

In today's competitive power generation marketplace, the nuclear power sector is striving to enhance economic performance and find ways to achieve the industry's goal of 30% reduction in O&M costs.

Sargent & Lundy's Enhanced Maintenance Optimization (EMO) process goes beyond the template-driven or similar types of Preventive Maintenance Optimization (PMO) approaches typically used in the industry. EMO is a specialized method that integrates multi-discipline engineering know-how and addresses component aging to improve equipment reliability, while reducing maintenance burden.

Sargent & Lundy's EMO engineering service projects have resulted in significant annualized maintenance cost savings for our nuclear power clients. We have achieved these results with a return-on-investment payback of typically less than one year.

For example:

- One EMO project for 672 air-operated valves (AOVs) produced results that surpassed the industry goal of 30%. This project yielded greater than a 50% (>\$9.6M) reduction in maintenance labor costs over the remaining life of the plant.
- Another EMO project for 393 relays similarly produced results that surpassed the industry's goal, yielding a 40% (>\$1M) reduction in maintenance labor and parts costs over the life of the plant.
- At another plant, on a highly visible NRC maintenance related finding, the client requested us to find a solution for repetitive valve failures. Using the EMO process and technique, not only did we resolve the technical issue, but in the process, improved equipment reliability, while significantly reducing the station's maintenance burden. The solution was commended by the NRC.

We have been providing EMO engineering services for over 10 years. Our EMO approach has produced short-and long-term cost savings. These savings have been realized by our clients through outage scope reduction and overall maintenance burden reduction. Project results have helped to significantly minimize the need for intrusive maintenance, which, in turn, has reduced the chance for post-maintenance equipment issues and rework.

A unique element of our EMO approach is that detailed aging and alternative material analyses are performed, which provide a sound documented engineering technical basis for maintenance strategies. These evaluations have been successful at consistently extending preventive maintenance intervals for more than one cycle—often for several refueling cycles—resulting in significant cost savings.

Sargent & Lundy's EMO does not use a "cookie cutter" approach, but rather one that requires more detailed engineering evaluations performed by a multi-discipline project team with aging management, design, systems, components, and O&M experience. This includes an analysis of how existing equipment test, aging, and diagnostic data can be leveraged and applied to achieve full benefits. Use of non-intrusive diagnostic testing is emphasized and equipment performance based reviews are conducted to assess effectiveness of preventive maintenance strategies.

We use our extensive nuclear power plant knowledge, our database of previously implemented EMO projects, and our material aging and test data from over 30 nuclear units for your project's success.

For additional information, please contact. . . .

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