

Having support from the chief nuclear officers was also very valuable during the early stages of the project, as the CNOs continually asked where they could help communicate the importance of the project to their teams. A second set of Road Shows was conducted in year two of the project to follow up face-to-face with plant personnel, answer questions, provide training on the tools used, and build mutual respect and trust with key participants who will ultimately institutionalize these concepts.

### Long-term asset management

Long-term asset management (LTAM) plan reviews with plant personnel have turned out to be the most significant savings opportunities. LTAMs, or as some plants call them, long-term capital plans, long-term project plans, or long-term outage mod lists, are where the plants track the big modifications that are identified by their plant health committees (PHC) and most likely require approval from the plant finance committee or similar entity. During the USA/Paragon Road Show, personnel met with the plant staff and reviewed member LTAMs to see if Paragon recognized any components or systems where they had previously provided an alternate solution through reverse engineering, commercial grade dedication, or

repair strategy. As potential projects were identified, it was USA's job to connect the right technical person from the plant with the right technical person from Paragon to discuss the project and potential alternative low-cost success paths. USA also provided the plants' LTAM reports to other key USA suppliers to review and suggest potential solutions.

Dave Mueller, Paragon's vice president of strategic programs, commented, "We discovered early on that success on avoiding a perceived costly modification and identifying alternate paths that would ultimately help sustain an existing component or system required not only collaboration, which we found to be the key to successful innovation, but also time, as many of these planned replacements were scheduled out a number of years, well before it got into the hands of the supply organization."

Mueller added, "We discovered that past obsolescence/modification successes by Paragon could quickly be transformed into significant cost savings once we shared and harnessed our collective resources. Once we were able to review the long-term asset management plans and included key subject matter experts and stakeholders, the perceived barriers to success quickly disappeared."

USA and its key suppliers maintain an ongoing LTAM project opportunity list

for the USA plants. Suppliers are encouraged to visit the USA plants and reach out to supply chain and technical subject matter experts to discuss potential LTAM candidates, timing of the project, and potential alternative low-cost solutions. There is an element of risk involved that in some cases has led the plants to choose the original equipment manufacturer replacement parts at a higher cost than an alternative solution provided by USA-suppliers. The plant, of course, always makes the final decision based on its technical assessment and risk tolerance.

The following are two examples from the USA plants of the success achieved in this area:

■ Governor: Documented plant savings, \$7,851,998.

The speed control system for the high-pressure coolant injection and reactor core isolation cooling turbines is an OEM electronic governor module (EGM)/electronic governor regulator (EGR) system. Manufacturing of this system was discontinued in the mid-1990s, and OEM support for repairs was discontinued. The OEM for the turbine did offer a digital replacement for the obsolete speed control system, and several other nuclear sites had already implemented the costly modification. Plant Engineering, working with Paragon, identified an alternative option



**A Global Turnkey Supplier  
Serving the Energy Industry  
with Advanced Power Generation  
Technologies, Since 1986**

*Core Competencies Include:*

- Dry and Wet Spent Nuclear Fuel Storage Equipment
- Heat Transfer Equipment
- Engineering and Consulting Services
- Construction / Site Services
- Advanced Nuclear Power Generation (SMR-160)

## Holtec International's Vertical Integration Includes:



Design

Engineering

Licensing

Fabrication

Construction

Site Installation

Decommissioning

Consolidated Interim Storage

856-797-0900 | [www.holtec.com](http://www.holtec.com)