



**Dounreay Site Restoration Limited (DSRL)**

**FY 2010/11  
Dounreay Stakeholder Group  
Site Restoration Sub-Group  
January 2011**

# 1. Safety Performance

## Safety Performance/Issues

DSRL continues to deliver the decommissioning and high hazard reduction programme to schedule and cost. Safety, Environmental and Security performance remains positive. There have been no 3-day lost time accidents since the previous meeting. Unfortunately there an incident on 26 November 2010 when a person dropped a floor tile on his hand resulting in soft tissue damage and the person was absent from work for one day. The site has returned a Total Recordable Injury Rate (TRIR) of 0.28 and a Days Away Case Rate of 0.16, as at 31 December 2010, which remains within the NDA “green” range.

NII Inspectors have undertaken a review of the arrangements that have historically been used to change primary filters in the high active cell ventilation system in the D1206 former reprocessing plant. This identified a number of shortcomings in the method for handling the filters and recovering from potential fault conditions. Work is underway to address these issues.

The annual review meeting with HSE/NII took place on 18 November 2010. Feedback was generally positive, recognising the energy and enthusiasm that the management displayed in tackling the funding issues at the start of the year, the innovative strategies being developed for Intermediate Level Waste and fuels, and continuing progress on hazard reduction work. However NII cautioned that, whilst conventional safety performance was generally good, it was essential that DSRL continues to maintain a strong focus on nuclear safety, which is much more difficult to measure, and ensure that robust arrangements for measuring staff competence and for appointing staff to safety-related posts are maintained.

A positive annual review has been held with Euratom. The site’s nuclear material inventory difference figures were subsequently published, which showed a similar pattern to the previous 5 years, with minor positive differences in the inventory as small quantities of fissile material are recovered during decommissioning work.

On 15 January 2011 a lightning strike occurred close to Dounreay which affected a number of telemetry and monitoring systems on site, repairs are expected to be completed within a few days.

TU Safety Representatives from Dounreay have maintained a close working relationship with their counterparts in BP. The Safety Reps play a key role in improving the safety culture of both industries, promoting safer ways of working and challenging unsafe practices which could put their members at risk and sharing best practice ideas. In December the BP Safety Reps Forum presented an annual award for “outstanding contribution to the work of safety reps in Britain’s oil and gas sector” to the Dounreay Safety Reps, the first time such an award has gone to reps from another industry. John Deighan, who collected the award, commented “I’ve no doubt the knowledge we’ve gained of safety practices in the oil and gas sector has helped us do our job better at Dounreay and I’m pleased the BP safety reps feel the same way”.



## Emergency Arrangements

The installation of a new Emergency Environmental Monitoring System, which replaces the existing system which has now become obsolete, is scheduled for completion in January 2011. This system of off- and on-site equipment would be used in the event of an emergency to provide information on any elevated levels of radioactivity arising from an incident.

## Security Issues

There have been no security issues since the previous meeting.

## 2. Environmental Performance

All discharges since the previous meeting were within the sites authorised limits and there have been no environmental incidents.



Access to Sandside Beach for monitoring purposes recommenced at the beginning of October 2010 and since then 8 particles have been recovered (6 minor and 2 relevant particles). Work on the off shore particle recovery programme is expected to resume in May 2011.

The Dounreay Particles Advisory Group (PRAG) meeting that was scheduled for December 2010 was cancelled because of adverse weather and has been rescheduled for 14 January 2011.

The DSRL/SEPA annual review meeting was held on 9 November 2010. SEPA noted that a number of the environmental improvements that were initiated over the past four years have now been completed, which is leading to worthwhile improvements in DSRLs environmental

systems and performance.

## 3. Operational Performance

Decommissioning in support of the hazard reduction mission continues to progress well; performance remains steady with an in year schedule performance index (SPI) of 1.00.

