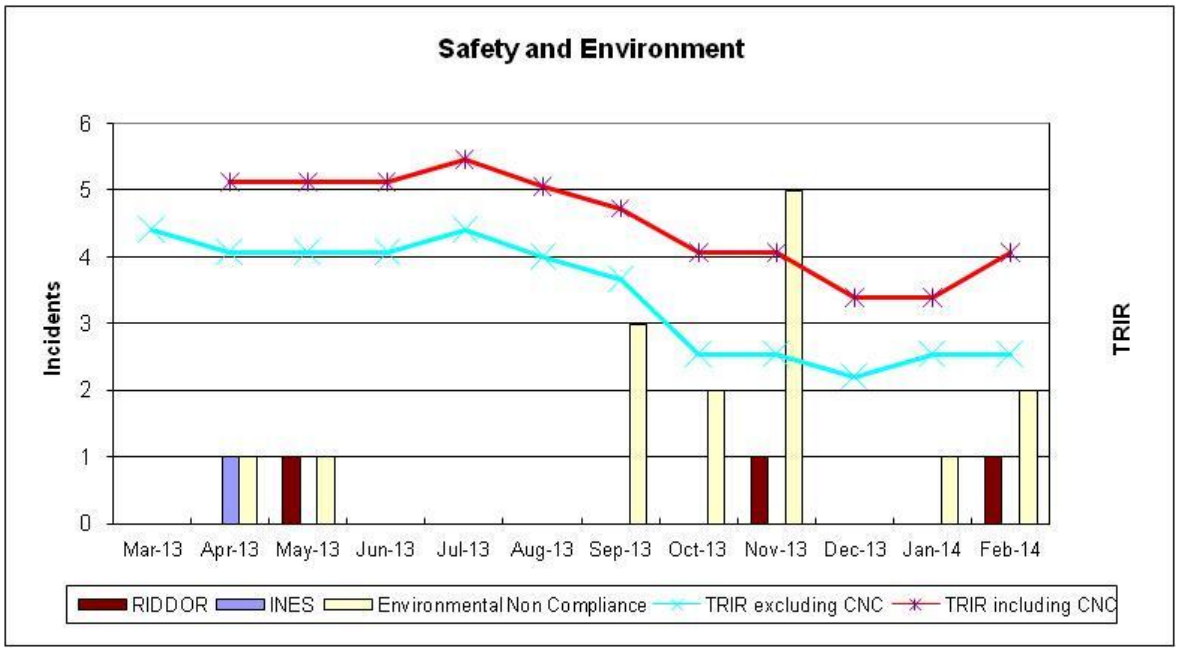
Dounreay Report
Progress report Feb/March 2014

Health, Safety, Security and Environmental Performance



Health and Safety

There was one RIDDOR Reportable Injury which was also an OSHA (Occupational Safety & Health Administration) Days Away Case in February 2014 when a CNC Officer exiting a vehicle wearing full body armour hurt his lower back area.

DSRL was one of 46 worldwide companies to receive, with distinction, the British Safety Council's International Safety Award in recognition of their proven commitment to workplace health and safety.

Environment

The draft RSA (Radioactive Substances authorisation) has now been received and is currently under review. The current forecast for the new Site RSA is March 2014.

General

At close of P23 (Feb 2014), the Project had an overall schedule performance index of 0.92 and a cost performance index of 0.93.

Three Category 0 Baseline Changes were incorporated into the Baseline during February. When the 'in progress' changes are taken into account, the schedule performance index remains at 0.92 and the cost performance index improves to 0.96. Overall project completion is 17% (as at end of Feb 2014).

Work is continuing to reprofile the lifetime plan. Discussions are on-going with the NDA Site facing team to define the planning assumptions that should be used to develop the plan.

Dounreay's Erin Thomson won the Scottish Nuclear Apprentice of the Year beating off stiff competition from Torness and Hunterston. Erin was the first female engineering craft apprentice appointed at Dounreay for over ten years and has just completed an Instrument Craft Apprenticeship. She currently works as part of the site's instrument decommissioning maintenance team.

The Highland Council's Planning, Environment and Development Committee approved the Dounreay Planning Framework 2 on 13th February. Once it is approved by the Scottish Government, it will replace the existing Dounreay Planning Framework document that has been in place since 2006 and will become supplementary guidance to the Highland-wide Local Development plan.

A demonstration exercise, Delta 50, will take place on the 14th May 2014 and will be witnessed by the Office for Nuclear Regulation. This exercise will involve all personnel on the Dounreay site.

Structures Formerly Known as Reactors (SFKaRs)

The Reactors recovery plan has been implemented, and the overall performance has improved with the implementation of a baseline change to re-sequence the activities and address the additional cost for design efforts. The execution year to date has the Project ahead of schedule (SPI[1] 1.11) and in a positive cost position (CPI[2] 1.04). The cumulative to date position shows the Project on schedule (SPI 1.00) and in a negative cost position (CPI 0.91). The cost is due to the additional efforts required for the NaK optimisation programme.

