



Site Stakeholder Group

Hunterston B Station Director's Report

Period: August to October 2018

1. Graphite inspection update

During the reporting period graphite inspections have been completed on both reactors at Hunterston B.

The inspections performed in Reactor 3 since March 2018 included examination of 28 fuel channels followed by an additional inspection scope of 75 fuel channels. In total, we have examined around a quarter of the core. We found that while the number of cracks in the reactor exceeded the current safety case, the cracks are narrower than modelled and there has been minimal distortion in the core.

When we made the decision in May for Reactor 3 to remain offline, we set up a programme to:

- Extend the agreed safety case to demonstrate safe operation for a next period of 6 months starting when it returns to service after the current outage.
- Provide further evidence to demonstrate confidence in the seismic models and assessments and the understanding of graphite core degradation.

There has been good progress on this strategy. This includes enhancements to the seismic modelling using a more representative model of the reactor building. Using this improved model significant additional safety margins are demonstrated. The safety assessments show that, even in a 1 in 10,000 year earthquake, the core will behave as designed with no challenge to control rod entry.

The safety case demonstrating safe operation for the next period of operation for Reactor 3 is now being subject to robust internal assessment including with our independent experts. Once this process is completed, the safety case will be submitted to Office for Nuclear Regulation. To enable the teams to complete this work we have extended the time available for this assessment. We welcome the robust regulatory environment in which we operate and are working very closely with the nuclear regulator to achieve our shared objective of ensuring nuclear safety.

We also decided to carry out graphite core inspections at Hunterston Reactor 4. The outage started on 2 October and we inspected 34 channels, more than a tenth of the core. Again, the number of cracks is in line with our predictions, with narrower than modelled crack opening and no significant core distortion. The case for return to service of Reactor 4 is now with the ONR for external assessment.

2. Safety and Environment

Station Industrial Safety Performance

The roll out of our new safety initiative has continued over the past few months with particular focus on Risk Awareness; Safety & Human Performance Leadership; Safety Rules & Safety Environment and Reporting and Communications.

A cross functional team has been established in each of these areas led by a member of the station management with oversight provided by the Industrial Safety Action Team. An update on the aims of the initiative and progress to date has been delivered to over 450 members of staff by the Plant Manager.

In addition to this, the station has delivered a Zero Harm Week campaign providing a range of safety information to staff. This included ladder safety, asbestos, household chemicals and COSHH and CPR skills. The station also engaged with Police Scotland and North Ayrshire Council to deliver a Safe Driving Intervention Scheme.

There were no lost time incidents, medical treatment or restricted work injuries reported by EDF Energy staff or our Contract Partners during the reporting period. In addition there have been no significant near miss or reportable events and the station continues to strive to be a Zero Harm Power Station.

The Total Recordable Injury (TRI) rate is currently 3.23, due to events earlier in the year.

Progress with outage work continues, to date there have been no accident book entries or significant near miss events related to the outage.

Environmental Safety

There have been no significant environmental events in the period.

Radioactive gaseous and aqueous discharges arising from normal plant operations remain at levels well below those authorised by SEPA.

Work to process and package solid low level wastes has continued in the period as part of normal operations and consignments have been made to our regular partners.

The programme of off-site environmental monitoring and radiation surveys in the district has continued as normal and demonstrates that the radiological discharges from the station have a negligible impact on the local environment. Reports are made quarterly to SEPA, detailing the samples and results of analysis performed.

Radiological Protection

The radiation dose of each worker is assessed individually by an electronic personal dose meter. A computer database keeps records for each worker. Exposure is constantly monitored and ultimately compared with the levels specified in the Ionising Radiation Regulations (2017) which are the UK Health and Safety legislation that applies to work with radiation.

During the reporting period the CRE was below plan (see table below). Collective doses are pre-planned on expected work for each year based on scheduled maintenance, outages and routine operations. A breakdown of dose received is shown below (along with a comparison of relevant dose statistics).

All work is fully reviewed and justified in order to ensure all doses received were ALARP (As Low As Reasonably Practicable). This involves justifying and optimising the dose, as well as remaining within those dose limits.

Differences between the actual and planned dose can be down to a range of factors including changes to the work programme, development of new techniques for carrying out work that will result in a lower dose and the deployment of new equipment.

There were no reportable radiological protection events during this reporting period.

