HUNTERSTON A

SITE STAKEHOLDER GROUP REPORT

SITE DIRECTOR – ALASTAIR WALKER

SEPTEMBER 2020

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SITE CLOSURE DIRECTOR'S REPORT TO THE SITE STAKEHOLDER GROUP
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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 SITE DIRECTOR OVERVIEW

Hunterston A Site is part way through its Care and Maintenance Preparations (C&MP) phase of decommissioning which, subject to NDA approval and funding, is currently forecast to complete by September 2027.

Since late March 2020 when the Hunterston A site was put into a safe and secure state, the focus has been on business continuity, maintaining the safety and security of our site, focusing on the welfare of all our people and suppliers, supporting our communities, maintaining value for money and preparing to restart our physical work. Throughout June and July, the site has slowly and safely started to remobilise a number of resources to support the restart of physical operations and indeed we are now in the latter stages of the mobilisation phase of the Return to Work plan. We are forecasting the return to work activities will be completed by mid-October and the site will return to the 'new normal' thereafter. At this point, the focus will return to recovery of Intermediate Level Wastes (ILW) wastes from various facilities on the Site and decommissioning of the Cartridge Cooling Ponds (CCP).

At the beginning of August, NDA / Magnox announced a new programme to fully decommission the Magnox reactors. With Trawsfynydd leading the way, each site within the fleet will have a site specific strategy which will form an overall continuous decommissioning programme for Magnox, where no one site stops progressing in terms of hazard reduction and asset management. Until the site specific strategy for Hunterston has been determined, our current site strategy remains unchanged. At Hunterston our near-term priorities are:

- *continuing the retrieval of solid intermediate level waste (ILW) from the bunkers*
- *continuing encapsulation of wet ILW by completing bulk sludge processing for tanks 1-3; and*
- *progressing the inactive commissioning for the solid ILW encapsulation plant (SILWE).*

2 SAFETY OVERVIEW

Safety Review Performance

Safety Performance on site continues to be good and it has now been 73 months (at end of July 2020) since the last Lost Time Accident (LTA). The Total Recordable Incident Rate (TRIR) remains at 0.00.

The consistency in our safety performance is a product of a continuing good Safety Culture at HNA underpinned by the company-driven Target Zero campaigns which are designed to raise awareness and maintain safety focus whilst delivering the decommissioning of Hunterston A Site. These targeted campaigns are aimed at all persons who work on Magnox sites and continue to be well received as we strive for Zero Accidents, Zero Incidents and Zero Harm. This continues to be utilised throughout COVID 19 Pause and subsequent ongoing Return to Work with >120 people on site daily at this time.

In addition our Environmental performance has again been rated "Excellent" by SEPA using their criteria based on performance across a number of areas.

3 EMERGENCY PREPAREDNESS

The Site Accident and Emergency Contingency arrangements are working well on site and a continual programme of familiarisation/demonstration exercises continue to be 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 focus of these exercises since return to work has been COVID 19 response with 4 exercises completed to date including the ability to respond to a local "Lock Down" initiated as a result of recent events in Aberdeen. Feedback from the exercises has been positive and the learning shared with our colleagues at other sites.

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.

4 DECOMMISSIONING PROGRESS

4.1 Hunterston Reactors Care & Maintenance Preparations

This project is currently undergoing a strategic review, which has placed both the Weather Envelope replacement and the Risk Based Deplanting work on hold. The following essential activities will continue in 2020/21.

- *Interim Roof Repairs*
- *Removal of Runway Beam (roof level)*
- *Reactor Walkways*
- *Column Base Remedial Issues*
- *Asbestos Containing Materials (ACMs)*

The Plant & Structures Team continue with the preparation of 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.

The team are also completing the repair to the lifetime plan in preparation for submission by the end of September.

4.2 Solid Active Waste Bunker Retrieval (SAWBR) Project

The SAWBR facility was constructed to recover solid HAW (Higher Activity Waste) from within the site's five HAW bunkers. This is achieved by using remotely operated vehicles (ROV's) to fill hoppers that are then tipped into RWM (Radioactive Waste Management Ltd) approved $3m^3$ stainless steel boxes.

