



HUNTERSTON A

SITE STAKEHOLDER GROUP REPORT SITE CLOSURE DIRECTOR

MARCH 2020

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

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

It is now 68 months since the Last Lost Time Accident (LTA) occurred on Site and the Site Day Away Case (DACR) & Total Recordable Incident Rate (TRIR) remain at zero.

The Company Target Zero campaign continues to raise awareness on specific topics relevant to site and focusses on areas such as conventional safety, security, radiological protection, environment and quality assurance. Since September 2019 the monthly topics have been the Role of the Safety Representatives, Mental Health, Radiological Protection, Travel Safety, Safe Delivery of Work and for February: Lifting and Mechanical Handling. The Target Zero campaign is a pro-active method of raising awareness and should help reduce unwanted events from occurring that may have a detrimental impact on individuals, environment and the business

The Site reporting culture remains strong, receiving a healthy number of Q-Pulse reports on a daily basis, covering both positive and negative events, including defects identified on site plant and facilities.

The Safety Representatives continue to meet on a fortnightly basis at the Local Safety Forum and meet with site management bi-monthly at the site HESAC meetings. The Safety Representatives are fully engaged with the site and are involved in various inspections, investigations and consultations on relevant changes made on site.

A number of site Safety Representatives attended the Company Safety Representatives Conference in Bristol and presented a display stand communicating work completed on both Magnox Scottish sites on re-assessing the Confined Space Registers. This review clarified those areas that could now be classified as Areas of Restricted Access rather than Confined Spaces. The Conference attendees also received a number of presentations from both Magnox and external speakers on topics ranging from Mental Health to Collaborative working.

2 EMERGENCY PREPAREDNESS

The Site Accident and Emergency Contingency arrangements are working well on site and a continual programme of familiarisation/demonstration exercises are undertaken by the Site Contingency Team, Programmes and contractors. These training exercises ensure that the arrangements and teams are ready to respond to any event that occurs on site as a result of the work being carried out.

The site successfully demonstrated a Security Counter-terrorism exercise to the ONR and independent site inspectors during October 2019. The scenario involved a person armed with a knife that had taken two hostages, started two (simulated) fires on site and then gone into hiding. The exercise was brought to an acceptable close and deemed an “adequate” demonstration by the ONR.

The sites Accident and Emergency Arrangements demonstration exercise, “Kestrel” was also successfully demonstrated to the ONR at the end of November 2019. This involved recovery of a person from a Contamination Controlled Area which was at height. The casualty had a potentially broken ankle. The Site Contingency Team brought the casualty to ground in a safe manner and handed them over to the emergency services to be taken to hospital (all simulated).

The Site Contingency Team meets frequently with the Emergency Preparedness Engineer to discuss the Accident and emergency arrangements, recent events and exercises to identify any learning and improvements.

As a result of a change to the Radiation Emergency Preparedness and Public Information Regulations (REPPPIR), the site has completed its Consequence Report and submitted it to the Ayrshire Civil Contingencies Team, as per requirements of the REPPPIR 2019 Regulations.

3 DECOMMISSIONING PROGRESS

3.1 Hunterston Reactors Project

Risk Based Deplant (RBD)

The P&S team have prepared commercial and strategic documentation to deliver a package of works for the essential safety critical remedial repairs to avoid further structural degradation of the assets and provide safe access routes throughout both reactor buildings, these are;

- The removal of the cradle rails from both reactor roofs
- Walkway and handrail modification for provision of fully accessible pedestrian routes within all areas of the SRU Halls;
- Column base strengthening;
- Roof repairs such that rainwater ingress is prevented thus avoiding further degradation of the ageing assets within the Reactor Buildings.

3.2 Solid Active Waste Bunker Retrieval (SAWBR) Project

Bunker 1 waste recoveries in SAWBR has continued to progress albeit at a slower than expected rate due to plant health during the past six months September 2019 – February 2020. The SAWBR team have now safely exported **36** 3M³ boxes to the ILW Store from SAWBR facility. This brings the total of 3M³ boxes filled with ILW waste and exported from all Bunkers to the ILW Store to **928**.