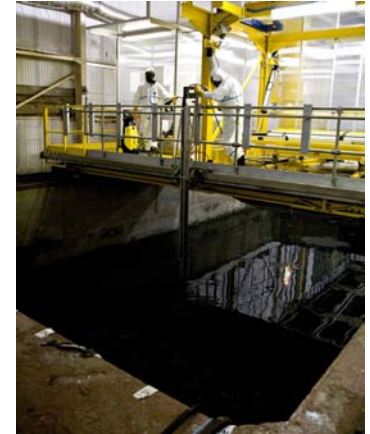
### Reactor Decommissioning

Twenty nine batches of primary NaK were processed through the DFR NaK Disposal Plant in this quarter. This brings the overall total number of primary batches up to 210, which means that over 60% of the total DFR NaK inventory has now been safely destroyed. There were some minor interruptions to operations in December as a result of frozen pipework and chemical delivery issues during the cold weather. The plant will be shut down during Jan/Feb 2011 for a period of routine and statutory maintenance.

The 5 yearly maintenance outage of the PFR Irradiated Fuel Caves (IFC) was completed in December 2010, one month ahead of schedule. This allows the project to transfer stored Mixer/Breeder Spent Fuel Cans from the PFR Irradiated Fuel Pond to the IFC to resume.

The Sodium Inventory Destruction Facility has processed a total of 10 loads of sodium-contaminated waste this year and operations are currently ahead of schedule.

The project to drain and clean the redundant fuel storage ponds at DFR is proving to be more challenging than expected as a result of their being more sludge and debris in the ponds than anticipated. This has resulted in a greater number of filters being used to collect the sludge than originally planned and alternative means of managing the sludge are therefore being evaluated. It has been necessary to temporarily put sheets of lead shielding onto the pond walls as the water level is reduced to minimize the dose to operations staff. The pond walls will be decontaminated when the remaining water, sludge and debris have been removed.



### **Fuel Cycle Area Decommissioning**

The Dounreay Cementation Plant (DCP) had an outage in the 1st quarter of 2010/11 and has since returned to steady operations processing 68.3m<sup>3</sup> of Material Test Reactor (MTR) in year to date ,producing 397 drums of conditioned product. This remains slightly behind schedule for meeting the upper target of 100m<sup>3</sup> for the financial year.

The start of work to remove the remaining liquor and sludge from the redundant D1251 Sentencing Tanks has been delayed as a result of the late availability of a pond clean-up unit which had previously been deployed on the D1204 Pond Decommissioning Project and because of the need to review the safety documentation in the light of new information on the tank contents. As a result, this project will now be completed around 6 months behind schedule.

Decommissioning of the D1217 PIE facility continues to make good progress. ILW removal from the cell lines and removal of redundant ventilation plant are continuing and the south cell line has now has been cleared except for a large milling machine which will be removed during January Following this, scabbling equipment will be installed in February, with scabbling to remove contamination from the concrete walls scheduled to commence in March

The D2001 team has successfully completed decladding the last of the 24 ex-DFR breeder fuel drums to schedule.

Decommissioning of the D1207 waste facility continues, with the north roof annex strip-out, asbestos removal and general equipment strip-out progressing during the quarter. Preparations for removal of the main bay floor have been completed.

### **Waste Management**

DSRL has selected Graham Construction as its preferred bidder for the design and build of a new low level radioactive waste disposal facility. The company has headquarters in County Down, Northern Ireland, and operates throughout Scotland from offices in Glasgow and Edinburgh. It was chosen after a competitive tendering exercise from a short list of five companies. Subject to NDA approval and completion of a number of procedures, the contract award is expected by the end of March 2011 and,

subject to regulatory and other consents, construction is scheduled to begin in autumn 2011 and take two years to complete. The contract is for the design and construction of two sub-surface vaults for the disposal of solid low-level radioactive waste from the site clean-up. DSRL has planning consent for up to six vaults adjacent to the site but hopes to reduce the number that need to be built through waste minimisation practices in decommissioning. Up to 100 jobs will be created during the construction phase, with a quarter of the work expected to be sub-contracted to local companies.

