

Justification Approach and Codification of Advanced Manufacturing Techniques for Nuclear Fission Components

The approach taken by Rolls-Royce Nuclear to justify the application of advanced manufacturing applied techniques to nuclear plant components, The components are classed to the ASME Section III nuclear design code as Class 1, which are used in the primary circuit and support systems of fission nuclear reactor plants. The manufacturing techniques covered are: Hot Isostatic Pressing (HIP) and Laser Powder Bed Fusion. The components covered are: vessels, piping, piping components, valves, pump bodies, the material being High Alloy Steel. The approach, utilising the TAGSI methodology, covers the material and component testing regimes applied, with reference to ASME codification requirements.

Technical Categories Addressed

Materials data

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