Over the reporting period the facility has encountered several issues but downtime has been dominated by failure of the remote Kuka robot which provides reassurance swabbing prior to the filled box export. The replacement swabbing tool had to be replaced and then retightened its physical position in space to allow it to interact with the box furniture and other furniture associated with the process cell it operates in. The other factor contributing to reduced outputs as compared to Bunkers 5-2 waste clearances is related to the addition of a Fuel Detection System for Bunker 1 materials, which has significantly increased the cycle time associated with a box import, fill and export.

On Wednesday 22 January 2020, during routine remote waste recovery / processing operations within Area 400, a Production Technician alerted the Control Room Supervisor to the sighting of something resembling a Fuel Rod (*see picture below*). The Fuel identification process was initiated and waste processing halted. Under instruction from the Process DAP, the item was placed in a waste bucket and passed through the Fuel Detection System (FDS) twice - no radiation readings above background levels were received indicating that it was not irradiated fuel. The item was then physically measured and weighed to understand if the material was uranium bar. The measurements of approximately 600mm in length and < 1KG in weight indicated that this was not the case as an intact fuel element should weigh significantly more. This situation provided a robustness demonstration of our arrangements with regard to Identification and Recovery of Magnox / Potential Magnox Fuel or Fuel Fragments. The plant was returned to waste processing on Thursday 24 January.



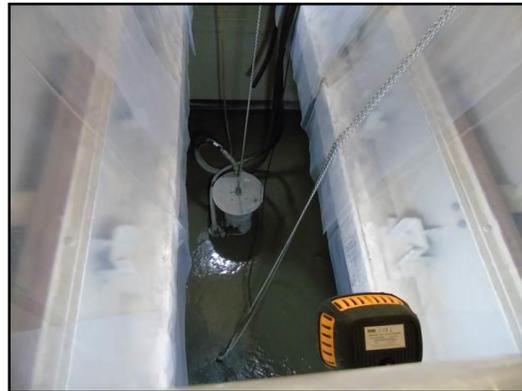
Routine planned maintenance in SAWBR week commencing Monday 3 February 2020 and this also provided an opportunity to progress non process dependant Maintenance Shutdown activities and housekeeping tasks within the facility.

Although the past few months have been challenging it is a credit to everyone in the HAW team and across site for continuing to resolve these issues in a professional manner.

3.3 Wet Intermediate Level Waste Retrieval & Encapsulation Plant (WILWREP)

Good progress has continued to be made during September 2019 – February 2020 and the plant has now exported a total of **132 3M³** Drums to the ILW store. The modifications that were required to assist with excessive bleed water from SRT 1 wastes have been successful and allowed a further 18 drums of material to be recovered, remotely since implementation.

SRT 1 has been reduced to a level of **12%** thereby completing Bulk Sludge clearance across all 3 tanks. The previously decanted supernatants from all SRT's are held within SRT 2 and 3 containing supernatant and residual sludge's will now be combined with the remaining contents of SRT1. These activities have now commenced and the facility expects to combine tanks and resume residual recoveries in the next few weeks. It is expected a further 20 drums will be required to complete recovery of these contents by the end of April 2020.



3.4 Solid Intermediate Level Waste Encapsulation (SILWE) Project

Significant progress has been made with regards to setting to work of all elements of plant, with the exception of the HVAC installation. This element of the project continues to present various challenges which have further delayed setting to work.

Kuka have completed the biggest majority of their scope of works concerning the site robot commissioning. Various fault observations and documentation remain incomplete but progress is being made.

The grout plant has successfully been set to work and is currently being prepared to run a grout batch in support of package grout trials, in the coming weeks.



Hydrogen monitoring system STW



Grout plant mixing trials



Grout plant sequencing

3.5 Ponds Programme

The deplanting of the redundant acid bowser and containment bund was carried out in the CCP loading bay. The acid bowser was constructed of a stainless steel double tank with internal baffle plates, and was used to transport nitric acid, used to clean the Pond skips, to the Acid Storage Facility.

The team had previously deplanted the pump and pipework system external to the tank. They continued this by size reducing the outer skin of the tank using cold cutting methods, followed by the inner tank and baffle plates. There was some acid residue remaining on the base of the inner tank which was neutralised and cleaned prior to cutting up the tank base.

