4.3% fuel consumption reduced through flash steam recovery for a confectionery MNC

Malaysia | Food

Problem

An MNC manufacturing chocolate and chocolate powder in Negeri Sembilan, Malaysia was experiencing issues with its steam and condensate system. Flash steam was being vented with poor condensate recovery, resulting in low feedwater temperature at 50°C (122°F).

Solution

Based on Forbes Marshall's site observations, the following thermal energy conservation solutions were recommended and implemented to improve flash steam and condensate recovery for the plant:

- Temperature Control Valve to ensure steam is supplied at the right temperature for the process
- FlashJet™ Pump to improve condensate and flash steam recovery

Benefits delivered

Flash steam	recovered instead of being vented
Condensate recovery	improved
Feedwater temperature	increased from 50°C (122°F) to 80°C (176°F)
Steam to fuel ratio	improved from 13.02 to 13.76
Fuel consumption (furnace oil)	reduced from 16,801 Litres/day (4,438 Gallons/day) to 16,076 Litres/day (4,246 Gallons/day)
Fuel to production ratio	improved from 52.99 to 51.68
Annual fuel savings	4.3% i.e. 260,951 Litres/year (69K Gallons/year)
Annual monetary savings	USD 120,704 (~IDR 508,767 *converted based on exchange rate)