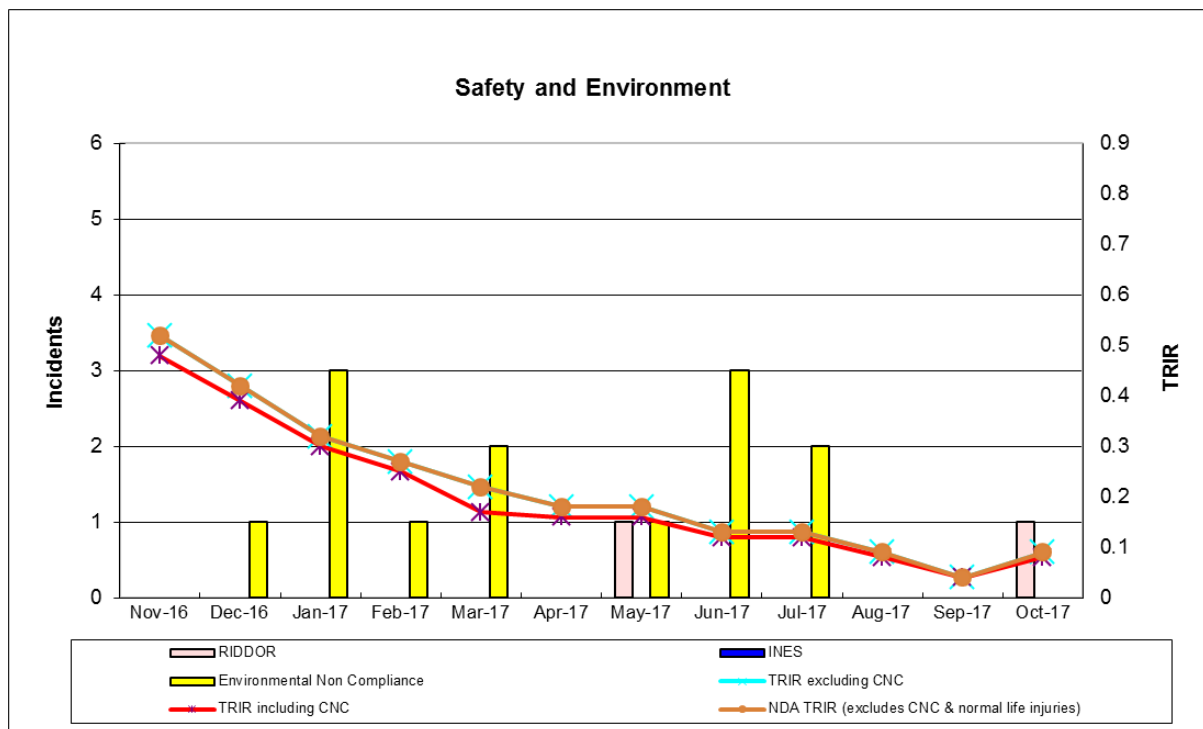


Dounreay Report (up to 7th November 2017)

Site decommissioning programme

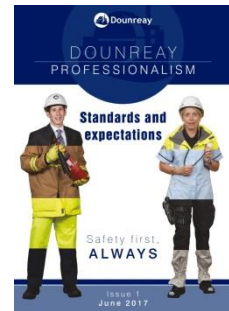
Discussions are ongoing with NDA on the updated decommissioning plan which reflects the prioritisation and additional scope for nuclear materials. During 2017/18, the site's delivery priorities will continue to be the exotics programme, breeder removal and improved resource utilisation – always ensuring that work is undertaken in a safe, secure and environmentally responsible manner.

