

12/09 PERFORMANCE



Dounreay Site
Restoration Ltd

Site clean-up performance report for
December 2009

www.dounreay.com

Dounreay submits new proposal for lower discharges

Dounreay Site Restoration Ltd has presented estimates of how much radioactivity it expects to dispose of during the remainder of the site clean-up and closure programme.

The forecast levels of discharge until 2025 continue the downward trend evident in recent years since the end of reactor operations and fuel reprocessing.

All establishments in Scotland must obtain an authorisation from the Scottish Environment Protection Agency to dispose of radioactive waste to sea, air or land.

Dounreay's existing authorisation dates from the 1990s and pre-dates the transition from operations to decommissioning.

Many of the limits set by SEPA have not changed since then but conditions imposed a few years ago by SEPA have helped to keep actual levels of discharge to a fraction of the limits.

Dounreay Site Restoration Ltd has now submitted a new application to SEPA.

This sets out the likely levels of radioactive discharges arising from the continuing work to clean out and dismantle the fast reactor experiment.

Tony Wratten, director of assurance at Dounreay Site Restoration Ltd, said they expected the levels to fluctuate as



different parts of the site were decommissioned but the overall trend is firmly downwards.

Speaking to members of Dounreay Stakeholder Group, he said there was a legal obligation

on DSRL to discharge only the minimum needed for effective decommissioning.

The application will be the subject of public consultation by SEPA.

In November, regulators published their annual assessment of the impact of radioactive discharges on food and the environment. They concluded the impact of Dounreay's discharges was negligible.

1 8 2 months until shutdown

PROGRAMME PERFORMANCE REPORT

December 2009

PROGRAMME DELIVERY

Schedule Performance Index (SPI)

Year to-date	Year-end forecast
0.96	0.99

* SPI measures work actually carried out against the agreed NDA schedule.

Cost Performance Index (CPI)

Year to-date	Year-end forecast
1.13	1.09

* CPI measures the cost of work actually carried out against the forecast agreed with the NDA. A figure of 1.0 equals the cost agreed - greater than one reflects efficiency gains.

Performance Based Incentives (PBI)

Year to-date earned	Year-end maximum forecast
£3,160 k	£4.771 million

* PBI are agreed milestones with NDA which result in payment of fee.

PRODUCTION

	December	2009 - 2010
Exempt waste removed from site:	19.0 tonnes	59.57 tonnes
Low-level waste processed for disposal:	229 drums	3,881 drums
Raffinate liquor converted to solid intermediate-level waste:	66 drums	480 drums

HEALTH & SAFETY

Number of reportable radiological events:	0	0
Number of events on International Nuclear Event Scale:	0	0
Number of Lost Time Accidents (LTA):	0	0
Total Recordable Incident Rate: <small>Compares injury and illness rates per 20,000 hours worked</small>	0.32	
RIDDOR reportable occurrences:	0	0
Hours worked since last LTA:	3,120,000	
Average radiation dose to DSRL workforce:	0.07 mSv	
Average radiation dose to non-DSRL workforce:	0.07 mSv	

Stated doses are one month behind, due to processing time.

ENVIRONMENT

Events reported to regulator:	0	0
Amount of paper recycled:	0 kg	24,950 kg
Amount of metal recycled:	0 kg	89,280 kg
Amount of cardboard recycled:	0 kg	14,750 kg
Particles recovered from local beaches:	6	28

PEOPLE

Full time DSRL staff:	971
Part time DSRL staff:	64
Contractor staff:	1,002
Gate-held passes (infrequent users):	137



Another building comes down as preliminary work to decommission Dounreay's historic waste pits gets underway.

In the 1950s when Dounreay was a newly-created nuclear reactor research site, UKAEA was granted permission to bury low level radioactive waste in landfill pits close to the coast. This made Dounreay the only site in Britain with its own disposal facility for low level waste.

Six shallow pits were excavated and were used routinely to dispose of low level solid waste. One of the pits was also used to dispose of asbestos.

Now the pits are about to be covered with a waterproof coating to reduce

the amount of water percolating through, before they are eventually decommissioned.

The first stage is to remove the buildings that straddle pits 3 and 4. These are large agricultural-style steel structures clad with composite metal sheeting.

Dismantling has started with the larger of the two buildings, as workers strip away the guttering and metal sheeting.

The 120 tons of steelwork, classed as exempt waste, will be recycled to

produce cost efficiencies for the project.

Once the waterproofing is complete, a network of pumps will keep the water level in the pits to a minimum, with the water being disposed of through the site's low active drain.

The DSRL decommissioning team have appointed local contractor Jacobs to carry out an inventory of the pits and option studies over the next few years to finalise the way forward.

