

AMS Nuclear Engineering (AMS) is an engineering firm, based in Bridgwater, Somerset that have specialised in providing Control & Instrumentation systems, Environmental Sampling systems and Ageing & Obsolescence solutions to the nuclear industry for over 20 years.

Their Suitably Qualified & Experience Personnel (SQEP) have extensive plant and licenced site knowledge enabling them to provide their services across all parts of the nuclear industry including Generation, Decommissioning, New Build and Defence.

Case Study: MOISTURE MEASURING SYSTEMS Customer Organisation: EDF ENERGY Project value: ~£1.5m

#### Problem statement

Existing gas sampling and measurement systems, that had been in operation since station commissioning in 1976, had become obsolete and the systems had become too difficult to support and maintain. A new system was required that had to meet the new safety case requirements as well as the client's technical standards for C&I modifications and replacement.

#### Scope

AMS were tasked to design, substantiate, build, test, install and commission 8 moisture measuring systems. Against a new/revised safety case and updated reactor system operations AMS, in collaboration with the client, had to adopt innovative 'back to the drawing board' approaches to meet an evolving specification.

#### Outcomes

AMS' Nuclear SQEP resource successfully delivered a suit of moisture measuring systems on time and to budget. Key features of the solution included:

- Providing diverse measuring technologies within each system
- Improvements in sample gas path to enhance sample conditioning and system configuration.
- Removing the prescriptive nature of the current architecture thereby allowing installation of any type of analyser.
- Improvements in the system alarm philosophy to align with standard company practices.
- Full seismic qualification by design and shaker table test
- Full EMC qualification of the system taking an As Low as Reasonably Practicable (ALARP) approach.
- Modifications to the control logic to ensure that any single analyser going into an alarm state could initiate the alarm.



#### Feedback from the client

"We are very pleased with the progress on this project as it is looking to complete several months ahead of schedule. This is seen as a real success of a project"

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