

Dounreay Progress Report

As at end of June 2018

DSG(2018)P018

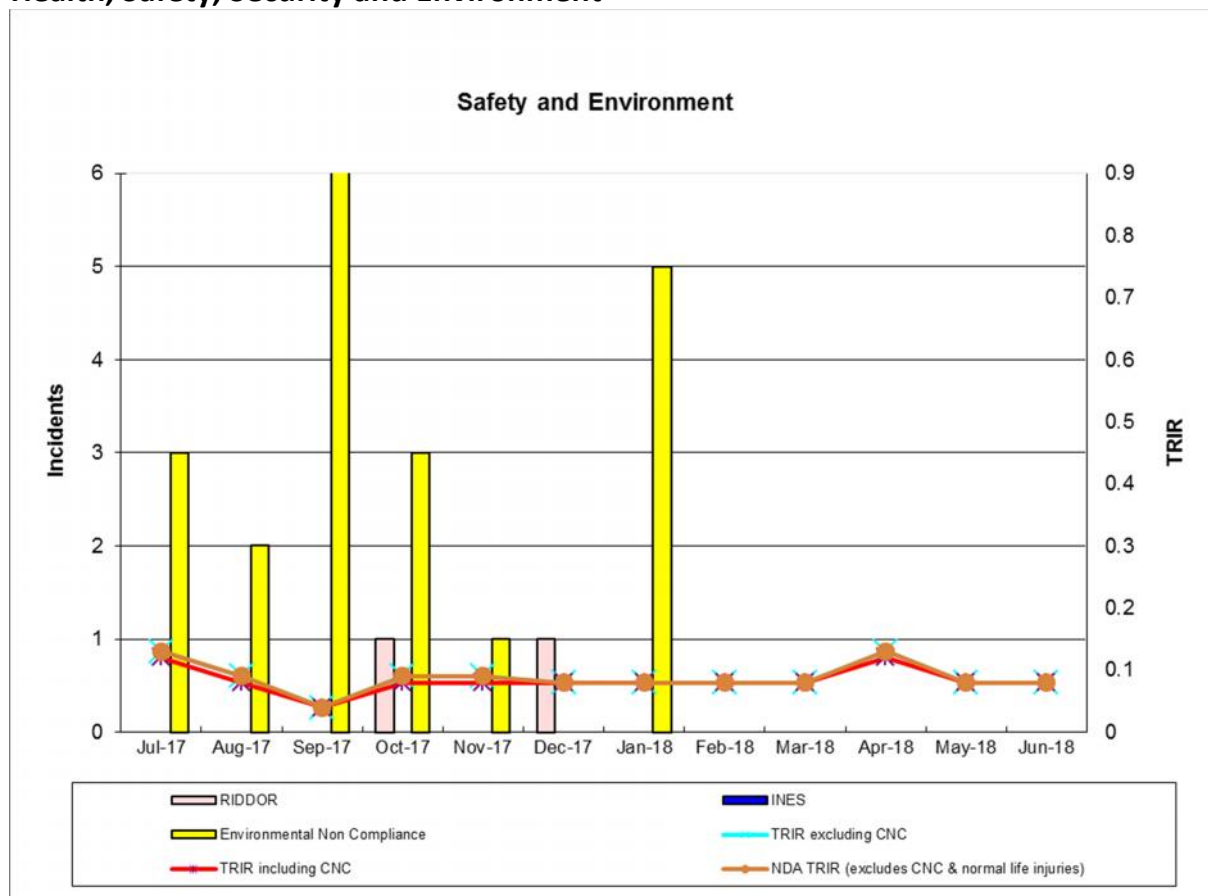
Site decommissioning programme

The site's delivery priorities continued to be the exotics programme, breeder removal and improved resource utilisation – always ensuring that work is undertaken in a safe, secure and environmentally responsible manner.

A substantial effort continues to prepare what has become known as site wide impacts – an updated plan reflecting the additional work delivered for the exotics programme. We remain on target to submit the proposed plan to NDA next month. It will then be assessed and both sides are aiming to have agreement later in the year. The new plan will then facilitate production of a single credible programme which the site can get behind and deliver.

