



HUNTERSTON A

**SITE STAKEHOLDER GROUP REPORT
SITE CLOSURE DIRECTOR**

SEPTEMBER 2018

HUNTERSTON A SITE CLOSURE DIRECTOR'S REPORT TO THE SITE STAKEHOLDER GROUP SEPTEMBER 2018

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

Safety Review Performance

Safety performance at Hunterston A Site continues to be excellent. It is now 51 months since the last Lost Time Accident (LTA) occurring on site. The Total Recordable Incident Rate (TRIR) & Day Away Case Rate (DACR) are Zero and there has been no First Aid Case Injuries at site since end of March 2018.

This safety performance demonstrates that the focus on safety is maintained in all our planned work activities and demonstrates that everyone at work on Hunterston A Site went home safe during this period whilst delivering safe decommissioning.

We cannot afford to take our eye off the ball and must ensure that safety is always in our thoughts as we deliver decommissioning activities; therefore the Target Zero Campaign is kept at the forefront of all our daily activities and has proactively helped in maintaining our excellent safety performance.

The Target Zero Topics over the past 3 months were: Lifting Safely (May), Environment and Waste (June), Radiological Standards (July) and for August the topic is Waste Management. By proactively raising awareness on the above Target Zero topics we may reduce the likelihood of unwanted and unexpected events occurring that could result in someone being injured or damage to the environment or plant.

The site continues to receive a healthy number of event reports each month via the 'Q-Pulse' reporting system. These reports are discussed at the Daily Safety and Compliance Meeting; the learning captured, and shared with appropriate actions placed when required. The events are tracked and managed by the site Operational Experience and Feedback Engineer to ensure the actions are appropriate and are closed out in a timely fashion.

The site Safety Representatives, including Contractors Safety Representatives, continue to meet on a fortnightly basis to discuss events, safety issues/concerns, suggested improvements and safety performance. This Local Safety Forum is attended by the site EHSS&Q Manager, Head of Safety & Operational Experience Feedback Engineer (OEFE). This meeting also provides information for discussion at the site HESAC meeting.

The Safety Representatives are currently planning their attendance at the Company Safety Conference and finalising their presentations and display boards for exhibition.

2 EMERGENCY PREPAREDNESS

The Site Contingency and Emergency Arrangements are well embedded and are regularly rehearsed by the Site Contingency Teams, Programmes and Contractors Contingency teams.

Contingency exercises are carried out against a programme of planned training exercises designed to maintain the Contingency Teams skill sets and ability to respond to any foreseeable event that could occur.

Various equipment previously required by our old emergency arrangements (breathing apparatus, fire extinguishers, fire fighter suits and helmets, etc) were recently donated to International Fire & Rescue Association (IFRA), Scotland's largest international fire service charity, who assist fire and emergency services worldwide in countries affected by war, civil unrest and those unable to provide a fire service.

3 DECOMMISSIONING PROGRESS

3.1 Solid Active Waste Bunker Retrieval (SAWBR) Project

During July 2018 SAWBR achieved a significant milestone with the production and export of the 800th Package of Solid Intermediate Level Waste to the ILW Store. This equates to 1,694 tonnes of solid ILW waste safely recovered from the bunkers and placed in the store. The plant has overcome the difficulties of recent months and enjoyed a period of steady operation through July 2018. Total waste recovered from bunker 2 is now at ~65% with around 95 packages left to clear. This is expected to complete by the end of the calendar year.

The plant came off line to allow Routine Planned Maintenance in SAWBR W/C 23rd July and this also provided an opportunity to take care of some minor Brokk maintenance and housekeeping within the process area.

After a successful shutdown work in SAWBR restarted Friday 10 August with Waste retrievals from Bunker 2 continuing to progress well and as of Friday 17 August 2018, the SAWBR team has recovered 204 of the expected 300 packages worth of waste from Bunker 2. This provides an overall figure of 819 packages of solid ILW recovered to date

(see picture opposite of overhead view of Bunker 2 solid waste retrieval).



3.2 Wet Intermediate Waste Retrieval & Encapsulation Plant (WILWREP)

Good progress has been made across the summer months on WILWREP and the facility recently achieved the milestone of 50 3m³ drums exported on 16 July 2018. The increased ambient temperature enjoyed over the past few months has contributed to an upturn in throughput by allowing for faster cure times of the drum contents.

Routine Planned Maintenance lasting 3 weeks commenced on WILWREP w/c 23 July. Following successful completion of these activities the plant has returned to waste retrieval operations and cumulative drum production as at Friday 17th August stands at 53 drums.

A total of 5763Kg Sludge and 2962Kg of Resin has been safely recovered and encapsulated to date. It is our intention to remove the bulk solids of Sludge Retention Tank 3 using our current methodology of agitation and pumping. The tank currently sits at 17.8% with completion of bulk sludge clearance expected by the end of September 2018.

(see picture opposite of reducing Sludge Retention Tank level).



