

## 20 Reasons to Retrofit Turbine Controls on Large Utility Steam Turbines

(Actual Quotes from our Clients)

1. Upgrade is less costly than replacement.
2. Forced outages attributable to existing controls.
3. Projected Operation and Maintenance costs for existing system too high.
4. Operational Improvements (integrating turbine information into plant DCS).
5. Modernize and automate typical turbine functions being done manually.
6. Typical problems with OEM - no spare parts and no support.
7. Poor speed / load regulation from component wear. Refurbished parts not lasting with frequent repairs. Existing control functionality was no longer operational.
8. Positions turbine for a deregulated market.
9. Upgrading the turbine controls was a natural extension of upgrading other systems including boiler controls.
10. Individual valve operation accomplished with the upgrade, allows for more flexible, profitable operation.
11. Difficult to obtain spare parts from any source.
12. Difficult to troubleshoot.
13. New cycling operation requires new functionality and flexibility.
14. Difficult to get parts from OEM, and when they're available they are very expensive.
15. Relying on 3rd party companies for maintenance.
16. Part of the re-powering of the entire plant.
17. Incorporate Automatic Starting and Loading.
18. Automate throttle valve operation.
19. Improve response to frequency deviations/system upsets.
20. Ability to perform on line test and repair with newer control technologies.

Engineered Solutions

Field Service

Training

Consulting

Spare Parts

Installation & Commissioning

## WHO WE ARE

**CASE M&I** is an engineering and service company that provides control systems for rotating machinery. We focus on power generation and petrochemical industries. We are committed to our customer relationships and the implementation of quality solutions.

**CASE M&I** employees have over 350 years of industry experience. Our field service background keeps us focused in this niche market. Our customers can expect attention to detail, follow through, and prompt service. Commitment to support is key, and Case M&I is available 24 hours a day, 7 days a week.

**CASE M&I** is centrally located within the heart of turbine controls country, with our headquarters in Loveland, Colorado.

## WHAT WE PROVIDE

**CASE M&I** offers the following products and services:

- ◆ Utility Steam Turbine Controls
- ◆ Industrial Steam Turbine Controls
- ◆ Hydro Turbine Controls
- ◆ Combustion Turbine Controls
- ◆ Compressor Controls
- ◆ Turbine Safety Systems
- ◆ Installation & Commissioning
- ◆ Field Services
- ◆ Spare Parts
- ◆ Training



Thank you for considering CASE M&I for your plant and rotating equipment service needs. Let us show you what we can do to enhance your operation.



## Contact CASE M&I, LLC

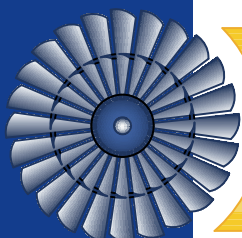
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