NDA has provided Dounreay with additional funding of £30M for 2018/19, providing an annual site budget of around £205M. Following completion of the un-irradiated exotics programme funding is expected to return to the planned assured funding (the level specified in the contract) of around £176M/year (not including inflation).

Health, Safety, Security and Environment



-) As of end June 2018, it has been more than 252 days since a lost time accident and the site's total recordable incident rate is 0.08.
-) During this period of reporting there has been no lost time accidents or RIDDOR reportable events.
-) During a recent review of the stack samplers it was discovered that the D2670 extract did not meet with the authorisation. SEPA has been informed and has considered this as part of the review of all sampling. All work that could challenge the system has been suspended pending resolution.
-) A ventilation site improvement plan has been submitted to SEPA for consideration.

-) As previously reported, work stopped when the crane used to support breeder removal from DFR was found to have a crack in the rail. It was made safe and, since then, a significant effort has been underway to undertake repairs. This has been particularly complex due to the age of the crane but it has now returned to limited service.



-) As reported to the June DSG meeting, everyone on site took time out on a day in June to hold team talks on safety. These events have historically been held if there has been a specific event to learn from or an important message to get to everyone. This time, it was about being proactive and recognising the value of people continuously talking about safety.
-) DSRL representatives, John Deighan and Jacqui Greig, attended a RoSPA event where they collected, on behalf of the site, a RoSPA International Safety Award this year.

Site performance

A new information brochure giving details of the progress made during 2017/18 has been published.

Appendix 1 of this report provides information of the key project milestones for 2018/19. Specific performance achievements are outlined below.

Reactors

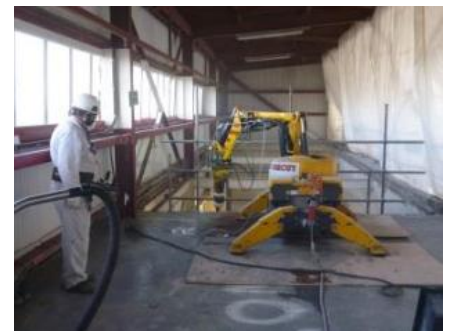
-) Focus at PFR continues to be on removal and treatment of the alkali metal hazard. Heel pool removal (1,500kgs Na) is required before the reactor vessel and components can be treated with water vapour nitrogen. This requires the procurement, manufacture and testing of systems to both remove remaining Na and prepare for the next stage of treatment.



-) Inactive commissioning continues on the steam clean facility in PFR Irradiated Fuel Cave (IFC). In addition, IFC post operational clean out is progressing with low level waste removed from the in cell and Window 13 cleaned up.
-) Following review of the PFR turbine hall structure, preparations will continue to accelerate the demolition of the hall. Enabling projects include the operation of SID, the removal off the sodium destruction plant and the alkali metal lab as well as service rerouting.
-) At DFR, the strip out of the electrical systems in the Nak Disposal Plant (NDP) has commenced. Meanwhile, a sample plan for the DFR pond has been agreed to support further characterisation before work commences.
-) Focus at DFR for 2018/19 will be to remove the 900 elements from the reactor over the next two years. Equipment is being designed and tested to remove the stuck elements.

Fuel Cycle Area

-) **D1200:** Lab 79 has now been containment declassified and dismantled while preparatory works are complete for Lab 80 decommissioning.
-) **D1250:** Enabling work for the new stack has commenced.
-) **D1217:** The deck below the first floor has now been installed. The rationalisation of services and the mezzanine floor removal works has commenced.
-) **D2001:** Services removal for filter replacement has commenced.



Fuels

-) Good progress continues to be made to remove nuclear fuel from the site. Advice has been provided to community representatives that they may see a strong security presence before and during the next phase of transports. This is normal for nuclear materials with a high security rating. We apologise for any temporary inconvenience caused by these planned measures.

Waste

-) Phase 1 cementation operations of PFR raffinate have been completed. The final letter of compliance from Radioactive Waste Management for the packaging of PFR raffinate has now been received.
-) Low Level Waste operations continue with less than 900 drums of the original 20,000 backlog of drums left.
-) Two bulk low level waste packages from D1204 have recently been sentenced into a half height ISO container using a cargo net.



