Thirteenth Scottish Nuclear Sites Meeting
Thursday 20 November 2014

This paper provides written reports from the following:

CoRWM
NDA

The paper also provides the following site updates:

Chapelcross
Hunterston A
Hunterston B
Torness

Thirteenth Scottish Nuclear Sites Meeting
Thursday 20 November 2014

This paper provides written reports from the following:

SEPA
ONR

The paper also provides the following site updates:

Dounreay Site Restoration Ltd
Dounreay Stakeholder Group
Rosyth Royal Dockyard Ltd
Ministry of Defence (MoD)

SEPA Update for the Scottish Nuclear Sites Meeting – 20th November 2014

Radioactive Substances Policy and Nuclear Regulation Unit

This paper provides an update on recent key developments related to Scottish Environment Protection Agency's regulation of radioactive substances.

Regulatory Reform (Scotland) Act

Work continues on the implementation of the Regulatory Reform (Scotland) Act. A joint Scottish Government/SEPA consultation on SEPA's new enforcement measures was held over the summer and SEPA will be consulting on its revised enforcement policy and guidance later this year. Draft administrative and technical regulations for radioactive substances, waste, air and water are expected to go out for consultation in 2015 and come into force in 2016.

Standard Rules Permit Templates

In light of the new Regulatory Reform Act, the Radioactive Substances Unit is in the process of producing new standard rules permits. It is envisaged that the general conditions (standard rules) will be published on SEPA's website and will only be subject to changes following external consultation to ensure consistency. The site bespoke rules and limits will be produced in a licence issued to the operator. These changes will be consulted upon next year.

Compliance Assessment Scheme

Work is currently underway to revise our current Compliance Assessment Scheme from focusing on ELCs & EMCs to a new matrix of technical breaches vs environmental harm. The new scheme will also see a change from annual assessment to continuous assessment. The changes are due to come into effect in 2016 but the proposed changes are due to be consulted upon in December 2014.

Charging Scheme

A new formula forms the basis of the new charging scheme – regulatory effort + regulatory support + emissions x compliance factor. The changes are due to take effect in 2016 and won't affect nuclear charges but will affect PPC/CAR/WML.

New Application Forms

A new modular style of application form has been produced and is currently being trialled externally. This standardised form should be used by nuclear authorisation holders for all future applications (mainly section 1 data with additional documentation appended as necessary). The new forms will be formally published following a review of the trial feedback.

Dounreay Site

Site Inspection Work and Radioactive Substances Act (RSA) Compliance

In March 2014, SEPA was notified about a potential issue in relation to gaseous discharges arising from fuel repackaging work that was being undertaken in the Prototype Fast Reactor (PFR) facility at Dounreay. It was believed that a fuel can that was being stored within a pond had been damaged and there was a potential loss of radionuclides into the pond water

and for gaseous discharges of Krypton-85 and tritium to have taken place from the facility's authorised discharge stack. During the interim period between the initial releases of gas from the fuel can (in March) and the removal of the fuel can from the pond (in June) small increases in radiation readings above the pond occurred, indicative of further releases of gas from the fuel can. This indicated that the gaseous discharges from the fuel can did not all occur within the month of March and as a result DSRL considered it was appropriate to assign a portion of the discharges to several months, although the total reported amount of discharges has not changed and are well below the annual authorised site limit. On the basis of the sub-limit compared to the actual authorised site limit and the risk assessments made against the authorised site limits, SEPA is confident that there is no risk to the public or the environment. SEPA has written to DSRL to request that DSRL undertake a detailed review of the site's arrangements for the sampling of authorised discharges.

SEPA undertook a high level inspection of DSRL's arrangements for consigning liquid waste to its non-active drainage system and further inspection was undertaken in September. The inspections identified some shortcomings in DSRL's processes and arrangements. Some of the issues identified during the inspections had also been identified by DSRL and as a result DSRL produced a Forward Action Plan. SEPA will be assessing DSRL's compliance with its Forward Action Plan within the Compliance Assessment Scheme.

In July SEPA was notified by DSRL that as part of the off-site characterisation work, a sample of sludge was taken from the bottom of a manhole which gave a positive result for alpha activity. Following the initial notification, DSRL undertook subsequent analysis work to help determine the source of the radioactivity. DSRL has now completed this work, which has demonstrated that the radioactivity detected in the sludge was due to naturally occurring radionuclides and not associated with Dounreay site activities. SEPA has reviewed DSRL's final report and is content that it supports DSRL's claim that the source of the activity was natural.

On 25 September DSRL submitted its discharge report for May 2014, the report was due to be submitted to SEPA by 29 August 2014.The discharge report for May 2014 is the first discharge report that encompasses the new stack height groupings and calendar month reporting requirements, as included in DSRL's new RSA authorisation. DSRL subsequently notified SEPA that the discharge report for June would not be submitted by the due date & that it was likely that the discharge report for July would also be submitted late. DSRL has produced a recovery programme and SEPA will be assessing DSRL's compliance with its recovery programme within the Compliance Assessment Scheme.

On 7 October SEPA was notified about a small fire that occurred in the sodium tank farm at the PFR facility and was subsequently extinguished by the on-site fire brigade. SEPA attended the site to discuss the radiological monitoring of the area and the assessment of any environmental consequences with the operator. Initial review of DSRL's environmental monitoring results and the circumstances of the fire has indicated that there has not been a significant environmental impact as a result of the fire. SEPA's investigations into this are continuing.

New Low Level Radioactive Waste Facility

As part of the RSA93 authorisation for the new facility there is a requirement for DSRL to provide to SEPA a number of submissions prior to the vaults becoming operational. SEPA received and reviewed the submissions and, in October, undertook a review of DSRL's readiness to begin operations against RSA93 requirements. A number of shortcomings were identified and discussed with DSRL.

Spent Fuels and Nuclear Materials

SEPA attended a two day workshop in Manchester along with the Office for Nuclear Regulation on the Best Practicable Means and Safety Case for the Unirradiated Fuels Characterisation Facility. This facility is key to the programme of consolidation of nuclear materials from Dounreay to Sellafield.

SEPA continues to attend meetings of the Magnox Operating Plan (MOP) Regulatory Forum in Warrington. The MOP is important with regard to the shipment of Dounreay Fast Reactor Breeder material to Sellafield for reprocessing through the Magnox route.

Other Site Work

DSRL has developed an environmental improvement programme for Dounreay. The Dounreay Deputy Managing Director met with SEPA and presented details of the improvement programme.

During the evening of 7 October, there was a marine transport incident involving a ship that was carrying cemented radioactive waste from Scrabster to Antwerp. The transport of radioactive material (including waste) by sea is regulated by the Maritime and Coastguard Agency. The MCA is supported in this by Radioactive Material Transport specialists in the Office for Nuclear Regulation. During the incident SEPA monitored the situation and participated in the multi-agency teleconferences. It was established that the radioactive waste and its containment was not affected by the fire and remained under proper radiological supervision.

A Level 2 meeting, involving SEPA, Office for Nuclear Regulation (ONR) & DSRL took place on November. Also, the Dounreay annual environmental review meeting took place on 12 November 2014; updates to both will be provided to the meeting.

Dounreay Site End State

SEPA has reviewed DSRL's re-issued their Characteristics and Interim End State Compliance report for the first zone of the Dounreay site to undergo investigation and characterisation in support of the eventual revocation of the RSA Authorisation in place at the Dounreay site. This an important opportunity for SEPA to influence the approach DSRL takes to its characterisation work and associated reporting.

SEPA is also reviewing DSRL's proposed analytical techniques and limits of detection for radiological and non-radiological contaminants in groundwater at Dounreay. This is a particularly significant area of work as the complex history at Dounreay means that there is a broad range of potential contaminants of concern. Further, SEPA needs to be assured that DSRL can attain the required limits of detection to demonstrate that groundwater is protected adequately from the entry of non-radiological hazardous substances.

SEPA will be holding a technical meeting with DSRL in November to discuss key issues associated with the ongoing project.

Chapelcross Site

The Chapelcross site notified SEPA on 25th September 2014 that the recent increase in gaseous tritium discharges from all authorised outlets discharging at higher than 5 meters above ground level had resulted in higher discharges than the relevant authorised sub-limit. The sub-limit for this route of 50 GBq and the total site limit for gaseous discharge of tritium is 750,000 GBq. The 50 GBq sub-limit is 4 orders of magnitude below the site limit. On the

basis of a prospective dose assessment made by the site using the total site limit, SEPA is confident that the reported discharge did not present a risk to the environment or public and emissions are currently declining.

SEPA attended the site to discuss the issue on a number of occasions and has undertook a joint inspection of building B141, the likely source of the increase in discharge, in co-operation with the Office for Nuclear Regulation (ONR) on 4th September. The site is ongoing with its detailed and structured investigation. SEPA is following the work and will consider and implement the appropriate action once the root cause is understood..

EDF Energy

EDF has made application to SEPA for both Hunterston B and Torness in late 2013 for a variation to the authorisations which will increase the flexibility in making disposals of LLW to facilities holding radioactive substances permits or authorisations. Similar authorisations have already been granted to other nuclear sites in Scotland and the rest of the UK. This will promote greater use of the waste hierarchy. In addition, EDF has applied for non-specific route(s) for Intermediate Level Waste (ILW,) such as tritiated oils or desiccant, for the ability to send radioactive waste to facilities outwith the UK for treatment and to be able to accept radioactive waste on to the station from another EDF station for the purpose of adding similar wastes to the container before sending it to the next EDF station. These applications are being treated as substantial variations which will require full public consultation. The first round of statutory consultation with ONR and FSA, as well as formal notification of Scottish Government, has occurred and no objections were raised. The public and discretionary consultation began on 4 July 2014 and ran until 3 October 2014. A significant number of responses have been received from the public. The applications are currently being determined.

