

## **Dounreay Progress Report** *As of 10 July 2019*

DSG(2019)P019

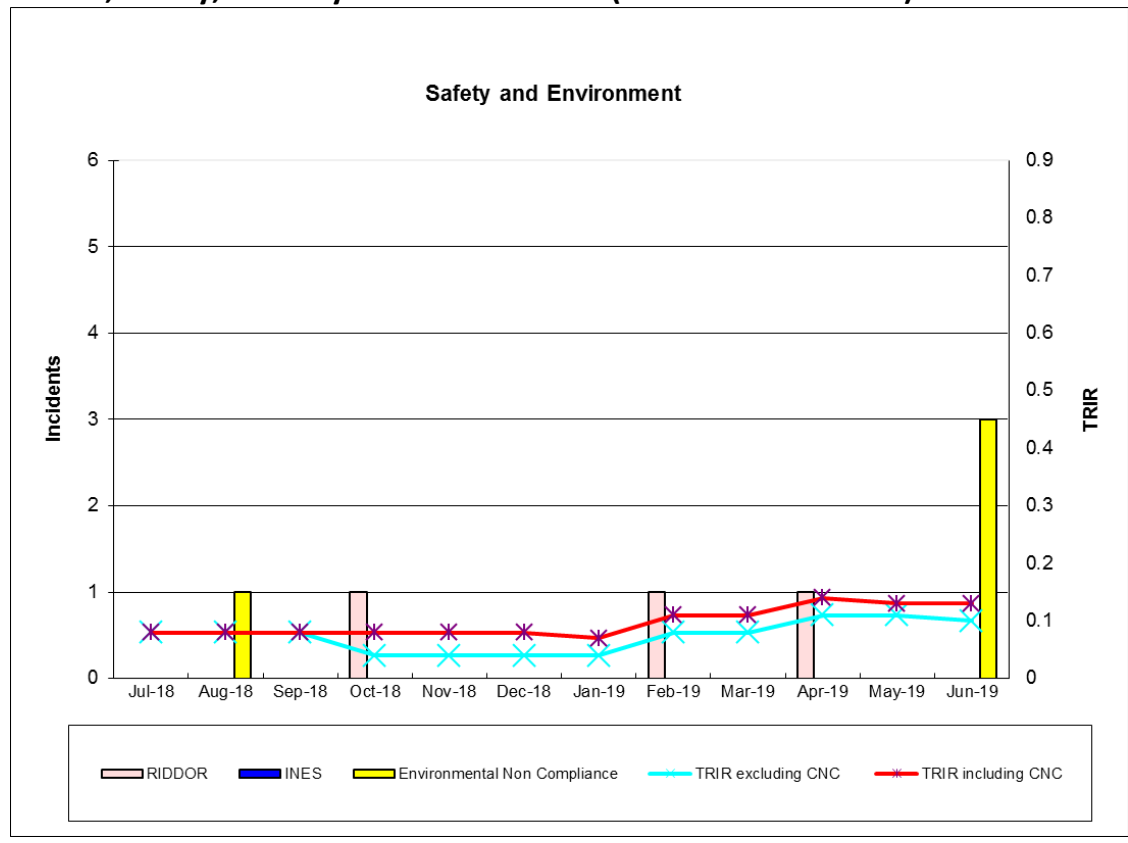


### **Site decommissioning programme**

- The targets for this financial year are currently awaiting approval from the NDA. These should be available for the next sub group report.
- Work continues to develop an updated 'performance plan' which sets out the latest programme of all activities required to deliver an interim end state. A series of reviews are underway, looking at all major programmes in depth, with DSRL and PBO representatives taking part. NDA observed the process during the first review. Work remains on schedule, with a plan due to be submitted to NDA during early September. Further analysis and refinement is expected beyond that date, with a target to make any revised plans 'live' from the next financial year. The DSG will be kept updated as the process continues.
- The NDA has published its Annual Report and Accounts for 2018/19. This can be access at <https://www.gov.uk/government/publications/nuclear-decommissioning-authority-annual-report-and-accounts-2018-to-2019>. In this document, NDA has acknowledged that "DSRL continued the good work of last year by achieving further improvements in safety and environmental performance. SEPA's final assessment rating for 2018 at the site and Low Level Waste disposal facility next to the site was 'excellent'." It also acknowledged "- improvements which were started last year have been consolidated this year with very good, sustained

