

## **RELIABILITY ISSUES OF MAIN STEAM PIPING**

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### **ABSTRACT**

The reliability of ageing main steam piping has been a major concern for power utilities. Service and environmental induced material degradation and damage, together with residual and other external stresses imposed on the piping system make the steam pipes susceptible to failures. Extensive use of in-situ metallographic techniques, dimensional measurement and appropriate NDT techniques has been found useful in providing data to determine the extent of damage suffered and predict remaining life of the component. This approach however, has its own limitations as it does not take into account the actual piping stresses which arise from a number of sources including support and hanger malfunction. In order to arrive at a better prediction of piping remaining life, an attempt was made to measure the stresses by means of strain gauges at selected positions. The results were used as inputs to various life prediction models and the outcome was compared with that obtained from the more conventional approach.