5% fuel and 21,434 Litres of water saved through condensate and flash steam recovery at a noodle plant

Indonesia | Food

Problem

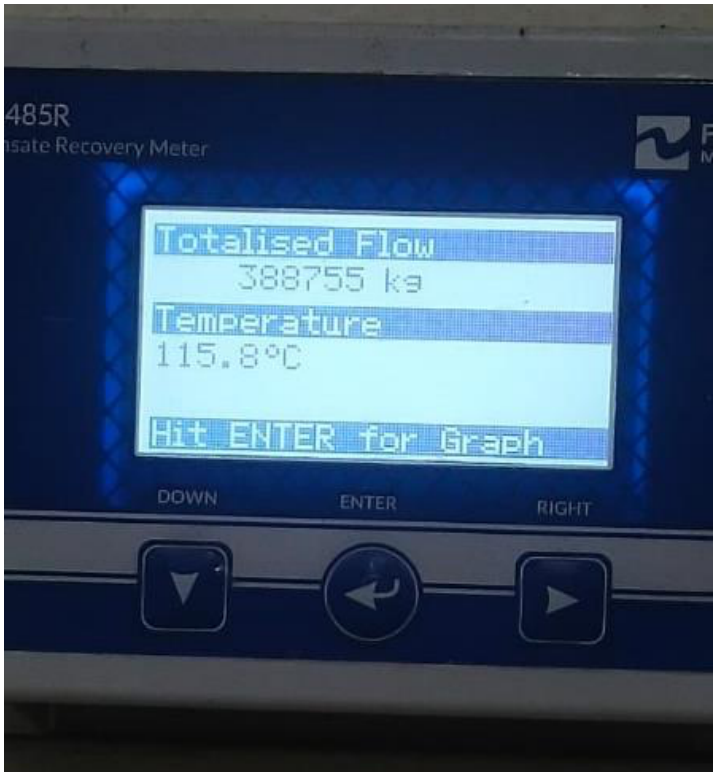
A noodle plant in West Java, Indonesia, faced low feedwater temperature at 39°C (102.2°F) and needed to improve their condensate and flash steam recovery.

Solution

Forbes Marshall recommended and implemented the following thermal energy solutions to help establish a closed-loop steam system ensuring condensate recovery from the Fryer and flash recovery to the Steamer (line 2):

- A FlashJet™ Pump (FJP) was installed to recover flash steam and condensate.
- A Control Valve was installed to ensure the steamer received steam between 0.2 to 0.4 barg.
- A Steam Metering Station (SteaMon™) was installed to measure and monitor both live steam and flash steam going to the steamer.

After



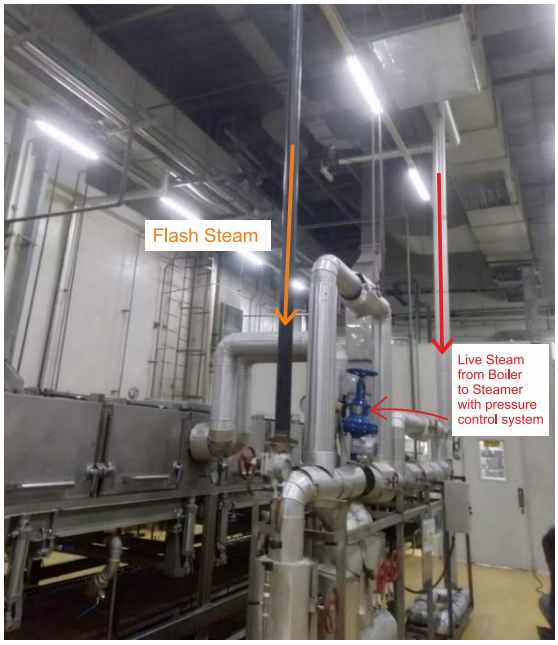
Condensate Meter reading after 17 days running: average 21,433 kg/day; Condensate temperature of 115ºC

FlashJet™ Pump Installation

DOC#FMCS/1125/I-0023/V1.R0

Pressure control system for Steamer, flash steam meter, and steamer meter

Pressure control system and Flash steam integration



Benefits delivered

	Before	After
Feedwater temperature	39°C (102.2°F)	60°C (140°F)
Daily steam consumption (avg) by flash recovery	96,664 Kilograms (213K Pounds)	94,450 Kilograms (208K Pounds)
Daily makeup water consumption	100,959 Litres (26.6K Gallons)	79,525 Litres (21K Gallons)
Daily fuel (gas) consumption	7,546 Nm^3 (281.7K SCF)	7,446 Nm^3 (277.9K SCF)
Fuel savings		377 Nm^3/day i.e. 5%
Daily steam savings		2.2 Tonnes (4850 Pounds)
Daily water savings		21.4 Tonnes (47K Pounds)
Annual monetary savings		USD 46,684 (~IDR 780,183,008 *converted based on exchange rate)