

**1992 NOVA AWARD WINNER****Palisades Steam Generator Replacement Project**

Two steam generators that had experienced numerous shutdowns and extensive tube plugging were replaced at Consumer Power Company's Palisades Nuclear Power Plant on the eastern shore of Lake Michigan. This project had a number of unique aspects, and the management of the techniques and methods employed was especially noteworthy. Among the significant aspects were:

- (a) The first removal of a nuclear plant steam generator as a single lift to save outage time and significantly reduced exposure of workers to radiation.
- (b) The first breach of an operating nuclear plant post-tensioned, prestressed reactor containment building in the United States. A unique combination of cutting techniques was used to create a 28 by 26 foot opening through the 3.5 foot thick wall.
- (c) The first use in the United States of narrow groove welding technology on carbon steel pipe with internal stainless steel cladding and its first use in the field. The welding was done from the outside of the pipe using automated welding machines remotely controlled by the use of video cameras.
- (d) The extensive use of mockups to train the workforce and to reduce radiation exposure.
- (e) The use of of an optical templating system to identify and control cutting and machining locations on the old and new steam generators and associated piping.

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