

OEM Valve Specification Upgrades

Large Scale Spec

Industry: Power

Customer: Global OEM/EPC

Application: HRSG applications

*Written by: Laura Mikovich
Global Key Account Manager*

Background: ValvTechnologies met with an OEM’s HRSG design engineering team to inquire about issues they were experiencing with their plant’s globe valves. Due to the extreme amount of time and attention the OEM’s warranty group needed to resolve issues, the problems weren’t reported into ‘Lessons Learned’. As a result, the design group was unaware of the leakage issues. Because of this, the same globe-style valves that were causing the problems continued to be specified, negatively impacting performance, reliability and profitability.

Solution: ValvTechnologies understands how important it is to bring all decision-makers (HRSG design engineering, optimization, warranty, start-up commissioning groups, controls teams, engineering design review board) together to collaborate and agree upon a strategy going forward. The groups agreed to launch a comprehensive valve investigation where they discovered:

- **Globe valve seat damage:** The seats were easily damaged due to the exposure to the media flow that naturally prohibits full sealing capability.
- **Globe valve seat leakage:** Globe valves inherently leak brand new going into the systems as they are only tested to Class IV, V or VI enabling ‘hidden leakage’ past the downstream seat. Leak paths never improve, they only worsen over time, requiring valves to be continually repaired or cut out of line and replaced.
- **Globe valve packing leaks:** OEM’s start-up and commissioning groups invested significant time replacing gland packing and re-torquing the valves, resulting in time and attention being taken from other issues.
- **Unsatisfied customers:** To quickly resolve problems, the OEM incurred the cost of repairs and replacements themselves rather than spending precious time in issuing warranty claims with the original globe valve suppliers. Their primary focus was getting the plant delivered to the customer on-time.
- **LDs and back charges:** Leaking valve issues prohibited the OEM from handing the plant over to the end-user that further raised efficiency and performance promise concerns. All of which were directly connected to the looming threat of hefty LDs / backcharges and payment delays, impacting the OEM further down the line through negative cash flow.





Result: The OEM implemented a valve investigation and necessary upgrade improvements through a 'Black Belt Six Sigma Project'. It was first estimated that the process would take six months to complete. Due to the number of challenges, the project ultimately took nearly four years from start to finish. ValvTechnologies, a reliable partner and trusted advisor, was there every step, providing support throughout the technical and commercial evaluation processes.

The OEM was spending serious amounts of time, money and resources in research and development of their turbine technology to enable them to offer customers the greatest efficiency rating promises possible. To succeed, they recognized that not only would the turbine technology they invested vast dollars in needed to improve, but key components within those systems would need to be upgraded as well.

In today's turbine technology with high-pressures, high-temperatures approaching super-critical in combined cycle operation as well as excessive wear and tear of daily start-ups, supported the OEM's decision to change from the traditional globe style valves to modern advanced technology ball valve design in on/off, severe service, isolation applications.

To date, the OEM has ValvTechnologies' four-year zero-leakage warranty that they can pass onto their customers, who have also since gone on and made headlines for breaking global performance and efficiency ratings.