

N278. Planning SG Replacement Pays Off for North Anna

Virginia power replaced the steam generator at North Anna unit 1 in 51 days and 30% under budget. They did it with careful planning and team work.

During the initial planning, Virginia Power had to decided to replace the bottom half encompassing the tube bundle. The utility also decided to rely on the two-cut strategy which was one cut on each reactor coolant loop at the elbow to nozzle joint. A like-for-like replacement steam generator was chosen as it would adequately support continued operation of the station and could be done under Nuclear Regulatory Commission requirements.

During the outage personal exposure needed to be kept as low as reasonably achievable (ALARA). Project exposure goals were set at 500 person-rem and the limit to the number of workers being accidentally contaminated was set at 110.

The project very successfully exceeded its goals. The total project exposure was 240 person-rem, less than 50% of the 500 person-rem target. Personal contamination events were held to 67, out of a target of 110.

The restart was accomplished without incident, and except for slightly longer than normal chemistry and calibration holds at intermediate power levels, proceeded normally to 100% power. The new steam generators are performing satisfactorily.

Taken from, "Planning Pays Off for North Anna," by Leslie L. Spain, Nuclear Engineering International, October 1993, pp. 30-33. The author is with Virginia Power, Innsbruck Technical Center, 5000 Dominion Boulevard, Glen Allen, VA 23060, USA.