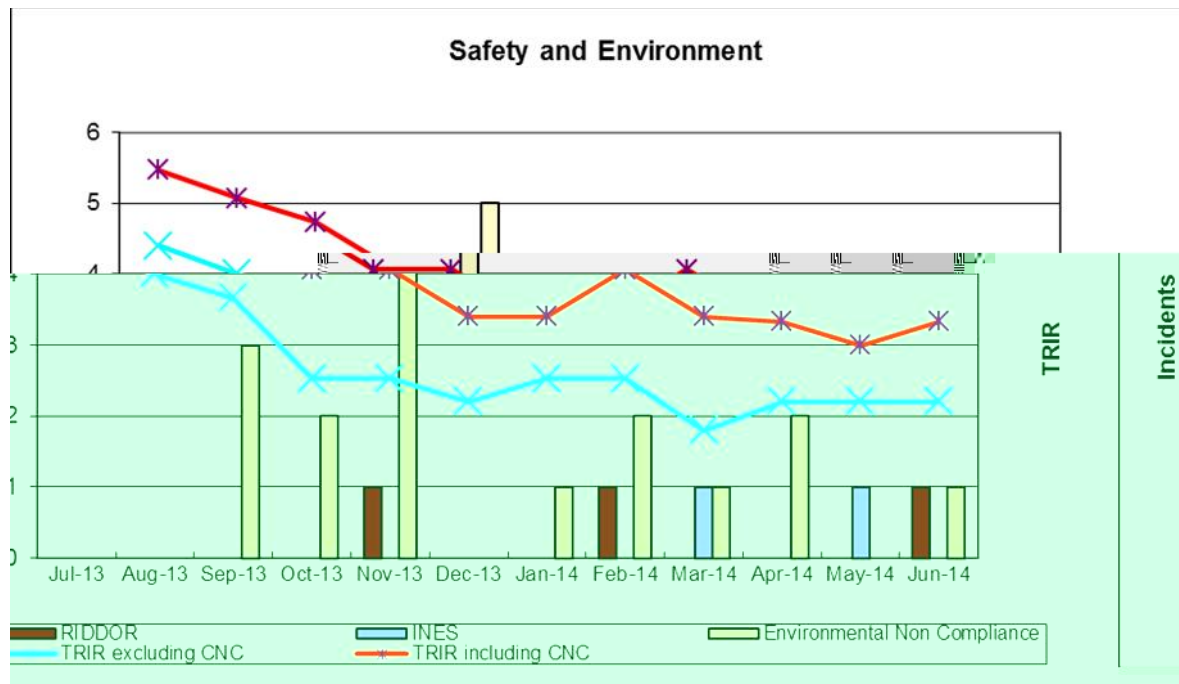


Dounreay Report

Progress report up to end June 2014

Health, Safety, Security and Environmental



- A lost time accident was reported in June. A boiling kettle fell from a shelf onto a CNC officer's foot causing scalding to their lower leg and foot. CNC have carried out an investigation.
- Following clean water priming of a new ion exchange cartridge in the shaft ion exchange building, the shaft pump was started and a few minutes later water was heard and observed coming from the top of the ion exchange platform. The discharge pump was shut off and drain valves opened to stop any more water coming out of pipework. The area was immediately sealed and contained. An investigation is ongoing.
- Dounreay held an 'Environmental and Safety Pause' on Friday June 6. All staff and contractors took two hours out of their working day to focus on keeping their work environment and colleagues safe and to discuss recent environmental and safety events.
- To date, nearly 600 members of staff have attended the Mindsafety "Head Turning" event. Feedback has been very positive and these short, engaging presentations providing an insight into the psychology of individual's actions and how they can use this positively to improve personal safety.
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vehicle access is practical. The trial demonstrated that, although challenging, under summer conditions, the survey vehicle is capable of safely traversing down the dunes to the beach. SEPA required a survey be carried out in May but this was not achieved due to the need to ensure all key stakeholders were contacted, including SNH. The survey is planned to commence at the end of July. Due to the size of the beach DSRL have indicated that completion of this survey, in addition to the survey at Sandside in a single month may not be achieved.

