

# WHEN THE WRONG VALVE IS CHOSEN, MILLIONS SLIP AWAY

Reliability at a large baseload power plant isn't just an engineering goal, it directly impacts financial performance. Unexpected de-rates disrupted operations, pressuring teams to act quickly. Despite a well-designed system, relief valves were opening as intended but failing to close, leaving the plant to absorb the cost each time.

## A HIDDEN GAP BETWEEN DESIGN AND REALITY

Working alongside the customer engineering teams, R.E. Mason helped uncover that the plant's operating pressure was running too close to the relief valve set pressure. Once the valve opened, it was effectively designed **not** to re-close. The result?

- Forced de-rates lasting ~48 hours per event
- Lost generation capacity of roughly 400 MW each time
- Operators stuck managing the consequences instead of optimizing performance

On average, these events occurred about **three times per year**, quietly draining millions in lost power production.

### A SMARTER WAY TO RELIEVE PRESSURE

Rather than forcing operational changes or accepting ongoing losses, R.E. Mason introduced the **Emerson Anderson Greenwood 800 Series Pilot Operated Relief Valve**.

Unlike conventional relief valves, this pilot design features a **modulating opening style** that opens only as much as necessary, and **re-closes easily once conditions stabilize**.

R.E. Mason supported the customer through selection, application guidance, installation, and commissioning, ensuring the valve wasn't just installed, but optimized for the plant's real operating conditions.

### FROM RECURRING LOSSES TO CONFIDENT OPERATIONS

Since installing the pilot-operated relief valves, the plant has experienced:

- Zero "stuck open" relief valve events
- Elimination of force de-rates tied to valve behavior
- Renewed confidence from both station and corporate engineering teams

The financial impact tells the story:

- \$65,000 investment in valves (plus installation and commissioning)
- ~\$1,000,000 in lost power production per event
- 3 avoided events per year

**Estimated annual savings: ~\$3,000,000**

In short, a relatively small hardware change delivered a outsized return turning a chronic issue into a closed chapter.

**What would eliminating just one recurring failure save your operation this year?**