

Joint meeting with IESIS and IMarEST

Tuesday 10th January 2017

The Tay Rail Bridge Disaster
Was Thomas Bouch negligent?



In terms of loss of life, the Tay Rail Bridge Failure in 1879 was the greatest structural engineering disaster in the UK during the past 200 years. Based on the results of modern structural analyses Iain MacLeod described the most likely sequence of events on the fateful night. He discussed the flaws and areas of concern with the design and structure.

The role and responsibility of the bridge designer was scrutinized using evidence from the inquiry, previous bridges built by Bouch and modern analyses. A culpability diagram showed that Bouch was negligent with respect to the design of the lug to tie connection that is believed to have triggered the collapse because the specification he used for this was not in accordance with engineering practice and was not in accord with his previous designs

As engineers we need to keep reminding ourselves of the dangers of allowing our professional integrity to be comprised by external factors. Such a principle applies to all enterprises that operate in situation of complex uncertainty.

Iain Macleod was Professor of Structural Engineering at the University of Strathclyde and was President of IESIS 2012-14