CASE STUDY

MAJOR NUCLEAR SHUTDOWN SUPPORT

Key Takeaways

- 20,000 man-hours executed without a single lost time incident.
- 1,600 flanges tightened with zero leaks on restart.
- Machining capacity included flange facing up to 60" and pipe cutting/match boring up to 32".
- Demonstrated ability to rapidly increase resources and adapt to shutdown demands.

The Challenge

A major nuclear site shutdown was planned to conduct mechanical maintenance and safety integrity upgrades. Critical to success was ensuring thousands of bolted joints were dismantled, inspected, machined where necessary, and reassembled safely and leak-free.

Previous shutdowns had highlighted risks with seized or corroded fasteners, which could compromise timelines.

Our Approach

MOSS provided a comprehensive bolting and machining service, integrating flange breakout, on-site machining, pipe cutting, and flange management.

A tagging and tracking system was adopted to guarantee full joint integrity and give the client confidence in achieving a "right-first-time" leak-free restart.

Implementation

MOSS technicians carried out controlled breakout of bolts (1–3") using hydraulic torque wrenches, tensioners, and nut splitters.

Damaged studs were drilled and removed, and flanges ranging from 4" to 120" were machined or re-faced as required. Controlled bolt tightening was applied across 1,600 joints using the tagging system.

Despite extensive bolt corrosion — with nearly half shearing or binding — work progressed without delay. When additional manpower was requested, MOSS scaled the team from 38 to 54 technicians within just 24 hours.

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