The initial breakthrough into Bunker 5 was achieved in March 2014 and Bunkers 5, 4, 3 and 2 have been sequentially emptied to date.

Progress to recover the wastes from Bunker 1 continue to progress albeit at a slower rate than the wastes from Bunkers 5-2. This is due to the higher probability of fuel fragment carry over form the stations operational phase. Detailed sorting of the waste via the remote vehicle is carried out before loading into waste buckets. These buckets are then put through a Fuel Detection System to provide assurance that the waste can be safely discharged into the stainless steel storage box.

The total package count currently stands at **938** $3m^3$ boxes of solid HAW safely recovered with Bunker 1 recoveries contributing 46 of these $3m^3$ boxes. No boxes have been processed since 20 March 2020.

The project expects to complete against a forecast outturn total of 1110 $3m^3$ boxes by summer 2022, factoring in the slower rate of processing and the impact of COVID-19.

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

The WILWREP facility was constructed to recover liquid HAW (Higher Activity Waste) from associated sludge, acid and resin tanks around the site. Following retrieval into a RWM (Radioactive Waste Management Ltd) approved $3m^3$ stainless steel container the waste contents are mixed with encapsulant powders and a sacrificial paddle to achieve an immobilised waste form within the $3m^3$ stainless drum.

The plant has been in its operational phase since October 2018 and the Operating Experience gained has enabled the team to overcome some significant technical challenges as they have progressed waste recoveries

Sludge Retention Tanks Nos 3, 2 and 1 have now been cleared of bulk sludge with a cumulative total of **132** drums now achieved. Activities to consolidate the residual materials into one tank have been progressed since early 2020 and the plant is ready to recover the final 15-20 drums worth of residual materials. This was expected to take around eight weeks, whereupon the plant was to be handed over to Waste Projects in order to reconfigure the plant to commence processing of the acid waste stream, however due to the impact of COVID-19 it likely that the remnant sludge recovery work will now be completed in late Autumn 2020.

4.4 Solid Intermediate Level Waste Encapsulation (SILWE) Project

The SILWE facility exists purely to encapsulate the waste recovered from SAWBR with a grout mix. This is expected to take up to 3 years to encapsulate approximately 1500 stainless steel boxes. The Principal Contractor (Balfour Beatty) has now completed all site construction activities and the pre-commissioning and integration of installed plant and equipment.

This facility is required to fully grout (encapsulate) the 3m3 packages containing the solid waste retrieved through Solid Active Waste Bunkers Retrievals (SAWBR) project. Once encapsulated, the containers will then be in their disposable state.

All elements of plant are electrically and mechanically installed within the SILWE facility and inactive commissioning activities have started and various snags are currently being worked through prior to completing inactive commissioning.

Active commissioning remains on schedule to start in early 2022.

Since returning from the pause period, the SILWE team in conjunction with the Principal Contractor, have been focussing on carrying out safety checks on the plant prior to recommencing commissioning activities. As well as making significant changes to the workplace layout and procedures to ensure social distancing, James Fischer Nuclear Limited (JFNL) has been running a series of tests and plant demonstrations to ensure that the plant is in a fit state to return to work. It is expected that this phase will be complete early in September.

4.5 Ponds Programme

Pond Purge Sump (PPS)

Prior to the Covid-19 Operational Pause in March, the Pond Team carried out preparatory works at the PPS, which included the removal of instruments and durbar plates to improve access at the top of the lattice frame structure. The steel lattice frame requires to be removed from the sump and size reduced for waste processing. During the lockdown phase, the Safety Case process was continued. The Decommissioning Plant Approval Form (DPAF) was reviewed by all the Subject Matter Experts (SMEs) and is currently with the Design Authority for final approval.

The option to utilise a hydraulic jacking system has been progressed. The hydraulic jacking equipment was agreed and has been procured. The designed jacking frame was approved and was manufactured locally off-site and the equipment has now been delivered to the site following the introduction of the Site's Return to Work Plan.