environmental performance at Dounreay. This is recognised by SEPA in its compliance evaluation for the year which was confirmed as excellent for both the site and the adjacent Low Level Waste Repository. Improvement has been achieved through senior management leadership, environmental awareness training and all parts of Dounreay recognising the roles they have to play in environmental protection."

### Health, Safety, Security and Environment (as at end June 2019)



- The organisation’s Total Recordable Incident Rate decreased slightly to 0.10 in June 2019.
- During adverse weather in June, electricity supply issues in the local area affected Dounreay and there was short loss of supply to the site, including the backup generator as is standard practise. The site’s incident control centre was set up and, while there was no risk to people or the environment as a result, accountancy at local assembly points was conducted as per the site’s existing arrangements. Regulators were informed and an investigation is being undertaken.
- There was an non-compliances confirmed in writing by SEPA during June 2019 relating to PFR Fan 6 discharge reporting error.
- SEPA has been developing nuclear power generation and decommissioning sector plans. The plans are part of their approach to regulation aiming to ensure that every regulated busines fully meets their compliance obligations.
- World Environment Day was held on Wednesday 5 June 2019. The theme was ‘beat air pollution’. More information is available at <https://www.worldenvironmentalday.gobal/>

## Site decommissioning

### Fuels

- A learning from experience workshop has been held at the US Embassy in London following the completion of a project to remove HEU from Dounreay. The team was presented with a plaque by the US Government thanking everyone at DSRL for their collaboration and support.



### Reactors

- Eleven holes have been drilled into the Prototype Fast Reactor (PFR) leak jacket for the installation of petal heaters, as part of the reactor vessel heel pool removal project (in the picture the holes have been covered by temporary lead shielding). Guide tubes and petal heaters will be installed in the holes to melt the sodium heel in the reactor vessel in preparation for its removal.
- In PFR, the last 6" range of water vapour nitrogen (WVN) delivery tools has been inserted into the reactor to destroy residual sodium.
- At Dounreay Fast Reactor, the 150<sup>th</sup> basket of fuel elements has been transferred to the breeder fuel removal building for processing. This equates to a total of 450 elements.
- Work on Dounreay Materials Test Reactor decommissioning continues with installation of a new stack now completed. Characterisation plans have been developed, which will be used to underpin a radiological inventory of the facility.



### Fuel Cycle Area

- A senior manager from Sellafield and technical expert in high active liquors and post operational clean out spent 2 days at Dounreay in May participating in a workshop and visit to a number of facilities. This is the next step in collaboration with Sellafield as the sites share experiences and learning to support their respective decommissioning programmes.
- In D1217 the cutting of the remaining transfer cell roof was completed. These block sections will be lifted in the near future. The blocks will be wrapped and put into half height ISO containers for ultimate disposal in the low level waste vaults.
- In D1200, Labs 87 and 99 decommissioning works is now complete.



## **Waste**

- A paper written by members of the Dounreay team for a leading waste management conference, WM2019, has been officially rated and recognised as ‘superior’ by the event organisers. Commenting on their decision, they said that “Waste is our product! Developing, implementing and optimising waste management” demonstrated superb knowledge and understanding, and lays the foundation for future waste management endeavours.
- Following the successful restart of WRACS – a facility which crushes waste drums, a backlog of 15,824 drums has now been processed through the facility. This was completed in parallel with the assay and compaction of a further 9,800 drums arising from recent decommissioning activities.
- Following a trial project to send 4 large metal objects to a specialised facility for recycling earlier this year, it has been confirmed that there are potential opportunities for recycling for some other waste metal items expected to require management as part of the site’s closure programme.