Radiation Dose to workers (Aug 2018 - Oct 2018)		
Planned collective dose	11.6man.mSv	
Actual collective dose	9.1man.mSv	
	Employee	Contract Partner
Total Dose	6.8man.mSv	2.3man.mSv
Average individual dose	0.02mSv	0.01mSv
Highest individual dose	0.40mSv	0.25mSv
Individuals	396	309

Chest X-ray	Transatlantic Flight	CT scan	Average UK annual dose to public	EDF Energy Dose Restriction Level	UK legal dose limit for radiation workers
0.014mSv	0.08mSv	2.0mSv	2.6mSv	10mSv	20mSv

Explanatory notes:

- mSv: milliSieverts (SI unit of dose received by an individual)
- man.mSv: The collective dose for a group of workers (i.e. the total of the doses received by each member of a group)

Emergency Arrangements

Since the start of August Hunterston B has completed two demonstration exercises. A peer assessed exercise was held on the 7th September and a Level 1, ONR assessed exercise, on the 11th October.

The exercises demonstrated a wide range of aspects of the emergency response arrangements. The feedback from the regulator was very positive.

Following these assessed demonstrations we have continued to carry out training and hold shift exercises on site. At the moment these are focussed on the theme of systematic search and rescue of missing persons.

3. Generation

Reactor 3/Turbine Generator 7 remained off-line while the company works with the regulator to ensure that the longer term safety case reflects the findings of the recent inspections and includes the results obtained from other analysis and modelling.

Reactor 4/Turbine Generator 8 operated throughout August and September. Load was reduced from 22-26 August for Low Load Refuelling. The unit was safely shut-down on 3 October for planned graphite inspections and remained off-line for the rest of the month.

Reactor 4/Turbine Generator 8 has achieved an equal AGR 'best ever' for Unit Capability Loss Factor (UCLF), Forced Loss Rate (FLR) and Unplanned Automatic Trip Rate (UATR) in terms of WANO Worldwide performance using three year values. These three year values are a measure of excellence; sustained safe and reliable generation. This is in addition to its best ever continuous run of 495 days generation in September 2017.

4. Company Update

Nissan and EDF Energy Partner to Advance Low Carbon Transport

Nissan and EDF Energy have joined forces to work together on a number of projects that will support the adoption of electric vehicles and energy generation and storage solutions. The two companies signed the new agreement and the partnership will kick off with a first of its kind collaboration to explore how second-life Nissan electric vehicle (EV) batteries can support demand side management.

Both EDF Energy and Nissan have been at the forefront of developing the market for electric vehicles in the UK and will bring substantial technical expertise to the wide ranging agreement that will support the transition to low carbon transport, such as smart charging, batteries, decentralised generation and grid integration.

The first joint project will see the partners explore the business case for recycling retired batteries from Nissan LEAF back into commercial battery storage.

The system would see electricity stored in the batteries and released back to the grid using EDF Energy's PowerShift to react quickly to demand side response (DSR) initiatives. Storage systems offer a lower carbon solution compared to relying on coal and gas power stations to meet peaks of electricity demand on the grid.

5. Station update

Tough Challenge for Hunterston B Charity Team

A team of workers from Hunterston B power station have raised thousands of pounds for a local hospice in memory of a much-loved colleague.

A group of 10 from 'C' shift took part in the Tough Mudder challenge in Thornhill, Dumfriesshire, and raised £3620 for the Ayrshire Hospice.

They tackled 13 obstacles and a 5 mile run in memory of Anita Kerr from Ardrossan. Anita worked in various departments at the station for 26 years and her husband Gordon still works with the team on 'C' shift.

Steven Duffy helped to organise the team, he said: "Gordon lost Anita to cancer in November 2016 and she is still sorely missed by us all. The Ayrshire Hospice charity provided essential care and support to Anita and Gordon during some extremely difficult moments and as a small token of thanks, Gordon nominated the hospice for our team fundraising effort.

"We're delighted to have raised such a fantastic sum of money and hope it will help them continue their amazing and selfless charity work."

The team had to wade through craters of shoe-stealing mud, scale 15ft tall walls and commando crawl under barbed wire to complete the course.

Stephanie McLaughlin, Fundraising Officer from the Ayrshire Hospice said: "We are extremely grateful to everyone who completed this challenge and would like to sincerely thank everyone who very generously sponsored the team and has helped to raise such a wonderful amount, in loving memory of Anita Kerr".

The Ayrshire Hospice, which serves all of Ayrshire and Arran, first opened its doors in 1989 and has spent almost 30 years providing care and support for patients with life-limiting conditions and their families. It costs more than £7 million a year to fund the service.

