



Reliability and REXA

Reliability stands at the forefront of any piece of equipment, regardless of the industry. Reliability can mean the difference between a high performance process that meets required throughput demands, and a process that is wrought with downtime and high operational costs. Reliability can also mean the difference between worker safety and the risk of danger. REXA sets the standard for high reliability in the toughest environments and the most demanding applications across the industrial spectrum. The following are specific examples of applications where customers rely on REXA.



Gas Turbine Inlet Guide Vane

In 1999, a 2x2x1 CCPP in New England, made the decision to upgrade their problematic IGVs from electric actuators, which were originally supplied by the turbine OEM, to REXA Electraulic™ Actuators. The plant was able to dramatically improve stability in turbine exhaust temperature, resulting in a more efficient turbine operation and reduced mechanical degradation to the HRSG. The high reliability of REXA Actuators was exemplified by the fact that the actuators required no maintenance or plant intervention of any kind for 12 years. After which, the soft goods started showing signs of wear and needed to be replaced. The actuators are now four years through their next 12-year run.

Rely on

Wastewater



An agency in the Pacific Northwest installed four REXA Actuators on four foot square butterfly valves used to control primary clarifier effluent flows back in 1994. In addition to seeing level control in each clarifier as tight as $\frac{1}{4}$ inch to set point in this large Wastewater Treatment Plant, this agency has seen superior reliability. For nearly two decades, there was not a single occurrence of downtime on one of these four continuously modulating actuators.

To this day, all four REXA Actuators are still operating as they have been since 1994, adding yet another example of how REXA Actuators can provide decades of maintenance-free service on modulating and critical value or gate service within a water or wastewater utility.

Copper Smelter

Some of the most critical dampers in the copper smelting process are at the Flash Smelting (FS) and Flash Converting (FC) off gas control. The flue gas contains toxic sulfur dioxide (SO₂). If the actuator fails, the flue gas will be lost, resulting in SO₂ that can leak into the building, putting employees at risk. The furnaces would need to be immediately shut down, negatively impacting copper production. REXA Actuators have performed flawlessly at the Kennecott Smelter in Utah. The smelter alone has thirty actuators on mostly damper control applications. The first one was installed in 2007. The Instrumentation Supervisor commented that the REXA Actuators have not had a production issue that was not due to operator error. The reliability is such that the REXA Actuators have 247 years of cumulative production without an unforced error.





A 3x3x1 Combined Cycle Plant in the Northeast US replaced problematic large pneumatic piston actuators on their HP and HRH valves with REXA Actuators. Stable control of steam pressures during startup was immediately recognized, and cascaded to related feed water valves. Also, due to the actuator “hydraulic lock” when closed, the bypass valve trim was no longer rebuilt on a yearly basis. The plant was also able to extend maintenance intervals as part of their long term service agreements (LTSAs), saving them millions of dollars.



Turbine Bypass Systems

A client in Corpus Christie, Texas had initially purchased several metering valves with electric actuators. A few REXA Actuators were operating on site in the same application, but on a different metering skid. Shortly after commissioning the valves, the Inspection & Enforcement team began an expensive maintenance and repair program on the electric actuators. The I&E team was frequently replacing burned-out boards, motors, and switches on the electric actuators, which made operation and maintenance costly. By comparison, one of the I&E Technicians realized that they never had to troubleshoot their REXA Actuators, earning them a reputation on site as “magic” actuators.

The I&E team was able to justify the cost of upgrading the electric actuators to REXA Actuators by comparing the maintenance logs and understanding the overall ROI. The volume of service calls, lengthy repairs, and cost of parts diminished after replacing the electric actuators with REXA Actuators. This allowed the station to operate more reliably, efficiently, and with a lower overall cost of operation.



Pipeline



Power Needle

Any plants that use an impulse turbine for generating electricity utilize a power needle to protect the turbine should an upset condition occur. High precision, stroke speed control, and high reliability are absolute requirements in this application. In 2012, a hydroelectric plant in California upgraded their hydraulic power system that operated the power needle with REXA Actuators at several plants. The plants were able to maintain normal operations of their existing governors and take advantage of the performance capabilities of the REXA to adapt to the changing demands of the grid fluctuations, as well as reduce environmental risk from the closed loop hydraulic system. The high reliability of REXA Actuators, exemplified by superior performance characteristics and zero maintenance, provides the operational capabilities needed to operate a power needle.

WHY REXA?

- Increased Process Availability/Throughput
- Faster Synchronization
- Wider Process Operational Ranges
- Reduced Maintenance Costs
- Extended Maintenance Intervals

Rely on REXA

- Field Retrofit to any Manufacturer's Valve, Damper or Turbine
- Mounting Hardware Provided
- Start-up & Commissioning Services Available

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