Health, Safety, Security and Environment



- The site's total recordable injury rate (TRIR) stands at 0.09 (as at end of October). The increase from 0.04, a historically low level for the organisation, was due to one RIDDOR event where a contractor sustained a superficial burn to their hand during hot cutting operations. An investigation has been convened.
- An empty flask being moved to Dounreay was found to have a very small amount of low level contamination upon arrival which was dealt with using well established processes. It had been detected by Dounreay surveyors who had applied rigorous and thorough safety checks. The levels of radioactivity detected were too low to pose a risk to staff or public, and were within the limits tolerated by the regulations for the presence of radioactivity on used flasks. The regulators were informed as soon as this was discovered.

- **Dounreay Professionalism Standards and Expectations:** Twelve standards and expectations were introduced in June 2017 which forms a key part of the implementation of Dounreay’s improvement plan. They range from personal responsibility and procedural adherence, to environmental protection and equality, diversity and inclusion.
- The site is in the process of transitioning to the new ISO 9001:2015 and 14001:2015 standards that govern the quality management system and environmental management system.
- A routine emergency exercise took place in the Dounreay West car park on Sunday 29 October. The exercise included participation from the emergency services (Police Scotland, Scottish Fire and Rescue Service and Scottish Ambulance Service) as well as Dounreay emergency responders. The exercise scenario was based on road traffic collision.
- SEPA have issued the annual report on radioactivity in food and the environment 2016: RIFE 22. This provides an assessment of radioactivity in food and the environment and the public’s exposure to radiation during 2016. You can find the full document at: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-2016-rife-22>

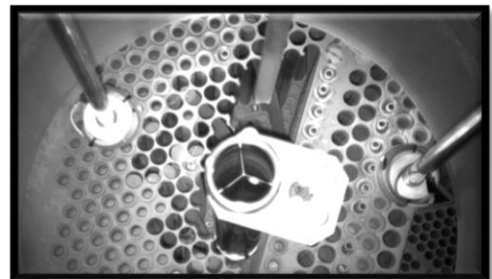


Site performance

Appendix 1 provides information of the key project milestones for 2017/18. Specific performance achievements are outlined below.

Reactors

- Breeder fuel elements have been removed from Dounreay Fast Reactor for the first time in several decades. This is a significant achievement for the team involved and represents a number of years of preparation for the site workforce and supply chain.
- Work has started to remove the second row of concrete blocks as part of the project to dismantle a cooling pond associated with Dounreay Fast Reactor- eight blocks have been removed so far. The team paused after completing the first phase of work and have incorporated identified improvements for this next phase.
- The focus for the Prototype Fast Reactor (PFR) team is to prepare for the arrival of specialised tools to allow the removal of the remaining sodium in the reactor.
- An 84” valve has been successfully removed from a decontamination vessel within PFR and has been moved to the primary cold trap loop (PCTL) vessel. The valve arrangement will now be tested to verify the seals work, before the 84” flask is moved into position to allow the removal of the PCTL basket.
- Additional ventilation plant has been installed for PFR raffinates with the installation of the lid posting facility installed in Dounreay Cementation Plant and site acceptance tests.



- Work is progressing well with the demolition of Dounreay Material Test Reactor's support complex, known as D1251. Seventeen companies have expressed a formal interest in the contract to demolish the reactor building itself with a supplier expected to be appointed next year.



Fuel Cycle Area

- **D1200:** The active analysis laboratories have now moved from D1200 to a new fit-for-purpose facility. It provides radiometric and chemical analysis of nuclear materials and has six laboratories, with 37 active fume cupboards, a four section glove box and a specialised ventilation system.
- **D1204:** Decommissioning work has commenced in the medium active cell with operators size reducing pipework through the cell roof hatch using long reach tooling.
- **D1208:** Phase 1 installation work for the ADU floc project has been completed. This included the re-alignment of transfer pumps and pipework, installation of sampling glove box and ancillary equipment and installation of radiological containment for the receipt of liquors. Inactive commissioning has commenced.
- **D1217:** The removal of the mezzanine floor has been completed. This allows preparations for the first floor concrete structure removal to start early next year.
- **D1226:** Scaffolding has been constructed around the D1226 stack as part of the ongoing work on the duct replacement in the D1200 labs.
- **D2001:** The RHILW (remote handable intermediate level waste) consignments from Dounreay Cementation Plant to the D2001 posting cell are continuing.
- The **asbestos special items** team has successfully completed four areas of licensed asbestos removal works within the Fuel Cycle Area on the site steam distribution service over the previous few months.



