

Capabilities of Raven Thermal Services

Heat Transfer Services

Operations Support

- Design and optimization of cleaning in place systems for fouling services such as produced water coolers
- Development of operating strategies to improve run life and reduce cleaning costs of fouling services such as produced water coolers
- Development of condition monitoring programs for heat transfer equipment including OTSG efficiency monitoring
- Development and management of process trials and heat transfer experiments
- Development of heat exchanger operating procedures and start-up plans
- Analysis of operational data and identification of debottlenecking opportunities
- On site operational support

Design Support

- Oversee contractors as a representative of the Facility Operator
- Plant heat integration design and system review
- Heat exchanger design and simulation
- Off design performance checks
- Bid and vendor package review
- Drawing review

Simulation Development

- Calculation of thermodynamic balances including heat loss and insulation
- Development of rigorous heat transfer simulations of exchangers
- Development of heat and material balance flowsheets complete with rigorous simulation of heat transfer equipment

Standards and Specifications Development

- Development of start-up and ramp-up operational procedures to minimize fouling and transient performance issues
- Development of operating procedures for heat transfer equipment including summer and winter operation modes
- Heat exchanger specification development and review

General Engineering Services

Operations Engineering Support

- Process variance identification and troubleshooting
- Process trial development and coordination
- Plant optimization studies
- Facilitation of structured problem solving
- Management of Change system development

Training

- HTRI training
- HTRI integration with UniSim or HYSYS
- SAGD heat transfer for various audiences
- SAGD heat transfer performance monitoring
- SAGD produced water cooler fouling formation and mitigation
- SAGD plant operation for Design Engineers – how your plant will *actually* be run
- Management of Change – past disasters and why they matter