- Divers have completed the annual inspection and maintenance of the LLETP outfall (new diffuser) they also looked at the seabed in the area of the old diffuser discharge points.

General

- At end June 2014, overall schedule performance index has reduced from 0.91 to 0.89 with the overall cost performance index improving from 0.92 to 0.97.

The schedule performance will be addressed over the coming months and DSRL is confident that improvements planned by financial year end, will improve this performance. Improvements will be realised through the completion of a number of activities (glove boxes, D3100 and Encapsulation Plant) and the implementation of change controls, most notably security enhancements and fuels.

- The re-profiling of the decommissioning programme remains on plan for formal submission to the NDA. NDA have confirmed an additional £50M ASFL to be spread over FY14/15 and FY15/16. The impact to the baseline programme is being assessed with the additional ASFL to be used on de-risking and/or critical path activities. Due to the additional ASFL the requirement to defer work over these two years has been minimised. The revised baseline is being developed with the NDA Site Facing Team (SFT) being appraised weekly on progress and engaged in discussion on key elements of the proposal. As indicated, a presentation on the new plan will be provided to DSG in December.
- Euratom's Annual Review for 2013 has been published. The conclusion was; "*The Operator's NMAC system and the Inspection and Measurement regime implemented can be considered as satisfactory.*"

Reactors decommissioning

The execution year to date has the Project ahead of schedule (SPI¹ 1.08) and in a negative cost position (CPI² 0.87). The cumulative to date position shows the Project on schedule (SPI 1.00) and in a negative cost position (CPI 0.90). The cost is due to the additional efforts required for the NaK optimisation programme. The fiscal year end cumulative projection is that the project will be ahead of schedule and have achieved a slight improvement on CPI.

Dounreay Fast Reactor (DFR)

¹ SPI is schedule performance index and is a ratio of the Budgeted Cost of Work Scheduled (what you said you were going to do) and Budgeted Cost of Work Performed (what you did). Numbers larger than 1.00 indicate that the project is ahead of schedule; numbers less than 1.00 indicate that the project is behind schedule.

² CPI is cost performance index and is a ratio of the Budgeted Cost of Work Performed (what you did) and the Actual Cost of Work Performed (what it cost you to do the work). A CPI of 1.00 indicates that £1.00 of work has been complete for £1.00. Numbers larger than 1.00 indicate that more work has been done for less money than planned.

- 121 out of 160 Breeder Fuel pegs have been removed. The remaining 39 are stuck. Preparations are being made to commence top plate cutting.
- Drilling of the original four hot traps and one additional identified trap containing NaK, is complete as is the fitting of six of the seven dip legs. Installation of a further dip leg is all that remains to complete preparations for final draining of the bulk NaK from the DFR primary circuit. This activity has been impacted by access restrictions as a result of Kr85 discharge limits and due to hot traps internals not being as expected.
- Manufacture and testing of the new pond transporter crane was completed offsite and it has been delivered to Dounreay. Installation in the pond has commenced.
- Metal samples from three primary circuit hot traps have been analysed at the onsite labs and initial results supplied. These results are currently being assessed and are important for the future treatment of the primary circuit and subsequent dismantling.

Prototype Fast Reactor (PFR)

- The remaining 3 fuel sub-assemblies were moved from the PFR Pond to the irradiated fuel cave. Planning is now underway for commencement of draining and stabilising the pond.
- Alkali Metals - Factory Acceptance Testing of the control panel for the Super-Heated Steam (SHS) treatment skid was successfully undertaken. The panel has now been delivered to T3uk for installation.
- Removal of the remainder of Thermal Siphon 'A' Eutectic NaK wetted pipework and associated catch pots has been completed.
- Primary Cold Trap Loop (PCTL) safe system of work and Reactor isolation mock up trials are complete. This work is key to isolating the Reactor from the PCTL.