SEPA staff from the Radioactive Substances Unit, Resilience and Communications participated in an emergency exercise, Exercise Falcon, on 1 October 2014 involving an off-site emission from Torness Power Station. SEPA staff attended a Level 4 Radioactive Waste meeting involving EDF, the EA and ONR in Cheltenham on 21 and 22 October 2014 to discuss issues relating to EDF's fleet-wide efforts to optimise radioactive waste disposals, open up new disposal routes and identify potential obstacles for future disposals. SEPA staff will also be attending an EDF Regulators meeting with the EA and ONR in Birmingham on 19 November 2014 to share information with the other regulators on events and issues relating to the EDF fleet across the UK.

One issue arising from carbon deposition within the reactor is higher levels of failed fuel across the EDF fleet. Failed fuel currently has to go to the PIE facility at Sellafield, which has a low throughput. In addition, The THORP plant, which processes AGR fuel at Sellafield is also scheduled to close in 2018. These issues are causing EDF to explore different methods of handling the failed fuel to ensure that it is appropriately dealt with before the closure of THORP. Torness has one of the highest amounts of failed fuel in the fleet (10) and Hunterston B relatively few (3). One method of getting the failed fuel off the site quicker is to greatly reduce the time spent in the ponds. This method will be trialled at Hunterston B first. A BPM case is being drafted to support this trial. A readiness inspection of the station involving SEPA and the ONR has tentatively been scheduled for 17 and 18 November 2014 to look at the plant, the BPM case and the safety case.

During the outage at Hunterston B in August 2014, the station found evidence of keyway root cracking in 2 graphite bricks (out of ~3000). The Safety Case allows up to 30% of the graphite bricks to exhibit this type of cracking and still operate safely. Since these bricks are located in the reactor core, it is not possible to repair or replace them. Modelling had

predicted that this cracking would occur, although there is some debate as to exactly when it would present. The effected reactor has subsequently returned to service. It is not known how fast these cracks are propagating/appearing, and this will form the basis of future investigations. There is no impact on the station's emissions.

Submarine Dismantling Project

The Ministry of Defence (MOD) is proposing to dismantle seven Laid Up nuclear powered submarines currently stored at Rosyth Dockyard. The MOD is contracting Rosyth Royal Dockyard Limited (RRDL) to carry out the physical dismantling work. To allow this work to proceed:

- The MOD has applied to SEPA for permission to dispose of radioactive waste low level radioactive wastes (LLW) arising from SDP works by its transfer to RRDL. This application will be handled administratively in the form of a letter of agreement between SEPA and the MoD rather than under the Radioactive Substances Act (RSA 93) and

- RRDL is applying to SEPA for an Authorisation under RSA 93 to accept radioactive waste from the MOD and to cause and permit the disposal of that waste to a waste permitted person.

SEPA has asked MOD to provide some further details in its application. Once received

SEPA is working closely with LLWR who are leading on the review for UK Government. Our input will help to put our regulatory perspective how LLW management is being managed in Scotland and to help with compilation of the public consultation document and the final Strategy which will have Ministerial approval.

2. SEPA is also involved in a review being led by DECC to determine the budget required by the Nuclear Decommissioning Authority (NDA) to manage the [redacted]

Comprehensive Spending Review.

3. SEPA is also involved in work led by DECC and involving other nuclear site regulators and planning authorities to review the current regulatory arrangements for nuclear site decommissioning and clean up. Any "improvements" for change will be incorporated in an Outline Business Case for review DECC and the devolved administrations in March 2015.

Review of NDA Strategy

SEPA is supporting work by NDA review its nuclear site decommissioning and clean up Strategy.

Following Ministerial approval, the revised Strategy is due for publication April 2016. However, NDA has agreed a cut-off date of June 2015 as the final date for agreeing its content. Strategy III will be issued for public consultation and will be underpinned by a SEA.

Dalgety Bay

SEPA officers attended the first Project Board meeting on the 2nd of October along with Fife Council and have continued work to facilitate the project. A briefing note on the background to the remediation project has been prepared for board members

The next Implementation Group meeting is scheduled for the 6 November 2014.

Joint Working with SEPA and NRW

We are working with EA and NRW to establish common principles and requirements for the management of on-site disposals and surrender and revocation of environmental permits /

Our draft principles and requirements have been developed taking due account of other work. In particular, work through a group chaired by ONR (the Joint Working Group on Land Quality Management) looking at our respective regulatory vires. This group "signed" off our joint expectations work on land quality management which is available on SEPA and ONR websites.

We shared the draft principles and requirements with representatives from across the nuclear industry, ONR, NDA and other government departments, at a workshop on 1 October 2014. Overall these were well received and recognised operators were particularly interested in the potential flexibility in options for waste disposal.

We have not as yet developed the regulatory "process" how authorisations are varied and revoked as the SWESC and site reference state develops. This will be part of the next phase of the work which is to produce separate guidance for Scotland and for England and Wales to reflect different Government policies on radioactive waste management and SEPA's and EA/NRW's different regulatory vires on some matters. However, both Guidance documents will adopt the same principles and requirements and the same mechanism (the SWESC). This will ensure a common approach to radioactive waste management practices across the UK. We will consult industry on the draft guidance.

Proportionate (Decommissioning) Regulatory Controls Steering Group

We recognise that our work to develop common principles and requirements is being done alongside a number of other workstreams that also have the potential to impact on current approaches to nuclear site clean-up. These include our work with DECC work to consider the NEA exclusion under the Paris Convention, ONR's review of delicensing criteria, and site-based work to optimise end-states, especially at the Dounreay and Winfrith sites.

Recognising the "interfaces" between these various workstreams, NDA, ONR, EA, SEPA and NRW, sought the support of DECC and other Devolved Administrations through the Radioactive Substances Policy Group (RSPG) to ensure that the work was co-ordinated to avoid any conflict and ensure that overall they deliver a proportionate level of regulation to site clean-up.

RSPG was very supportive of this work and as DECC agreed to lead this steering group to deliver this co-ordination. RSPG was also clear that should the work identify any proposal for change, that it should take the form of a robust business case to Government which is scheduled to complete end March 2015.

Office for Nuclear Regulation

Office for Nuclear Regulation (ONR)

'To provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public'

Mr Mark Foy
Deputy Chief Inspector
Director of Civil Nuclear Reactor Programme

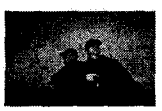
Scope

- ONR's Background
- Structure of ONR
- ONRs Regulatory Strategy
- Site Licence
- Regulation of EDF and the Operating Reactor Fleet
- Recent Hunterston B Incidents
- Conclusions

Office for Nuclear Regulation

Office For Nuclear Regulation

- Sector-specific independent regulator
- Reports to Ministers in respect of its regulatory functions
- Predominantly non-executive board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Office for Nuclear Regulation

- Formerly an agency of HSE
- Became a Statutory Corporation in April 2014 on the commencement of the Energy Act 2013
- Regulates UK civil nuclear industry and *aspects* of nuclear defence activity across the UK
- Close liaison with other regulators - SEPA, EA, NRW etc

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The Energy Act 2013

- The Act sets out a clear governance model for the statutory ONR – Board.
- ONR responsible for five key areas: nuclear safety; nuclear security; nuclear safeguards; the transport of radioactive material by road, rail and inland waterway; and health and safety on nuclear sites.
- The Energy Act also ensures that the ONR has the financial and organisational flexibility required to meet its business needs on a sustainable basis.
- Consolidates the nuclear regulatory framework, improve the consistency of regulation and reduce interfaces for duty holders.

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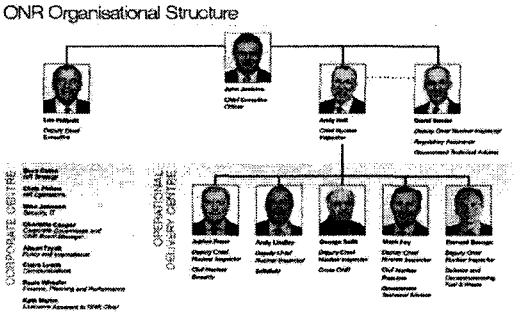
ONR Organisational Structure



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ONR 5 Year Strategy

Three key strategic themes:

- Influencing improvements in nuclear safety and security
- Achievement of our vision through ONR's people
- Inspiring a climate of stakeholder respect, trust and confidence.

