



HUNTERSTON A

SITE STAKEHOLDER GROUP REPORT
SITE CLOSURE DIRECTOR

DECEMBER 2017

HUNTERSTON A SITE CLOSURE DIRECTOR'S REPORT TO THE SITE STAKEHOLDER GROUP DECEMBER 2017

Hunterston A continues to make good progress on our programme of work to Care and Maintenance. We continue to be adequately funded by the NDA and remain committed to addressing the nuclear liabilities at Hunterston A in a safe, secure manner with care for the environment.

1 SAFETY OVERVIEW

1.1 Safety Review Performance

Safety Performance on site remains good and it has now been 43 months since the last Lost Time Accident (LTA) on site. The Site Total Recordable Incident Rate (TRIR) is 0.32 and the Day Away Case Rate (DACR) remains at zero. During the reporting period there has been one first aid case on site.

The Company-led "Target Zero" campaign is gathering momentum. The topics for the last three months have been Radiological Safety (August), Fire Safety (September) and Mental Health Awareness (October). November's topic is Slips, Trips and Falls. These topics are focus points for each month and are designed to stimulate discussions, questions, promote awareness and hopefully prevent or reduce unwanted events. The Target Zero questions have been refreshed with open questions relating to each topic designed to encourage discussions relevant to the topic with the desired output being Zero Accidents, Zero Incidents and Zero Harm. Magnox has identified a need to have suitably trained persons on site that can provide Mental Health support to individuals or groups on site. A selection of staff have been sent on Mental Health First Aid training courses as a result of recognising that mental health issues can be present in the work place.

During August, Magnox introduced a database called "Q-Pulse" which is used to track and manage events (positive/negative) and actions that are placed from events. This new database is designed to improve event reporting, trending and management of actions and has replaced the old reporting system using Learning Capture Forms (LCF's). It is pleasing to know that our strong reporting culture has not been impacted by the introduction of Q-Pulse and we are still averaging 100 Q-Pulse reports per month.

Magnox and contractor Safety Representatives are providing support to the various proactive processes on site and are frequently engaged in housekeeping tours on site; engaging with our Regulators and are key part of our investigation process. The Safety Representatives are currently planning their attendance and focus point for the up and coming Company Safety Conference at end of November which is being held in Bristol. The Safety Reps continue to meet fortnightly and are well supported by site in addressing any issues raised by the site workforce.

2 EMERGENCY PREPAREDNESS

The site continues to hold regular 'practice exercises' with the various contingency teams and these exercises serve to maintain and test the arrangements to ensure the site is ready to respond to any event that occurs in accordance with the new arrangements.

In addition to this the site held its annual Counter-Terrorism demonstration exercise on Wednesday 4 October 2017, when the site successfully demonstrated its approach to dealing with a suspicious package received on site which then emitted a white powder representing a Chemical, Biological, Radiological or Nuclear (CBRN) attack.

The site's Security Contingency arrangements were demonstrated to an assessment team from the Magnox Central Security and Assurance groups representing the Office for Nuclear Regulation (ONR). The exercise involved the whole site going into "lock-down", emergency services being received by Security Gatehouse personnel and Command and Control being exercised from the Site Control Room, in this instance.

The exercise was deemed as "adequate" in ONR terminology, which means it was successful and showed that the site was capable of dealing with such a situation. However, the MSO overall assessment of the site graded it at "Very Good" whilst the feedback from Police Scotland described the site response as "Excellent".

3 DECOMMISSIONING PROGRESS

3.1 Clean and Drain Pond Project

Following the introduction of a new pump and a change to working practices in the Pond, progress on sludge retrieval has vastly improved. The majority of sludge from Bay 8 has now been transferred to the Pond Purge Sump (PPS). This represents a major success for the Pond and is testament to the hard work and perseverance of the team.

Some residual material remains spread across the Bay and is being progressed in parallel with Ultra High Pressure jetting of the chamfer walls. Once the chamfer walls are complete (white portions of wall), dry shaving techniques will be utilised to remove the contaminated layer of Pond floor

The Pond Team are also currently cleaning out the last area, Bay 7, of sludge. On completion of this and the final clean of Bay 8, all sludge and water will have been removed from the Pond. This is expected in December 2017 (see picture opposite of Bay 8 drying out).



Decontamination of the wall/floor surfaces as well as de-planting of some remaining furniture around the Pond will then become the team focus.

