

Peening to Fortify Multi-Purpose Canisters Against Stress Corrosion Cracking Enters Production Following Intensive R&D Effort

We are pleased to report that the “peening R&D project” to armor San Onofre’s Multi-Purpose Canisters (MPCs) as part of an overall service life extension program has been successfully completed in collaboration with the Southern California Edison (SCE) company. After extensive prototype testing and validation, the first Canister entered production on August 23rd, marking the historic first for application of peening in the dry storage industry. The NRC has been kept apprised of the process development; the relevant ASME committee has also been briefed.



Peening Tent with Canister in background

The centerpiece of this program, namely layered peening of the stress corrosion-vulnerable regions of the MPC, has now begun. We are proud to have reached this technology milestone with SCE’s support. The resulting Canister treatment process is also a fine example of the symbiosis between state-of-the-art peening technologies (contributed by Curtiss Wright) and the latest in computer simulation of the underlying complex dynamic processes.

To be sure, armoring the Canister against stress corrosion cracking in a multi-process operation involving rolling, welding, and peening requires optimization of each manufacturing step to obtain the desired outcome. The optimized process includes an artful leveraging of the latest developments in welding and rolling technologies dovetailed with an optimized peening operation. Laboratory tests indicate that the service life of the *treated* Canister may increase by orders of magnitude over those that have not been peened. A provisional patent to protect the operational steps that can be used in conjunction with any available peening method has been identified as a Holtec intellectual property and is accordingly being disclosed to the USPTO for legal protection.

We thank Curtiss-Wright for persevering with us through the laser peening refinement effort: CW will serve as the peening service provider to Holtec under a mutually exclusive business arrangement with Holtec International for all current and future Holtec peening programs.

Visibly pleased by the sight and sound of pinging laser beams, Holtec's Program Manager, Dr. Fred Bidrawn, asserts, "This pioneering peening operation is a giant step in our industry's efforts to substantially inoculate MPCs from the threat of stress corrosion cracking."

SCE's CNO, Mr. Thomas Palmisano, expressed satisfaction with the successful commissioning of the peening process which he considers to be evidence of Edison's commitment to safe storage of used fuel by maximizing the long-term integrity of San Onofre's Canisters.



Peening Setup at HMD in View