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ONR 5 Year Strategy

Influencing improvements in nuclear safety and security

Focus regulatory attention on the UK's nuclear priorities of:

- Hazard reduction and remediation at Sellafield;
- The nuclear new build programme, involving the assessment of safety cases for potential new nuclear power stations and their potential subsequent licensing, construction, operation;
- Assured regulation of the safety and security of the existing fleet of operating reactors, waste management and decommissioning, the nuclear defence platform and radioactive materials transport.
- Continue to facilitate improvements in the UK's emergency preparedness and response organisation

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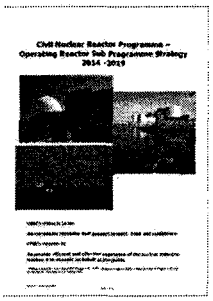
The Nuclear Site Licence

- Required by Nuclear Installations Act
- Cannot install or operate a nuclear facility without a nuclear site licence
- Granted by ONR for indefinite period
- To corporate body only
- Not transferable
- Licence has 36 standard Conditions
- Conditions give ONR discrete powers to regulate activities on site
- Vary licence to exclude area:
  - No longer required
  - Demonstrate 'no danger'

ONR's Key Strategic Themes for Operating Reactors

- Regulation of the safety and security of the existing fleet of operating reactors.
- ONR will continue to facilitate and influence sustained improvements in Nuclear Safety & Security
- Lifetime Management – average age is now 30 years
- Maintaining the Respect and Confidence of Stakeholders



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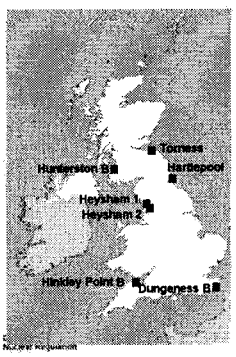
UK Nuclear Reactor Programme
Advanced Gas-cooled Reactors (AGRs)



- 14 reactors on 7 sites 1976 - 88
- Gas-cooled
- Graphite moderated
- Enriched Uranium oxide fuel
- Clad in stainless steel

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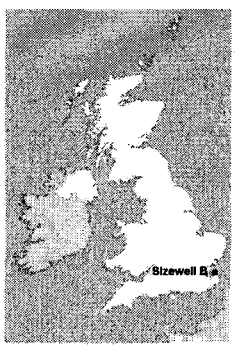
UK Nuclear Reactor Programme
Pressurised Water Reactor



- 1995 - PWR at Sizewell B operational
- UK's only PWR
- Last Reactor to be built in UK

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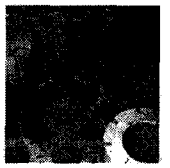
ONR's regulation of EDF

Compliance inspection
- ONR Nominated Site Inspectors
- System Based Inspections
- Outage Inspections

Permissioning assessment
- Plant Safety Cases
- Periodic Safety Review
- Category 1 (significant) Modifications
- Graphite Ageing

Enforcement
- Reactive/Investigation



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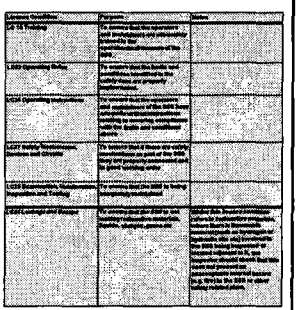
On site inspections

- System based inspections (SBIs) – for an AGR six SBIs are inspected annually [29 systems for and AGR]
- Compliance inspection against 36 Licence Conditions
- Emergency Arrangements – annual demonstration
- Transport & Security
- Other Legislation (IRRs, Conventional Safety, etc.)



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Outage Inspections

- Licence Condition 15 Periodic Shutdown requires 'outage' for maintenance and inspection
- During statutory outage a number of key plant systems targeted.
- Graphite core inspected as part of statutory outage
- Non-statutory refuelling outages are carried out about every 6 months

Reactor site	Last Statutory Outage (RTS)	Next Statutory Outage (S/D)
Hunterston B		
Reactor 3	Oct 2012	Oct 2015
Reactor 4	Oct 2014	Aug 2017
Torness		
Reactor 1	Apr 2014	Apr 2017
Reactor 2	Aug 2012	July 2015

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Assessment of nuclear safety

- Having an adequate safety case is fundamental to ONR permitting activities on site - demonstration that risks reduced as low as reasonably practicable
- Safety justifications in support of each stage of plant life cycle and plant modifications
- Periodic Safety Reviews (~10 years)
- ONR has specialist expertise covering many disciplines: structural, mechanical, civil, CEI, PSA/Fault studies, materials, human factors, etc.
- Safety Assessment Principles – due to be reissued following extensive consultation
- Commission research from universities etc. (graphite etc.)

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Hunterston B – Recent Incidents

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Hunterston B - Graphite

- EDF informed ONR of cracking in two graphite bricks in the core of Hunterston B reactor 4 on 21 August.
- The type of cracking, termed 'keyway root cracking', was predicted to occur during the lifetime of the reactor at Hunterston B.
- Limits on the extent of permissible cracking determined by EDF Energy in its safety case, which ONR subsequently approved.
- The cracks notified are within the limits defined by the safety case.
- ONR was satisfied with EDF Energy's response to the discovery of the crack and subsequent evidence that there was no immediate safety significance.
- ONR was satisfied with EDF Energy's justification for the RTS of Reactor 4 and issued a Consent to restart Reactor 4 on the 29th September.
- ONR will continue to review the information submitted by EDF Energy to ensure that the inspection regime for the graphite core remains appropriate.

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Thank you for your attention
Questions ?

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Dounreay Site Restoration Ltd

SCOTTISH GOVERNMENT SCOTTISH NUCLEAR SITES MEETING
THURSDAY 20TH NOVEMBER, EDINBURGH

DOUNREAY SITE RESTORATION LTD UPDATE

- **Decommissioning programme:** During this year there has been a lot of effort put into re-baselining the decommissioning programme at Dounreay. Since the award of the site closure contract there have been a number of significant changes. One such change was the UK Government's decision to transfer fuels to Sellafield rather than store them on the Dounreay site. This removed the need for a fuel store to be built on site in the later years of the programme, but had implications for the planned programme as funding and resource will be required in the next few years to meet the cost of packaging and transporting fuel and deliver savings due to a reduction in the long term security requirements. The additional scope also included security enhancements to meet UK Government's requirements for the protection for nuclear material.

  Early in 2014, the site management looked at a range of options and the impacts of these. On 29th April 2014 DSRL presented its preferred option to the NDA which was accepted. DSRL was then asked to work towards adopting the preferred option and to produce a detailed BCP (Baseline Change programme) for submission to the NDA in the autumn. The NDA also identified additional funding of £50m over a two year period (2014/15 and 2015/16) to reduce the effect on the overall decommissioning programme.

  DSRL has now carried out the work to re-profile the programme in order to keep the funding within the annual funding limit and this has just been finalised (as at end October 2014). This has taken account of the additional scope (fuels transportation and security enhancements) as well as the cost of dealing with other issues that were not known at the time of the bid (such as the greater-than-expected number of elements stuck in DFR).

  The Baseline Change Proposal (BCP) and associated plan is now being considered by the NDA. A joint presentation, with the NDA, will be provided to the Dounreay Stakeholder Group on the new plan in December 2014.

- **Health, Safety and Environment:** Over the last six months there have been a number of occurrences reported to regulators regarding safety and/or environmental compliance. Site Management are taking this issue very seriously. Some of the key incidents are described below:

  - On 28th February, as one of the remaining spent fuel cans was being lifted to empty the PFR fuel pond, the lifting pintle unexpectedly became detached as a result of corrosion. Closer inspection indicated the can was bubbling and radiation levels were elevated. In informing SEPA, DSRL made the assumption that all the gaseous content of the fuel assembly within the can had been released. This assumption was made to avoid under-reporting the release and was discussed with SEPA. The discharge was fully accommodated within the extant Authorisation but subsequently exceeded a sub-limit of the new RSA authorisation. SEPA has reported it is confident that there is no risk to the public or the environment and DSRL is undertaking a detailed review of the site's arrangements for the sampling of authorised

discharges.

- On 7th October, during operations in the PFR sodium tank farm to remove the residue sodium from tank 3, the tank was left overnight under surveillance. The fire brigade was alerted by an alarm at the same time a surveillance person heard noises and detected smoke. A level 2 investigation was convened and NDA and regulators were informed. As a result of the initial findings the incident investigation was raised to level 3 (the most significant level) by the DSRL Managing Director. The Investigation report indicated serious shortcomings in the implementation of a number of systems. As a result, the NDA have formally written to the Parent Body Organisation and DSRL, ONR have issued an improvement notice and SEPA are completing their own investigation into the incident. Short term actions have been implemented at site with a more detailed package for the next 6 to 8 months being developed.

- On 7th October the MV Parida carrying six 500 litre drums of cemented waste in transport flasks left Scrabster harbour on route to Belgium. Early on the 8th October, a fire occurred in one of the vessel's two funnels. The crew followed their emergency procedures, extinguishing the fire quickly, and ensuring the cargo was not affected. As a result of damage to the fuel preheater, the vessel engines could not be restarted. As a precaution (because the boat was drifting towards them) the Beatrice oil rig was evacuated in line with their own emergency procedures. A tow line was subsequently established and the vessel was towed to a safe anchorage. It was then brought alongside a secure pier within the Port of Cromarty Firth to allow repair work to be carried out. The transport was arranged by the Belgian company Transnubel and was approved by both the UK and Belgian authorities. The incident was initially managed by Marine Coastguard Agency who handed over responsibility to Police Scotland who managed and coordinated the multi-agency response that was set up. The Parida resumed the voyage after repairs had been completed and the vessel had been revalidated by the appropriate authorities.

- **Progress on Decommissioning**

  - At DFR, trials for the use of a gamma camera were completed in preparation for the installation of the gamma camera into the reactor vault. This will enable phase 1 of the Reactor Gamma survey to be completed by the end of December 2014. A redundant standby diesel generator used to provide back-up power to the statutory stack sampling equipment has been removed.

  - At PFR, the decommissioning team has successfully test lifted the 36-inch flask and undertaken several manoeuvres to allow safe positioning above the reactor vessel. The crane refurbishment and commissioning is an essential step in support of reactor dismantling.

  - Within the Fuel Cycle Area, good progress is being made in a number of plants. Noteably:

    - Diamond wire cutting has commenced in the Dounreay Materials Test Reactor (DMTR) to allow the removal of the cell structure as bulk waste.

    - Removal of intermediate level waste from the caves in D1206 is progressing steadily with an overall reduction of the inventory within the building.

- Surveys of the north cell characterisation and out of cells areas waste removal is progressing well.