## **Construction**

- Construction of the DCP Store Extension continues with work on the floor installation, base slab reinforcement and ventilation ducting progressing to plan. The first concrete pour for the floor slab took place in July. An estimated 1200m<sup>3</sup> of concrete will be poured in the next 6 months, creating a floor slab holding a significant amount of ventilation ducts.

## **The Interim End State Delivery Team**

- Dounreay continues to look at an unconstrained review of the site end state. As stated previously, the current output is a list of credible end state options which aim to balance potential land use, administrative controls and land conditions. Going forward the credible options will be assessed in accordance with the NDA value added framework and strategy management system. DSRL will be inviting DSG representatives to attend assessment workshops to ensure that local views are adequately represented throughout the review. DSRL will provide adequate notice of the workshops when they are scheduled.

## **Particles**

- No particles have been found on the foreshore since 4 April 2019. All particle finds are recorded and published on the website: <https://www.gov.uk/government/publications/radioactive-particles-in-the-environment-around-dounreay>  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/795229/Foreshore\\_particles\\_updated\\_11.04.19.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/795229/Foreshore_particles_updated_11.04.19.pdf)

Due to bird nesting activities the foreshore was not surveyed for 11 consecutive days.

- No particles have been found at Sandside since 01 March 2019. Details of Sandside particles is updated and published on the website:  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/795230/Sandside\\_Particles\\_updated\\_11.04.19.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/795230/Sandside_Particles_updated_11.04.19.pdf)
- In total, 5 particles have been recovered this year - 3 foreshore, 2 Sandside.
- As previously reported, the analysis of an unusual particle recovered from the foreshore in 2016 is ongoing. Digestion analysis has been completed at DSRL and the preliminary results communicated to SEPA. At present the residual material from the particle and comparison reference particles is awaiting further alpha spectrometry analysis at off-site labs.

## **Commercial**

- All 6 organisations appointed to DSRL’s decommissioning services framework contract met at Dounreay in June. It was the first meeting of a programme board set up to understand some of the hazard reduction challenges at the site and to help communication between the organisations.
- The first mini competition, covering shaft early enabling work, has been issued through the recently appointed decommissioning services framework. It is planned to award a contract for this work in September 2019.
- DBD (Different by Design) has been awarded a contract to develop a programme optimisation model for the site. The model will take various inputs including the decommissioning schedule, cost estimates, waste routes, resources, decommissioning priority and asset management information and will be used to model a range of scenarios with the aim of optimising the delivery of the interim end state.
- LINC (Liaise Innovate Network Collaborate) opportunity 6 to find innovative approaches to map the current internal cell layout in D1204 has been awarded to Gow’s Lybster Ltd. They are working with Envison Engineering and Design to deliver this work.
- Thompsons of Prudhoe visited DFR pond recently following the launch of a LINC (Liaise Innovate Network and Collaborate) opportunity to seek new innovation techniques for the removal of the pond liner, floors and sluice gate. It is hoped any forthcoming proposals from the company can be included in future optioneering.

## **General**

### **Staffing (end June 2019)**

	<b>FTE Target</b>	<b>FTE Actual</b>
<b>Current - DSRL</b>	<b>1,146</b>	<b>1,166.0</b>
<b>Current – ASW</b>		<b>140</b>

3 New Starts; 2 Resignations

- Eight new health physics surveyors being trained by Dounreay and Nuvia have all passed their first exams with flying colours. Nuvia’s course provider commented that the



results were 'exceptional'.

- In early June, graduates in their second year attended an outward bound course in Eskdale as part of their ongoing development.
- Alan Farquhar, Mary-Jane Statham and Alison MacKenzie took part in a Developing the Young Workforce careers event at Noss primary school at the end of May. They gave pupils an insight into the different types of careers available.
- Lindsey Anderson, Deputy Quality Manager, represented Dounreay at a Women in STEM conference in London during 2 May. This was aimed at enhancing equality and diversity, to better support the advancement of girls and women in STEM and empower them to excel in STEM education and careers.
- Dounreay STEM Ambassador Lindsey Anderson visited Primary 2 pupils at Noss Primary School at the end of June where pupils were presented with CREST Star awards. The students have completed 10 activities throughout the academic year to complete this award.
- Business Services Director, Lesley Sewell attended Jacob's Women's Network Global Summit in June. She joined 120 male and female leaders from around the world to promote gender inclusion.
- The Dounreay Women's Network hosted a conference on in July, marking the second anniversary of the group and celebrating the successes achieved since its formation, as well as looking ahead to the next phase of work.
- DSRL's fire and ambulance rescue service helped with a recent Thurso Community Development Trust litter pick, collecting rubbish from Thurso and surrounding areas. Dozens of bin bags were collected.