This left the coated carbon steel bund and steel framework, which were then size reduced. The steel waste has been processed and packaged ready for disposal by the Waste Team.



Loading Bay with Acid bowser



Loading Bay after size reduction complete

Pond Purge Sump - There is a requirement to remove the redundant lattice frame structure from the top of the Pond Purge Sump (PPS) to enable the Pond Pump Surge Retrieval & Encapsulation Project (PPSREP) Team full access for the retrieval and encapsulation of the sludge that originated from the pond floor. The 10.5 metre long lattice frame (see highlighted sketch) is suspended from the top of the PPS, which is a concrete tank with dimensions 4.2m by 3.8m by 11m deep.

Attempts have been undertaken to withdraw the lattice frame structure out of the PPS utilising lifting equipment but no vertical movement was detected due to the greater drag and resistance from the sludge present within the Sump. The Pond team are assessing various options available, for example, hydraulic jacking systems, water/air injection lances, manipulating sideways motions and vibration extraction equipment.

4 PEOPLE

4.1 Site HR

A business case has recently been approved for the workforce to consider proposals to move to a 4 Day Week. Following a period of consultation this has now progressed to a ballot with outcome known by the end of February. If accepted we plan to implement the change in April this year. The proposals provide both business and personal benefits and if progressed will align us with the majority of the other Magnox sites.

We are currently developing plans to commence consultation on our next organisational change where we will move to Operations Shift Transition which is anticipated to be implemented around October this year. This will remove the 24/7 shift operations presence at the site and introduce a Lead Guard role to be the main point of contact for any incidents during silent hours. Other sites have implemented this successfully and Hunterston will be taking learning from their experience.

Our Company-wide commitment to Equality, Diversity and Inclusion (EDI) is ongoing and we continue with initiatives to keep issues in people's minds throughout the year. We now have two Diversity Ambassadors at Hunterston. Their role will be to promote, enhance and embed equality, diversity and inclusion (EDI) within the site and are soon to receive feedback on a recent survey to assess if we have made improvements in this area since the original NDA wide survey in 2017. These initiatives continue to highlight the Company's ongoing commitment to 'Respect and Inclusion' within our workplace.



4.2 Occupational Health

Our short term sickness levels remain good and the long term sickness rate is gradually reducing month on month.

The Hunterston Wellbeing Group is now well embedded and continues to highlight information on internal and external activities in support of the four pillars of good health (relax, move, eat, sleep well).

Examples include site yoga classes, 'Top Tips for Healthy Habits' and fundraising for 'Walk All Over For Cancer'.



5 ENVIRONMENT (January 2019 to December 2019)

5.1 Radioactive Discharges

Solid

Low Level Waste (LLW) disposals to the Low Level Waste Repository (LLWR) continue. 95.03 m³ of LLW and VLLW with a total activity of 2.22 GBq was disposed of during the twelve month period from January 2019 to December 2019. There is no limit on the volume or radioactivity content of LLW and VLLW being disposed of under the new site EA(S)R Permit. 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 January 2019 to December 2019 were decontamination of various areas within the cartridge cooling ponds building and routine waste water arisings from the site active drain system.

Radionuclide or Group of Radionuclides	Annual Limit	Activity discharged (Jan 19 to Dec 19)
Tritium	30 GBq	0.086 GBq
Caesium-137	160 GBq	0.119 GBq
Plutonium-241	2 GBq	0.009 GBq
All alpha emitting radionuclides not specifically listed taken together	2 GBq	0.043 GBq
All non-alpha emitting radionuclides not specifically listed taken together	60 GBq	0.142 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 (Jan 19 to Dec 19)
All authorised outlets taken together.	Tritium	100 MBq	56.4 MBq
	All other radionuclides (excluding tritium)	3 MBq	0.449 MBq
Discharges made as a consequence of reactor breathing	Tritium	3000 MBq	426.51 MBq
	Carbon-14	200 MBq	62.00 MBq

5.2 Non-radiological Environmental update

Surveillance and analysis of the sewage treatment works effluent continues to ensure compliance with the CAR 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 January 2019 to December 2019 the site used 18.53 Terra Joules (Tj) of energy, 17.91 Tj attributed to electricity consumption and 0.62 Tj attributed to fuel use in site vehicles, equipment, and generators. This equates to a fuel consumption volume of 15.93 m³. In the same 12 month period the site water consumption was 10,707 m³.

