



Optimize Steam and Condensate Recovery

Customer: Panzhihua Iron & Steel

Location: Panzhihua, China

Scope of Work: This facility knew it had very inefficient steam and condensate systems and felt it did not have the on-site expertise to determine the area of inefficiencies nor how to prioritize and manage the work. Armstrong International addressed these needs by discovering the areas of inefficiency, justifying the work on an economic basis, and then performing the work on a turnkey contract.

Upgrade Projects: **Project Phase I (Coal Chemical Plant)**

- Re-engineered the steam trapping systems for steam heat exchangers in Coal Chemical Plant to reduce steam leaking and facilitate condensate recovery.
- Engineered and installed condensate recovery system. Installed a softened water system that feeds the waste heat boiler.

Project Phase II (Cold Rolling Plant)

- Re-engineered steam trapping system for steam main, process tracer lines, and heat exchangers to solve problems like high water content, water hammer and steam leaking in the steam main, improve steam system efficiency & reach the required process heating temperature.
- Engineered and installed condensate recovery and re-use system based on condensate availability and user need. Recovered condensate is re-used as softened water for cleaning process.

Project Phase III (Titanium Plant)

- Re-engineered steam trapping system for indirect steam users and steam pipeline to reduce steam leaking, improve steam utilization efficiency, and facilitate condensate recovery.
- Engineered and installed condensate pressurized recovery system and re-engineered the condensate return lines. The recovered condensate is used as softened water for process cleaning.

Contract: The total value of this project improvement was \$287,000.

Terms: The three different phases occurred in July 1999, November 2000 and October 2002 respectively.

- Benefits:**
- Total net project savings: \$353,000.
 - Average payback period: one year or less.

