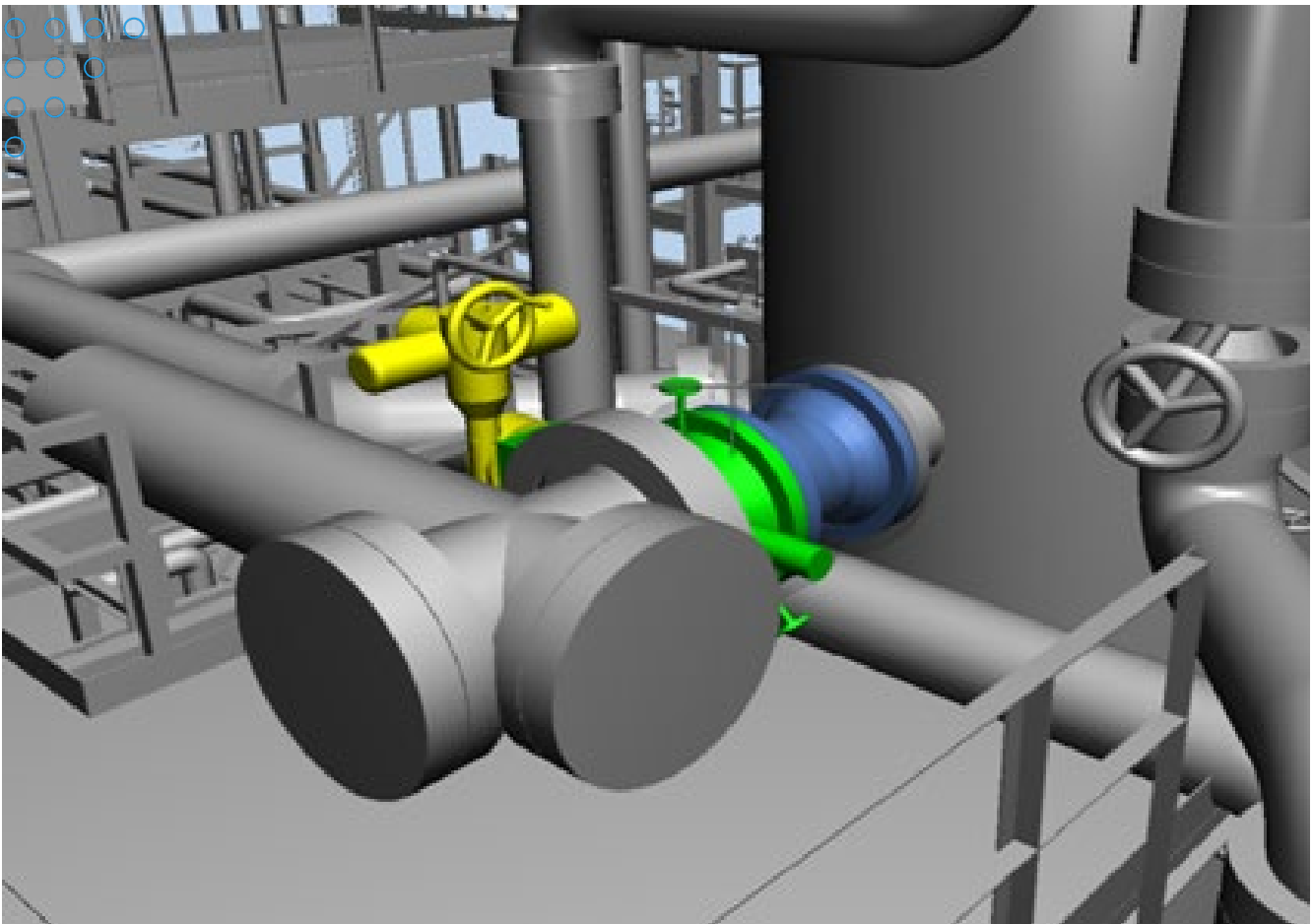


# Wedge Plug Valve Replacement

A wedge plug valve at this refinery provides back-pressure on the overhead vapour line between the coke drums and the coker fractionator. The valve packing has failed multiple times in recent years, resulting in loss of containment incidents and the potential for auto-ignition fires. The existing coke drum back-pressure valve has steam purge ports that could help to protect the packing, but they are not being used. As well, alternatives to wedge plug valves are now available that might be better suited to this service. Rally was requested to complete a two-stage scoping study and then proceed to detailed engineering to provide solutions.

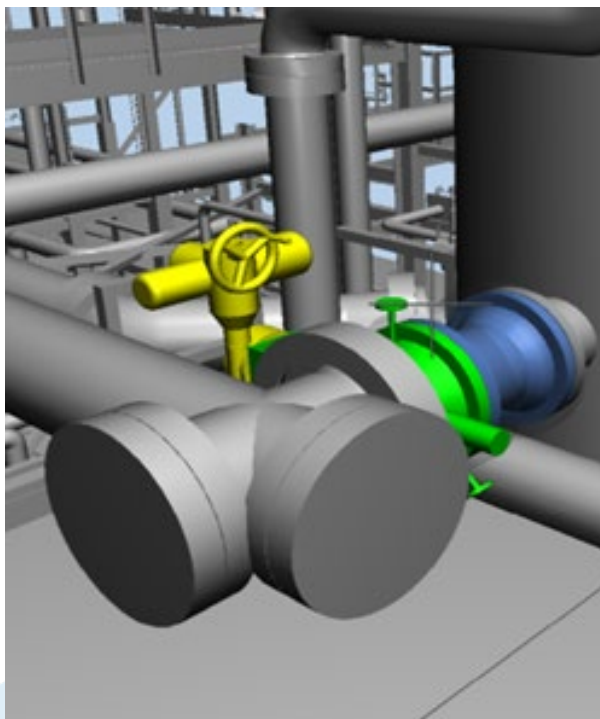


# Wedge Plug Valve Replacement

Saskatchewan

Refining & Petrochemicals

\$1.3M TIC



## DELIVERABLES STAGE I

Evaluate a short-term solution of adding steam purge lines to the existing wedge plug valve.

- Confirmed that the existing valve is suitable for steam purging.
- Identified steam, condensate, and blowdown tie-ins via discussions with operations and by red-lining the piping and instrumentation diagrams (P&IDs).
- Optimized the routing and support of the new steam and condensate piping.

## DELIVERABLES STAGE II

Facilitate a long-term solution of replacing the wedge plug valve with a more modern valve.

- Defined the specifications for the new valve.
- Determined the extent of piping and structural modifications needed to install the new valve.
- Defined the E&I scope required to integrate the new valve and actuator into the existing control system.
- Submitted a scoping study report and schedule.
- Provided a Class 4 capital cost estimate (CAPEX).