3.3 Solid Intermediate Level Waste Encapsulation (SILWE) Project

SILWE have now commenced with the setting to work phase of the project in earnest. The Import/Export (IE) bay hoists have now been fully commissioned but for the final levels pertaining to the XST and other transport equipment interfaces. The IE cell robot has been fixed into position and the electrical and mechanical installation is progressing well. Preparations are progressing for the receipt of the Remediation cell robot in September.

Chubb are into their fourth week of the site security infrastructure installation. Most of the containment and cable runs are now in place as the hardware fit-out continues.



Plan view of grout plant



IE cell robot installation

Portasilo have recently completed the necessary

mechanical modifications to address the issues with the grout mixing plant. The aforementioned elements are expected to arrive on site imminently, whereby they will be incorporated into the existing plant structure over the next few weeks.

3.4 Hunterston Reactors Project

Reactor Cladding

The Contractor is making good progress with the production of a Waste Management Plan that will detail the routes for both clean and dirty wastes that will be generated by the project. Other works are progressing in accordance with the schedule and include:

- *Site layout drawings and traffic management designs*
- *SRU roof & walls cladding design*
- *Passive ventilation design*
- *Permanent works*

The project team are currently assessing a change to the temporary works design, however there will be no change to the requirements of the permanent works detailed in the functional specification. Further assessment of the change is ongoing prior to engagement with key stakeholders to ensure the change is acceptable. In summary, the contractor is now proposing to use a suspended access system from the roof of the reactors as opposed to a contained access tower. The proposal of the suspended access system is similar to the system that was used to install the temporary weather barrier.

The *photo opposite* shows the reactors buildings with the existing temporary weather barrier in place. The white outer fabric will be completely removed and replaced with an aluminium standing seam cladding system that will maintain the weather integrity of the building fabric for 60 years.



Risk Based De-planting

Risk based de-planting assessments are ongoing with support from Exova and Mott MacDonald. In parallel, the project team are working up a suite of documents to support supply chain engagement in order to select a contractor for the next phase of work. These key deliverables include:

- *Works Information*
- *Site Information*
- *Commercial Strategy*

The current forecast indicates that a contract will be placed to support the de-planting works starting in December 2018.

The *photo opposite* highlights an example of existing plant within the reactors that need to be considered as part of the risk based de-planting scope of work. The item in consideration is a 60mm thick steel top duct cover dome carried by a rectangular frame.



3.5 Clean and Drain Pond

The project team completed all the required concrete decontamination and radiological survey work in June 2018, thus completing the regulatory LC35 milestone.

This was the culmination of years of hard work in difficult and onerous conditions.

Over this time, many different challenges have been overcome by the Team. These include, but are not limited to:

- *Installation of pontoon across the Pond surface*
- *Ultra-High Pressure decontamination of the walls*
- *Draining the Pond via the Modular Active Effluent Treatment Plant*
- *Removal and transfer of HDRIs*
- *Removal of fixed furniture on the Pond floor*
- *Removal of sludge from the Pond floor*
- *Concrete shaving of the concrete surfaces*

This achievement also marks the stabilisation of the largest Pond in the Magnox fleet. Despite decontamination of the Pond itself being complete, areas within the Ponds building remain hazardous and require the same focus and effort in order to get them into the same condition.

The next phase involves decontamination of the Blockhouses and Stoplog harbours, which are areas within the Ponds building that have been contaminated with Pond water. Further to this, work to de-plant the remaining areas around the perimeter of the building is underway.



Magnox Executive visit to Pond in C2 on Monday 20 August 2018

4 PEOPLE

4.1 Site HR

The organisational changes to reduce our shift operations teams have been somewhat delayed from the envisaged timescales. We are currently awaiting approval from ONR on the impending changes and have some outstanding training that remaining shift staff need to meet our First Aid requirements. Expected date to move to the revised structure is now estimated to be the end of September 2018.

Following the Pond project completing the decontamination work associated with the Licence Condition 35 milestone and review of the future work programme, a reduction in resource requirements was required. A wider organisational review was also conducted to ensure opportunities for development and advancement of Magnox employees and retention of skilled ASW/CSW's were considered. Consultation took place with Trade Unions and affected individuals on these changes and through constructive discussions the transition was completed with minimal impact on the individuals concerned. The reductions were managed through transfer of employees to a different work package; transfer/utilisation of some ASW/CSW's on other work packages and termination of some ASW/CSW contracts.

Focus remains on our EDI (Equality, Diversity and Inclusion) strategy. Positive behaviours gathered from the workforce feedback have been shared with the workforce through our Quarterly Executive Standdowns. Areas for improvement have been identified and a variety of site interventions are currently in progress to assist in addressing the common themes that are deemed to be more specific to Hunterston. The Company-wide EDI Improvement Plan is to be communicated in the near future and this will further highlight the Company's commitment to 'Respect and Inclusion' within our workforce.

4.2 Occupational Health

Our short term sickness levels remain good, however absence rates due to long term sickness continues to be high with 31 cases in the last 12 months. This absence has occurred for a variety of health issues with no particular trends. These employees have been supported through our Company Attendance Support procedure, with all but 4 having returned to work.