-) Construction of the Dounreay Cementation Plant Extension is expected to start in quarter 3 of 2018.

Shaft and silo

-) The shaft and silo project is now remobilising for full delivery expected to commence around April 2019. Preparation work on scheme design and detailed design and safety case are ongoing.

The Interim End State Delivery Team

-) The Environmental Closure and Demolition (ECD) department has been renamed and is now called The Interim End State Delivery team (IESDT) to reflect the role of the team in supporting all projects to prepare for a compliant end state.
-) Dounreay's phase 3 planning was approved by The Highland Council in early June. The site awaits formal feedback on any planning conditions associated with the planning approval.
-) A meeting was held between DSRL, SEPA and the Head of Highland Council Planning Authority in May where a process was agreed, in principle, to facilitate the zonal closure of site in advance of the interim end point. This is believed to be the first of its kind in the NDA estate. Further meetings are planned for August to finalise the contents of the process agreement.
-) DSRL is continuing to undertake a review considering an unconstrained Dounreay end state as requested by NDA. Work continues to gather information on this and once internal reviews are complete further information will be available for discussion.
-) The GRR Guidance Requirements for release of nuclear sites from radioactive substances regulation has not yet been published. Current understanding is that it is not likely to be published until late summer/early autumn.



Particles

-) Between 1 April 2018 and 4 July 2018 the following particles were detected and removed:
 - o Sandside Beach (1 minor)
 - o Dounreay Foreshore (2 significant)
-) As previously reported, a particle was found on the Dounreay foreshore in December 2016 that was not similar to the particles normally detected and removed. SEPA requested that the particle be sent to Stirling University for further examination and they have now completed their work and returned the particle to site. DSRL has recently despatched the particle to an organisation located at the University of Southampton to perform a range of work including micro-destructive analysis.

Heritage

-) James Gunn, Heritage Officer, gave a presentation at the international Industrial Heritage conference held in Wick on 23 June 2018, entitled; "Dounreay: past, present and future". It was jointly organised by Historic Environment Scotland, the Scottish Vernacular Buildings Working Group and the Scottish Industrial Heritage Society. Some Dounreay graduates, who are STEM

Ambassadors, helped with the event. Thirteen of the delegates visited Dounreay on 25 June.

) The Scottish Society for Northern Studies held a conference in Thurso on 13 April 2018 and one of the presentations was by UHI PhD student Linda Ross, covering her study on the impact of Dounreay on Caithness and North Sutherland in the 1950s and 1960s.

) Ten heritage objects were collected in the period:

- Photomultiplier electron tube
- Boron carbide pellets
- PFR Demountable sub assembly spares
- Site emergency alarm button from DFR control room
- DFR postcard
- Formal card invites from Dounreay Director for DFR and PFR ceremonies
- Three authorised appointment cards for Shift Manager roles
- Various letters to G Blagden from 1950s and 1960s
- 1983 UKAEA nuclear safety course – programme of visits and lectures
- Attendance certificate for advanced reactor technology course



) Nine leavers completed a Dounreay Memories form.

) The V&A Museum of Design Dundee is due to open on 15 September 2018 and it will feature the DFR sphere in an exhibition and a book. It will also feature work by four Dounreay apprentices who created a travel app called “Wilderness”.

Commercial

) Dounreay hosted a supplier’s day in May for companies who are part of existing framework agreements or have registered for LINC with Dounreay. The afternoon included an exhibition and an opportunity for company representatives to meet Dounreay project managers.



) During June 2018, Roc Technologies announced it had been awarded a 5-year contract to transform and manage IT services at Dounreay. The contact covers all aspects of IT transformation and operations and Roc will assume responsibility for modernising core infrastructure, software environments and delivering new services to site users. As part of their bid, Roc submitted a socio economic plan and will investigate ways of bringing new employment opportunities to the area and engaging with local schools and the UHI to contribute towards learning in IT subjects.

