Dounreay

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DOUNREAY SITE RESTORATION LTD
DSG SITE RESTORATION SUB GROUP REPORT, APRIL 2022

Current as of 8 July 2022

Introduction

- Work continues to progress on the joining of DSRL and Magnox. By the end of 2022, all internal and regulatory processes should be complete with a view to implementation on April 2023. Progress to date is going well has included submitting the necessary applications to the various regulators which are now being assessed.

- Dounreay is moving to a programmatic model to deliver the Lifetime Plan from April 2024 onwards. Fit for Future is a 2-year initiative to develop and improve the systems, structure, processes and people to support this. The scope of work has now been finalised, job descriptions drawn up for programme directors which will be followed by recruitment of heads of profession. A number of internal workshops have been held to encourage workforce views. Internal vacancy notices have been published for the 3 new Programme Directors to lead the FCA, Reactors and Balance of site programmes. The successful candidates will spend the next 18 months building up each of their programmes.

Operations during COVID-19

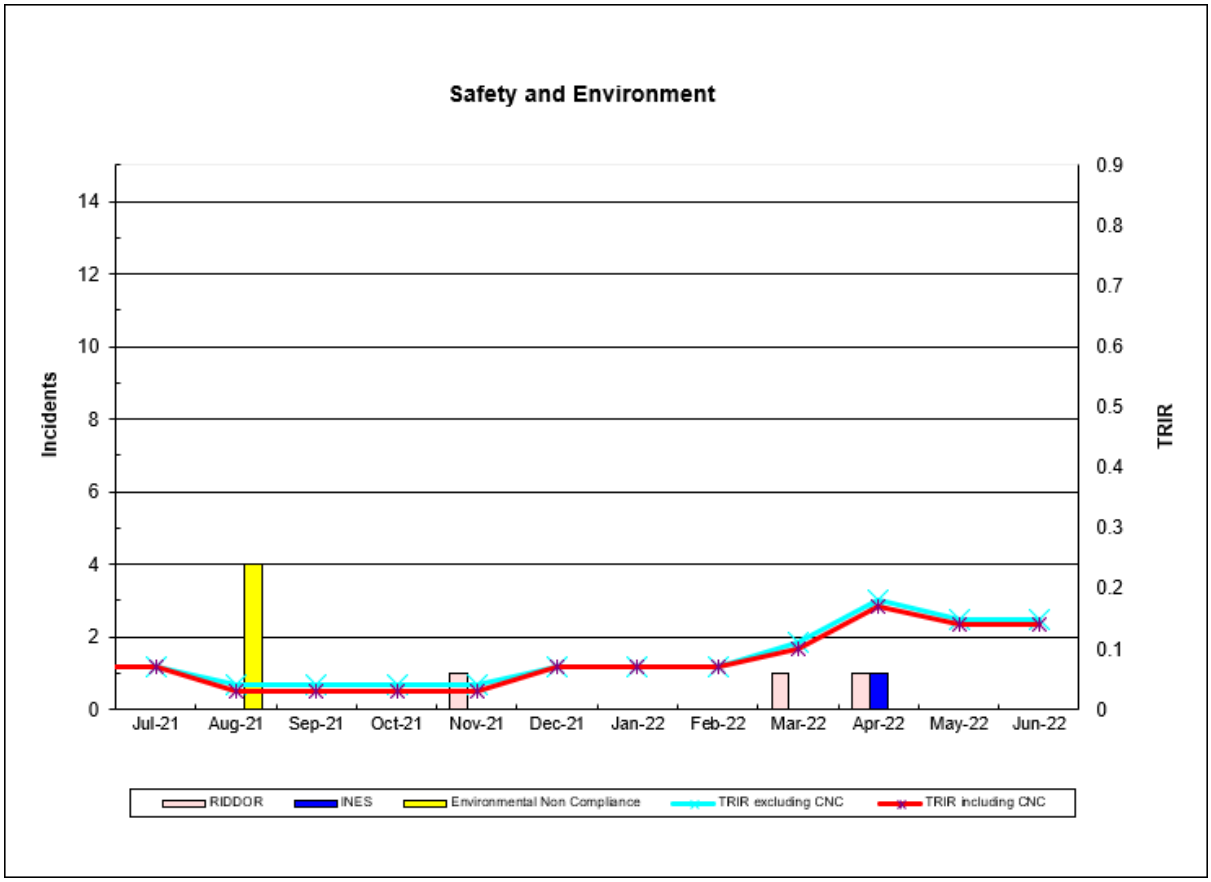
From 25 April, the site's mandatory Covid-19 controls came to an end. This decision reflected the national deregulation of Covid-19 protection requirements and has shifted to an emphasis of personal choice and responsibility.