DSRL is required to restore Landfill 42, an area of land designated as a rubble dump during the construction and operation phases of the site, to meet current environmental and planning regulations. Following a review of options and environmental impact assessments a closure plan has been defined that involves repositioning approximately 16,000m<sup>3</sup> of material and the construction of a new sea defence. A substantial impermeable membrane and an estimated 25,000 tonnes of rock will then be used in the closure works. The work is expected to cost £1-2 million and, subject to regulatory controls, is due for completion by the end of 2011. Gas and groundwater monitoring will continue for a number of years after restoration until the licence can be surrendered to the Scottish Environment Protection Agency.



## **Fuels**

Progress continues to be made to secure the removal of the sites inventory of irradiated and un-irradiated nuclear fuel. Technical discussions have continued during the period and an overall business case for managing the fuels at Dounreay has been drafted. A contract has been placed for design of an Unirradiated Fuel Characterisation Facility (UFCF) to be installed in an existing building at Dounreay.

## **4. Contractual Obligations**

The DSRL Commercial Department has been reorganised to improve efficiency and provide greater focus and the Quantity Surveyor capability has been strengthened. The Procurement Strategy for 2011 has been published and is available on the Dounreay website.

A useful meeting has been held with the local supply chain to exchange information on future work and expectations. The DSRL Head of Commercial Services is looking at means of awarding credits to tenders for work which bring local economic benefits.

## **5. PBO Competition**

The NDA programme to compete management of the DSRL Parent Body Organisation has continued as planned. Teams from the two bidders for the competition (Babcock Dounreay Partnership and Caithness Solutions) have completed a programme of informal site access followed by five weeks of formal access to obtain material from the site in support of their bids and it is expected that there will be two further one week visits by the bidders in February and March.

## 6. Site Statistics – at a glance

(as of 31<sup>st</sup> December 2010, with 30<sup>th</sup> September 2010 figures shown in brackets)

### PROGRAMME DELIVERY

#### Schedule performance index (SPI)

Year to date	Year-end forecast
1.00 (0.99)	1.00 (1.00)

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

#### COST PERFORMANCE INDEX (CPI)

Year to date	Year-end forecast
1.13 (1.13)	1.11 (1.12)

\* CPI measures the cost of work actually carried out against the forecast agreed with the NDA. A figure of 1.0 equals the cost agree; greater than 1.00 reflects efficiency gains.

#### PROGRAMME BASED INCENTIVES STATUS

PBIs due in 2011/12	62
Achieved to date	36 (13)
PBIs at Risk	5 (5)
PBIs Missed	0 (0)

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

#### PRODUCTION

	December	2010 – 2011 to date
Bags of clean/exempt waste for clearance monitoring	84 bags	647 (272) bags
Low-level waste processed for disposal	0 drums	3,176 drums
Raffinate liquor converted to solid intermediate waste	41	397 drums (255 drums)

#### HEALTH AND SAFETY

	December	2010 – 2011 to date
Number of reportable radiological events:	0 (0)	0 (0)
Number of events on International Nuclear Event Scale:	0 (0)	2 (2)
Number of Lost Time Accidents (LTA)	0 (0)	1 (1)
Total Recordable Incident Rate Compare injury and illness rates per 20,000 hours worked	0.28 (0.27)	
RIDDOR reportable occurrences	0 (0)	1 (1)
Hours worked since last LTA	1.95 million (1.06 million)	
Average individual radiation dose (DSRL)	0.02 mSv (0.02 mSv)	
Average individual radiation dose (non-DSRL)	0.02 mSv (0.02mSv)	

## ENVIRONMENT

	December	2010 – 2011 to date
Events reported to regulator	0 (0)	0 (0)
Amount of paper recycled	n/a	22,590 kg (8080kg)
Amount of metal recycled	n/a	39,980kg (10,300 kg)
Amount of cardboard recycled	n/a	12,720 kg (4600 kg)
Particles recovered from local beaches	1 (0)	10 (5)

## PEOPLE

	December
Full time DSRL staff	840 (853)
Part time DSRL staff	68 (69)
Contractor staff	902 (901)
Gate-held passes (infrequent use)	149 (152)

Dounreay Site Restoration Ltd  
18 January 2011