Fuel Cycle Area Decommissioning

The Fuel Cycle Area execution year to date has the Project behind schedule (SPI 0.93) and in a negative cost position (CPI 0.97). The cumulative to date position shows the Project slightly ahead (SPI 1.01) and in a negative cost position (CPI 0.95). The fiscal year end cumulative projection is that the project schedule performance will out-turn at 0.97 and there will be a continued degradation of CPI (0.86). The cost impacts are primarily associated with maintenance costs, but utilities costs and health surveyor costs have also contributed to the current status. A review of costs is being carried out to manage and control costs in the future.

- **D2900:** Decommissioning has progressed to the extent that the building ventilation is permanently isolated. Final radiological surveys and waste removal are now in progress, in preparation for a reduced maintenance regime. The building will be made 'cold and dark' for final demolition.
- **D1206:** Decontamination of the solvent cell roof area is underway to support the low active cell decontamination work.

- **D1211:** The ventilation installation works are now in progress with the main ventilation plant installed on site along with the breathing air unit. Final connections are being progressed to complete these preparations to allow decommissioning of the liquid effluent tanks.
- **D1204:** Removal of the shielded snout assembly is now complete and the pond floor steelwork removal is now in progress.
- **D8571:** Bulk low level waste disposal of the post irradiation examination cave is progressing with tenders being received for diamond wire size reduction.

Shaft/Silo Decommissioning

The Shaft and Silo project performance for the execution year to date has the Project behind schedule (SPI 0.20) and in a negative cost position (CPI 0.66). The cumulative to date position shows the Project behind schedule (SPI 0.53) and in a negative cost position (CPI 0.80). The fiscal year end cumulative projection is that the project schedule performance will be 0.29 and the CPI will increase to 1.12. It is key to note that as a result of the overall scope increase and ASFL limits, the Shaft and Silo Programme has been slowed to accommodate expenditure on the Unirradiated Fuels Priority Programme. This will be addressed in Baseline Change Proposal (L14/010). Until this is change control is implemented, Shaft and Silo are being measured against a more aggressive baseline which in itself generates significant negative performance variance.

- Trials at Janetstown are taking place on the process to be used following the shaft and silo waste retrieval that will prepare the waste for long term storage. DSRL are leading the trials programme at T3uk, in conjunction with Cavendish Nuclear who is providing the design resource, with JGC providing fabrication and operator support.
- Work was completed to install a permanent bund around the Silo Emergency Generator Diesel Tank as a result of the new Oil Storage Regulations. This is being used as a model for other emergency generators on site.
- A strategy planning session is being held to finalise the selection of the waste packages for the Shaft and Silo.
- Options are being evaluated for further innovation relating to both waste retrieval and waste processing. This has the potential to identify possible cost and programme savings.

Waste and Fuels

The Waste project performance for execution year to date has the Project behind schedule (SPI 0.90) and in a positive cost position (CPI 3.11) this is due to BCPs for security projects being approved by the NDA. The cumulative to date position shows the Project behind schedule (SPI 0.91) and in a positive cost position (CPI 1.01). The fiscal year end cumulative projection is that the project schedule and cost performance will improve.

The Fuels project performance for execution year to date has the Project behind schedule (SPI 0.44) and in a negative cost position (CPI 0.87). The cumulative to date position shows the Project behind schedule (SPI 0.78) and in a negative cost position (CPI 0.99). The fiscal year end cumulative projection is that the project schedule and performance will improve. This project has a major baseline change proposal for the exotic fuels which has been recently approved by the NDA. When the baseline change is implemented,

the cost and schedule performance will improve.

