



# HRSG Cycling Service Evaluation

Operation of a HRSG in cycling service is known to increase component wear and thereby reduce operational life. The objective of this evaluation is to estimate the impact of cycling on unit life and to deliver clear, easily implemented recommendations for reducing that impact.

Engineers from Tetra visit the site to perform a walkdown, discuss plant operation with staff, and collect operating data from the DCS or data historian. The field visit is scheduled so that, if possible, a start (hot, cold or warm) can be witnessed. The team then reviews and assesses:

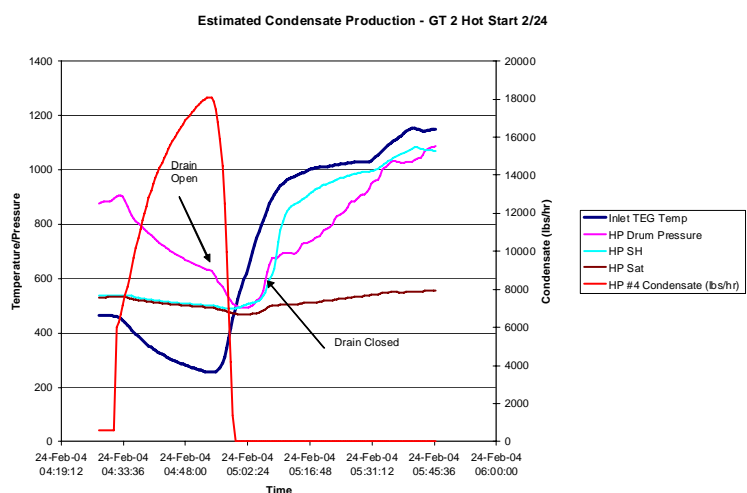
- HRSG design features and operating limits (metal temperatures, OEM prescribed ramp rates, etc.)
- Plant start-up procedures for cold, warm and hot starts.
- Current practice for controlling key process functions: steam temperature, drum level, drains, purge, water chemistry etc.
- Collected operating data

The goal is to obtain a clear understanding of current operations. This is the basis for analyses that estimate component life consumption as a function of operating regime.

Weak points in the HRSG design (susceptibility to fatigue, corrosion fatigue etc.) are identified as well as weaknesses in the design of spray systems, drains, baffles and supports.

The deliverable is a comprehensive report that presents recommendations for plant management based on the results of the evaluation. The recommendations can encompass:

- Changes to control logic or setpoints to minimize stress on HRSG systems.
- Changes to plant operating procedures to minimize stress on HRSG systems. This will include all startup options including lead and lag units and hot, warm and cold starts.
- Actions for potential reduction in unit startup time without impacting stress/damage limit.
- Areas of concern for HRSG auxiliary systems including power piping, drains, and water systems.



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