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

- **Dounreay Cementation Plant:** Preparations for the DCP PFR (Prototype Fast Reactor) raffinate modifications continue. The Final Letter of Compliance for the cemented PFR raffinate waste package is currently being assessed by RWM (Radioactive Waste Management). The lid posting system (which will post the additional outer lid into the shielded cell to be bolted onto the 500 litre waste drum) is currently undergoing factory acceptance tests at JGCs premises in Harpsdale where it has been



manufactured. The completion of the commissioning phase (3 batches of raffinate from D1208) is a key milestone which is due to be completed by January 2018.

- **Waste, Receipt, Assay, Characterisation, Supercompaction (WRACS):** During 2016/17 6,154 drums were compacted which reduced the overall backlog. During this financial year the focus will be to continue to clear the backlog of drums. A total of 3,852 drums have been compacted (up to end of August 2017).



- **D3100 Low Level Waste Disposal Facilities and grout plant:** Operations have resumed at the grout plant and low level waste disposal facility with the current focus on topping up containers within the vaults with grout in order to minimize any ullage. As at the end of September, all 173 containers have been topped with containers now consigned for disposal.
- **Waste, Receipt, Assay, Characterisation and Supercompaction (WRACS):** During 2016/17 WRACS compacted 6,154 drums which has reduced the overall backlog of waste drums. Some operational and engineering issues with pucks that are getting stuck has been identified and the teams are working together to determine the way forward. The focus for this financial year is to reduce the backlog.

Shaft and Silo

- The silo safety case review is nearing completion and will be reviewed later this year. Design work is progressing with design review completed and actions being closed out to prepare for a hazard and operability study.
- Oxford Technologies has been selected as the preferred supplier for the silo retrieval system and this contract commenced during August.
- Work also commenced to carry out sludge trials to support the design work and this was awarded to Berkshire Engineering (Bower).

Environmental Closure and Demolition

Highland Council Planning Application (HC) (phase 3, 2018 to interim end state)

- Stakeholder engagement activities are now finalised and a review of the feedback has been completed. The planning application has now been submitted to The Highland Council.



Artist impression of the Interim End State

Particles

- During routine monitoring of beaches (from the beginning of August 2017 to date) three minor particles were detected at Sandside. Two in August and one in October.

- A review of the Particles BPEO has been completed and the technical document has been externally peer reviewed. The document is to be discussed at the November Environmental Review Committee meeting.
- DSRL attended a meeting of PRAG(D) on the 8 November 2017. A summary of the BPEO process was presented at the meeting.
- A particle 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. It is now planned to dissolve the particle and carry out further radiological and chemical analysis. An analysis plan is currently being prepared in discussion with SEPA

Heritage

- Past and present employees, plus members of the public were interviewed by BBC Radio Scotland for a social history programme called “Our Story”. It covered current impressions and past memories of the impact that Dounreay had on Caithness. The 30 minute programme was broadcast on 15 August.
- Four heritage objects were collected in the period;
 - Haggis magazine (written and published by Dounreay staff) dated January 1960
 - Two hand held radiation monitors (RO2 ion chambers) used by the Fire Brigade.
 - Desktop embossing press used by Commercial Department for received Invitation to Tender documents. The stamp is; “UKAEA Dounreay Tender Board”.
 - Slide rule embossed with “UKAEA”
- Two leavers completed a Dounreay Memories form.
- Twenty four oral history recordings and transcripts were handed over to the Caithness Archive at Nucleus. These were recorded by James Gunn, Heritage Officer, over the last 6 years and featured former Dounreay employees and members of the public. All have recording agreement forms signed by each interviewee.



