

MECHANICAL ENGINEERING

GUIDED WORK EXPERIENCES



PetroSkills Guided Work Experiences (GWEs) enable technical professionals to deliver a tangible work product through specific deliverables and performance measures. GWEs have been developed by industry experts and deliver the on-the-job connection between knowledge and action.

Status Equipment - Piping

- Evaluate design of a simple piping system
- Select pipe material for piping system
- Evaluate corrosion / erosion of piping
- Evaluate corrosion of pipeline
- Evaluate support loss on piping (incl bending stress)
- Evaluate potential for water hammer in a piping system
- Carry out wall thickness requirement for a slug catcher
- Carry out noise prediction for a blowdown system

Static Equipment - Tanks

- Evaluate design of an external floating roof tank
- Evaluate design of an internal floating roof tank
- Evaluate design of a fixed roof API 650 tank
- Evaluate design of a fixed roof API 620 tank

Status Equipment - Vessels

- Evaluate design of a pressure vessel
- Select plate material for a pressure vessel
- Evaluate weld procedure specification on a PV
- Evaluate nozzle loading on a pressure vessel
- Approve an inspection plan for static equipment

Pressure Relieving Systems

- Size and select pressure relief system for a PV
- Evaluate flare header design

See reverse for Rotating Equipment



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Rotating Equipment - Pumps

- Size and select a centrifugal pump
- Size and select a reciprocating pump
- Size and select a rotary positive displacement pump

Foundations

- Evaluate foundation design for rotating equipment
- Evaluate foundation design for reciprocating compressor
- Evaluate foundation design for a pressure vessel

Reliability

- Carry out a FRACAS analysis
- Carry out a RAM analysis
- Develop maintenance parameters using FMEA & Weibull analysis

Rotating Equipment - Compressors

- Size and select a centrifugal compressor
- Size and select a reciprocating compressor
- Size and select a rotary positive displacement compressor
- Troubleshoot surge on a centrifugal compressor
- Evaluate pulsation study on a reciprocating compressor
- Troubleshoot causes of valve failure on a reciprocating compressor
- Troubleshoot poor compressor performance