In today’s volatile electricity markets, most power plants must be flexible; often load following to minimum loads, and frequently cycling on-off. This type of cycling operation can be very damaging to fossil power plants, and add large costs due to increased equipment wear and tear, and adverse heat rate effects. For some large generation units, these costs can amount to millions of dollars per year. These costs can be greatly reduced by proper operations tuning and operator training.

Intertek has developed COSTCOM to:

- Display cycling costs
- Reduce cycling costs
- Monitor damage accumulation rates
- Improve control of load transients
- Optimize day ahead plant operation
- Help train new operators on cycling operations

**Approach**

COSTCOM is a Windows™-based software product that is designed to be easily added to the current generation of power plant data acquisition and control systems (DACS). COSTCOM computes damage accumulation rates and dollar costs for specific types of cycling operation. This is done by drawing real-time measurements from the DACS system and computing actual stresses and damage accumulation. This approach draws on Intertek’s cost of cycling analysis that derives dollar costs for defined load transients.

COSTCOM determines the cost impacts of increasing ramp rates, MW load transient ranges, and shortened startup times. By using COSTCOM, operators can learn how to control cycling operations in order to reduce costs.

Given below is a COSTCOM screen showing specific collected and processed data points and typical output.