- **Return of Belgian Waste:** The 15th shipment of waste has been successfully completed.
- **LLW Facility:** Inactive Commissioning has been completed and the draft operating plan and procedures have been sent to SEPA for review. Once approved active commissioning can commence. The D3100 Vaults certificate of completion has been signed and issued.
- **Supercompactor (WRACS):** Inactive Commissioning is on hold pending a resolution of defects identified during functional testing. These defects are associated with puck handling and maintainability of the conveyors. Solutions to both have been identified and are being implemented.
- **Cementation Plant:** The reconfiguration of DCP for processing DFR raffinate and active commissioning are complete. Documentation has been submitted to RWMD to support the final Letter of Comfort (LoC). Transfer of DFR raffinate from Storage Tank 6 to Storage Tank 18 is complete which allows transfer of raffinate to DCP for processing once the LoC is received.
- **ADU Floc Plant:** Detailed design, to prepare specifications and detailed manufacturing drawings, is progressing.
- **Unirradiated Fuel Characterisation Facility (UFCF):** The Pre-Construction Safety Report (PCSR) submission is now scheduled to be submitted to ONR in August following comments from the safety working party. The Pre Commissioning Safety Report (PCmSR) has been initiated for inactive commissioning.

Support

The Support project performance for execution year to date has the Project is behind schedule (SPI 0.82) and in a negative cost position (CPI 0.71). The cumulative to date position shows the Project slightly behind schedule (SPI 0.95) and in a positive cost position (CPI 1.01). The fiscal year end cumulative projection is that the project will be slightly ahead of schedule, but in a negative cost position. The support project holds costs for unapproved change controls including the Contract Guard Force, Off-site Drains Project, New LLW Store and SEP3 which are pending NDA approval. Once approved and applied to the baseline the CPI for Support will improve.

- DECC Parliamentary Under Secretary, Baroness Verma, visited the DSRL Site 26 and 27 June to look at our security arrangements. The Baroness also formally opened the new CNC firing range. The feedback from the Baroness on departure was very positive, both in the areas visited and the organisation of the visit.
- With regards to the CNC Firing Range, A "Notification of Completion of Development" under Section 22B of the 1997 Planning Act (as amended) will be issued to Highland Council Planning Department week commencing Monday 14th July. This will confirm that the development has been built in accordance with the drawings and specification approved by them on 28th May 2013. Along with the notice there will be a copy of the acoustic consultant's Commissioning Test Report which demonstrates that the range has met the required noise standards set out in the conditions of the Planning Consent.

The Highland Council Building Control Department will be invited to inspect the support building week commencing 21st July. This is to allow a Certificate of Completion to be issued by the Department. This will allow the CNC to take occupancy of the building.

The operation of the Range and Support Building is expected to commence during August 2014.

- The Committee on Radioactive Waste Management (CoRWM) hosted a public meeting on Wednesday 1st July. CoRWM provides independent scrutiny and advice to the UK governments on the long-term management of higher activity radioactive wastes, and also the waste policies of the NDA. Prior to the public meeting, CoRWM members visited site.
- On-site training for the new Civilian Guard Force commenced on 16th June with formal duties commencing on 14th July.
- On Thursday June 5, Dounreay hosted the annual Science Technology & Innovation Exhibition. The event was formally opened by deputy MD Bob Kury and despite the rain was very well attended with positive feedback from both exhibitors and staff.

Staffing

	FTE Target	FTE Actual /Forecast
Current - DSRL	948 (LTP)	949.4
Current – ASW	N/A	117

During June 2014:

- 2 new starts
- 6 resignations
- 1 Retirement

DSRL/Contractor site access data

Information on site access data will be updated and provided in DSG's next report.

Procurement update

- A four year Framework Agreement for the provision of Professional Services has been awarded to six companies. The estimated value of the Framework Agreement is £50M. Contracts let under this contract include a socio economic element.
- A contract was awarded to Golders to undertake an assessment of Landfill 42 Environmental Monitoring Data. This assessment is a key to demonstrate Post Closure Compliance and Administration of Landfill 42.

Dounreay Site Restoration Ltd
10th July 2014

GLOSSARY

Abbreviation	
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