

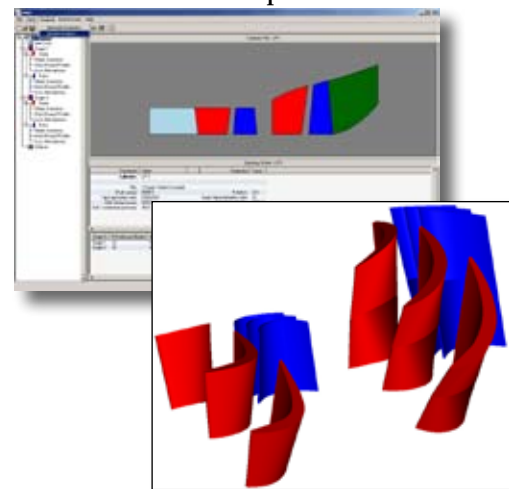
FAST™ Performance Prediction for Steam Turbines

The FAST™ (Flow Analysis for Steam Turbines) software is a multi-stage steam turbine performance evaluation tool that can be applied to specific turbine geometries and steam boundary conditions. The simulation software is based on a novel two-dimensional circumferentially-averaged multi-stage Computational Fluid Dynamics (CFD) solver coupled with steam tables and empirical loss algorithms. Extensive pre- and post-processing is available through a state-of-the-art user interface. The program is designed to be used by a performance engineer on a standard PC with Windows™ operating system. FAST contains a financial analysis module for assessing the economic data associated with steam-path upgrade decisions.

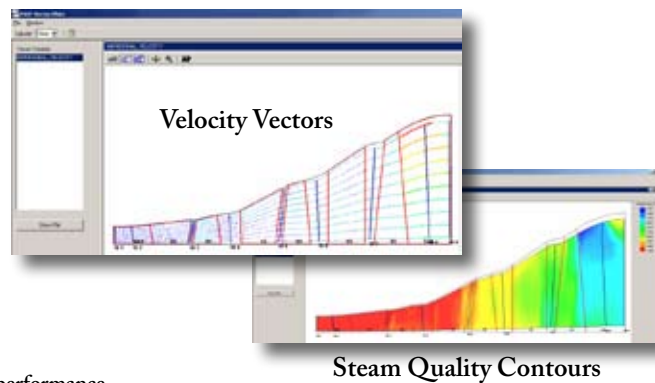
Features:

- ◆ Multi-stage analysis capabilities
- ◆ Handles modern designs with stator bow and lean
- ◆ Able to predict performance under low-flow conditions including flow recirculation
- ◆ Handles HP/IP/LP Turbines
- ◆ Powerful post-processing capabilities
- ◆ Loss algorithms based on Craig and Cox
- ◆ Supports 1967/1997 steam table formulations
- ◆ Includes economic analysis module
- ◆ HTML-based auto-report generation capability

Model Input



Post Processing Capability



Performance Tables

Overall performance

Granular performance summary at individual stage level

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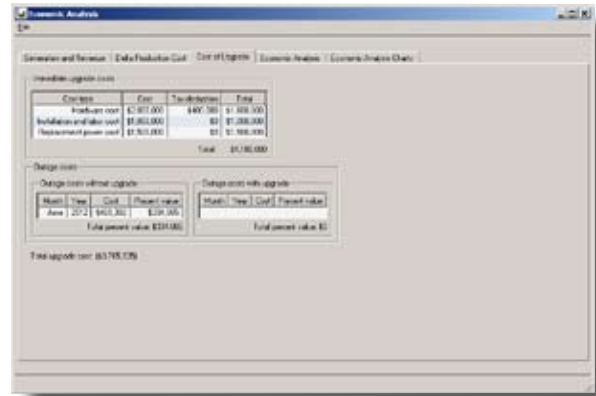
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EDAM: Translating Performance to \$\$\$

EDAM (Economic Decision Analysis Module)

A built-in financial analysis module within FAST allows rapid economic analysis of proposed steam-path upgrade.

Steam-path Upgrade Costs Input

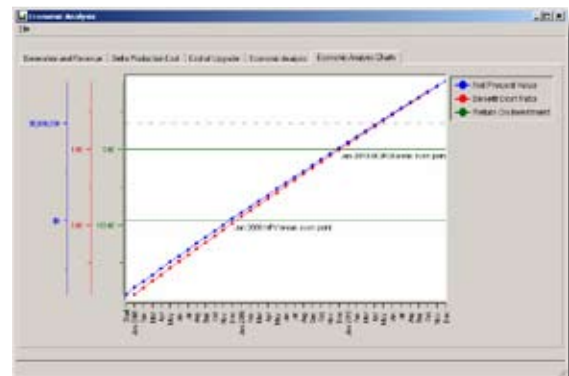


Power generation and revenue comparison before and after steam-path upgrade

Production costs before and after steam-path upgrade

FAST Availability:

FAST has been developed by Impact Technologies, LLC for EPRI. For information on availability please contact Gary Golden at 865-218-8111 or GGolden@epri.com.



Return On Investment Analysis