CUSTOMER: Fushun Petrochemical Division of PetroChina Detergent Chemical Plant

LOCATION: Fushun, China

BACKGROUND: Armstrong International designed, engineered, installed and financed a steam system and condensate recovery system optimization project for the Detergent Chemical Plant, Fushun Petrochemical Division of PetroChina. This is one of the several sub-projects covered in a system optimization agreement under the cooperation of Fushun Petrochemical and Armstrong.

SCOPE OF WORK:
- Optimize condensate collection stations for tracing lines
- Merge, terminate or re-route the existing condensate return lines; change overhead pipelines and buried pipelines to overhead pipelines
- Re-design the flash steam utilization system
- Install condensate treatment to system (IEF) to remove oil, iron, silicon and floating matters from the condensate before being pumped to the demineralized water tank
- Apply steam traps in tracing lines that resist back pressure and reduce steam carry-over

The annual condensate recovery: 103,000 tons; steam saving rate: 30%; annual steam savings: 43,000 tons; net energy savings: $434,000; payback period: 2.5 years

BENEFITS:
- Pipelines enjoy little heat loss, even resistance distribution, high reliability and easy maintenance
- Condensate heat is recovered to its utmost. No steam is discharged directly to the atmosphere
- Condensate treatment integrates filtering with ion exchange. With a fully developed monitoring system, PLC control system and two industrial PC work stations, the system is automatic and carefree.
- After treatment, the condensate can fully comply with the quality requirements for MP boiler feed water