

## Dounreay Replacement Ventilation System

JGC Delivering on  
clean air challenge



Located within the Dounreay site **Fuel Cycle Area (FCA)** the D1209 ventilation system provides **gaseous extract** for 16 buildings. The existing system did not meet modern standards and was the subject of Regulatory Improvement and Enforcement Notices.

Following Competitive tender Dounreay Site Restoration Ltd (DSRL) contracted JGC to design, manufacture, install test and inactively commission the two replacement systems for the FCA North and South building groups.

### JGC Deliver

A **comprehensive design** was developed for the ventilation system including Mechanical, Electrical, Controls, Instrumentation, Structural and Civil works associated with this large ventilation project.

The North and South plants have a 20 year design life and encompass duty and stand by fans, control systems, SCADA and statutory stack discharge monitoring, the systems have in **built capability to cater for the decreased air volumes** that will occur, following decommissioning and taking off stream of redundant buildings over the forthcoming years.

JGC placed challenges on the designers to **reduce costs and programme timescale**, this resulted in **creative thinking** in respect to excavation, monitoring, control and disposal of contaminated ground. We minimised the number of excavations by designing the ductwork and supports as integral structural components thus resulting in **less supports and support steelwork** than would be normally associated with traditional nuclear ventilation, thereby reducing contaminated spoil removal and storage costs and down steam maintenance costs.

DSRL specification called for stainless steel ductwork and discharge stacks. The structural approach to ductwork taken by JGC dictated that the ductwork be manufactured from **carbon steel** and be **painted with our** marine environment paint specification as opposed to the client specified stainless steel.

Our site installation teams **overcame many challenges**, the connection to existing buildings and infrastructure needed close co-operation and collaboration between our site management team, the client project management team and the various site wide stakeholders, this was achieved by early engagement with all concerned and the fostering of a team work approach.

### Solution

**No lost time accidents** were recorded on this major manufacture & construction project and combined with the **£1.5m raw material and construction savings** resulted in a very satisfactory outcome for DSRL, JGC and our subcontractors Studsvik Alpha, Arch Henderson & Partners, MM Miller and Control Max.



DSRL

JGC are a key provider of services to our site and time after time deliver on budget and on programme in an increasingly competitive market.

Their attitude and commitment to Quality, Safety and Environmental aspects of our work on a nuclear licensed site are crucial to our business in moving forward.

### JGC Experience to Deliver

Since 1972, we have continuous experience of working on UK civil nuclear and MoD sites.

JGC's experience in implementation, operations support and decommissioning of both nuclear plant and facilities ensures that we have the ability to deliver best value services, products and projects.

JGC

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