

AN ADAPTIVE MONITORING MODEL FOR THE AGEING ASSESSMENT OF CONCRETE CONTAINMENT VESSEL

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Abstract:

This paper presents an adaptive monitoring model for Prestressed Concrete Containment Vessel (PCCV) used for Nuclear Power Plant (NPP). The model uses systematic management software called Structural Integrating Monitoring System (SIMS-NED) which evolved from the reliability based condition assessment approach. This model has been shown to have the potential to identify critical degraded structural components with the help of the data collected from PCCV that can potentially impact its in-service performance, hence developing the Integrated and Modified Structural Health Monitoring System (IMSHMS). This system helps with evaluating Severity Index (SI) for the current performance and the degree of structural integrity of the PCCV. At the same time the collected data (quantitative and qualitative) may be utilized to establish possible safety parameters and factors. These may be employed in defining/redefining in-service inspection programmes and streamlining maintenance strategies for better performance, and effective and reliable remaining service life of the plant.

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