

IMechE – Process Industries Division  
– Prestigious Lecture –

27<sup>th</sup> March 2014 Daresbury Laboratory

Title :- 'The Challenge of non-PSSR Pipework'

Presenter:- John D Miles of Sellafield Ltd.

John Miles, Sellafield's Pressure Systems Centre of Excellence Leader, started his talk with background history of how Sellafield started as a munitions factory in the late 1930's, with major nuclear build in the 1940's to its present status of reactors, storage, fuel production and reprocessing. Ageing plant is problem, together with the complexity of the different plants. One of the individual plants has 306 km of pipework, with a site inventory of over 30000 vessels and 1000's km of pipework.

Of this inventory, approximately 15% is governed by the Pressure System Safety Regulations, which looks at the danger from stored pressure and does not recognise the hazardous properties of the contents (except steam). This leaves 85% governed by other legislation such as COMAH, PUWER, H&SWA, and Nuclear Installations Act etc.

To manage this equipment a risk based approach was adopted. A set of guiding principles were developed, together with a set of risk factors. The factors considered were the substance, situation, safety/business, and continued service/failure mode. Each factor was considered separately and numerically indicative risk score produced. This was used to establish the method of plant review from plant inspection, to a full RBI process with an independent facilitator. The findings were benchmarked and the process integrated into the overall asset management process. This process now incorporates four inputs, the Long Term Safety review, Asset Care programme, technical basis of maintenance, and the non PSSR inspections. This integrated process has the aim to reduce the overall risk for the plant.

A short questions and answers session followed the presentation.

It was an interesting and informative evening with the event exceeding many of the attendees' expectations.