- The operational research model for the updated process for shaft and silo

decommissioning was delivered on schedule which validates a number of key assumptions made including the time to process waste and the number of waste containers which will be required. In addition, initial small scale compact trials have been completed and have determined the amount of sludge in a supercompacted puck under various operational scenarios.

- In the Waste and Fuels area:
  - 21 transports of DFR out of reactor fuel have been successfully completed.
  - 19 shipments of waste have been returned to Belgium.(see above)
  - A full rehearsal for the sea transport option for Exotic fuel was undertaken successfully.
  - The replacement hydraulic hoses for the new supercompactor (WRACS) have

SCOTTISH GOVERNMENT SCOTTISH NUCLEAR SITES MEETING: 20th November 2014
DOUNREAY STAKEHOLDER GROUP BRIEFING

Key highlights from DSG public meeting held on 22nd September 2014.

- The minutes of the June meeting were endorsed – see DSG(2014)M002.
- A presentation on DSRL's socio economic activities was provided. See DSG(2014)C062.
- A number of issues were raised regarding the transportation of radioactive material. Follow up actions were identified and responses received from questions raised.
- At Vulcan the Chief Scientific Advisor is undertaking a review on whether a PWR3 reactor core at Vulcan is required. The report is still awaited.
- NDA engagement for virtual reprocessing is now complete with stakeholder views received.
- At Dounreay, briefings were provided on:
  - Safety – spatial awareness is the topic being rolled out across the site.
  - An investigation commenced as to why the back-up fan did not operate correctly in the laboratories.
  - Minor issues with the encapsulation plant have delayed the operations of the new low level waste vault. Expected to be resolved by end of the calendar year.
  - The CNC firing range is now operational – local residents continue to raise concerns regarding noise.
- A detailed presentation on the re-profiled decommissioning plan will be provided to the December DSG.

Updates from the sub groups held on 12th November 2014

Site Restoration sub group

- Vulcan update:
  - STF continues to operate as per schedule.
  - Inspection and audit programme continues.
  - MOD police are recruiting.
- NDA update:
  - Received proposals for the re-profiling of the decommissioning programme.
  - Published its response and preferred way forward for virtual reprocessing.
  - Working on next Government spending review.
  - Appointment of a new MD for Sellafield.
- Dounreay update:
  - Received an update from SEPA on Particles Retrieval Advisory Group (PRAG).
  - Raised a number of issues on safety/environmental incidents with PBO/DSRL and the regulators (as reported by DSRL, SEPA and ONR).
  - Received an explanation of the minor delays around the new low level waste facility.

Socio Economic sub group

- NDA update:
  - The NDA's nuclear archive project continues. The contracts for construction and the commercial partner have been decoupled. The procurement for the construction phase is still on target and a public planning event has been organised for 25th November. The Commercial partner contract is expected to be around May 2015.
  - DRS continue to look at commercial freight and will attend the Caithness Transport Forum in January.
  - NDA is preparing a report into 10 years of socio economic support to Caithness & North Sutherland.
  - NDA and HIE are continuing support to Wick and Scrabster harbours.

- Dounreay update:
  - A presentation on procurement was provided by DSRL. See DSG(2014)C073.
  - Received a written update on Dounreay Socio Economic alliance activities. See DSG(2014)P024.
  - The PBO has provided support (Simon Middlemas) to the CNSRP Programme Manager to develop CNSRP programmes and scopes.
  - The PBO (Shona Kirk) is developing plans for a Community Sports Hub which is linked to the Viewfirth land owned by NDA.

David Flear
DSG Chairman
17th November 2014

Rosyth Royal Dockyard Ltd (RRDL)

Scottish Sites Meeting-Briefing Note, November 2014

Radioactive Waste Held at Rosyth.

RRDL continue to store a small quantity of radioactive material on site within the Active Waste Accumulation Facility. The direct disposal route for the intermediate level waste ion exchange resins is no longer an option. Pending approval of the Ministry of Defence business case, an expression of interest from industry for resin treatment trials will be sought through the Official Journal of European Union (OJEU). Our Resin Catch Tanks (RCT) requires to be revalidated over the next two years. An assessment of their contents will be carried out to allow our RCT revalidation strategy to be determined.

Submarine Dismantling Project.

RRDL applied to SEPA on 24th December 2013 for a new authorisation under the Radioactive Substances Act 1993 to accept solid, liquid and gaseous low level radioactive waste from the MOD arising from the first stage of initial submarine dismantling at Rosyth and to dispose of this low level waste. This application will cover the seven submarines at Rosyth and is currently going through due process.

To comply with the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (EIADR), RRDL submitted an Environmental Statement and Non-Technical Summary for initial dismantling to the Office for Nuclear Regulation (ONR)in January of this year. ONR has deemed that the Environmental Statement satisfies the requirement set out in the EIADR and consent to proceed has been granted. An Environmental Management Plan will be submitted to ONR before the end of the year.

Variation to the Nuclear Site Licence.

RRDL is committed to reducing the nuclear site boundary and a proposal to de-licence No 3 dock and redefine the No2 dock nuclear site boundary is being prepared and will be submitted to the ONR by March 2015.

MOD Brief to Scottish Nuclear Sites Meeting 20 Nov 2014

SUBMARINE DISMANTLING PROJECT

Background

The Submarine Dismantling Project (SDP) is the MOD's programme to deliver a safe, secure and environmentally responsible solution for dismantling 27 defuelled submarines. Twelve of the submarines are currently stored afloat at Devonport and seven at Rosyth. This dismantling process involves recycling the bulk of the submarine and safely disposing of the remainder. The submarine's Reactor Pressure Vessel (RPV) contains Intermediate Level radioactive Waste (ILW). After the RPV has been removed in its entirety, it must be stored for an interim period until it can be processed and sent to a proposed Geological Disposal Facility (GDF) some time after 2040.

In March 2013 the MOD announced that subject to the process being successfully demonstrated, initial dismantling of the submarines will take place at both Devonport and Rosyth Dockyards and that the Reactor Pressure Vessel (RPV) from each submarine will be removed and stored in its entirety.

The next stage of work will lead to the demonstration of the dismantling process, on one of the defuelled submarines at Rosyth Dockyard. The demonstration will be completed in stages; stage 1 low level radioactive waste removal, Stage 2 ILW removal. Once the submarine is radiologically clean, and cleared on safety and security grounds it will be sent to a UK ship recycler.

It should be noted no radioactive waste will be removed without a disposal or storage solution being agreed.

Update

In Oct 14, MOD has published a final shortlist of sites that will be assessed for the interim storage of Intermediate Level radioactive Waste (ILW) that will be removed from the submarines, and confirmed the start of a public consultation to seek the public views on these five sites and the environmental impact. The final shortlist has been derived from a screening of all existing nuclear sites owned by MOD, Nuclear Decommissioning Authority (NDA) and private industry.

Five sites were considered suitable and available, and have been found worthy of detailed assessment, these sites are;

Site	Owner	Site Licensee
Aldermaston (Berkshire)	MOD	AWE plc
Burghfield (Berkshire)	MOD	AWE plc
Chapelcross (Dumfriesshire)	NDA	Magnox
Sellafield (Cumbria)	NDA	Sellafield Ltd
Capenhurst (Cheshire)	Contractor: Capenhurst Nuclear Services	Capenhurst Nuclear Services

The public consultation will help SDP decide where the interim RPV storage site should be. There is also a statutory requirement to consult on the Strategic Environmental Assessment (SEA) Environmental Report as it applies to the shortlist of sites.

What questions are SDP asking at Public Consultation?

SDP are gathering views on three main topic areas:
• The Strategic Environmental Assessment Environmental Report.
• The process and criteria being used to compare the shortlisted storage sites;
• The shortlisted sites and the differences between them.

Our assessment of the merits of the different sites is at a relatively early stage and information gathered during the public consultation will feed into our decision-making process. To give people the information they need to respond, we have published a Consultation Document and supporting reports (including the SEA Environmental Report) and organised a programme of local and national events.

What SDP are not consulting on?
We are not consulting on:
• Decisions that have already been taken, for example how and where the submarines will be dismantled; or
• other aspects of dismantling and waste management; there are already established practices for recycling materials and managing hazardous wastes and other types of radioactive wastes.

How can people participate?
Individuals and organisations can respond to the consultation in many ways:
- Using the questions and feedback forms at the of the consultation document.
- Taking part in one of the local or national workshops.
- Attending one of the exhibitions at the shortlisted sites
- Reviewing and responding to the information on the web using email.

Local events will be held in Victoria halls, Annan on the 28 &29th Nov 2014 and Jan 16th 2015. A national event will be held in Glasgow SECC 8th Jan 2015.

Further information on the events and the consultation documentation can be found at https://www.gov.uk/government/publications/submarine-dismantling-project-interim-storage-of-intermediate-level-radioactive-waste

HMNB CLYDE

The **Clyde Safety Strategy** addresses the enduring Clyde strategic objective, which is: *'To keep safety and the environment at the forefront of all Naval Base activities to allow people to return home safely, maintaining the confidence of the public and external stakeholders alike'.*

The Clyde Safety Strategy, Issue 5, covering the period 2012 to 2025, was published in November 2012 and progress was assessed as Satisfactory at the Clyde Annual Review of Safety in September 2013 and 2014. The Safety Strategy articulates how HMNB Clyde will develop and implement improved justifications, arrangements and processes to ensure compliance and Authorisation encompassing Nuclear Propulsion, Nuclear Weapon, Weapons Ordnance Munitions and Explosives, conventional Health and Safety and the Environment ensuring all operations are conducted safely. Issue 6 of the strategy, covering the period 2014 to 2030, is currently in draft and due for approval Nov 14.

