



International Pressure Equipment
Integrity Association

Speaker Topic IPEIA Conference 3 – 5 February 2010

Title of Topic: FFS of A HIGH PRESSURE, HIGH TEMPERATURE VESSEL

Time Required: 20 minutes presentation + Q&A period

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Abstract:

A fitness-for-service [FFS] evaluation of a vessel which experienced internal cracking is presented. An initial review was conducted during vessel turnaround based on partial information. A follow on review was then initiated post start-up to better evaluate the condition of the equipment with the use of improved data. This presentation illustrates the use of both FFS techniques and experience to make a return to service decision. Aspects of the analysis include non-linear finite element analysis, material temperature dependency and transient loading modeling as well as use of experimentally derived data. Appropriate learning's for industry and suggestions for the regulatory authorities are presented.

Short Biography:

Mr. Aumuller graduated in Mechanical Engineering from the University of Waterloo and is currently completing graduate coursework at the University of Alberta. He specializes in the integrity assessment of pressure containing equipment. Mr. Aumuller spent 11 years with Imperial Oil and Exxon Company USA and has more than 30 years experience in the design, analysis, maintenance, repair and engineering of pressure equipment such as boilers, pressure vessels, storage tanks, pumps, compressor and pressure piping in refining, oil sands, petrochemical, and power plant facilities. He has conducted numerous integrity assessments and has taught courses in finite element analysis, pressure piping and pressure vessel code design and maintenance. He has also organized training in a number of industry relevant topics including risk based inspection.