You can find out more about the hospice and donate at www.ayrshirehospice.org.

Road Safety Message for Hunterston B Workers

Hunterston B power station recently hosted a visit from a Scottish Government initiative focused on encouraging safe driving on rural roads.

Between 2012 and 2016, 60% of road fatalities in Scotland occurred on country roads. In 2016 alone that amounted to 115 deaths. The most common cause of these fatalities is from people driving too fast for the road conditions.

The Country Roads campaign from The Scottish Government is a campaign designed to raise awareness of the importance of driving to both the road conditions and your ability, not just to the speed limit.

Around 50 staff and contractors at the power station took part in a virtual reality experience that challenged their reactions and hazard awareness.

Station Director, Colin Weir, said: "Many of our workers drive on country roads on their way to and from work. As a responsible employer it is up to EDF Energy to make sure that our people have the skills they need to be safe, whether in the power station or out on the roads.



“We were delighted to be able to welcome the Country Roads team on to site to help raise awareness amongst our staff and contractors and I hope the campaign will be successful in helping to reduce the number of casualties on our roads.”

Liz Rockley from the Scottish Government said, “Even the best drivers can get caught out by hazards on country roads. By slowing down and preparing for the unexpected, drivers give themselves more time to react and arrive safely. A big thanks to everyone at Hunterston B for supporting the campaign and taking part.”

You can find out more about the Country Roads campaign at: <http://dontriskit.info/country-roads/>

Hunterston B Power Station Support for North Ayrshire Children’s Club

Children at a North Ayrshire holiday club that caters for those with complex and additional support needs have benefited from another boost from Hunterston B power station.

The EDF Energy facility has given the Butterfly Club a cheque for £8,000 meaning it has donated £16,000 to the club in the past two years.

The Butterfly Club charity was formed by the parents of pupils at James MacFarlane School in Ardrossan and Haysholm School in Irvine. It gives pupils the chance to take part in a range of activities during the school holidays which help reduce their isolation and improve their quality of life while providing respite for families and carers.

The money will help the club to provide specialist care for the children and support a range of activities including cooking, music, drama, swimming, trips to the cinema and horse riding.

The cash comes from the company’s Scottish Charity Fund, a pot of cash which has donated around £90,000 to charities close to its Hunterston, Torness and East Kilbride sites over the past year.

Hunterston B Station Director, Colin Weir, went along to hand over the cheque to the club leadership and some soft toys of EDF Energy’s mascot Zingy to the children.

Colin Weir said: “I was delighted to be able to return to The Butterfly Club this year to hand over another cheque to help support their activities. The children had just returned from a day at the Heads of Ayr Farm Park and it was clear how much they had all enjoyed it. It’s great that the money we’ve donated means the children using the service will be able to benefit from more experiences like that.”

David Miller is a Projects Portfolio Manager at Hunterston B and his son Landon, age 10, uses the Butterfly Club. He said: “Landon has been going to the Butterfly Club for four years and really enjoys his time there, especially the day trips. I’m really pleased that Hunterston B has been able to support it again in this way.”

The Butterfly Club’s chairperson, Emma Lambert said “We were so surprised when we received the phone call saying that EDF Energy had yet another generous donation for us. Eight thousand pounds is such a huge amount and certainly puts us well ahead for raising next year’s £73,000 total. Our Butterflies get so much from the club and the more money we raise the better the service and activities we provide can be.”

Armistice Fundraising for Veterans

Four former members of the armed forces carried out a gate collection on Friday 9th November to mark Armistice Day.

Neil Hutchinson, Andrew Broadbelt, Kris Budski & Marc Stewart collected an impressive £1258 which is being



donated to Erskine the charity which provides long-term medical care for veterans of the British Armed Forces.

6. Staffing Update

As of April 2018 the station has 481 employees. Recruitment is ongoing in a number of departments to maintain our organisational capability against agreed station numbers.

The station has prepared a Lifetime Resource Plan to 2023 in support of the business mission of safe reliable generation over extended life. This provides us with an understanding of resource demands through the life of the station; potential attrition rates and what this means for resourcing, retirement of an aging workforce and an understanding of vulnerabilities for knowledge capture and transfer. The station plan is underpinned by detailed departmental plans to integrate opportunities and potential vulnerabilities.

Hunterston B vacancies are displayed on the www.edf-energy.com web site

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