

Application:

Interstage Attemperation

Location:

Power Generation, Combined Cycle Power Plants

Steam temperature is critical to plant efficiency and turbine protection. If the temperature is too low, the plant will operate at lower efficiency, while excessively high temperatures put the steam turbine at risk.

Optimum evaporation is essential, as excess water can cause cracks in downstream piping and travel into the next stage of the boiler quenching tubes, leading to expensive tube leaks and tube failures.

The amount of water spray is often limited by a check of the superheat in the interstage piping before re-entry into the boiler (for example >50 °F [10 °C]). Beyond this limit, no more water can be sprayed. This is often the leading factor in limiting the low-load operation of the unit.

IMI Insynt's end-to-end prescriptive engineering services determine the root cause of plant issues and helps prevent problems before they happen, protecting the plant's process.

By identifying mis-operation, sizing, and installation issues, and then making actionable recommendations to reduce or eliminate failures, IMI Insynt helps operators avoid the high cost of repairing or replacing downstream piping and boiler tubing.

It allows optimization of system operations, supporting maximum profitability. It sees cracks before they start, quickly addressing potential major faults like leakage that cause high thermal gradients.

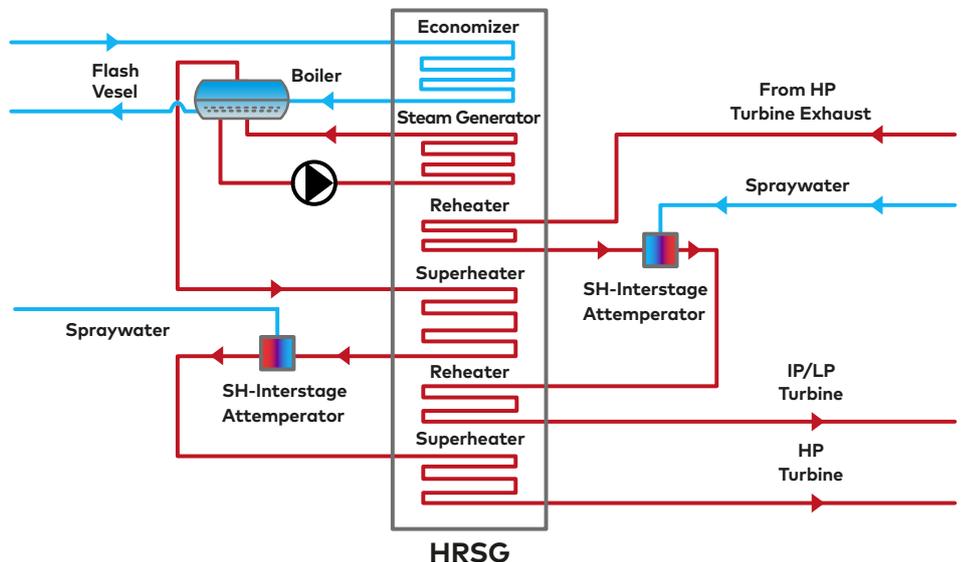


Figure 1: Typical CCPP Superheat & Reheat Interstage Attemperation

Application challenge	Potential issues	IMI Insynt solution
Steam temperature optimum evaporation	High cost to repair Replace downstream piping and boiler tubing	IMI Insynt identifies mis-operation, sizing, and installation issues, and makes actionable recommendations to reduce/eliminate failures
Reduced unit load flexibility	Decreased profits	IMI Insynt optimizes system operations, allowing for maximum profitability and safety
Leakage	Cracks	IMI Insynt quickly addresses major damage mechanisms like leakage that cause high thermal gradients

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