Dounreay Fast Reactor (DFR)

- Strip-out of the control room wall panels and instrumentation has been completed
- Safety paperwork for NaK Optimisation has now been approved by Safety Working Party.
- The strip out of Decontamination Pit has commenced
- The manufacture of the pond wall saw shroud is now complete.
- Drilling of the original four hot traps containing NaK, and one additional identified trap, has been completed. This leaves installation of the last two dip legs into the primary circuit in preparation for final draining of the bulk NaK from the primary circuits.
    - Higher than expected levels of Kr85 in the DFR gas blanket means that no further gas blanket blow-downs can take place until DSRL and SEPA agree a restart position.

Prototype Fast Reactor (PFR)

- Strip-out of the nucleonic cooling system has commenced.
- The Thermal Siphon 'A' expansion vessel and sodium wetted pipework coils is in progress.

[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.

- Installation of Reactor trials platform in the Steam Generator Building (SGB) has commenced.
- Off site trials for Reactor isolation from PCTL (Primary Cold Trap Loop) test rig is ongoing at T3uk, Janetstown.
- Initial investigation of the PFR Argon Gas Blanket vaults showed them to be in good condition. This is the first time the vaults have been entered since they were installed and further investigation showed that the radiation doses in the vaults are higher than anticipated. Consideration of the implications of these levels is yet to be determined and may change the approach to isolate the reactor vessel from the argon gas.

Fuel Cycle Area Decommissioning

The Fuel Cycle Area execution year to date has the Project slightly ahead of schedule (SPI 1.03) and in a negative cost position (CPI 0.92). The cumulative to date position shows the Project slightly ahead (SPI 1.02) and in a negative cost position (CPI 0.93).

- D1206 – The core cave refurbishment and preparation for the redundant glovebox removal are both complete. This supports ILW removal from the caves and cells before the bulk LLW strategy can be implemented.
- D1211 – Cover building service installation has progressed.
- D1204 – Pond area containment modifications are in progress.
- D2670/DN141 – Inactive trials and infrastructure modifications continue.
- D1203 – Ammonia fumehood removal has now commenced. This progresses the removal of all plant and equipment in D1203 not required for the remaining legacy fissile liquor treatment and disposal.
- D1251 – The Sentencing Tank area remediation was completed which also sees the completion of the remediation of the source of the fissile material particles to the

- Decommissioning workshop held with the Decommissioning and demolition strategy report issued on 28th February 2014.
- The Silo and Shaft shielding assessment are complete.
- Scheme design of Shaft Intervention Platform (SIP) is now complete.
- LAD (Low Active Drain) duct removal is complete.
- Ground investigation work to establish the suitability of current foundations for the Silo building is complete.

Waste and Fuels

The Waste project performance for execution year to date has the Project behind schedule (SPI 0.83) and in a negative cost position (CPI 0.76). The cumulative to date position shows the Project behind schedule (SPI 0.91) and in a negative cost position (CPI 0.81). This project has several baseline change proposals associated with security in preparation where some of the scope is currently being executed, but the scope is not in the plan. As the baseline changes are implemented, the cost and schedule performance will improve.

- Low Level Waste Facility – Inactive commissioning is now complete. Snagging work is ongoing and an inactive commissioning report is currently being developed.
- Encapsulation plant - Roof cladding is now in place with the internal floors completed and the commencement of the external compound concreting.
- ADU (Ammonium Di-Uranate) Floc - Detailed design continues to progress (63% complete) to prepare specifications and detailed design/manufacturing drawings.
- D1208 / DCP (Dounreay Cementation Plant) – Installation of the modified DCP transfer pot system and preparation of the existing shielded bulge are progressing to schedule. Transfer of DFR raffinate has been completed in preparation for transfer to DCP.
- Supercompactor – Installation of the Supercompactor ancillary equipment continues with containment system installation 80% complete. Inactive commissioning will be delayed due to the difficulty in securing the supplier and their sub-contractor's resources to the time scales required by DSRL to meet the scheduled date of end March 2014.

The Fuels project performance for execution year to date has the Project slightly behind schedule (SPI 0.94) and in a positive cost position (CPI 1.04). The cumulative to date position shows the Project behind schedule (SPI 0.90) and in a positive cost position (CPI 1.03). This project has several baseline change proposal in preparation where some of the scope is currently being executed, but the scope is not in the plan. As the baseline changes are implemented, the cost and schedule performance will improve.

- A draft BCP was submitted to NDA which completes the scope for the exotics business case. Review meetings with the NDA have been held.
- Work continues to prepare the buildings for UFCF (Unirradiated Fuels Conditioning Facility) construction.
- Preparations continue for the temporary storage of the PFR irradiated fuel.
- The IFC (Irradiated Fuel Cave) Steam Clean upgrade is in progress. Verification and pond inspection are continuing in IFBS (Irradiated Fuel Buffer Store) to demonstrate the channels are empty. This is an acceleration of over 350 days for the pond being free of fuel.
- Progress on out of reactor fuel shipments continue with shipments 15 and 16 completed.

