

## **Dounreay Report Progress report, June 2015**

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### **Dounreay Improvement Team update**

The team is fully functional, with members from the key site project areas having joined the group in D1313 DIT office area. The team includes support of the unions. The initial focus is on the top 5 safety culture initiatives which have been identified and key actions are underway:

- Conduct of Operations – A proposal for a revised Conduct of Operations Manual will be presented to Exco on 16 July. Target for revising the Manual is 31 August 2015.
- RSA Variation – management system changes were completed by the 1st June. Additional forward actions to ensure that the changes are embedded will be complete by end of calendar year.
- Management Workplace Walkdowns – Initiated 2-April. Provide a simple management walk down process that provides focused topics and site areas to obtain learning and feedback to the DIT. Topic areas for June was to identify whether staff had any feedback from Learning from Experience issues and what the senior team could do to help them.
- Second Nature Observation in the Workplace (SNOW) – the Dounreay workforce is continuing to be encouraged to enter into SNOW conversations with people working on the Dounreay site.
- Supervisory Training – a site wide baseline training programme with specific focus on roles and responsibilities, conduct of operations and leadership expectations has been developed. Presentations to the supervisors on the revised training programme will be implemented in July.

In addition, the team continues with weekly visits to all major facilities to engage with the project teams and gain feedback on DIT initiatives.

The team continues to have regular meetings with the Safety Advisors and the TU appointed Safety Reps' and the ONR Site Inspectors.

A bench-marking visit to the NDA Magnox Sizewell A site to share lessons learnt on Conduct of Operations was carried out in April and a visit to Vulcan Site in May. The team carried out a similar visit to Devonport in June. A member of the team has joined the ONR safety culture network. There will also be future attendance at the UK Nuclear Human Performance Forum.

## Health, Safety, Security and Environmental



- As reported at the DSG meeting on 17<sup>th</sup> June, a fourth year apprentice suffered a crush injury to his finger resulting in a lost time accident which was reportable. The internal investigation continues and the machine has been removed from the workshop.
- **ONR Improvement Notice:** Regulatory permission to restart operational work at the PFR sodium tank farm has now been received. DSRL submitted a report to ONR detailing the corrective actions. The PFR sodium tank farm houses four tanks that contain sodium residues from the operation of the reactor. The planned work includes sealing the two tanks, which had been opened prior to the incident, followed by treatment with humidified air to reactor any residual sodium. The tanks will be ready for dismantling after completion of the treatment phase.
- SEPA have rated Landfill 42's environmental performance as "Excellent". This means that DSRL is fully compliant with the licence conditions relating to the environmental management of Landfill 42.

## **Site Performance**

Key project milestones for 2015/16 are appended to this paper. Specific Performance Achievements are:

- **Dounreay Fast Reactor (DFR)**

- DFR has completed the next phase of checking potentially alkali metal wetted waste and items current held in storage. Ten 'C' bins were opened in an inert environment and sorted into alkali metal or low level waste. About 80% of the materials were released as low level waste.
- DFR completed its offsite trials work for the pond wall cutting equipment on schedule. The trials created a full scale mock-up of the DFR pond to allow comprehensive testing of the concrete saw, scaffolding system, and materials handling activities. The work identified a number of areas requiring improvements and provided valuable training to the operators. The equipment will be returned to the site and set to work following resolution of the issues identified through the trials.

- **Prototype Fast Reactor (PFR)**

- **PFR** has successfully commissioned and operated the decontamination vessel inner vessel drain valve. The project team designed and installed a replacement arrangement to drain the decontamination vessel of its residual sodium.

- **Fuel Cycle Area:**

- **DMTR Complex:** The diamond wire cutting of the drum store is nearing completion and follows the successful cut up of the Post Irradiation Examination cave. Ground floor services removal is progressing with the removal of compressed air and water services now complete. Redundant electrical panel removal is nearing completion.
- **D1204:** The pond clean-up unit (PCI) pump trials are now complete and results are currently under review. Preparation for the installation of the hydraulic arm for removal of the checker plate around the pond is nearing completion. The replacement ventilation design is complete and an Invitation to Tender for this work has been issued.
- **D1200:** Lab 33 decommissioning continues with preparations for the commencement of size reduction. Lab 111 post operational clean out (POCO) and Lab 88 decommissioning is progressing to plan.
- **D2001:** Fuel inspections are continuing to programme. Characterisation of Cell 2 and 8 has now been carried out.
- **D1217:** All nine north cell Zinc Bromide windows have now been drained. One shielded window remains in the facility and characterisation of the area has commenced before the justification to drain is made. A Best Practicable Means assessment has been developed to support bulk cell low level waste disposal. Approval has been granted to commence the south cell man entry and

removal of the building's internal wall.

