Armstrong® Intelligent System Solutions®

CASE STUDY

Optimize Steam and Condensate Recovery

Customer: **Wuhan Iron & Steel**

Location: Wuhan, 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.

Flash steam venting before optimization

Upgrade Projects:

- Armstrong re-engineered and optimized the steam system flow to achieve maximum recovery of flash steam in the Refined Benzene Unit and Rough Benzene Unit with two newly added flash systems.
- Optimized the hot water supply system for the gang shower room in No. 2 Recovery Shop. Installed industry-advanced instantaneous water heaters to provide hot water instead of direct steam heating the water which provided significant energy savings and met National sanitary codes for hot water supply.
- Installed high-precision steam flow meters to help improve steam system management.
- Re-engineered and optimized the steam trapping system to achieve maximum use of steam heat value, minimize steam leak loss, reduce steam system pressure loss, and ensure long-term efficient and reliable operation of the system while meeting the system requirements for condensate recovery and flash system recovery & re-use, as well as the heat exchange process requirements.

Contract: The total value of this agreement was $605,000.

Terms: Contract was signed in November 2003. The project work was completed in April 2004.

Benefits:

- Total project savings: $302,000/yr
- Payback period: two years
- Steam saved: 41,000 ton/yr
- CO_2 emission reduction: 14,400 ton/yr

ENERGY STAR PARTNER

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