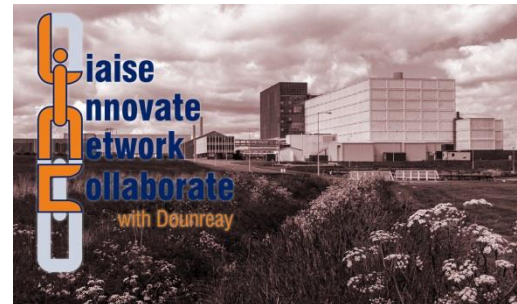
Drones

- The site has deployed a drone for external facility inspections at D1204 and DFR. This footage allows high quality information to be gathered which is expected to offer significant cost savings and reduce the working at height risk. A number of staff have completed Civil Aviation Authority training to use the drone following a significantly detailed process to gain the necessary permissions and exemptions from the enforced no fly zone in place around the site.

Commercial

- **Nuclear Directory and supply chain capability:** Dounreay continues to utilise the nuclear directory and video of the local supply chain capability which the Chamber of Commerce produced for various conferences and events. The latest event was the NDA Supply Chain event held last week where JGC Engineering and Technical Services Ltd were highly commended for the Minister's Award, recognising their wider contribution to the nuclear industry.

- The Commercial department launched a new Small and Medium Enterprise (SME) innovation scheme, LINC with Dounreay. To date more than 100 companies have registered an interest within the first three months of its launch. Engineering consultancies, film makers and soil remediation experts are among the companies with different skills and capabilities that have signalled their interest in supporting Scotland's largest, and one of Europe's most complex,



decommissioning project by signing up to LINC - liaise, innovate, network and collaborate - with Dounreay. Two of those registered were among five companies that recently took part in a workshop to assess options for size-reducing components in the Prototype Fast Reactor. IKM Consulting and AJ Engineering were given the opportunity to contribute innovative ideas and work alongside existing suppliers in the first project launched as part of the scheme.

Following the success at Dounreay, Sellafield has recently launched 'LINC with Sellafield'. The two sites are hoping to work together in the future to offer increased opportunities for the supply chain.

- DSRL requires bidders for all contract opportunities to include a socioeconomic benefit statement. For all procurements in excess of £500k, the commitments made are assessed and scored as part of the contract award process.

The procurement process has commenced for a new framework agreement for Scaffolding Services. In addition, tenders have just been received for the Design (Minor) Services which has a 15% socio economic weighting and bids are currently being assessed. Ansaldo NES has been awarded a contract for the manufacture, testing, installation and commissioning of an immobilisation line for the process of ADU floc. The contract is worth £3.7M and has duration of three years with a significant local sub-contractor contribution (JGC Engineering & Technical Services) valued at over £1M.

- Dounreay recent hosted the Nu-Technology exhibition at the site which gave local and national suppliers an opportunity to exhibit their capabilities and services to support the site's decommissioning. The site is considering how best to organise a supply chain event for next year.