In the Skip Refurbishment Plant (SRP) the deplanting of the SRP equipment is complete with the focus now on contaminated ancillary equipment. Two stainless steel skip transfer trolleys have been size reduced and also five stainless steel 1m³ intermediate bulk containers (IBCs). The SRP glove box associated with the acid transfer bowser has been deplanted from the facilities external wall and transferred into the CCP building for size reducing.

Pond Water Treatment Plant (PWTP) - preparation work is now underway to gain access into the two caesium removal unit (CRU) cells for future deplanting of the CRU vessels. Redundant steelwork and equipment have been removed on the PWTP roof area above the CRU cells and new anchor points are currently being installed for lifting points to remove the individual concrete roof blocks for access.

- *Approximately 0.75 m³ of sludge remaining to be processed from Bays 7 and 8 to the Pond Purge Sump.*
- *700m² of 1078m² of concrete surfaces have been shaved.*
- *Majority of Pond water has now been removed and processed via the MAETP.*

3.2 Wet Intermediate Waste Retrieval & Encapsulation Plant (WILWREP)

Sludge and Resin drums 10 – 21 have been successfully retrieved, encapsulated and transported to the Intermediate Level Waste Store [ILWS]. This represents the most successful period of active commissioning. During November the project completed a periodic maintenance outage. During this maintenance outage a fault was identified on a sludge conditioning pump which necessitated replacement. This work is currently progressing and it is anticipated that the project will return to active commissioning by early December.

Acid Storage Facility [ASF] Refurbishment continues with a successful completion of the electrical refurbishment with work now progressing on the mechanical refurbishment. This work is necessary to prepare the ASF for the acid encapsulation phase of the project. This work is in the future but the opportunity is to work on the facility now, well in advance of this phase of the project. The focus on this project is now to complete the active commissioning and transition the project into its operational phase.

3.3 Solid Intermediate Level Waste Encapsulation (SILWE) Project

Site installation is progressing well and the electrical infrastructure is ready to receive the equipment from the Integrated Testing Facility. The HVAC installation is progressing with the mechanical installation of fire and flow dampers. HVAC electrical distribution and control panels have been delivered to site and electrical installation on the HVAC system has started. Civil infrastructure is substantially complete and the team are now working to finalise the building fabric and surrounding roadways.

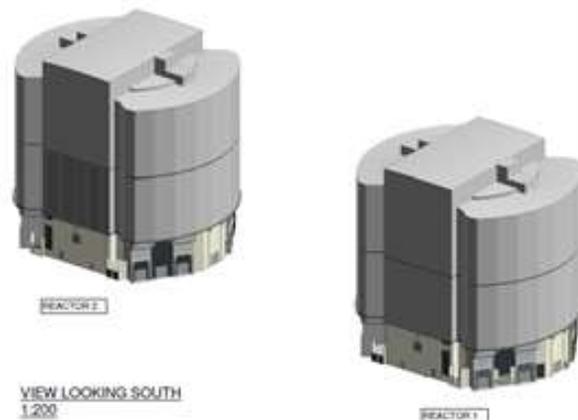
Offsite the robotic assemblies are being installed to enable a Factory Acceptance Functional Check prior to delivery to the Hunterston site.

At the Integrated Test Facility [ITF] all setting to work and integrated testing are now successfully completed with some recommendations for minor modifications prior to delivery at the Hunterston Site. All electrical equipment at the [ITF] has been isolated and cable removal has started. The Motor Control Centres have been delivered to site and can now be included in the site electrical infrastructure ongoing works. The conveyor assemblies will be retained at the ITF to allow some minor mechanical modifications to be completed. The focus on the project is now at the Hunterston site to complete the installation.

3.4 Hunterston Reactor Cladding Project

In August 2017, Magnox issued the Invitation to Tender (ITT) for a project to clad the reactor buildings as part of the preparations for Care and Maintenance (C&M). Magnox are currently evaluating the supply chain bids with a view to placing a contract early 2018.

The project will involve installation of an aluminium standing seam system similar to the existing Intermediate Level Waste Store. This system has been shown to give the durability that is required to keep the reactor buildings watertight during the Care & Maintenance period. As such the system will be expected to perform for 60 years.



In consultation with North Ayrshire Council (NAC) a planning permission was submitted (Planning Application Ref **17/00740/PP**) and has now been accepted by committee on 20/09/17. The planning permission has one condition attached which states:

“That prior to the commencement of the installation of the cladding works, hereby approved, full details/samples of the proposed cladding, including colour, shall be submitted for the written approval of North Ayrshire Council as Planning Authority.”

