

# Updated Tool for Combustion Turbine Projects: SOAPP-CT O&M Cost Estimator—Version 3.0

## Advanced Capabilities for Estimating CT/CC Plant O&M Costs

**Palo Alto, CA July 26, 2002:** The SOAPP Team of EPRI/EPRIolutions has released the latest version of the SOAPP-CT O&M Cost Estimator, a spreadsheet software tool for calculating operating and maintenance costs, developing a cash flow projection, and providing a present value analysis for combustion turbine-based simple cycle and combined cycle projects. Using this tool, the incremental cost per start or per hour can be determined, depending on the type of service intended for the unit.

The new version includes several new and useful features. Costs for each maintenance inspection/overhaul can now be estimated based on detailed parts replacement and repair costs and life intervals. Default values for several machines are provided. Insurance costs for machinery breakdown and business interruption are now included. Long-term maintenance agreements are considered in the framework as an alternative to self-performed maintenance. An optional capability to perform a statistical economic analysis can be utilized to quantify the risks of unplanned events. The probability of unplanned maintenance frequency, outage time and costs, and the impact of the variability of inspection intervals can be determined. The statistical analysis quantifies the likelihood of higher maintenance costs and lost revenues compared to the costs of insurance and maintenance contracts for mitigating a portion of the maintenance risk.

Built as a spreadsheet, the SOAPP-CT O&M Cost Estimator enables the user to define the unit duty type or mission and then either accept a series of default values or provide specific inputs for items such as service factor, number of normal starts, number of full load trips, operating time on primary and secondary fuel, staffing quantities, direct and indirect labor rates, fixed non-labor operating costs, major and minor overhaul costs, and auxiliary power costs. The software also includes the GE, Alstom (ABB), Siemens KWU and Siemens-Westinghouse algorithms for calculating factored operating hours and starts, equivalent hours, or baseload hours and starts as appropriate. With this information, the O&M Cost Estimator calculates operating and maintenance costs, develops a cash flow projection for use in a pro forma, and provides a present value analysis.

The SOAPP-CT O&M Cost Estimator requires Microsoft Excel 97 or later, operating under Microsoft Windows 98/NT or later. The SOAPP-CT O&M Cost Estimator can be used as a standalone product or in conjunction with the SOAPP-CT WorkStation.

The SOAPP® software products provide integrated technology evaluation/selection, conceptual design and financial analysis of power plants. SOAPP WorkStation software automates the plant conceptual design process, generating heat/material balances, equipment selection and sizing, drawings and 3D models, cost estimates, construction schedules, and financial analyses.

The SOAPP-CT O&M Cost Estimator was developed by EPRI with continuing support and maintenance by the SOAPP Team of EPRI and EPRIolutions. For more information on the SOAPP-CT O&M Cost Estimator, call 1 -650 -855 -2666, or e-mail [info@soapp.com](mailto:info@soapp.com).