

Establishing the requirements for internal examination of high hazard process plant

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Low pressure cryogenic storage vessels are routinely left in service for long periods of time without examination of the internal surfaces. This approach to examination is being considered and applied for pressure vessels storing other products at warmer temperatures, but where the 'service' may also be declared 'clean and non-corrosive'. However, there is a need to establish the circumstances where intervals between internal examinations could be justifiably extended on the basis of a risk-based inspection (RBI) assessment, especially when the consequences of failure would be high.

With this in mind, the UK Health and Safety Executive asked TWI to examine these issues with a view of determining good practice from its own insights, those of leading companies in the field, and the experience of other regulatory regimes. The aim is to develop guidelines by which the User's criteria for deciding to extend internal examination intervals (whether or not these are also supplemented by non-invasive inspection) may be audited by HSE inspectors. The work is also expected to be useful to operators of process plant at high hazard sites and to third party inspection organisations.

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