

CASE STUDY

Nuclear Industry #2700915



POWER INDUSTRIES

OIL & GAS INDUSTRIES

PROCESS INDUSTRIES

Condensate Polishing Plant (CPP) Upgrade

Customer/End User: EDF Energy Generation Ltd

Application: CPP Upgrade

Scope: To provide complete project lifecycle from initial design through approval with client then procurement of material, build, installation and commissioning of an upgraded Condensate Polishing Plant (CPP) including Air Control Panels and Conductivity Meter Installations.

Products: AMS Engineering Services, Swan, Yokogawa, Ashcroft

Challenge: Hinkley Point B Power station Condensate Polishing Plant (CPP) comprises of six individual operator streams made up of Cation and Mixed bed vessels, Regeneration systems, Storage vessels, associated Caustic & Acid systems, valves and pipe work.

The CPPs role is to maintain appropriate feed water quality for the boilers by means of the Cation and Mixed Bed units, with the functionality to regenerate the resins and keep a spare set of resins available for use.

In order to provide this functionality it is required to transfer the resins from the operator vessels to the appropriate Regeneration vessel, transfer resins from storage to the operator vessel then regenerate the exhausted resins. This transfer and regeneration sequence is controlled by a PLC system and associated solenoid valves and air systems.

Due to inefficiencies and reliability concerns surrounding the existing CPP, EDF required an upgraded, modern day equivalent system.

The AMS scope of work was as follows:

- Installation of new Air preparation and control panels for valve operation on CPP and Regeneration Streams.
- Installation of Air system instrumentation.
- Installation of conductivity meters.
- Installation of signal cabling between control panels and solenoid valves.
- Installation of signal cabling between control panels and pressure transmitters.
- Design, build and install pressure transmitter and gauge plates for indication of various stream pressures.
- Commission the entire system on a stream by stream basis.
- Removal of all redundant instrumentation, pipework, tray and cabling.

Solution: As only one operator stream could be off-line at any given time, AMS adopted a systematic approach to decommissioning the old systems and installing the new systems. Each operator stream was installed and commissioned on an individual basis following AMS Installation and Commissioning Method Statements.

AMS produced the following:

- A Project Quality Plan which identified the key documents that were to be produced and the procedures that would be used to produce them.
- Numerous technical design drawings including wiring schematics, layout drawings, general assembly drawings etc.
- Installation and Commissioning Method Statements.

Key Products: AMS used the Yokogawa EJX530A Pressure Transmitters to retransmit the pressure signal to the CPP control room. The main reason for using the EJX530A was that the product has undergone an EDF Emphasis Assessment. All programmable electronic equipment intended for use on systems that have a safety case claim of 10^{-1} or greater must be Emphasis assessed. AMS also used the following products:

- Swan AMI Powercon conductivity analysers were used to measure the conductivity of various CPP streams.
- Ashcroft T5500 pressure gauges for local pressure indication.

Results: The improved CPP has provided EDF's maintenance personnel with a more reliable valve control system and has provided a more efficient and more accurate method of monitoring the process feed water entering the boilers.



For further product information and sales please contact the AMS sales team:

T: +44 (0) 1278 444 650
E: sales@amsensors.com
W: www.amsensors.com