- **Fuels:**

- The current PFR **Effluent Treatment Plant** (ETP) is currently out of service due to the discovery of corroded welds in the plant pipework. No liquor will be accepted or processed by the ETP until this has been rectified.
- **UFCF:** Work continues on assembly and testing of the Un-irradiated Fuels Characterisation Facility in Bristol. The engineering and basis of the safety case were determined as robust. Further work is being done to address the ALARP arrangements.

- **Waste:**

- **LLW vaults:** Active commissioning of the Demolition LLW (DLLW) continues. As of end of June 416 packages of demolition waste have been placed in the vault. Eight half height ISO containers have been grouted and placed in the LLW vault. The operation of the grout plant has been suspended to review the grouting operations prior to restarting the plant.

A study into the possibility of leaving the existing LLW pit contents in situ has been completed and DSRL has confirmed to NDA that the waste should be retrieved. DSRL are now proceeding on the basis that a minimum of two further vaults will be required (phase 2) which will accommodate the LLW from the existing waste pits and from further waste arisings from decommissioning. Phase 2 is required to be constructed by 2020 and DSRL is currently working to bring the construction programme forward. Further details will be provided when available.

- Processing of **DFR raffinate** continues with a total volume of 127m<sup>3</sup> (449 drums) now complete. Transfer of raffinate from tanks 10-17 has been completed and sampling for characterisation analysis has now commenced.
- Trials for a revised formulation for **PFR raffinate** product continues. This is required to determine the extent of the modifications to DCP to enable PFR raffinate processing.
- **WRACS update:** Active commissioning is underway. The commissioning of the ventilation system is also underway and includes integration with the rest of the facility. Compaction of active drums is expected to commence in July for a period of 3 months. Active commissioning is expected to be complete by end of October.

- **Environmental:**

- **Old Liquid Effluent Discharge System:** Options are being developed for the closure and remediation of the system. Once the options are developed further information will be provided to DSG.

## General

The following are general updates:

- **Resources:** As previously reported, the recruitment for DSRL is progressing. Six hundred and eighty-six applications were received (internal, external and agency). Short listing has been completed and interviews are now scheduled. Currently there are 83 positions that remain open with recruitment in progress.

|                | FTE Target  | FTE Actual/Forecast |
|----------------|-------------|---------------------|
| Current – DSRL | 1,240 (LTP) | 993.2               |
| Current – ASW  | N/A         | 165                 |

In June there were 9.8 new starts and 2.6 resignations.

- **Planning:** DSRL has entered into early discussions with Highland Council with regards the Dounreay Planning Framework 3 (2018 to Interim End State). Formal advice from Highland Council has now been received and DSRL is currently reviewing this.
- **Dounreay Castle:** During recent storms one of the walls of the castle fell down. Historic Scotland was notified and has since visited. DSRL are preparing an estimate for the NDA for the stabilization of the remaining structure.
- **NDA Strategy III event:** DSRL representatives attended the NDA Strategy III event held in Manchester on 19<sup>th</sup> May. A presentation by NDA on Strategy III will be provided to DSG at the September meeting.
- **Procurement:**
  - DSRL Commercial Services held its annual **Supply Chain event** on 26 February 2015 in Thurso. A number of Senior Management, Project, Commercial and NDA representatives attended with over 100 people attending from supply chain.
  - Dounreay’s Head of Procurement presented the supply chain opportunities to a Nuclear Supply Chain event held in Dunblane in June. The event was part of the Nuclear Supply Chain project which aims to assist Scottish companies to move into the nuclear business with a view to winning new contract at home and abroad.
  - Entries are being invited for the NDA Estate Supply Chain Awards 2015 that recognise outstanding contributions to the nuclear clean-up mission. Launched in 2012, the awards are jointly sponsored by the NDA and its Site Licence Companies with the aim of acknowledging the supply chain’s vital role in delivering progress and bringing innovation to work programmes.