Safety Culture and Conventional Health and Safety (H&S).

HMNB Clyde has an established safety culture improvement programme which runs alongside and complements traditional safety management processes. The aim of the programme is to support, enable and facilitate a sustainable incident and injury free environment where all workers can go home safely at the end of every working day. Phase

III of the culture improvement programme has recently been rolled out across HMNB Clyde. Examples of initiatives being taken forward under Phase III include:

- Visible Leadership Tours.
- Introduction of the "Clyde Safety Lens" (a measure of safety culture on site).
- Roll out of "Leaders of Safety" training to vessel crews.
- Clyde Safety Excellence Awards.
- Development of a Supervisor Skills training module.
- A redesigned "Time Out For Safety" communication strategy.

HMNB Clyde continues to develop its safety management organisation and arrangements in line with statutory requirements, MoD policy and best practice.

Learning From Experience (LFE) and Operator Experience Feedback (OEF)

LFE and OEF are a fundamental part of the site reporting and corrective response to an event and are embedded in our drive to maintain a positive and developing Safety Culture. Learning feedback is utilised to reduce the risk of a reoccurrence of an event and is an important part of the overall Site Safety Strategy. Effective feedback can only be produced if the facts and the root cause of an event are established. This is achieved by a qualitative investigation process and associated investigation report which establishes the root cause(s) and provides focused feedback. In support of this it is intended to set up a small dedicated OEF team and a programme of Investigator training is being established. HMNB Clyde also operates a local Operator Experience Learning Group (COELG) and is a member of both the Submarine and National (Nuclear Industry) OELGs.

Environmental Safety

HMNB Clyde has an Environmental Management System that is certified to ISO 14001 by Lloyds Register Quality Assurance. The Base takes its environmental responsibilities very seriously and this year saw the creation of a Management Board to focus exclusively on environmental protection and sustainable development issues. The Naval Base is committed to improving its environmental performance and, of note this year, has made good progress in reducing water consumption. Improvements have also been made to oil

for an approval to dispose of low level solid radioactive waste from the laid up submarines

[redacted]

at Rosyth.

Emergency Arrangements:

The HMNB Clyde policy and context for responding to emergencies involving Defence nuclear assets continues to be revised to ensure consistency with best practice and civil emergency response arrangements. HMNB Clyde successfully demonstrated the adequacy of the emergency arrangements to the regulators (DNSR and ONR) in level 1 exercises held at Coulport in April 14 and again at Faslane in September 14. The new Integrated Command and Control Centre (ICCC) was assessed as fully fit for purpose by the regulators in July 14 which allowed the full transfer of NERO NEHQ to the new facility. The effectiveness of the ICCC was further tested during the September exercise.

Weapon Safety

Post-vesting inspections by nuclear and conventional weapons and explosives Regulators have concluded that the management arrangements demonstrating MoD control of the outsourced nuclear weapon and Strategic Weapon System (SWS) operations are sufficient to demonstrate that the MoD retains control of these activities. Emergency response exercises combining MoD control with support from the contractors, AWE plc with Lockheed Martin UK(SS) and Babcock Marine and Technology, have also been assessed by Regulators as meeting requirements.

Nuclear Safety Event Reporting

The Nuclear Safety Event Reporting (NSER) system is an integral part of HMNB Clyde's Single Event Reporting (SER) system for which nuclear and radiological events and incidents occurring on site are recorded, investigated, assessed, findings actioned and lessons learned disseminated. New NSERs continue to be reported routinely to the Clyde Nuclear Safety Committee (CNSC) and to DNSR. Arrangements are in place to notify DNSR immediately for serious incidents.

MoD Rosyth

Strategic management of MOD's nuclear liabilities at Rosyth is now via the Submarine

available 'off the shelf' in the UK. MOD has a strong working-level interface with NDA who have similar technology challenges to overcome.
- Support to Babcock's role as Site Licensee, via contract.

VULCAN NRTE

The Vulcan Naval Reactor Test Establishment (NRTE) is the MOD establishment for testing and proving new designs of pressurised water reactors (PWR) and nuclear cores. A prototype PWR1 reactor was operated until 1987, but is now in care and maintenance. A prototype PWR2 reactor is currently operational. These activities are delivered by a workforce of five Royal Navy personnel and approximately 270 Rolls Royce staff under a long-term partnering arrangement with the MOD. The site is leased from the Nuclear Decommissioning Authority (NDA).

The Nuclear Propulsion team within DE&S has established a project to consider the options for the future of the site, taking into account the risks and opportunities afforded by the decommissioning of the adjacent Dounreay civil nuclear site.

The VULCAN Defuel and Decommissioning (VDAD) programme was given approval in Aug 2012 to commence the Assessment Phase. The output will be a single recommended solution for the future of the Vulcan NRTE site and management of nuclear liabilities. It is expected that this activity will conclude in around 2016.

The programme consists of four projects:

Vulcan Post Operation Phase

A contract has been placed with Rolls-Royce to define the requirements for the Vulcan Post Operations Phase. Progress to date includes approval of the Safety Justification Plans and undertaking of Technical Assessments.

Vulcan Fuel Movement Capability

A contract has been placed with Rolls-Royce to provide a fuel movement capability. To date Safety Justification Plans have been approved and designs for the Flask Handling Facility and the Single Module Flask have been developed.

Vulcan Decommissioning

A contract has been placed with the NDA to provide support to decommissioning planning activities. A specification is being prepared to run a competition for initial decommissioning planning.

Vulcan Future Options

A study has commenced into the future of the capabilities currently provided by Vulcan. This will be used in conjunction with the Chief Scientific Advisor review of future core prototyping to inform the future of the site.

Dalgety Bay

The Defence Infrastructure Organisation within MOD (DIO) continues to lead on Dalgety Bay, and is working collaboratively with: SEPA, Fife Council and Landowners through the Implementation Group to implement the agreed Management Strategy. (This will see DIO fund and deliver the capital works with SEPA and Fife Council assuming responsibility, post completion, for monitoring and maintenance respectively). The Implementation Group met on the 6 November and a Memorandum of Agreement between the three public bodies (DIO, Fife Council and SEPA) which sets out their respective, roles and responsibilities is being finalised. The bird and ecological surveys necessary to inform the Environmental Impact Assessment required by the local planning authority have commenced and the focus is now on the development of the detailed design.

Radium sources continue to be recovered from the beach at Dalgety Bay, as part of the routine monthly monitoring programme. That said the general trend has been a decreasing one. All recovered sources are containerised and stored within previously-agreed limits in the Rosyth Active Waste Accumulation Facility (AWAF), but these are purely interim storage arrangements. SEPA audits the storage regularly.

The previous disposal route – Augean's landfill site at Kings Cliffe in Northamptonshire - currently remains unavailable, and DIO is making strenuous efforts with external bodies including: SEPA, EA and DECC to re-establish this route and explore other alternatives. To date DIO has succeeded in establishing what can be consigned to Kings Cliffe and other landfill sites within the UK and is working on the disposal strategy. In the meantime, the waste is being stored safely with no risk to: workers, the public or the environment.

SCOTTISH NUCLEAR SITES MEETING

20 NOVEMBER 2014

REPORT BY CORWM

Since the last meeting in May 2014, the CoRWM Annual Report 2013-14 has been published. Chapter 5 explicitly relates to Scrutiny and Advice on Scottish Government HAW Policy and Strategy. After a somewhat hesitant start in working toward publication of an Implementation Strategy following public and stakeholder engagement, it was noted that the final Project Board meeting had been held in March 2014 and that a Consultation Draft would appear shortly. To date this has not happened and the Committee awaits further information.

The Committee in early July undertook a visit to the Dounreay site followed by an evening public meeting in Thurso and an open plenary the following day. We thank the Dounreay management, SSG members and a small number of the public for sharing information and their ideas with CoRWM members.

The site visit did reveal a number of issues where the Committee sought further information. The Committee chairman and one other member returned to Dounreay on 27 October and had a very useful discusion with the site management concerning the treatment and storage of HAW on site.

The issues raised and the replies given were as follows:

1) The outgoing SLC had considered installing a new encapulation plant to deal with DFR/PFR raffinates following a previous failure with the plant and the consequent interruption in completing this part of the work programme. It was explained that with an overall end date for decommissioning the site of 2025 and the need for this plant likely to end in 2017/18 the risks of continuing to run with the current facility were manageable. There were no foreseeable plant life limiting issues and that, in the extreme, the most significant plant items could be replaced within 12 months.
2) An explanation was given as to why a future ILW store would be non shielded but would house shielded containers. Robust arguments in support of this approach were given which included the efficient use of the lead currently on site. This approach to storage had already been adopted at the Berkeley station and would be subject to the normal LOC application and approval process.
3) By the 2025 site end state, only 20% of conditioned ILW would be suitable for near surface disposal. After 300 years, 62% is still likely to be unsuitable for near surface disposal . Whilst policy decisions are a matter for the Scottish Government and the policy will be reviewed not later than 2021, this is a matter CoRWM will continue to keep under review.

The two members were satisfied with the robust defence of the current strategy of DRSL, have reported this to the full Committee and a letter has been sent to the Dounreay management thanking them for helping to resolve these outstanding matters.

Whilst the CoRWM Work Plan 2015-18 has yet to be finalised for submission and approval by sponsors, advice to Scottish Govenment on its Policy and Strategy will continue. There is also a committment to hold one open plenary meeting in Edinburgh during 2015.

