

**Process Industries Division, North West Centre**

LECTURE INVITATION

**EFFECTIVE FAILURE INVESTIGATION**

**23 May 2018, ABB, Daresbury Park, Warrington**

**By Neil Henry, Principal Materials Consultant, ABB**

**Refreshments and complimentary buffet available**

**Time:** 18:30 hrs for 19:00 hrs

**Venue:** ABB Office at Daresbury Park, Warrington, WA4 4BT

This is Part 2 of Neil's lectures on failure investigation. Part 1 on 'Equipment Failure - the devil is in the detail', was given in January 2016, looking at the details of failures including case studies. Part 2 addresses the **process** and **importance** of failure analysis.

**Synopsis**

In order to ensure we can gain the maximum learning from a failure, and have the best chance to prevent future recurrence, it is important to have a robust process of failure analysis. This talk will illustrate the techniques applied, to carry out failure analysis thoroughly and efficiently. There is an obvious requirement to carefully inspect the failed parts and the location of the failure, to select representative samples for more detailed evaluation. However, it is equally important to gather data on the design and operating environment, to understand the exposure conditions of the equipment or component.

These factors are then key to defining the scope, methods and type of investigation. The material selection and fabrication methods used, including welding and heat treatment are always considered, but this must be in the context of the duty requirements. All fabricated parts are expected to contain some flaws and this is allowed within design and manufacturing code specifications. These may contribute to the mode of failure and may influence the mechanism of failure identified. The key to effective investigation is to bring all of these elements together, in assessing the failure and identifying a true root cause, not just the mechanism. The talk is illustrated with failure analysis examples, to help show the methods applied.

**Registration required for security and refreshment purposes:**

Confirm your attendance via Harry Bainbridge E [harry.bainbridge101@gmail.com](mailto:harry.bainbridge101@gmail.com)