

N264. Good Experience From Operation Of Replacement Steam Generators

Early results from the replacement steam generators supplied by Framatome indicate that the required improvements in performance, flexibility of operation, and better reliability and availability are being obtained.

The first replacement steam generators were designed with performance levels close to those of the units they replaced and Alloy 600 thermally treated tubing (600 TT) was still used. At the time, the main concern of the utilities was to try to eliminate the consequences of the extensive degradations encountered with Alloy 600 mill annealed tubing.

One of the later design changes is to increase reliability and availability. This requirement is met by using Alloy 690 TT, which is immune from primary water stress corrosion cracking and which provides high margins against secondary-side corrosion phenomena even in polluted environments. The first in-service inspection results show the limited operating experience has confirmed the excellent resistance of Alloy 690 TT to corrosion phenomena. No corrosion, fretting, or wear has been reported so far.

Early operating experience with the Framatome replacement steam generators has underlined the importance of ensuring secondary side cleanliness during the changeover. Particular care has been taken to avoid any ingress of impurities into the secondary side of the steam generator, when maintenance work or modifications are performed on the steam/water system during the replacement operation.

Taken from, "Good Experience from Operation of Replacement Steam Generators," by J.P. Billoue, Nuclear Engineering International, pp. 36-37, Dec. 1993.