## Heritage

- Three heritage objects were collected in the period:
  - AEA Constabulary pin badge
  - Laboratory glassware item made at Dounreay
  - Pocket sized booklet of blank "point of work" safety assessment forms, dated 2003
- Two leavers completed a Dounreay Memories form.



- James Gunn, Heritage Officer, gave a talk about the early history of Dounreay, to a packed meeting of the Caithness Family History Society.
- James Gunn, June Love and David Flear were interviewed by a Professor from Kingston University, London, for a research study about capturing, preserving and celebrating nuclear cultural heritage. The Professor is leading a series of international workshops on the topic and the next ones are being held over three days in Caithness during the week beginning 9 Sept 2019 (at Pentland Hotel, Dounreay and Nucleus). Attendees are from the UK, Russia, France, Spain, Germany, Lithuania and Sweden.
- James Gunn and Alison Anderson were interviewed for an STV programme called “The People’s History Show”. It covers Dounreay’s history and is due to be shown in the Autumn.
- Linda Ross, PhD student at the University of the Highlands and Islands completed her thesis and awaits the result. The thesis title is; “Nuclear fission and social fusion: the impact of the Dounreay experimental research establishment on the built environment and communities of Caithness, 1954 – 1966.”
- All 22,500 boxes of Dounreay archives have now been transferred to Nucleus. Nucleus now holds all the records from Harwell and Dounreay.

### **Visits / events:**

- Robert MacDonald represented Dounreay at a recent Scottish Meet the Buy event in Dunblane.
- During May a ‘Walk at Work’ day was organised to coincide with the launch of a 10% membership discount now being offered to DSRL staff for High Life Highland. This is part of a wider programme of activities to support the wellbeing of the workforce.
- Alan Cumming, Director of Operations (NDA), visited the site recently and was provided with a programme overview from DSRL directors, plant visits and a meeting with DSRL Safety Representatives.

### **Dounreay Site Restoration Limited**

10 July 2019

## GLOSSARY

Abbreviation	
BCP	Baseline Change Proposal
DACR	Days Away Case Rate
DCP	Dounreay Cementation Plant
DFR	Dounreay Fast reactor
DIT	Dounreay Improvement Team
DMR	Dounreay Modification Report
DMTR	Dounreay Materials Test Reactor
DPF	Dounreay Planning Framework
DSRL	Dounreay Site Restoration Ltd
EIA	Environmental Impact Assessment
ES	Environmental Statement
IFBS	Irradiated Fuel Buffer Store
IFC	Irradiated Fuel Cave
INF	Incident Notification Form
LLLETP	Low Level Waste Effluent Treatment Plant
LLW	Low level waste
LTA	Lost Time Accident
mSv	milli Sieverts
NDP	NaK Disposal Plant
OJEU	Official Journal of the European Union
ONR	Office for Nuclear Regular
PBO	Parent Body Organisation
PCP	Project Control Procedure
PFA	Pulverised Fly Ash
PFR	Prototype Fast Reactor
PSR	Preliminary Safety Report
RAMT	Radioactive Material Transport
RIDDOR	Reporting of injuries, Diseases & Dangerous Occurrences Regulations.
RSA	Radioactive Substances Act
SEPA	Scottish Environment Protection Agency
SID	Sodium Inventory Destruction Plant
STA	Sample Tank Annex
TRIR	Total Recordable Incident Rate
WRACS	Waste, Receipt, Assay, Characterisation and Supercompaction