

CASE STUDY

Nuclear Industry #2700773/820



POWER INDUSTRIES

OIL & GAS INDUSTRIES

PROCESS INDUSTRIES

Active Effluent Treatment Plant (AETP)

Customer/End User: Magnox Ltd

Application: Replacement Flowmeter to meet Environment Agency MCERTS requirement

Scope: Supply, installation and commissioning of a replacement flowmeter and spool pieces to be carried out in a C3 environment

Product: ABB FEV121 WaterMaster Electromagnetic Flowmeter

Challenge: The Active Effluent Treatment Plant (AETP) at Hinkley Point A Decommissioning Site (HPA) enables the removal of activity from effluent from sources other than the R1 and R2 ponds (e.g. Laundry and Decontamination, Flask wash down etc.) prior to discharge to sea.

An Active Effluent Proportional Sampler (AEPS) is fitted to the line which discharges the treated active effluent in the Final Monitoring & Delay Tanks (FM&DTs) to sea. The line is called the Active Effluent Discharge Line. The flow rate and total flow through the discharge line is digitally displayed on the Effluent Discharge Sampler Cubicle situated in the AETP basement.

The absence of a fully functioning automated Effluent Discharge Sampler would prevent discharges in accordance with the environmental permit and therefore risk significant delays to further decommissioning activities at HPA. The site had until June 2013 to obtain a Monitoring Certification Scheme (MCERTS) certified system. It was unlikely that the currently installed flowmeter would meet the Environment Agency's MCERTS requirements.

Site management therefore had a requirement for a new AEPS Flowmeter to replace operation of the obsolete flowmeter

Solution: To replace existing obsolete flowmeter with a model which complying to MCERTS as required by the Environment Agency

AMS produced the following:

- A Contract Enquiry Technical Specification which defines the customer's requirements and lists all site and national standards that must be adhered to.
- An Optioneering Report which fully defines the options considered and all of the technical requirements to be met by the new Effluent Discharge Sampler Flowmeter
- Detail Design package including design substantiation, technical electrical and mechanical drawings
- Installation and Commissioning Method Statements
- The installation was carried out in C3 conditions. AMS are fully trained and authorized to work in this environment



Key Products: ABB FEV121 WaterMaster with remote display unit.

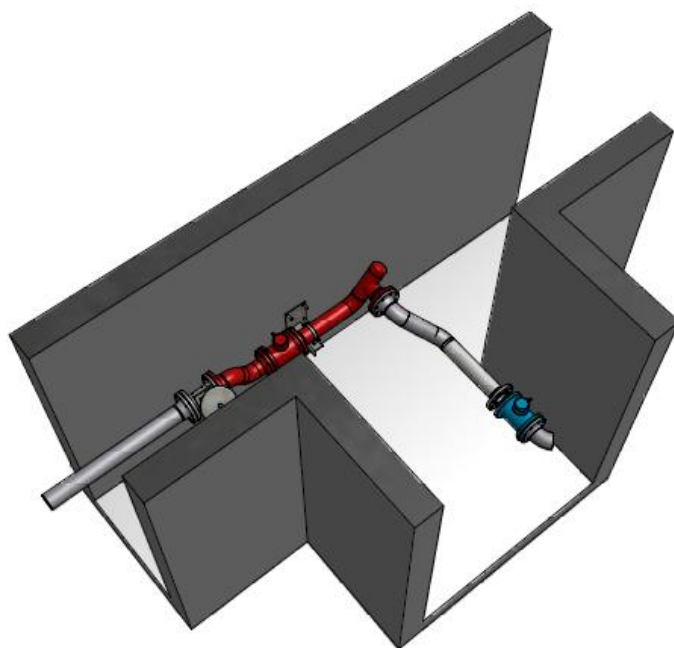
This product is MCERTs certified which was a requirement set by the Environment Agency.

The key feature of this product is that the customer can validate the accuracy of the flow readings in situ via the ABB verification (VeriMaster) software that was supplied to Magnox as part of this project. This feature allows the customer to produce validation certificates on a regular basis which they can submit to the Environment Agency to satisfy the environmental permit.

AMS used a reputable third party contractor to produce detailed mechanical drawings and manufacture additional spool pieces required to install the new flowmeter into the existing space envelope.

Results: The main benefit of this installation is that Magnox are able to continue their sea discharge activities using an MCERTs certified system, thus satisfying the environment permit and allowing the customer to submit validation certificates on a regular basis.

Conclusion: The overall project was a success. The new system was installed and commissioned in advance of the June 2013 deadline and delivered on budget. Magnox now have a fully operational, MCERTs certified discharge flow monitoring system.



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