Behaviour of Pressure Vessels Under Thermal Shock

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Abstract

The investigations conducted within the scope of the HDR-Safety Programme are concerned with research into operating and emergency conditions and its effects on reactor pressure vessels and pipes. Within these investigations, the effect of the thermal shock on the RPV-structure under operating conditions was to be examined /1, 2, 3/.

The investigations were subdivided into two sections:

a) The thermal boundary conditions, that means the highest possible thermal shock under operating conditions

b) The damaging effect of the thermal shock on the RPV material (crack initiation and propagation).

The experimental data and their comparison with commonly used design curves are presented.