John D Rennilson
CoRWM Member

NDA UPDATE – SCOTTISH SITES MEETING 25 NOVEMBER 2014

EXOTIC FUELS PROGRAMME The programme is moving forward and preparation at Dounreay continues. Discussions on transport have taken place with stakeholders at regional level (Western Isles, Orkney, Shetland and Highland) and follow-up discussion is being arranged with Orkney Councilors. The NDA has supported Scrabster Harbour Trust in the purchase of a mini-tug to enhance safety in the harbour and its environs for all marine traffic.

NDA LEADS NATIONAL RISK FORUM More than 50 risk specialists gathered in Cumbria for the largest-ever annual forum focused on risk management across the NDA estate. Participants included the SLCs, the NDA's subsidiaries DRS and INS, regulators, the wider nuclear industry, the Institute of Risk Management, and other professionals. The event was preceded by a tour of Sellafield, the UK's most challenging nuclear complex.

FUNDING FOR RESEARCH Up to £500,000 is available from NDA's 2015 PhD bursary scheme. Applications are open for funding for research across the areas of: radionuclide characterisation; waste packaging and storage; land quality; decommissioning; spent fuel and nuclear material; research not covered by other themes but of benefit to the NDA's mission. Funding will be available to academic institutions and sub-contractors where the bursary is used as a grant top-up to access national facilities for research involving the handling of radioactive materials. Proposals had to be submitted by 4 November using the form on the National Nuclear Laboratory (NNL) website.

NDA NUCLEAR ARCHIVE – significant progress has been made with this project over the last few months. The planning process to site the facility in Wick in Caithness began formally last month and a 12 week public engagement period has commenced. Full planning permission application will be submitted in January 2015. A build contractor will be appointed in March 2015 and a Commercial Partner (the organisation that will manage the facility on behalf of NDA) will be appointed soon afterwards. The project is on schedule for completion in 2016.

WASTE WEBSITE LAUNCHED: A new user-friendly website has been launched to accompany the recent publication of information on the UK stocks of radioactive waste. The aim behind the revamp is to use jargon-free language and clear graphics to explain more about radioactive waste in the UK. The UK Radioactive Waste Inventory (UKRWI) 2013, based on a detailed stock-take during last year, contains details of radioactive waste and nuclear materials currently held across the country, as well as waste that is expected to arise in future from the operation of sites and decommissioning activities.

Weblink: Radioactive Waste Inventory 2013

NDA NATIONAL STAKEHOLDER EVENT,28-29 October 2014: Focus of the event was Strategy III with a particular focus on critical enablers.

Magnox

NEW PBO Parent Body Organisation (PBO) contract to The Cavendish Fluor Partnership (CFP). More than £1.5 billion of savings for the public purse are anticipated as CFP now begins to implement its plans for Magnox Ltd and Research Sites Restoration Ltd, continuing with the decades-long programme of work to decommission 10 of the UK's first nuclear power stations and the two pioneering research facilities. The SLCs will continue to operate the sites on behalf of the NDA.

SOLID INTERMEDIATE LEVEL WASTE ENCAPSULATION Balfour Beatty has been appointed by Magnox to deliver the £34m Solid Intermediate Level Waste Encapsulation (SILWE) contract at Hunterston. The project marks the final link in Magnox's process chain of safely encapsulating and storing ILW.

ARDROSSAN QUAYSIDE £375,000 award, funded by NDA and EnergySolutions, will help to develop a £3 million office accommodation project at Ardrossan Quayside when fully occupied, expect to deliver 110 FTE jobs and £2.5M for the local economy. The project is one of a number being developed by Irvine Bay Regeneration Company to regenerate the town. The project is being funded through grants won by Irvine Bay Regeneration Company: £1.8 million from the Scottish Government's Capital Regeneration Fund; £463,000 from the European Regional Development Fund; £375,000 from the NDA and £196,000 from HUB SouthWest.

Dounreay

BARONESS VERMA VISIT Baroness Verma visited Dounreay in August to officially open the new Civil Nuclear Constabulary firing range, constructed by DSRL and funded by the NDA, which will enable the firearms officers to train to the standard accredited by the Home Office in a local range, saving up to £3.9 million over the lifetime of the facility. The Baroness also visited Scrabster Harbour and Caithness Horizons, where she met MP John Thurso and representatives from four local small and medium-sized companies who have benefitted from loans granted by the NDA's North Highland Regeneration Fund.

ADDITIONAL FUNDING NDA allocated an additional £50 million over 2014/15 and 2015/16 s to DSRL as a step towards accommodating planned additional scope in the progamme. The full scope of extra work, largely associated with the requirement to transfer nuclear fuels to Sellafield instead of on-site storage , has been clarified following the award of a contract in 2012 to Cavendish Dounreay Partnership, who are managing the Dounreay clean-up. Performance against the CDP contract is progressing well, with 100% of annual milestones met and the potential for savings of approximately £1 billion on the previous plan, as well as acceleration of the site closure date by 10 years.

SALTIRE AWARD FOR DOUNREAY LLW Facility The Saltire Society's civil engineering awards, made in association with the Institution of Civil Engineers, are made annually to recognise the excellence in civil engineering in Scotland. The awards have been showcasing the very best in Scottish Civil Engineering for over 30 years. At this year's awards, the Dounreay Low Level Waste facility received a Commendation for outstanding engineering; "*Dounreay Low Level Waste for its*

'Engineered containment', a project exemplifying the role of the engineers in delivering safe and environmentally effective solutions to create Scotland's first low-level radioactive waste facility. The project demonstrates an exceptionally high level of project management and construction expertise to deliver the first purpose-built, low-level nuclear waste storage and management facility in Scotland and only the second in the UK."

Magnox

Chapelcross Site Report to Scottish Sites Meeting

John Grierson, Site Director, Chapelcross

This report covers the period between April and October 2014 for the Scottish Nuclear Sites Meeting hosted by Scottish Government.

Overview

Chapelcross is currently preparing the site for an interim Care and Maintenance period due to commence in 2017 when the significant hazards will have been remediated allowing a low cost model to be implemented. The final Care and Maintenance activities will be completed between 2023 and 2028 when the site will enter Care and Maintenance.

On 1 September Cavendish Fluor Partnership took over the Parent Body Organisation contract from Energy*Solutions*, commencing with safety briefs at all sites, this was subsequently followed by a leadership workshop for a cross section of staff within RSRL and Magnox. The new executive team are working with the 2 Site Licence Companies to implement the consolidation and transformation plans and form a single Site Licence Company combining RSRL and Magnox.

Safety

Performance associated with nuclear, radiological and security has been good across the reporting period, however, there have been challenges associated with conventional and the environment. A Warning Letter was received from SEPA following conclusion of their investigation into a dispatch of asbestos waste and a sub-limit within the RSA authorisation was exceeded associated with stack above 5 metres, which has a sub-limit of 50GBq within an overall site limit of 750TBq. The regulators agreed with the site view that there was no safety or environmental impact, the dose implications were assessed at 0.02µSv. The conventional safety challenges involved slips, trips and falls, initially on kerb stone with a 5mm lip and subsequently a slip on a floor in the canteen food preparation area following earlier cleaning, both resulting in RIDDOR major injuries to contractors.

The site has adequately demonstrated its Counter Terrorism emergency arrangements during September, has maintained its certification to IS 9001, 14001 and OHSAS 18001 and it has been over 8 years since there has been a breach of the Maintenance Schedule. We have been recognised for our strong performance within the Human Performance and Behavioural Safety Programmes.

Decommissioning Projects

Asbestos

Phase 1 associated with the 16 heat exchangers and turbine hall was completed one year ahead of schedule. Phase 2 is progressing with Reactors 3 and 4 complete and Reactor 1 – 55% complete and Reactor 2 – 90% complete. The site has now been given a performance based incentive for completion of this project.

Ponds

Following the removal of 63 empty LLW redundant fuel skips, the programme has been focussed on inspecting redundant transport flask, testing the filtration element of a Mobile Effluent Abatement Plant and civil works within the building to create a containment area for sludge and zeolite prior to their onwards packaging. Elements associated with cutting Miscellaneous Activated Components, Colbalt and removing zeolite from the skips have progressed through detailed design. The programme has designed, manufactured and tested equipment to retrieve and process ILW within a pond environment and is progressing the modifications to the facility.

Intermediate Level Waste

Plans for the retrieval, processing and storage for ILW associated with the processing plant have been progressing through the concept design stage supported by the supply chain. The processing plant has progressed a different strategy for the detailed design by mobilising a 'self-perform' team supported by the supply chain. The ground clearance and enabling activities have been completed, the planning application approved and the foundations commenced with the piling activities for the Interim Storage Facility. The build is paused whilst we assess alternative waste packages proposed within the Cavendish Fluor Partnership bid.

Electrical Overlay

The next phase will connect all buildings at 415v to the overlay system allowing isolation of all aged HV systems on site. Directional drilling, cable and switchboard installation is progressing.

Heat Exchangers

Due to accelerated deterioration of the structure, the work pack has been divided into safety works and the main structure removal. The main contractor commenced site activities in June 2014 and is currently modifying scaffolding and completing design activities associated with the removal of the top ducts, bridge structure and access steelwork.

Waste Management

The site has dispatched 45 shipments of Low Level Waste in support of site, Company and national waste strategy programmes. This equated to 726m^3 of waste.

The site hosted a peer review from the National Low Level Waste Programme, with personnel from LLWR, Sellafield, RSRL and Magnox making up the team. Good practices were identified for sharing with other UK waste consignors as well as a number of areas for improvement for the site. All of the areas for improvement were accepted by the site and are being tracked to completion.

Land Quality Management

Following the completion of the site wide risk assessment, all land quality work was re-baselined to ensure that the highest priority work is dealt with first.

