

Dounreay Site Restoration Ltd

Rotary Screening Trials

Project Details:

Project Ref:	NS1185, NS1475
Value:	£76K
Programme:	10 months
Project Team:	Technical Manager, Senior Project Engineer, Technicians

One of the world's most challenging nuclear clean-up projects in the UK is the decommissioning of the Dounreay Shaft which in the 1950's was authorised by the Scottish Office for the disposal of solid Intermediate Level Waste. Up until 1977, over 11,000 disposals were made and a wide variety of radiologically contaminated material was dumped in the shaft.

In 1998 the government accepted a recommendation by UKAEA that the most efficient and environmental option to decommission the shaft would be to retrieve the waste, the concept design for which is being developed for waste retrieval, treatment and storage.

NSG Environmental were contracted to conduct a viability study looking at the separation of the retrieved solid and liquid waste stream. The outcome of which was that NSG designed and manufactured a small-scale trommel and carried out successful sludge separation trials using a simple test rig, a picture of which is shown below.



Full Scale Trials

The results of the study delighted UKAEA and they were able to take the innovative design to a specialist manufacturer to produce a full size version. NSG were awarded a new contract with UKAEA to complete further development work on the full size trommel, a picture of which is shown below.

NSG made modifications to the trommel incorporating features from the small-scale unit, including the development of a water spray system and electrical control system.



NSG conducted rigorous Research and Development trials to optimise the performance of the unit. A range of the parameters were varied and additional modifications carried out in order to achieve the best possible performance.

UKAEA's Project Manager Geoff Moore was particularly impressed with NSG's pragmatic approach saying, "Without doubt, NSG's simplistic approach to design and the initial trials provided us with a cost effective base of which to proceed with further trials".