The emptying of the pits is currently scheduled to begin in mid 2016.

UKAEA donates £2500 to Dounreay Communities Fund for each month without a Lost Time Accident (LTA)



Total = £22,500

Reactors

At PFR the second of three 'dirty' dump tanks has now been decommissioned. The 26 tonne tank has been cleaned of alkali metal, cut up and packaged as low level waste.

The PFR reactor top electrical strip-out has been completed. Over 22km of cabling was removed. The team claimed a PBI for completing the work on time.

Clean-up teams inside DFR and PFR have now passed a combined total of twelve years without a lost time accident, which equates to four million man-hours without an injury that has kept someone off work for more than a few days.

Fuel Cycle Area

The fast reactor reprocessing plant completed the washout of their final PuNit flask. The flask had historically been used to transfer plutonium nitrate liquor to Sellafield. It was transported to a storage facility on site for decommissioning.

The FCA ventilation project continued with the commissioning of the new ventilation system. Electrical testing was completed, and setting to work of the fans began.

A seven year project to clean up the dirtiest area of Dounreay's uranium conversion plant has been successfully completed on time. The 'amber area' was highly

contaminated and airline suits were mandatory for workers who stripped out and cut up the redundant glovebox and tanks.



Safety and Environment

PFR's annual emergency exercise was carried out on December 2. The objectives of the exercise were met and a number of learning opportunities were highlighted.

Dounreay's final graphex tender was handed over to the Strathclyde Fire and Rescue Preservation Group, who intend to renovate the vehicle and add it to their collection of historic fire fighting equipment.



DSRL has submitted new discharge proposals to SEPA. The forecast levels of discharge until 2025 reflect the site's change of focus to decommissioning and continue the downward trend of

discharges since the end of reactor operations and fuel reprocessing.

Waste

Work began to strip out the D1224 settling tank building. The two tanks were removed and the framework surrounding them was cut up.

Mock-up trials for the shaft and silo project continued at the t3uk building in Janetstown.

Decontamination of the old DFR stack continued, with ALARA tie-down coating being applied to areas of contamination.



Heritage

DSRL published the site's draft heritage strategy on December 10, and Dounreay staff, contractors and the general public were being invited to comment on the proposals in a 12-week programme. Students at the Thurso High School also took part by debating whether the Dounreay sphere should be saved for future generations.

Forgotten photographs have emerged of a visit by the Duke of Edinburgh to Dounreay during its

construction in October 1957. The pictures were discovered when a member of staff was sorting through a box of old photographs. They are now among more than a thousand photographs of Dounreay past and present posted to the site's new on-line picture library.



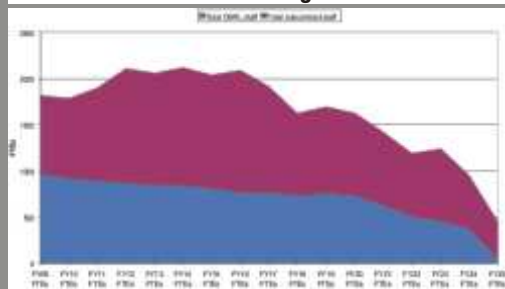
Site

The site successfully initiated changes to the vehicle access process. This change had been required by the Office of Civil Nuclear Safety, and has effectively eliminated personal vehicles from the site.

Dounreay has won two awards in a competition to find the best examples of keeping people informed across Britain's nuclear clean-up industry. Judges singled out the site newspaper, *Dounreay News*, and a 32-page tabloid, *Decommissioning Dounreay*, produced annually by North of Scotland Newspapers. They earned the site two of the seven awards presented by the Nuclear Decommissioning Authority in its inaugural awards for communication.

Site closure programme at-a-glance

Forecast staffing levels



Annual funding limits set by NDA

2009/10 (confirmed) £156.7 million	2010/11 (provisional) £154.8 million	2011/12 (provisional) £183.7 million
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Date	Milestone	Cumulative cost
2010	MTR reprocessing plant decommissioned	
2013	Bulk liquid metal destroyed at DFR	
2014	LLW disposal site opens	
2016	Breeder removed from DFR	
2018	High-active liquor tanks emptied	
2021	Fast reactor reprocessing plant decommissioned	
2023	Shaft and silo emptied	
2025	All redundant facilities cleared	Interim End State - £2.6 bn
2027	Low level waste site capped	
2057	Intermediate-level waste removed	
2078	Fuel and waste stores cleared	
2294	All land available for re-use	End State - £3.2 bn

NDA competition for DSRL

- Industry days for bidders – Feb/Mar 2010
- Tendering – Autumn 2010
- Preferred bidder – Spring 2011
- New company takes over DSRL – Autumn 2011

