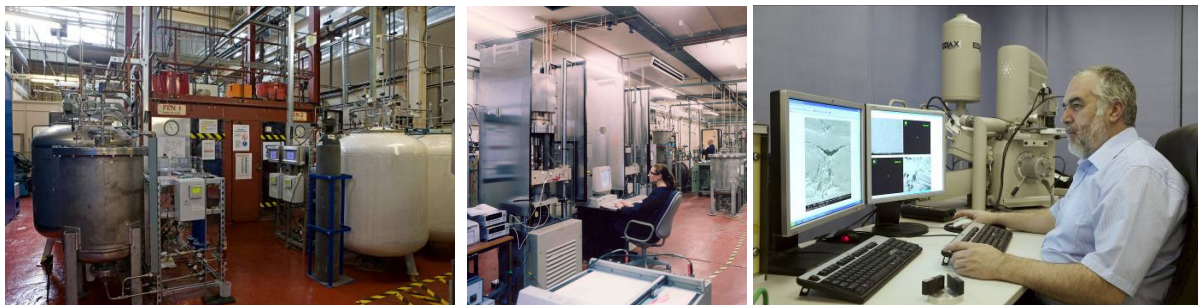


On the evening of Thursday May 19<sup>th</sup> 2016, an IMechE visit was conducted around the Amec Foster Wheeler laboratories based at Birchwood, Warrington. This was the eighth successive year in a row and popularity has increased. Due to the level of interest two tours were presented.

**Tour 1** took the guests around the materials laboratories at AMEC Walton house. In particular, two areas of expertise were explored, materials testing and component testing. The materials test rigs included corrosion facilities (below) which were used to assess the ability of materials to withstand corrosion and crack growth when used in areas of high stress. These areas include power station boilers and gas turbine engines.



**Corrosion Rigs and Electron Microscopy**

Component testing included work to assess landing gear bearings, this involved mechanical rigs that applied compressive force to the bearing radially along with a vibrating axial load. Once testing has been completed on the rigs, the components are analysed using a variety of different types of equipment including electron microscopes (above).

**Tour 2** started at the General Engineering Laboratory (GEL). Facilities included a full scale test rig representing one quarter of the top of the reactor dome of Hartlepool/ Heysham 1 power stations (Hot Box Dome) and control rod test rigs (below).



**Control Rod Rig, the Hot Box Dome Rig and an effluent tank**

The tour moved on to 201C laboratory where the visitors were shown a multitude of test rigs and equipment associated with ongoing projects. Equipment included a Quarter Scale Core Rig modelling the graphite core of an Advanced Gas Reactor (AGR), and Remotely Operated Vehicles designed for high risk areas of nuclear plant.



### **Some of the Remotely Operated Vehicles (ROVs) and the Quarter Scale Core Rig**

Projects represented covered the full nuclear lifecycle with work ranging from Nuclear New Build, Life Extension of existing nuclear stations and decommissioning projects. The tours showed the full range of design, development and manufacturing expertise at AMEC Birchwood.



### **Gas storage facility**

The main presenters from the AMEC Consultancy were:

Kevin Mottershead (Corrosion Science- Business Manager)  
 Martin Hooley (Mechanical Engineer- Engineering Development)  
 Calum Medlock (Mechanical Engineer- Decommissioning and Remediation)

The Chairman, of the IMechE Process Industries Division (PID) Noel Hensman gave his thanks to the members of AMEC, for an interesting tour and enjoyable buffet.