) Wood plc, which has successfully bid for several contracts at Dounreay, has been out and about discussing the wider economic transition programme to explore where they can add value. As part of its commitment to the local area, it became the first company to sign up for a five year Gold premier partnership with the Caithness Chamber of Commerce. It has also recently announced a national fund that could invest in SME companies who are developing innovative

technologies to support nuclear decommissioning.

-) DSRL has continued to award contracts to support the next phase of decommissioning. Recent awards include frameworks for design and engineering as well as safety case production. Companies including Wood, Atkins, Cavendish Nuclear, Jacobs, Nuvia and NSG have been appointed to the design and engineering framework. Abbot Risk Consulting, Altran Praxis, Cavendish Nuclear, DBD, Poyry Energy and RPS Group have been appointed to the safety case production framework.

General

Staffing (as at end of June 2018)

	FTE Target	FTE Actual /Forecast
Current - DSRL	1,105	1104.7
Current – ASW		130

June 2018: 2 new starts, 2 resignations, 21 VERs

-) **Voluntary redundancies:** In terms of progress to date, 144 DSRL people were accepted for voluntary redundancy will be leaving the organisation between September 2017 and around April 2019. By the end of June 2018, it is expected that 120 people will have left. It was also envisaged that a reduction of around 50 agency workers would also leave the business. The reduction of agency staff was dependent on the completion of the projects being supported, mainly the exotics programme. As a result, some of those agency workers continue to provide services on site until such times as the work has been completed. Currently some long term contractors are considering changing to DSRL contracts.
-) **Recruitment** of apprentices and graduates continued this year with 8 apprentices and 11 graduates being offered positions.
-) Changes to the **senior management team** continue with Dave Hubbard recently appointed to the new role of Construction Director. Dave, who will take up the position at the end of July, previously worked at Dounreay before moving to Magnox to oversee all construction and demolition projects.
-) Dounreay has nominated three of its **STEM Ambassadors** for this year’s WISE Awards. Fourth year apprentice, Kirsty Robertson has been put forward for the “One to Watch” award, Erin Jappy, Senior Instrument Technician the Technician Award, and Ashleigh Fenton, Graduate Geologist, the Rising Star Award. The company is expecting to hear whether they have been shortlisted soon.
-) **Dounreay team** members Mary-Jane Statham, Carly Mackay and Ruth Mackay were winners in the collaboration and delivery categories at the Shared Services Alliance Walker Awards in June for their work with the supply chain.



-) **Equality, Diversity and Inclusion (EDI):** EDI is a business priority and the site and held a number of sessions to mark National Stand up for Bullying day. NDA recently invited all Managing Directors and the Head of Human Resource across the estate to take part in a workshop to discuss EDI, demonstrating its commitment to drive improvements and culture across the estate.
-) The site's archives are now closed to new archived records. While searches and loans are still available the archives will now start to migrate to Nucleus.
-) The site has hosted a number of visits during this period, including:
- Young Nuclear Safety Professionals Forum
 - National Nuclear Glove Box Forum
 - Nuclear Waste decommissioning and research forum, focussing on learning from experience and collaboration between NDA sites.



Dounreay Site Restoration Limited
6 July 2018

PROJECT MILESTONES FOR 2018/19

Area	Milestone	Due Date	Status
Fuel Cycle Area	D1204 mixer settle boxes	Sept 2018	At risk
Waste	Shaft and Silo borehole monitoring	Sept 2018	Achieved
End State	NDA Gate A paper for redefining the end state	Sep 2018	Achieved
Fuel Cycle Area	D1200 Lab 79 decommissioned	Nov 2018	Achieved
Waste	Waste verification checks of D3110 wastes	Dec 2018	Achieved
Reactors	Manufacture complete for skid set A and DFR skid set	Dec 2018	Achieved
Fuel Cycle Area	First block cut from cell walls in D1217	Jan 2019	Achieved
Reactors	Design, manufacture and trials of 4 tools for PFR reactor dismantling.	Jan 2019	Achieved
Waste	Shaft and Silo HAZOP 2 studies	Mar 2019	Achieved
Reactors	Breeder fuel 8 flasks	Mar 2019	Achieved

Key:



On target to deliver
At risk
Missed
Achieved

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
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