CASE STUDY

INDUSTRY: **CHEMICALS**

CUSTOMER: Liaoyang Petrochemical Company Polyester No. 1, Nylon Plant

LOCATION: Liayang, China

BACKGROUND: Armstrong International entered into a contract with Liaoyang Petrochemical Company on a steam system and condensate system optimization project.

Armstrong was responsible for the engineering design, material purchasing, installation, and commissioning, as well as the measuring and evaluation of specific steam and condensate projects for Polyester No. 1, Nyon Plant at Liaoyang Petrochemical.

SCOPE OF WORK: This Liaoyang Petrochemical steam and condensate system optimization project was the first one of its kind funded by PetroChina. It was one of many important approaches taken by PetroChina to respond to the state council's requirements on water and fuel conservation. It followed the success of the Fushun Petrochemical condensate recovery & re-use project supported by PetroChina and funded and performed by Armstrong. The successful implementation of this project had fundamental significance to the energy conservation and water resource utilization within the petrochemical industry in China.

UPGRADE PROJECTS:

- Optimize steam system and condensate return system in the unit areas: Arene, PTA, and Short Thread in Polyester No. 1 Plant
- Add a steam recovery system to recover and re-use the flash steam from Arene Thermal Power Stations and lost steam from PTA Unit
- Optimize steam and condensate recovery system in various units within Nylon Plant to ensure the complete recovery of condensate and eliminate steam discharge and leaking, while meeting the production and process requirements of relative units

BENEFITS: The annual steam savings: 241,000 tons; annual water savings: 289,000 tons; annual net energy savings: $2,459,000.