With some exceptions social distancing is no longer required by law. However, to reduce the likelihood of workplace transfer of the virus via close contact, Dounreay continues to encourage social distancing to be maintained. All individuals are required to maintain social distancing in line with the relevant signage. Where there is no requirement, employees are encouraged to apply their judgement and socially distance as they deem appropriate.

While there is no longer any legal health protection requirements to wear face coverings the site will continue to support individuals who judge it is appropriate to wear a face covering at any time.

The workforce has now been informed that if they develop symptoms of Covid-19 they should not attend any of the Dounreay work locations and follow the sickness absence arrangements.

Health, Safety, Environment, Security



Graphic current as at end of June 2022

- As part of the site's refocus on safety, a mandatory safety stand-down was established for 2 weeks (6-15 June) to ensure maximum engagement with the workforce. The stand-downs were organised by a cross site team, held within local work teams and lasted around 2 hours. Presentational material was provided to allow teams to discuss various aspects of safety and consider the issues that affect them as a team. Feedback from the stand-downs has been gathered and a panel review was undertaken. The review team consisted of a range of people from all around the site from a range of disciplines. Suggestions received from the feedback have been considered by the cross functional group that planned the stand down and will be reported to Dounreay Management Team in July with workforce updates to follow.

- The DSRL investigation into the sodium tank farm has now concluded and information provided to the regulators. ONR have carried out a preliminary enquiry into this incident and SEPA investigation, under the powers of the Environment Act 1995, is ongoing. ONR have concluded that there are a number of issues relating to the project and have issued an Enforcement Letter placing regulator hold points on restarting the operation.

- SEPA's investigation into the configuration of the laundry system and its operation without environmental protection equipment in place is also ongoing.

- In April, a contractor sustained an injury to their finger during material handling operations. Work was stopped immediately and the person was treated by OHD before being transferred to Caithness General Hospital for further treatment. This was reported as a Lost Time Accident.

- **Particles:**

  - Since April, no particles have been detected from the foreshore, Murkle or Strathy beach. In May, one minor particle was detected and removed from Sandside.

  - The issue of a higher number of particles was discussed at the recent PRAG(D) meeting. The high rate of finds did not persist into spring and summer. The current interpretation for the high number of finds in winter is still weather related. Dounreay is in the early stages of an ongoing programme of work related to studying the movement of particles in the marine environment in collaboration with UHI. As this progresses, DSG will be kept updated. No additional conclusions are expected to be reached in the near future.

  - Discussion with SEPA and PRAG(D) on the results of the beach monitoring trial are continuing. DSRL is awaiting the conclusion and final position of these trials and the americium rich particle.

Dounreay decommissioning update

The Life Time Plan continues to be developed. Engagement has continued with NDA on the Dounreay Decommissioning Strategy and Strategic Outcome Specification document with clarity on the key planning assumptions and strategic options. The LTP remains on schedule to be complete for internal approvals by April 2023 and begin the execution of the plan from April 2024. The aim is to complete a plan that is achievable and challenging, built on site values to safely deliver the mission.

Fuel Cycle Area (FCA)

- The D1213 pipe bridge in the Fuel Cycle Area is being upgraded in parallel with the construction of the new intermediate waste stores at the Dounreay Cementation Plant. JGC is carrying out the work. Caithness Scaffolding has installed scaffolding to hold the existing pipework in place while services are installed, rusted steelwork is removed, and the pipe bridge is reduced in size from approximately 8m to 2m. The pipe bridge carries steam, compressed air and raw and domestic water pipes. It also carries electrical cabling. The work is expected to be completed by late summer.

- The team in D2001 recently removed a shield door from the microscopic cell that is currently being decommissioned. Dounreay staff designed and built a support frame, installed anchor points on the floor, and worked with Hugh Simpson employees to carry out the rigging to move the 7.5 tonne door through the building.

Reactors

- The 5 meter tall reinforced concrete fuel element storage block is the latest structure within he Dounreay Materials Test Reactor (DMTR) to go. A remotely operated

demolition machine to break it apart.

- Sellafield's Magnox Reprocessing Plant has reprocessed the final box of spent fuel from UK's fast reactor programme. It was announced in May that the facility would finish reprocessing on 18 July and enter into decommissioning and clean-up. This latest achievement marks its final major contribution to managing the UK's nuclear legacy. The material from DFR was the final box of Dounreay fuel being held at the Magnox plant and marks the completion of a 10 year programme. A small amount of fuel remains at Dounreay which will be transferred to Sellafield for dry storage before consignment to the UK's Geological Disposal Facility.