Over the period January 2019 to December 2019, 100% of the non-radioactive hazardous waste, 98.7% 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. Of the 140.86 tonnes of waste managed by the site, only 1.04 tonnes of waste was disposed of to landfill during that period.

5.3 Environmental Update

Following a programme of inspections against the requirements of the Radioactive Substances Permit held by Magnox Limited for the Hunterston A Site, SEPA have assessed the site as “**Excellent**” with regards to compliance with the sites Permit conditions.

As of 1 April 2019, the Hunterston A Site is now regulated under the Environment Authorisations (Scotland) Regulations 2018, which replace the Radioactive Substances Act 1993.

There were no significant environmental events in the period September 2019 to February 2020

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 2019, to the end of December, are as follows;

- *Approximately 171 employees and visitors received a total collective dose of 3.814 man.mSv between them*
- *Approximately 408 contractors received a total collective dose of 36.842 man.mSv between them*
- *The highest individual dose received by an employee was 1.191 mSv*
- *The highest individual dose received by a contractor was 3.738 mSv*

The majority of dose accrued in 2019 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

For 2019/20 there have been a total of **11** applications submitted to the Magnox Socio-Economic Scheme. There has been **one** application withdrawn, **one** application pending and **9** successful applications (*see table below*).

MAGNOX SOCIO-ECONOMIC SCHEME 2019/20 - HUNTERSTON AWARDS		
APPLICANT	DETAIL	AWARD
Largs Youth Theatre	Equipment for 'Little Mermaid' Production	£720
Largs Organic Gardens	Phase 2 of Largs Community Gardens	£3,125
West Kilbride Early Years Centre	Washing Machine and Tumble Dryer	£800
Largs Viking Festival	Children's Entertainment for Largs 2019 Festival	£1,000
West Kilbride Yuletide	Children's Gifts / Entertainment for 2019 Event	£250
Largs Academy	Furniture / Equipment for Nurture Project	£1,000
Ardrossan Indoor Bowling Club	New Carpet Vacuum	£500
Kilwinning Community FC	Training Equipment for Youth Teams	£500
CS Dance Academy	T-Shirts for Dance Summit in Florida	£336
TOTAL		£8,231

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
2-5 September	ONR Inspection - Bill Kings - ONR Inspector
23 September	Magnox Executive Visit - Paul Hunt, Nuclear Decommissioning Director and Caron Weaver, Asset Management and Improvement Director
24 September	Andrew Forrest - Magnox Technical Director
2/3 October	ARRoSSE (Annual Regional Review of Safety, Security and Environment) Attendees ONR.ONRCNS,SEPA
7 October	Yoga taster sessions at HNA
10 October	Mental Health Awareness Day
24 October	David Stone - SEPA
31 October	Scottish Sites meeting in Edinburgh
29/30 October	Waste Programme / EHSS&Q visit
31 October	Hunterston Decommissioning Update from Scottish Sites Closure Director, John Grierson to SSG Group Chair, Rita Holmes & Vice Chair, Stuart McGhie
4-7 November	ONR Inspection at HNA
6 November	Accident and Emergency Arrangements Demonstration Exercise
26/27 November	Safety Representatives Conference - Bristol
28 November	Site Stand Downs in Arran Restaurant – Quarterly Executive Update
5 December	Hunterston Decommissioning Update from Scottish Sites Closure Director, John Grierson to SSG Group Chair, Rita Holmes & Vice Chair, Stuart McGhie
9 – 11 December	Lloyds Register Certificate Audit
11 December	Site Joint Council
11/12 December	Christmas Lunch to Site
6 January	Closure Director - Return to Work Stand downs
8 January	Dr Mina Golsham – ONR Deputy Chief Inspector
7 / 8 January	Safety Health and Environment Committee visit to Hunterston
27-31 January	ONR Inspection – Bill Kings
31 January	Duncan Thompson – NDA Group Development Director
24/25 February	Technical Strategy Working Group – Site Visit