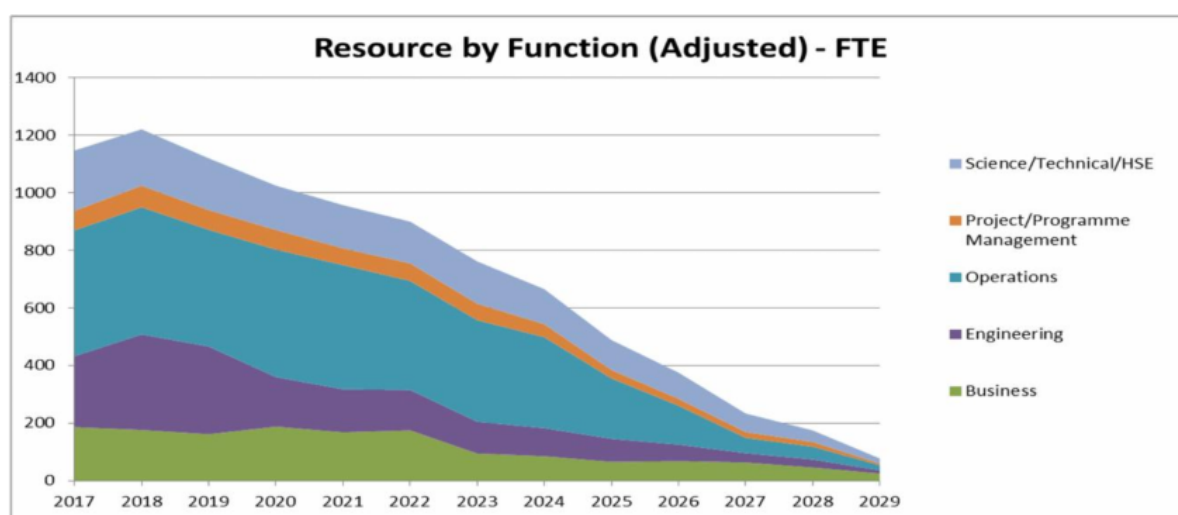
General

Staffing (as at end of October 2017)

	FTE Target	FTE Actual /Forecast
Current - DSRL	1,147 (LTP)	1181.8
Current – ASW	N/A	124

October 2017: 1 new starts, 3 VER

- **Dounreay staffing profile:** The updated staffing profile was provided to CNSRP on 10 October. A number of assumptions were noted and it was agreed that the best available information (subject to approval of the updated programme) would be made available early April 2018.



Notes:

1. Information from Dounreay Target FY17/18 Sept-17 baseline
2. Breakdown of resource by function aligns with NDA reporting requirements for SLCs
3. Excludes CNC and Civilian Guard Force
4. Excludes Special Items for Unirradiated Fuels programme
5. Excludes Exotics Site-wide impact BCP.
6. Resources profile will be subject to change as a result of projects not yet on stream

- **Voluntary redundancies:** In April Dounreay announced a voluntary redundancy programme for up to 150 DSRL jobs and around 50 contractor positions. This was to allow the site to plan ahead for the conclusion of some big projects and it was believed that the fairest way to deal with this situation would be to offer this opportunity to everyone on the site. The scheme was oversubscribed and numbers broadly similar to those announced have accepted offers and will be leaving Dounreay as part of a phased programme aligned to individual transition plans and the conclusion of projects. Work is ongoing to identify information which can be provided to leavers for consideration as to what they would wish to do after Dounreay.

- The site welcomed eleven new graduates and eight new apprentices this month. Members may recall that the apprentice scheme was originally due to end two years ago (as per original decommissioning programme). This has been extended to allow recruitment to continue this year. The site's challenge is to ensure that there is the right mix of skills to support upcoming decommissioning projects and our new recruits will help to support this.

- The site celebrated the indentures of 11 of Dounreay's apprentices in September who have now completed their four year programme. Ten of them have secured employment at the site, while the 11th apprentice had already decided to pursue a career in Glasgow. Jamie Stone, MP attended this event and presented them with certificates. It was a good celebration of the hard work the apprentices had completed during their training.



- Dounreay was successful in gaining approved apprentice status from the Institution of Engineering and Technology for our Engineering competency based (NVQ) apprenticeship programmes.
- **Women in Nuclear:** Dounreay has a Women's Network which followed the signing of a Women in Nuclear UK charter last year - a key part of Dounreay's focus on equality, diversity and inclusion. The network aims to improve the number of women working in the nuclear industry to create a more diverse and inclusive workplace. Around 30% of Dounreay's workforce is female which is higher than the industry average, but there is much more to do. The network will be doing all it can to improve that and have set an ambitious goal to be recognised as the leading NDA site for women in leadership roles. The site will participate in National Inclusion Week starting on 25 September, as part of our EDI policy.

