



The Role of The European Network NESC in Integrating Inspection into Structural Integrity Assessment of Nuclear Components.

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The international Network for Evaluating Structural Components (NESC) addresses issues relating to the validation of the entire process of structural integrity assessment. The first NESC Project is providing a unique insight into the relative roles which NDT, material properties, instrumentation measurements, and stress and fracture analyses can make in providing a robust safety case for pressurised thermal shock of a thick reactor pressure vessel of aged material containing defects. NESC I is unique insofar as the NDT and the analyses of stress and fracture have been carried out without exact knowledge of the defects as is the case in the real world. In the year following the completion of the spinning cylinder thermal shock test, the cylinder has been inspected again and destructive examination of all the defects has taken place. The evaluation of the results has been carried out based on the existing Task Force structure with inter-disciplinary teams and horizontal themes. This paper gives an overview of the results, conclusions and lessons learnt from the NESC I Project