

EtaPRO Heat Recovery Steam Generator (HRSG) Module

The Heat Recovery Steam Generator (HRSG) is a key component in the most efficient large scale power generation technology available today - the combined cycle plant. Safely maintaining optimum plant efficiency requires close attention by the operating staff for proper coordination of gas turbine and HRSG operation. **EtaPRO's HRSG Performance Module** provides operators and engineers with a profile of actual and expected performance, including HRSG efficiency, expected steam generation and outlet temperatures, and heat transfer section effectiveness.

Overall HRSG efficiency and heat transfer effectiveness calculations are based upon ASME PTC 4.4, *Gas Turbine Heat Recovery Steam Generators*. Efficiency is also determined by an energy balance of the HRSG. When compared to the Loss Method efficiency, the input/output efficiency is useful for evaluating steam and fuel flow measurement accuracy. Expected steam generation and outlet temperatures are determined from design data and changes in gas turbine exhaust flow, temperature, and moisture content. Performance comparisons may be made at standard conditions or at current operating conditions. This module is applicable to fired or unfired heat recovery steam generators.

