Steam Engineering, Inc.

A Northwest-Based Company

Providing Steam-Related Engineering, Full Service Water Treatment, and Tech Support

Nestle Raises Pressure and Increases Production

The Nestle facility in Othello, Washington was challenged to meet production goals. They wanted to raise the boiler pressure to increase the production from the fryer heat exchangers, but the existing condensate system could not return the condensate to the boilers when the pressure was increased.

The efficiency of a steam system depends on the performance of the return condensate equipment. If the system is not properly designed, heat is lost, boiler capacity is reduced, and steam quality often deteriorates. **Steam Engineering, Inc.** has extensive experience and has enjoyed significant success in designing high temperature condensate and feed water systems for many facilities in many industries.

At the Othello facility, there were three fryer heat exchange systems, and each had its own pair of condensate pumps trying to return hot condensate to three boilers. The condensate pump system had not been installed with sufficient net positive suction head to achieve reliable pump performance, and the result was high maintenance, wasted condensate, wasted boiler capacity, and if the boiler pressure was raised to increase log mean temperature difference across the heat exchangers, the condensate pumps could not overcome the higher boiler pressure.

The Solution

Steam Engineering , Inc. designed a new condensate system, making use of as much of the existing equipment as possible. We elevated one of the condensate receivers to provide adequate net positive suction head to a new high temperature, high pressure condensate pump, and we return the condensate from the other two fryer heat exchangers directly to this elevated tank. The boiler pressure was increased to 290 psig, the condensate receiver regulated at 120 psig, and the number of condensate pumps reduced from four to one.

The Result

The plant maintenance supervisor reported, "Plant production is at record levels at this time. We have replaced four inefficient condensate pumps with a system that is using only one pump. We have been able to raise the plant steam header pressure and still return the high pressure condensate directly to the boiler. The concept of using the flash steam for the plant low pressure steam requirements has reduced the temperature of the high pressure condensate and solved the problems of seals leaking on the high pressure condensate pumps."

Find out how your company can qualify for a FREE **Fuel Savings Analysis** for your specific operation.

Reduce Operating Costs & Increase Profits:

- **Reduce Fuel Use**
  - Optimize Combustion Control
  - Stop Steam & Condensate Leaks
  - Increase Condensate Return
  - Recover Blowdown & Flash Steam Heat
  - Recover Boiler Stack Waste Heat
- **Reduce Boiler & Cooling Tower Chemical Use**
  - Pretreat Makeup Water
  - Reduce Chemical Use
  - Automate Boiler Chemical Treatment
- **Reduce Repair & Maintenance**
- **Improve Environmental Compliance**

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