Within each of the tender responses there are a number of colour options available. The project anticipates mobilisation on site around August/September with a build programme of several years. Once a preferred supplier is chosen on the run up to Christmas, the project will be able to update the SSG on timescales during further engagement sessions.

3.5 Solid Active Waste Bunker Retrieval (SAWBR) Project

Following successful breakthrough into Bunker 2 and return to waste retrieval operations in mid-August, SAWBR continued to progress well with a total of 639 packages being achieved by 14 September 2017.

Unfortunately, SAWBR then suffered a failure of a component drive system related to a shield door that resulted in suspension of waste retrievals for 6 weeks whilst a repair was effected.

Maintenance, Site Engineering and our Contractor colleagues provided invaluable support to the Higher Activity Waste ops team to achieve this challenging repair to allow us to get back to safely recovering waste from Bunker 2.

The plant was returned to service on Thursday 26 October. Waste retrievals from Bunker 2 and as of Monday 20 November 2017 the SAWBR team has recovered 653 packages of solid ILW.



Waste flow from Bunker 2



Current flow of waste undergoing sorting within Bunker 3

4 PEOPLE

4.1 Site HR & Occupational Health

Consultation continues with the Trade Unions and employees affected to discuss the proposed changes within Shift Operations. In support of this a Q&A has been developed with a healthy number of questions being proposed. Consultation will close when responses are closed out and any required changes are incorporated into the proposals. The Hunterston proposals are a phased approach to removal of 24/7 operations with the Shift Leader role being retained and Security Guarding presence continuing. Individuals within the shift positions will be redeployed to suitable alternative employment on days and as such workforce numbers is expected to remain stable. The change is expected to be implemented in Spring 2018, dependent on timing of the appropriate regulatory approvals being obtained.

EDI (Equality, Diversity and Inclusion) remains a focus across the Company. An NDA EDI survey was recently conducted across the whole of the NDA estate. This was an opportunity for individuals to provide their thoughts on diversity and inclusion within both the NDA estate and their own organisation. Everyone was encouraged to complete the survey, which was anonymous, in order to ensure the results reflect how people really feel. A good response was received by Magnox, as a whole, with a return rate of 72%. Results of this survey are currently being compiled. In addition, mandatory training sessions in EDI, focussing on 'Respect

and Inclusion' within the workplace for all staff across the Company are scheduled to take place at Hunterston during January 2018,. Good feedback on the training has been received from the other sites that have completed the sessions.

In general, health of the workforce remains good, although overall sickness levels remains above our Company target due to a high number of long term sickness cases in the rolling 12 month period. These cases continue to be managed with employees supported appropriately.

5 ENVIRONMENT (November 2016 to October 2017)

5.1 Radioactive Discharges

Solid

Low Level Waste (LLW) disposals to the Low Level Waste Repository (LLWR) continue. 373.54 m³ of LLW was disposed of during the twelve month period from November 2016 to October 2017. There is no limit on the volume or radioactivity content of LLW being disposed of under the site RSA authorisation. The main contribution to these waste consignments was redundant plant and equipment generated during decommissioning operations.

Liquid

The main sources of liquid radioactive discharges during the period November 2016 to October 2017 was dewatering of the cartridge cooling ponds, commissioning of the new WILWREP facility, and routine waste water arisings from the site active drain system.

Radionuclide or Group of Radionuclides	Annual Limit	Activity discharged (November 2016 to October 2017)
Tritium	30 GBq	0.41 GBq
Caesium-137	160 GBq	0.26 GBq
Plutonium-241	2 GBq	0.09 GBq
All alpha emitting radionuclides not specifically listed taken together	2 GBq	0.23 GBq
All non alpha emitting radionuclides not specifically listed taken together	60 GBq	0.66 GBq

Gaseous

The main contributions to gaseous radioactive discharges were ventilation systems operating in contamination controlled areas and reactor vessel 'breathing'.

Authorised Outlet, Group of Outlets or other discharge route	Radionuclide or Group of Radionuclides	Annual Limit	Activity discharged (November 2016 to October 2017)
All authorised outlets taken together.	Tritium	100 MBq	56.4 MBq
	All other radionuclides (excluding tritium)	3 MBq	1.12 MBq
Discharges made as a consequence of reactor breathing	Tritium	3000 MBq	563.31 MBq
	Carbon-14	200 MBq	59.59 MBq

5.2 Non-radiological Environmental update

Surveillance and analysis of the sewage treatment works effluent continues to ensure compliance with the discharge licence. Treated sewage effluent from the plant continues to be independently assessed by SEPA throughout the year. Results from SEPA and independent off-site laboratory analysis verify that the sewage treatment works reed beds continue to work efficiently to maintain good quality effluent.

