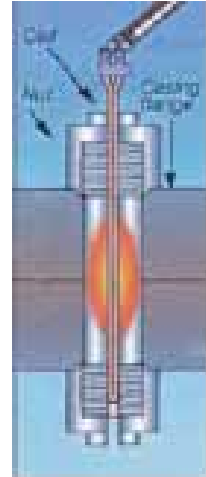


INTEGRA's Induction Bolt Heating system opens and closes turbine casings with record-breaking speed. By integrating the most advanced induction bolt heating system with hydraulic turbine closure and ultrasonic measurement, INTEGRA slashes the outage time required for turbine overhauls.

## INDUCTION BOLT HEATING

### A Revolutionary Breakthrough in Speed and Safety

IBH is rapidly replacing traditional methods that are very slow and dangerous. INTEGRA's controlled heating technology is on the leading edge of this industry breakthrough. Turbine bolts can now be loosened or tightened in a matter of minutes - instead of hours! Because the lightweight heating coils are constantly water cooled to room temperature, there is no danger of burn injuries. Heat transfer to bolt threads and turbine casing is negligible. INTEGRA's technology carefully controls heating to conform to engineered specifications. This prevents damage to metallurgy that shortens bolt life and can cause bolt failures.



## HYDRAULIC TURBINE CLOSURE

### The Fastest Way to Clamp Down Casings

INTEGRA's unique hydraulic closure system clamps turbine shells together with unprecedented speed and power. Shell distortion is instantly eliminated as the two halves are quickly and uniformly clamped into a zero-clearance fit. An unbeatable solution for turbine casing alignment, as well as final closure (in combination with Induction Bolt Heating). Much faster and safer than all conventional bolting and torquing methods.

## ULTRASONICS

### The Ultimate Way to Verify Bolt Clamping Load

The only way to be absolutely sure of proper turbine clamping load is to measure bolt stretch and the easiest, fastest way to do that is with ultrasonic measurement. Every other method is guesswork by comparison. Digitized read-out of the true bolt stretch enables the technician to increase or decrease bolt loadings to achieve proper clamping loads. A hard copy printout documents compliance and accountability.



***Bolting The World's Critical Joints***