- **Ready, Steady Work** took place week beginning 6<sup>th</sup> July with a number of young people taking part. The aim of this is to ensure that school leavers are work ready and support is provided in CV writing, interview techniques as well as visits to various businesses.
- **Visits:** Dounreay continues to be of interest to a number of national and international organisations with visits to the site taking place, among others, by the Canadian Government's Department of Natural Resources and from Japan's Nuclear Damage Compensation and Decommissioning Facilitation Corporation (NDF).
- **Workout at Work Day:** DSRL took part in an annual awareness day organised by the Chartered Society of Physiotherapy. Throughout the UK, work places use this day to promote the importance of being active during the working day. On 12<sup>th</sup> June, nearly 500 workers participated in Dounreay's workout at work and walked the 5,000 steps around the site.

Dounreay Site Restoration Ltd  
2<sup>nd</sup> July 2015

**KEY PROJECT MILESTONES FOR 2015/16**

| Directorate               | Milestone  | Target completion date. | Progress |
|---------------------------|--|-------------------------|----------|
| Technical                 | Initiate phase 3 planning application (2018 to Interim End State) by formal submission of development proposals to Highland Council. | 30-Jun-2015             | ✓        |
| Fuel Cycle Area           | D1211 – peripheral pipework strip out complete.  | 31-Oct-2015             |          |
| Dounreay Improvement Team | Complete production of the revised MAN2004 Conduct of Operations Manual  | 30-Nov-2015             |          |
| Support                   | Nuclear Baseline approval by DSRL Safety Working Party.  | 31-Dec-2015             |          |
| Shaft & Silo              | PSR endorsed   | 31-Dec-2015             |          |
| Shaft & Silo              | UPP strip out complete.  | 31-Dec-2015             |          |
| Fuels                     | Award Contract for the Irradiated Flask  | 31-Dec-2015             |          |
| Technical                 | Develop current Business Critical Asset Care Plans to the next system or equipment level down.                                       | 31-Jan-2016             |          |
| Fuels                     | Complete Mezzanine Construction to DSRL hold point.  | 31-Jan-2016             |          |
| Security                  | Implementation of an integrated explosive search capability to the satisfaction of ONR (CNS).  | 31-Mar-2016             |          |
| Security                  | Information Assurance Maturity Model Level 3 achieved.   | 31-Mar-2016             |          |
| Support                   | Complete 10 Lean Events which demonstrate they have met the success criteria.  | 31-Mar-2016             |          |
| Fuel Cycle Area           | DMTR – Mezzanine Floor removal complete  | 31-Mar-2016             |          |
| Dounreay Improvement Team | Complete 50% of front-line Supervisors development against revised SERP and CDD.   | 31-Mar-2016             |          |
| Waste                     | Process 100 m3 of DFR raffinate through DCP  | 31-Mar-2016             |          |
| Waste                     | Process current arisings, plus the 3500 drums of the backlog of LLW drums through WRACS  | 31-Mar-2016             |          |
| Reactors                  | Commission DFR pond wall cutting equipment and initiate pond wall cutting.   | 31-Mar-2016             |          |
| Reactors                  | Commission PFR Decontamination Vessel and process the first component.   | 31-Mar-2016             |          |
| Assurance                 | Achieve 100% completion of Assurance elements of Internal Audit Plan for 2015/2016.  | 31-Mar-2016             |          |
| Assurance                 | 90% of Action Review Meetings to be held within 5 working days of the Investigation Report being issued to Assurance.                | 31-Mar-2016             |          |

**GLOSSARY**

| <b>Abbreviation</b> |  |
|---------------------|--|
| DACR                | Days Away Case Rate  |
| DCP                 | Dounreay Cementation Plant   |
| 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  |
| PFR                 | Prototype Fast Reactor   |
| PSR                 | Preliminary Safety Report  |
| RIDDOR              | Reporting of injuries, Diseases & Dangerous Occurrences Regulations. |
| RSA                 | Radioactive Substances Act   |
| SEPA                | Scottish Environment Protection Agency                               |
| SID                 | Sodium Inventory Destruction Plant                                   |
| TRIR                | Total Recordable Incident Rate                                       |