



Qualification Practices in Nuclear Industry: Steam Generator Eddy Current Probe Qualification

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Through history of nuclear power plant operation, a large number of nuclear power plant forced outages related to tube failures occurred. It resulted with large amount of repair and outage costs, what initiated implementation of regulated practice of periodical tube examination and tube condition monitoring. Purpose of examinations is to detect existing or potential tube degradations that could affect tube integrity and therefore result in forced outages and unwanted costs related to emergency repair activities and loss of ability for electrical power production.

With increased examination activities, additional information about steam generator tube condition became available and additional methods for ensuring tube integrity became available. As the number of examination solutions increased, need for validation and assessment of examination methods occurred. For that purpose, a large number of standards and guidelines with its requirements were implemented in nuclear industry regulatory requirements to ensure that adequately validated examinations are applied. With this purpose, qualification requirements for inspection activities were implemented with other requirements.

With progress of technology, progress was also achieved in examination methods and more advanced examination methods and advanced inspection systems were developed. This advancement is accompanied by advancement in regulatory requirements regarding inspection and monitoring of tube integrity and condition.

Ultimate goal of implementation of qualification processes and its requirements in all aspects of nuclear industry is to achieve minimal rate of forced outages, which would ensure maximum electrical power production capabilities and maximum optimization of operational costs while maintaining safe operation in accordance with environmental policies.

This article will focus on qualification of steam generator eddy current bobbin probe.

Keywords: *qualification practice, SG eddy current probe*