Magnox

Hunterston A Site Report to the Scottish Sites Meeting

Martin Grafton, Site Director, Hunterston A Site

This report covers the period between April and October 2014 for the Scottish Nuclear Sites Meeting hosted by the Scottish Government.

Overview

Hunterston A Site is part way through its Care and Maintenance Preparations (C&MP) phase of decommissioning, which ends in 2022. The current focus on recovery of Intermediate Level Wastes (ILW) wastes from various facilities on the Site and decommissioning of the Cartridge Cooling Ponds (CCP).

Hunterston has experienced a busy year undertaking its decommissioning programme and on the 1st of September it welcomed the new PBO, Cavendish Flour Partnership. The new senior management team introduced themselves and the PBO to the workforce through a series of site stand-downs, and workshops.

Safety Performance

Safety performance on Hunterston A Site relating to Environment, Health Conventional Safety, Radiological Safety and Security is good. However, there has been one lost time accident (LTA) in April (an operator injured his ankle stepping from a vehicle) and the site does experience the occasional Medical Treatment Case (MTC's) First Aid Cases (FAC) and therefore the attention on workforce safety continues, using Behavioural Safety and Human Performance tools.

As recognition of the site's safety record and safety culture Hunterston A received its ninth consecutive Gold Medal from RoSPA and supported Magnox in receiving RoSPA's top award: the "Sir George Earle Trophy".

The Site successfully demonstrated its emergency arrangements to ONR during its annual Level 1 Exercise, with an exercise designed to stretch the emergency team with three incident areas. It has also successfully demonstrated it Counter-Terrorism arrangements to ONR-S in October, receiving positive feedback from the Regulator.

Decommissioning Projects

ILW Programme

SAWBR

The SAWBR (Solid Active Waste Bunker Retrieval) facility was constructed to recover solid ILW from within the site's five ILW bunkers. This is achieved by using remotely operated vehicles (ROV's) to fill hoppers that are then tipped into a RWM (Radioactive Waste Management Ltd) approved stainless steel containers.

The initial bunker breakthrough was made at the end of March 2014 and the SAWBR facility is currently undergoing active commissioning. As of the end of October, 27, 3 metre cubed packages of solid ILW had been transferred to the site ILW Store. The project team are currently working through the second planned maintenance

shutdown. Active commissioning to date has not been without its challenges and the team are working towards resolving some plant issues which should, in turn, increase the production rate of this facility.

ILW Store

The site's ILW Store is also undergoing active commissioning following the receipt of a Licence Instrument from ONR in March allowing radioactive packages to enter the Store.

ILW packages generated in SAWBR are, following a rigorous post-filling inspection, imported into the Store for interim, containerised storage awaiting the construction and commissioning of the SILWE facility.

SILWE

On the Solid Intermediate Level Waste Encapsulation (SILWE) project, the main contractor (Balfour Beatty) is now fully established on site and the area where the SILWE plant is to be constructed has now been formally handed over to Balfour Beatty's control under the Construction (Design and Management) regulations 2007. Ground works have commenced with the laying of blinding concrete in preparation for the construction of the base slab.

This facility is required to fully grout (encapsulate) the 3 m^3 packages containing the solid waste retrieved through SAWBR. These containers will then be in their disposable state.

Construction and inactive commissioning of SILWE is planned to be complete by the end of February 2017.

WILWREP

The commissioning team are progressing with the inactive commissioning of the Wet ILW Retrieval and Encapsulation Plant (WILWREP). This plants purpose is to [redacted]

installed. The target to clean and stabilise the pond floor remains March 2016, at which point the project will be complete.

Four sand pressure filters from the redundant Active Effluent Plant have been emptied of LLW sand, deplanted and size reduced for disposal. There are now two remaining sand filters on-site, which are located in the CCP Pond Water Treatment Plant (PWTP). The sand in these filters has been characterised as ILW. The project team are currently developing a retrieval method to recover the sand and working on the RWM Letter of Compliance process to allow future transfer of the sand into the WILWREP facility for treatment.

Other work in the Ponds Programme area at Hunterston include the gross decontamination of the three underground redundant sludge retention tanks, which has recently been completed and the first stages of work to decommission the five redundant delay tanks are progressing well. The tanks have been drained and core samples have been taken. These samples have sent off site for radio-chemical analysis to inform the project of the levels of activity in the tank walls. Once the activity levels have been established, optioneering will be carried out to establish the best method going forward to decontaminate the tanks.

Land Quality

Project work associated with in-situ remediation of the CP7 Compound and associated drainage at Hunterston A was completed in 2013. This project involved the installation of a grout wall and cap around an area of known radiological contaminated ground and the re-routing and cleaning of series of land drains and outfalls.

Following completion of the work a programme of ground water monitoring and silt sampling has been undertaken to measure the success of the grout wall and cap. All ground water monitoring has shown to date that the grout wall is performing as per the design and silt samples from the drainage system is proving to be 'out of scope' in accordance with the Radioactive Substances Act 1993.

Waste Management

The Site received a new 'multimedia' authorisation for radioactive discharges on 1st July 2014, this replaced three distinct previous authorisations.

The site continues to make Low Level Waste (LLW) discharges to the Low Level Waste Repository (LLWR). 427 m^3 of LLW was disposed of during the twelve month period from October 2013 to September 2014. There is no limit on the volume or radioactivity content of LLW being disposed of under the new authorisation. The main contribution to these waste consignments was spoil from excavations on historically contaminated areas of the site. Most of the spoil was Very Low Level Waste (VLLW) and was diverted from LLWR to a suitably licenced facility in Lancashire in line with the NDA National Waste Programme to help prolong the usable life of the LLWR Repository.

The site also discharges metals for treatment and combustible waste for thermal treatment through the UK supply chain using LLWR as a waste broker in accordance with the NDA National Waste Programme.

As a separate route, the site has the facility to surface decontaminate metallic waste for release from the site as 'out of scope' in accordance with the Radioactive Substances Act 1993.

Community

The site continues to support the local Site Stakeholders' Group meetings every quarter and fully engages with the members of this group.

The Magox Socio-Economic Scheme continues to benefit the local area with funding of over £7500 provided to local incentive, events and community groups.

5th November 2014

Distribution:

Meeting Attendees

Scottish sites meeting
EDF Energy update
Torness Power Station & Hunterston B Power Station
October 2014

COMPANY NEWS

EDF Group mid year financial results

In July, the EDF Group released its half-year financial results. Here are the group highlights:

- Our half-year 2014 results up
- We have demonstrated good operating performance
- Our 2014 targets and 2018 vision has been restated for investors

In EDF Energy at the half-way point of the year, our budget is on track. The headline figure of our operating profit or EBIT (earnings before interest and tax,) at June 2014 was £560 million. Our Nuclear output was up thanks to good operating performance and fewer planned outages in the first half of the year compared with the same period in 2013.

The relatively mild first half of 2014 has impacted gas sales in our Customers business but this impact has been lessened by a higher number of customer accounts.

Our two enduring business priorities are to achieve a strong safety performance and to meet our budget.

West Burton gas power station and Teesside Offshore Wind Farm

EDF has demonstrated its commitment to invest to meet Britain's energy needs by inaugurating two new electricity generating sites.

Both projects are examples of the company's investment in the diverse energy mix needed to give the UK the reliable, secure, low carbon electricity it needs for the future.

The West Burton Combined Cycle Gas Turbine Power Station and the Teesside Offshore Wind Farm were both officially opened on 16 April by the Energy Minister Michael Fallon MP and the Chairman and CEO of EDF Group, Henri Proglio.

EDF Energy Renewables' Teesside Offshore Wind Farm near Redcar is the first offshore wind farm where the development, engineering and construction have been entirely led by EDF Group companies.

Its 27 turbines can produce 62MW of electricity, enough to supply all the homes in Redcar, Marske and Saltburn. EDF Energy Renewables operates wind turbines with a capacity of 462MW and has 1,500MW of projects in development.

The power station at West Burton in Nottinghamshire is EDF Group's largest single capital investment project in the UK so far and has a capacity of 1,300 MW, enough electricity to supply 1.5m homes.

EDF Energy renewables' park spring wind farm proposal

A proposal by EDF Energy Renewables for a new wind farm development in South Yorkshire has been given the go ahead by the local planning authority.

Barnsley Metropolitan Borough Council's Planning Committee recently voted to approve the company's planning application for the Park Spring wind farm on a site between the villages of Great Houghton and Grimethorpe, east of Barnsley.

The six megawatt scheme will incorporate three turbines with a height, from ground to the tips of the blades, of up to 126.5 metres and will produce enough low carbon electricity to supply the average annual electricity needs of up to 3,200 homes.

EDF Energy launches Blue+Fixed Prepay October 2016
EDF Energy, the UK's largest producer of low carbon electricity, has announced the launch of Blue+Fixed Prepay October 2016 – a new energy tariff that enables prepay customers to have access to fixed price energy for 27 months, with no exit fees.

With only four fixed prepay tariffs available on the market, customers on prepay meters have previously had limited choice when it comes to fixing their energy prices – despite 19% being in fuel poverty.

The launch of Blue+Fixed Prepay October 2016 will allow 7.5 million prepay customers nationwide to fix their energy in line with EDF Energy's current Standard Variable prices (the cheapest on average of the major suppliers), enabling them to better manage their, often squeezed, household budgets and avoid the ups and downs of energy prices.

Dungeness B flood defence work
Dungeness B power station is undertaking a number of improvements to its coastal flooding defences, investing around £5 million so far.

The works began in 2013 and are to upgrade the existing flooding defences to cover more extreme events that are statistically very unlikely to occur in the U.K., ones that might happen only one in every 10,000 years.