Once the Cartridge Cooling Pond building has been opened following the completion of electrical inspections, ventilation systems and cranes made operational, the preparation tasks will continue to enable the removal of the lattice frame to commence utilising the hydraulic jacking system.

Picture shows removal of durbar plates from steelwork around top of the PPS lattice frame

Active Effluent Treatment Plant

Work has been progressing before and during the Operational Pause in relation to decontamination of the Active Effluent Treatment Plant (AETP). There are two phases to this, the first being the introduction of the New Effluent Treatment Plant (NEffTP). The NEffTP is a close replica of the plant currently used to process miscellaneous effluent, but will be housed outside of the AETP. This will be used to treat the miscellaneous effluent produced by the Site up until it enters Care & Maintenance. The NEffTP will allow these miscellaneous effluents to be diverted away from AETP and allow the decommissioning of the facility to progress.

The second phase covers both the retrieval of wastes from the various tanks and the subsequent decontamination of them. Optioneering studies have been carried out for each of these processes and work is progressing on the preparation works necessary to deliver them.

5 PEOPLE

5.1 Site HR

Our planned implementation to move to a four Day Working Week across both the Scottish Sites in April 2020 has been postponed for a future date yet to be agreed, due to the pause of site activities in relation to COVID-19 precautions.

Throughout the pause we have however progressed with other planned people related activities albeit remote working has impacted on progress in some areas. We are currently in consultation with our trade unions, shift operations and security teams on our next organisational change to 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. Work streams associated with this are expected to be delayed by up to 3 months with a revised implementation date of January 2021.

Our Site EDI Improvement Plan has been developed, through a virtual workshop, taking into account feedback from a recent NDA Employee Survey, Supply Worker Focus Groups and our Trade Unions and we are looking to progress this as we return to routine normal phase.

We have continued to have regular engagement with our Trade Unions with regular dial-ins with our Site Joint Council to discuss a variety of COVID-19 related arrangements as well as progress normal business. We have been conscious that our normal communication methods with our workforce have been impacted and regular updates and information have been provided to home email addresses to ensure we reach all our workforce during this isolated period from the site.

Arising from an organisational change at Magnox Executive level in June our Scottish Regional Closure Director vacated his position to undertake the interim role of Nuclear Operations Director. This resulted in the Scottish sites reverting to a non-regional model with current incumbent Site Integration Manager, Alastair Walker undertaking the role of Hunterston Acting Site Director with some other localised site changes also being undertaken to reflect a structure implemented on other Magnox Sites.

5.2 Occupational Health

Our short term sickness levels remain good and the long term sickness rate has reduced.

We have had one individual who whilst remote from the site contracted COVID–19 and required hospital treatment but has fortunately made a successful recovery. We have been providing a variety of information to support individual's mental health, through our communications networks, during the lockdown period and our Mental Health First Aiders continue to network and provide advice as required. As we return from the pause all individuals are having a restart discussion with their line manager to address any concerns and those in the vulnerable category have been receiving health assessments to consider any additional precautions.

6 ENVIRONMENT (April 2019 to March 2020)

In late March the Hunterston A site was put into a safe and secure state. Between late March and July, when the restart of physical operations recommenced, there were no solid, liquid or gaseous discharges with the exception of gaseous discharges made as a consequence of reactor breathing. The retrospective evaluations of discharges made via this route are presently being determined hence the following section contains information to the end of March 2020 only.

6.1 Radioactive Discharges

Solid

Low Level Waste (LLW) disposals to the Low Level Waste Repository (LLWR) continue. 58.39 m^3 of LLW and VLLW with a total activity of 2.20 GBq was disposed of during the twelve month period from April 2019 to March 2020**.** 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 April 2019 to March 2020 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 (Apr 19 to Mar 20)**
Tritium	30 GBq	0.063 GBq
Caesium-137	160 GBq	0.106 GBq
Plutonium-241	2 GBq	0.004 GBq
All alpha emitting radionuclides not specifically listed taken together	2 GBq	0.025 GBq
All non-alpha emitting radionuclides not specifically listed taken together	60 GBq	0.103 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 (Apr 19 to Mar 20)**
All authorised outlets taken together.	Tritium	100 MBq	56.4 MBq
	All other radionuclides (excluding tritium)	3 MBq	0.462 MBq
Discharges made as a consequence of reactor breathing	Tritium	3000 MBq	444.8 MBq
	Carbon-14	200 MBq	60.87 MBq