Monitoring of resources such as water, electricity and fuel continues to determine where use can be minimised. Site objectives and targets identified for resource use are monitored and reviewed in line with the site Environmental Management System.

Over the period November 2016 to October 2017, 100% of the non-radioactive hazardous waste, 99% of the non-radioactive non-hazardous waste, and 100% of the non-radioactive inert waste produced at Hunterston A was sent for re-use or recycling. Only 1.6 tonnes of waste was disposed to landfill during that period.

5.3 Environmental Events

There were no significant environmental events in the period November 2016 to October 2017.

6 RADIOLOGICAL SAFETY

Explanatory note: The maximum permissible dose to a radiation worker in the UK is 20mSv (milliSieverts) in a calendar year. The average annual radiation dose to the UK population from all sources is 2.6mSv. Collective dose is usually measured in man.milliSieverts. For example, if ten people were each to receive 0.1milliSieverts during a particular task, then the collective dose for the task would be 10 people x 0.1mSv each = 1 man.milliSievert.

Doses for the calendar year 2017, to the end of October, are as follows;

- *Approximately 163 employees received a total collective dose of 13.912 man.mSv between them*
- *Approximately 501 contractors received a total collective dose of 103.110 man.mSv between them*
- *The highest individual dose received by an employee was 3.774 mSv*
- *The highest individual dose received by a contractor was 6.135 mSv*

The majority of dose accrued in 2017 has been from a combination of the pond decommissioning project and other site projects. All doses in these projects have been prior-assessed, planned and are tracked throughout the project duration to ensure that no limits are exceeded and that doses are kept as low as reasonably practicable.

7 SOCIO-ECONOMIC AWARDS

To date, there has been a total of **14** applications in 2017/18 (**11 successful, 1 rejected, 2 withdrawn**). Please see below the table of applications that have been successful in receiving awards this year:

MAGNOX SOCIO-ECONOMIC SCHEME 2017/18 - HUNTERSTON AWARDS		
APPLICANT	DETAIL	AWARD
Ardrossan Rugby FC	Equipment for new outdoor gym project	£545
Maritime Volunteer Service	New outdoor motor for Ardrossan boat (<i>see picture below</i>)	£1,500
Largs Youth Theatre	Microphones for Youth Productions	£460
Largs Viking Festival	Youth funding for Largs 2017 Viking Festival	£1,000
Fairlie Community Association	Fairlie Hall Refurbishment Project Equipment	£803
Largs Organic Garden	Community Garden at Largs Railway Station	£8,632
Largs Colts FC	Football Strips for Largs Colts 2011 (Withdrawn)	£0
Kilbirnie Junior Jets FC	Poly Suits for Holland Football Tournament	£377
Vertex West Kilbride	Vertex Music & Arts Festival 2017	£500
Fairlie Primary School PC	Staging for School and community use	£750
West Kilbride Festival Cttee	2017 Yuletide Celebrations - Selection Boxes	£1,000
TOTAL		£14,760

8 SITE VISITS AND KEY DATES

Hunterston A Site continues to attract the right kind of interest through our good safety and business performance. A selection of visitors and key dates during the period included:-

DATE	EVENT / VISIT
7 September	Hunterston Site Stakeholder Group
27/28 September	Scottish Annual review of Safety, Security & Environment (ARRoSSE) - ONR/CNS & SEPA
3 October	Society of Radiological Protection – Scottish Regional Group Visit (<i>see picture below</i>)
4 October	Annual Witnessed Counter – Terrorist Security Exercise
12 October	Scottish Sites Meeting - Edinburgh
17 October	NDA Site visit - Mark Raffle Programme Manager Scottish Sites
25 October	Site Joint Council
2 November	Site Closure Director Update to SSG chair- Rita Holmes and SSG vice Chair, John Lamb & Magnox Socio-Economic Local Review Panel Meeting
7 November	SEPA Inspection of Radioactive Waste Advisors
8 November	Hunterston A Fire Safety Inspection - ONR
28/29 November	SEPA Routine Site Inspection