- Members of Dounreay, Caithness and North Sutherland Regeneration Partnership, Nucleus, Caithness and North Sutherland Fund, the Chamber of Commerce and Dounreay Stakeholder Group attended the NDA Stakeholder summit in Cumbria on 17/18 September. Day one, saw an address from the NDA Chairman and Chief Executive and looked at waste issues while day two concentrated on socio economic achievements with Scrabster Harbour Trust providing a presentation on the investment into the harbour and the impacts that this has already made.



- Managing Director, Phil Craig met with a number of Caithness Councillors on 31 October. This provided a platform to provide decommissioning information to the new Councillors as well as updating those who had been re-elected.
- The Civil Nuclear Constabulary will be undertaking the Standard Response Driving re-accreditation on various days during the next two weeks. This may involve undertaking assessed driving utilising exemptions available to Police Officers such as not observing posted speed limits, traffic lights and keep left/right signs. This will be done in conjunction with emergency lights and sirens where appropriate and under the instruction of a qualified Police Scotland assessor.


Miscellaneous

- Representatives from DSRL and DSG attended the Scottish Government Scottish Nuclear Sites meeting in Edinburgh in October.
- The following consultations have been issued:
 - **Consultation on the implementation of the Integrated Authorisation Framework in Scotland:** SEPA has published a two part consultation on implementation of the Integrated Authorisation Framework in Scotland. One part is a Scottish Government consultation on draft regulations that includes new regulations for radioactive substances, and the other part is consulting on draft SEPA guidance that is required under the regulations. Links to both parts of the consultation can be found here: Draft regulations: <https://consultation.sepa.org.uk/regulatory-strategy/iaf-supporting-guidance/> Consultation closes on 23 November 2017. Draft SEPA guidance: <https://consultation.sepa.org.uk/regulatory-strategy/iaf-draft-regulations/> Consultation closes on 22 December 2017.
 - **Consultation on the revised requirements for radiological protection: emergency preparedness and response:** The Department for Business, Energy & Industrial Strategy, Ministry of Defence and the Health & Safety Executive are consulting on how to transpose the emergency preparedness elements of the Basic Safety Standards Directive 2013. The purpose of the consultation is to inform stakeholders and the public of the Government's proposals for implementing the emergency preparedness and response elements of the Basic Safety Standards Directive 2013 and to seek their views. Further information can be found here: <https://www.gov.uk/government/consultations/revised-requirements-for-radiological-protection-emergency-preparedness-and-response>. This consultation closes on 15 November.
 - **Have your say on the Nuclear Safeguards Bill:** Do you have relevant expertise and experience or a special interest in the Nuclear Safeguards Bill, which is currently passing through Parliament? If so, you can submit your views in writing to the House of Commons Public Bill Committee which is going to consider this Bill. <http://www.parliament.uk/business/news/2017/october/have-your-say-on-the-nuclear-safeguards-bill/>

Dounreay Site Restoration Limited

7 November 2017

APPENDIX 1: PROJECT MILESTONES FOR 2017/18

Area	Milestone	Due Date	Status
Waste	Restart waste operations at D3100 Vaults and D2179 Encapsulation Plant	June 2017	
Reactors	Loading of first flask with breeder elements	Jul 2017	Completed in Aug 17
FCA	DMTR D1251 demolition complete	October 2017	November 2017
Reactors	Complete removal of pond east wall liner	December 2017	
FCA	D1200 ventilation installed and commissioned	Dec 2017	
FCA	D1204 medium active cell decommissioning preparatory works complete	Dec 2017	
Reactors	Design, manufacture and trial four tools for reactor dismantling	Jan 2018	
Waste	DCP operations - PFR raffinate active commissioning complete	Jan 2018	
FCA	Complete Phase 1 Cell Wall removal in D1217	March 2018	

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