6.2 Non-radiological Environmental update

Between April and July there was a requirement to carry out extended maintenance of the sites sewage treatment plant in order to protect the reed bed area from deterioration. The combination of warm weather and lack of use of toilet and welfare facilities on the site posed a risk to the sewage plant becoming non-functional. In order to ensure the plant maintained functionality, a regime of weeding, watering, and re-planting of reeds within the beds was carried out during the summer. This has proven successful with recent sewage plant effluent samples confirming that the plant is still operating within compliance parameters.

Surveillance and analysis of the sewage treatment works effluent now continues as normal, ensuring 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 April 2019 to March 2020 the site used 18.43 Terra Joules (Tj) of energy, 17.82 Tj attributed to electricity consumption and 0.61 Tj attributed to fuel use in site vehicles, equipment, and generators. This equates to a fuel consumption volume of 15.71 m^3. In the same 12 month period the site water consumption was 9,358 m^3.

Over the period April 2019 to March 2020, 100% of the non-radioactive hazardous waste, 98.6% 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. Of the 124.19 tonnes of waste managed by the site, only 0.98 tonnes of waste was disposed of to landfill during that period.

6.3 Environmental Events

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 under the Environment Authorisations (Scotland) Regulations 2018.

There were no significant environmental events in the period March 2020 to August 2020.

7 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 2020, to the end of June, are as follows;

- *Approximately 155 employees and visitors received a total collective dose of 3.345 man.mSv between them*
- *Approximately 148 contractors received a total collective dose of 3.524 man.mSv between them*
- *The highest individual dose received by an employee was 0.685 mSv*
- *The highest individual dose received by a contractor was 0.594 mSv*

The majority of dose accrued in 2020 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.

8 SOCIO-ECONOMIC / STAKEHOLDER UPDATE

In response to the current Coronavirus pandemic, a number of non-essential staff at Hunterston A were deployed to support frontline services in the local community.

Also, through the NDA funded Magnox Socio Economic Scheme, £25,000 was provided to North Ayrshire Council to support the North Ayrshire and North Coast Food banks.

In 2019/20 there were 10 successful applications to the Magnox Socio-Economic Scheme totalling over £260K. This included a commitment of a first payment of £250K, and another £250K in 2020/21, of a £500K award to North Ayrshire College, Kilwinning.

For 2020/21 onwards Magnox has changed the application processes for socio-economic funding requests from the communities around our sites. The change brings Magnox, and the other NDA site licensed companies, together in a streamlined online grant application process.

The new electronic application form can be found on our external website at **https://www.gov.uk/government/collections/magnox-working-with-our-communities**

The format for grants remains the same however – we have a small grant scheme for funding of up to £1,000 (Good Neighbour level), while larger requests, and those for multi-year funding, of up to £200,000 are expected to comply with a range of criteria aimed at creating resilient economies, thriving communities, sustainable incomes and growth for our communities.

Grant requests for amounts larger than this need to be discussed with either **Mair Jones** or **Haf Morris** in the first instance. All contact details are on the website.

If you are involved with, or know of, a group who you think could benefit from socio-economic funding then please do highlight the scheme to them.

9 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 – this has obviously been limited due to Covid-19 restrictions.

DATE	EVENT / VISIT
Tuesday 14 July	Pam Duerden – Magnox EHSS&Q Director
Tuesday 28 July	David Orr – Assurance Team Inspector
Wednesday 29 July	Paul Winkle - Magnox Chief Operating Officer
Wednesday 19 – Friday 21 August	Bill Kings – ONR Inspection
Wednesday 26 August	John Grierson – Magnox Interim Nuclear Operations Director