The station has just put in a planning application for the final phase of the project; a rock armour wall behind the shingle bank which we hope to be completed by the end of 2014

Office for Nuclear Regulation approves Dungeness B's graphite limit
The Office for Nuclear Regulation has approved the limit of graphite weight loss at Dungeness B to 8%.

This is a small increase from the previous limit of 6.2% and refers to the amount of weight the graphite core is allowed to lose. Dungeness B has used the information from a continuing programme of monitoring, inspection and physical sampling of the graphite core to assess the state of the core.

This knowledge feeds in to modelling and analysis which give us the knowledge to allow us to safely increase the limit of weight loss within the core from 6.2% to 8%. As time goes on we will continue to collect data, build this into our models and calculations and ensure our safety margins are robust and appropriate.

Employment on the Hinkley Point C project

Over one hundred people in the south west have now found work thanks to the Hinkley Point C Employment Brokerage.

Maria Smith from Bridgwater had cause for celebration as she was appointed as an accommodation [redacted] assistant on the Hinkley Point C project after contacting the brokerage in 2013.

The brokerage is an initiative by EDF Energy to match people interested in working on the power station project with the latest jobs and training on offer.

Over 25,000 job opportunities are set to be created during the construction phase of Hinkley Point C and the brokerage will be key in helping Somerset people access suitable roles.

Once completed, the power station would provide 900 full-time jobs over its 60 years of operation and generate enough low carbon electricity for five million homes.

New nuclear research on the Sizewell coast

A team of marine engineers working on the Sizewell C project will gather fresh data from the seabed via a series of geophysical surveys, tests and shallow boreholes along the Sizewell shoreline and out to sea. As part of the work sediment cores will be removed from the sea-bed for laboratory analysis.

This work will provide essential geotechnical information for ongoing design studies for the cooling water

The station produced over 5400 gigawatt hours (GWh) of low carbon electricity from January – August 2014.

Safety record

On 7 July 2014, Torness reached the significant milestone of three years without a Nuclear Reportable Event. This safety record has been achieved thanks to the commitment of our people and in particular, the strong open reporting culture, combined with the culture of challenge. Our task now is to maintain this record on our journey to Zero Harm.

The station had one lost time incident (LTI) on 9 July whereby a contract partner suffered a hairline fracture to his fibula. This happened when he was undertaking what was a simple activity of sweeping up to clear his work area. We are supporting the individual in his recovery and have confirmed that he is receiving the appropriate level of care and support. This is our first lost time incident at Torness of any kind since January 2009.

EDF Energy staff have worked over 2050 days without an EDF Energy LTI. We are very proud of this achievement and it openly sign-posts our values for maintaining the safety and well-being of those who work here. A number of factors have contributed to this achievement; a highly engaged workforce, a flourishing HESAC and not least, the ethic to ensure everyone goes home in a healthy state is firmly embedded.

Operational performance

Reactor 1 was brought back on line on 19 April after its tenth major outage and it's biggest yet which began on 7 February 2014.

Reactor one was shut down due to an issue with the electrical system within our conventional plant on 1 July. Our engineers are progressing through testing routines and it will be returned to power as soon as testing is satisfactorily completed. The reactor was returned to power on 8 July.

Reactor 2 planned maintenance work started on Wednesday, 2 July to repair a turbine governor valve. The valve controls the flow of steam into the turbine and is part of the conventional, non- nuclear, side of the power station. Reactor 2 was returned to power on 15 July. We completed the planned outage in duration of 12.9 days. This compares favourably with the stretch plan of 14 days and our original target of 18 days.

Reactor one was shut down on 14 July. During testing of the reactor protection system, reactor one automatically shut down. We test this system, which is very sensitive, on a regular basis to prove the reactor will always shut down when required. The reactor was returned to power on 17 July.

People update

People management has also contributed to the success of the station as we successfully manage the succession of roles and ensure suitably qualified and experienced personnel are available to fill vacancies - guaranteeing continuity of the business.

The station continues to recruit to plan and currently has 522 full time equivalent employees. We carry on making good progress with our training programmes and are working with our leaders at all levels to improve leadership and accountability.

EDF Energy power stations' have a strong local recruitment record with most its Torness workforce living in the area – the stations also draw most of their new apprentices from schools near the sites. The latest group of eight apprentices were appointed during the summer and kicked off their new careers with EDF Energy with a team building week in the Lake District. There they joined with the company's xx other apprentices who are linked to EDF Energy's other nuclear sites. Following the week in the Lakes the apprentices then headed to HMS Sultan for the first two years of the programme, they will return to their base sites for the final two years of the apprenticeship.

Station News

Torness visitor centre celebrates its first birthday

In May our visitor centre celebrated its first birthday and has gone from strength to strength with more than 3 700 visitors and a five star award by VisitScotland.

To celebrate the first birthday of the visitor centre, EDF Energy Chief Executive, Vincent de Rivaz, paid a visit along with pupils from East Linton Primary. They all enjoyed a good look around the centre, a tour of the nuclear station and a of course, a piece of birthday cake.

Chief Executive, Vincent de Rivaz, congratulated visitor centre manager Faith Scott and her team of ten guides on their success: "I am delighted to visit the visitor centre at Torness nuclear power station and see the excellent work that goes on here. By welcoming groups from schools, universities and the local area we are helping spread the message that nuclear energy not only provides safe and reliable electricity generation for millions of homes but is also a low carbon solution."

Station Director Paul Winkle said, "I am delighted to welcome Vincent and the pupils of East Linton Primary to the visitor centre. It is important people know more about what we do here at the nuclear power station as we are very proud of what we have achieved."

Visitor centre manager Faith Scott said, "No two days are ever the same in the visitor centre and we welcome anyone who wants to satisfy their curiosity and find out more about nuclear power.

Torness employee gets award after 50 years of service

There aren't many people who can say they've been with a company for 50 years, but Willie Clarkson from Haddington is one of them.

At the tender age of 15, he started out as apprentice at Kincardine power station on 6 July 1964, and could never have imagined what the future had in store. Willie's apprenticeship with the South of Scotland Electricity Board soon turned into a rewarding career in the energy industry and – half a century later – he

has received a rare award, marking 50-years of service with EDF Energy and its predecessor companies. At the age of 65, Willie continues to work as a contract manager at Torness power station.

Willie started his career as a mechanical fitter and later moved to Longannet power station as a general assistant engineer. He then applied for a position at Inverkip power station and spent five happy years there before returning to Longannet for a further five years. He then made the move to Torness 28 years ago. Willie started working at Torness during construction and his role was in the maintenance department looking after contracts. He was also an integral part of the opening when more than 6000 people a day

May". Willie is of course referring to the Torness official opening on 13 May 1989 by Rt. Hon. Margaret Thatcher MP.

An outage at a power station is similar to a car having an MOT and service but on a much bigger scale. Each of the two generating units at Hunterston B is switched off every 3 years for routine inspections and maintenance when engineers will complete a number of improvement projects and the unit at the

time.

The outage is the culmination of two years of meticulous planning. More than 13,000 separate pieces of work are scheduled to be completed, with a total spend of over £20 million. All this work will make sure the power station continues to provide electricity for more than 1.4 million homes in Scotland.

Three Hunterston apprentices took to the skies at an airfield in Salisbury with 14 other colleagues and they all thoroughly enjoyed themselves. With the sky dive and other charity events like bag packing at a supermarket, the group raised a grand total of more than £6,000.

Ayrshire Smiles all round as 5-Star Visitor Attraction gets 100%

There are big smiles all round at Hunterston B power station visitor centre after the team of guides received their certificates for passing the Ayrshire Smiles service excellence training course. This is the first business with 100% of its customer facing staff having completed Ayrshire Smiles.

The team of tour guides show visitors around EDF Energy's Hunterston B power station and explain the fascinating workings of the station. Welcoming people from the local area and much further a field on a daily basis to the visitor centre, which has a 5-Star rating by VisitScotland, the guides decided to rise to the challenge of enhancing their already excellent customer services skills.

Ayrshire Smiles mixes customer service training with destination knowledge and is designed to inspire people employed within tourism and hospitality related businesses to share their passion for Ayrshire and give a genuine warm welcome to visitors. It builds on tried and tested destination and service delivery courses and helps create a consistent and quality approach to customer service.

Hunterston B power station boosts local economy

One of the two units at Hunterston B power station was temporarily switched off on the 1 August 2014 for its statutory outage: one of its biggest yet.

With the high-performing nuclear power station injecting around £90 million of economic benefit to the West of Scotland economy this year through salaries, work done by contractors and investment projects, this outage is good news for North Ayrshire.

Local ice skaters learn from TV star thanks to donation from Hunterston B power station

A group of more than forty young ice skaters have enjoyed a summer skating camp at the Auchenharvie Leisure Centre in Saltcoats thanks to some help from EDF Energy's Hunterston power station with a legacy fund donation.

£5,000 allowed the boys and girls from the Magnum Ice Dance and Figure Skating Club to enjoy a week long intensive training camp with Dancing on Ice Professional, Mark Hanretty as one of their coaches. The group had sessions on the ice, dance and fitness classes and daily lectures on health and wellbeing.

The money comes from EDF Energy's Sporting Legacy Fund which was set up after the London 2012 Olympics to capture the spirit of the Games. EDF, of which EDF Energy is a UK subsidiary, was an official partner and electricity supplier to the London 2012 Olympic and Paralympic Games. The company supplied electricity to the Olympic Park which was backed by low-carbon nuclear and renewable sources.

You can find out more about the Magnum Ice Dance and Figure Skating Club here http://www.midfsc.org.uk/