We are continuing to promote workforce health through initiatives associated with our Continuous Safety Improvement Plan. We have recently trained 4 employees to carry out Display Screen Equipment Assessments to support an introduction of an improved assessment package and during November will be promoting a Magnox initiative to encourage our staff to '*move more*'.

5 ENVIRONMENT (July 2017 to June 2018)

5.1 Radioactive Discharges

Solid

Low Level Waste (LLW) disposals to the Low Level Waste Repository (LLWR) continue. 105.18m³ of LLW was disposed of during the twelve month period from **July 2017** to **June 2018**. 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 decommissioned plant, equipment, and materials generated during decommissioning operations.

Liquid

The main sources of liquid radioactive discharges during the period **July 2017** to **June 2018** was desludging of the cartridge cooling ponds, active 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 (July 17 to June 18)
Tritium	30 GBq	0.23 GBq
Caesium-137	160 GBq	0.27 GBq
Plutonium-241	2 GBq	0.08 GBq
All alpha emitting radionuclides not specifically listed taken together	2 GBq	0.43 GBq
All non-alpha emitting radionuclides not specifically listed taken together	60 GBq	0.70 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 (July 17 to June 18)
All authorised outlets taken together (excluding reactor breathing).	Tritium	100 MBq	56.4 MBq
	All other radionuclides (excluding tritium)	3 MBq	0.71 MBq
Discharges made as a consequence of reactor breathing	Tritium	3000 MBq	556.09 MBq
	Carbon-14	200 MBq	58.50 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 and trending of data for resources such as water, electricity and fuel continues to determine where use can be minimised, in line with the site Environmental Management System. Over the period **July 2017 to June 2018** the site used 21.39 Terra Joules (Tj) of energy, 19.93 Tj attributed to electricity consumption and 1.46 Tj attributed to fuel use in site vehicles, equipment, and generators. This equates to a fuel consumption volume of 37.99 m³. In the same 12 month period the site water consumption was 15,973 m³.

Over the period **July 2017 to June 2018**, **100%** of the non-radioactive hazardous waste, **99.6%** 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 **2.1** tonnes of waste was disposed to landfill during that period.

5.3 Environmental Events

Following a programme of inspections against the requirements of the Radioactive Substances Act 1993 (RSA93) Authorisation held by Magnox Ltd for the Hunterston A Site; SEPA have assessed the site as **“Excellent”** with regards to compliance with the sites RSA93 Authorisation.

There were no significant environmental events in the period **July 2017 to June 2018**.

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 2018, to the end of June, are as follows;

- *Approximately 130 employees received a total collective dose of 4.470 man.mSv between them*
- *Approximately 373 contractors received a total collective dose of 54.115 man.mSv between them*
- *The highest individual dose received by an employee was 1.498 mSv*
- *The highest individual dose received by a contractor was 4.016 mSv*

The majority of dose accrued in 2018 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 MAGNOX SOCIO-ECONOMIC SCHEME

In 2018/19 there has been a total of 7 applications to date.

Please see below table of all 7 applications that have been successful in receiving awards from the Magnox Socio-Economic Scheme this year.

MAGNOX SOCIO-ECONOMIC SCHEME 2018/19 - HUNTERSTON AWARDS		
APPLICANT	DETAIL	AWARD
Cunninghame 2003 Youth FC	Football Training Equipment	£312
Street Beatz Dance Crew	Kit Bags for Junior Team Explozion	£451
Irvine Meadow 2011 Youth FC	Gazebos for Football Tournaments	£160
West Kilbride Improvement Group	2018 Scarecrow Festival	£500
Largs Viking Festival	Largs Viking Festival 2018	£1,000
Fairlie Community Association	Trolley and Tables for Largs Village Hall	£500
Kenshin Shukokai Karate	Equipment for Club in Irvine	£290
TOTAL		£3,213

8 SITE VISITS AND KEY DATES

Hunterston A Site continues to attract the right kind of interest through our good safety and business performance. Below is a selection of visitors / key dates during the period.

DATE	EVENT / VISIT
30 May	Closure Director Quarterly Briefs
6 June	Brian Robinson - Technical Director
7 June	Hunterston Site Stakeholder Group (SSG) Quarterly Meeting
7 June	ONR Visit - Rob Eales
21 June	Caron Weaver / Paul Marsh – Asset Management and Improvement Director/ Asset Programme Manager
27 June	Hunterston Site Joint Council
25-28 June	ONR Inspections - Rob Eales
26 July	Site Closure Director Update to SSG Chair, Rita Holmes and SSG Vice Chair, John Lamb & Magnox Socio-Economic Local Review Panel Meeting.
23 -26 July	Magnox Internal Audit of HNA – Martin Percy, Head of Internal Audit
7 Aug	Phil Jones - Chief Engineer (Assets)
8 Aug	ONR Fire Inspection – Steve Taylor
13 Aug	Matt Phillips - Head of Finance
13 – 16 August	ONR Inspections – Rob Eales, Patrick Willis, Charles Dickenson and Will Vaughan
20 August	Hunterston A Site Review by Magnox Executive
21 August	EHSS&Q Review
21 August	Eleri Joyce - Head of Project Controls