Balance of Site

- The D3100 team is backfilling the low level waste disposal vault and developing the processes for grouting waste containers within the LLW disposal vault. The backfilling takes place before the grouting. Local contractor, John Gunn & Sons Ltd, has recently started this backfilling work which will raise the base of the excavation by 2.5m and is planned to be completed by mid-August. The steel columns that support the vault roof have been encased in concrete as part of this process to provide additional protection as they will become buried. These columns will be left in-situ when the vaults are closed and the roofs are removed before the final capping of the facilities.

- Two large chemical tanks that were previously used to hold sulphuric acid and caustic liquor have been removed from the front of the low level liquid effluent treatment plant (LLLETP). As waste liquid is treated at source in the consigning plants, operators in LLLETP rarely have to neutralise effluent before it is discharged to sea, and so the tanks were drained of the remaining chemicals, cleaned out and then sent for recycling to a specialist facility in Chesterfield. Small tanks located inside LLLLETP are used to hold the small quantity of chemicals required. The galvanised zinc staging that gave access to the bulk tanks was dismantled and sent to local firm John Laurie in Alness for recycling.

Site End State Review: The Gate B Paper which describes the preferred site end state option has been reviewed by the DNSEC (Dounreay Nuclear Safety and Environment Committee) and went to NDA SSC to NDA SSC (Site Strategy Committee) in early July.. The SSC endorsed the preferred approach for the end state and this will now move into the implementation phase Some of the key activities associated with implementation include:

- Integration with Lifetime Plan – implement the preferred option through decommissioning projects across the whole of the site

- Development of 'Plan on a Page' documents for each key site component – designed to summarise key end state issues for the decommissioning facilities

- Look at options to optimise the end states associated with some of the key components across the site

Staffing

- David Calder has been appointed as Head of Sustainability and Socio Economics. He will take up his post on 8th August 2022.
- A 3 month pause has been put on recruitment after which time the arrangements will be revisited. The OED and Finance Director will review all current vacancies within the system. This will not apply to where there is a known specific skills or role shortage which cannot be recruited internally.

Other information:

- Representatives from the FCA north project recently went to a nuclear facility in France on a fact-finding visit. La Hague in Normandy is currently the reprocessing site for all commercial reactor fuel for France. The facility originally built in the 1960's has been extended over the years and is now owned and operated by Orano. The site has three reprocessing complexes supported by various storage, waste management and experimental facilities. The original reprocessing plant is a third of the way through a 30 year, 4-billion-euro, decommissioning plan. The team visited several facilities with similar challenges to those at Dounreay.

- In June, Dounreay hosted a visit from Ros Rivaz, NDA Chair; Janet Ashdown and Chris Train, NDA Non-Executive Directors; Chris Heffer, BEIS Director for Nuclear Power and Decommissioning and Alastair Findlay, BEIS NDA Sponsorship Lead. The group had a series of meetings and visited several facilities during their time on site. They also took time to meet with DSG Chair and Vice-chair while in the county.

- Dounreay welcomed senior Magnox colleagues to provide an overview of waste and decommissioning management challenges at Dounreay identifying areas of cooperation to drive forward the Magnox and Dounreay missions.

- An exchange visit of attendees took part in the NDA's Step Up Step Across Women's Development Programme in May. Representatives from Magnox, NWS and Sellafield site visited the Shaft, DFR and LLW Disposal Facility and held an interactive session with representatives from Dounreay's Women's Network. The visit provided an opportunity for the participants to practice some of the skills and approaches learnt through the development programme and showcased the ongoing work at Dounreay, gaining fresh perspectives from the external visitors.

- Members of the Engineering Construction Industry Training Board (ECITB) visited Dounreay in June for one of their regular update meetings. Over lockdown they have held regular virtual meetings, but this was the first face-to-face meeting in over 2 years.

- A celebration of innovation was held at Dounreay recently, recognising how innovation is part of everything we do at the site to achieve our mission.

- Dounreay's Iain Darby was one of 4 representatives of the NDA group who attended the "AI for Nuclear – understanding the challenges and opportunities for

artificial intelligence in the nuclear sector" event last week at the Daresbury Laboratory in Warrington. The Nuclear Institute's AI for Nuclear group has been set up to assist the nuclear energy sector with adoption of novel AI technologies and to align with the National AI Strategy. The workshop explored how AI technologies can help meet the challenges of increasing safety whilst reducing cost across the whole life cycle of nuclear facilities

Dounreay Site Restoration Ltd
7 July 2022

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
PIE	Post Examination Irradiation
PRAG(D)	Particles Retrieval Advisory Group (Dounreay)
PSR	Preliminary Safety Report
RAMT	Radioactive Material Transport
REDE	Regulator Evaluated Demonstration Exercise
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