Support

The Support project performance for execution year to date has the Project slightly ahead of schedule (SPI 1.03) and in a positive cost position (CPI 1.02). The cumulative to date position shows the Project slightly behind schedule (SPI 0.99) and in a positive cost position (CPI 1.01). The fiscal year end cumulative projection is that the project will be slightly behind schedule, but in a positive cost position.

- Representatives from ECD (Environmental Closure and Demolition) department attended Nuclear Industry Group for Land Quality (NIGLQ). Regulators presented an integrated Contaminated Land clearance regulatory regime and DSRL is currently evaluating the impact of this.

- A meeting was held with SEPA to gain feedback on SEPA's review of Zone 1B characterisation and the closure process. The Groundwater Daughter Directive is being reviewed and revised to incorporate SEPAs advice.

- Remediation and restoration of the Dounreay site will be undertaken on a zone by zone basis to achieve Interim End State (IES) around 2025. The final landscape design for the restored site at IES will be agreed through engagement with stakeholders. To inform the landscape design, DSRL proposes to undertake trials to assess which on-site materials and seed mix combinations can be used most effectively to restore the area. The trials will consist of a series of plots constructed to the east of the Dounreay licensed site, near to the NLLWF, on untenanted NDA land. The plots will be constructed in late April. A PhD researcher at ERI is assisting DSRL with this study and will be writing to local landowners to request their input into this project.

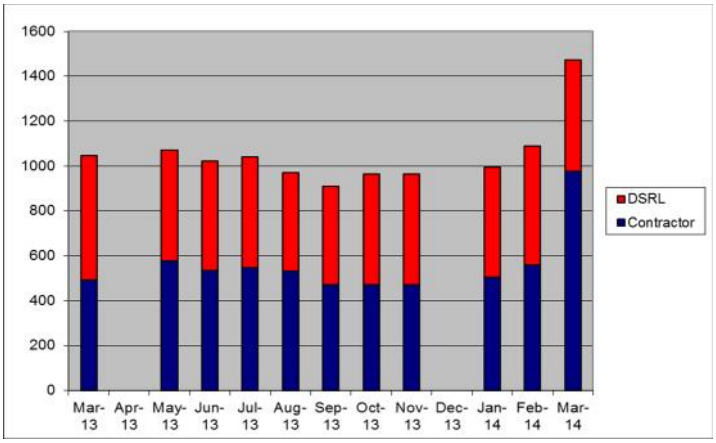
Staffing

	FTE Target	**FTE Actual /Forecast**
Current	974.99*	1,001.8**
YE Outturn	-	974.99

*Target is 974.99: 839.99 DSRL employees (Full Time Equivalent)/135 Agency Supplied Workers (ASW)
* * Actual 845.80 DSRL FTE employees and 156 ASW at February 2014

Period 23 DSRL (February 2014)
- 1 new start;
- 7 resignations;
- 1 ill Health Retirement

DSRL/Contractor site access data



Note that the DSRL staff numbers are lower than the FTE data because on any given day there are certain groups of staff not on site, for example – long term sick, maternity leave, those working off site (Dounreay.com) etc.

Procurement update

A preferred supplier has been identified for waste containers, contract awarded and an order placed for an initial 50 containers, due for delivery by the end of March 2014. The containers are required to enable consignment of LLW to D3100.

Procurement continues on the UFCF gloveboxes with 4 of the 5 modules under fabrication. The 5th module will be awarded in March 2014.

A contract has been let through the NDA collaborative procurement agreement to Profile Security Services Ltd to recruit a civilian guard force (CGF). The CGF will take over a number of tasks relating to security and search functions, which will allow the CNC to focus more fully on the defence of the site and the nuclear fuel. There will be no redundancies in CNC, and a number of new jobs will be created on site. Recruitment will begin soon, for a July start. Site security measures at Dounreay continue to be robust, effective and of the highest possible standard.

Dounreay Site Restoration Ltd
31st March 2014

GLOSSARY

Abbreviation	
ADU	Ammonium Di-Uranate
BCP	Business Continuity Plan
DACR	Days Away Case Rate
DCP	Dounreay Cementation Plant
DSRL	Dounreay Site Restoration Ltd
ECD	Environmental Closure and Demolition
EIA	Environmental Impact Assessment
ES	Environmental Statement
HAZOP	Hazards of Operating studies
IFBS	Irradiated Fuel Buffer Store
IFC	Irradiated Fuel Cave
INF	Incident Notification Form
LAD	Low Active Drain
LLLETP	Low Level Waste Effluent Treatment Plant
LLW	Low level waste
LTA	Lost Time Accident
mSv	milli Sieverts
NDP	NaK Disposal Plant
NIGLQ	Nuclear Industry Group for Land Quality
OJEU	Official Journal of the European Union
ONR	Office for Nuclear Regulation
OSHA	Occupational Safety & Health Administration
PBO	Parent Body Organisation
PCP	Project Control Procedure
PCSR	Pre-Construction Safety Report
PCTL	Primary Cold Trap Loop
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
SGB	Steam Generator Building
SID	Sodium Inventory Destruction Plant
SIP	Shaft Intervention Platform
TRIR	Total Recordable Incident Rate
UFCF	Unirradiated Fuels Conditioning Facility