**EDF Energy Torness Power Station**

**Minutes of the forty fourth meeting of the Torness local liaison committee held at Torness power station on Thursday, 7 April 2016.**

**Present**
**City of Edinburgh Council**
Mr Chas Booth
Mr Nick Gardner
Mr Denis Dixon
Mr Russell McLauchlan

**Dunbar Community Council**
Dr Albert Massimo

**East Lammermuir Community Council**
Ms Anne Lyall

**East Lothian Council**
Mr Scott Kennedy
Mr Sandy Baptie

**Police Scotland**
Ms Nicola Page
Ms Lori Shaw
Mr Jim McKenna

**Midlothian Council**
Mr Grant Kenny

**INA**
Ms Anne Cooper

**Office for Nuclear Regulation**
Mr Marc Vannerem

**Scottish Borders Council**
Mr Simon Mountford

**Scottish Environment Protection Agency**
Ms Isabelle Watson

**Scottish Government**
Mr Ewan Young
Mr Ross Baird

**Stirling University**
Professor Andrew Tyler

**EDF Energy**
Mr Paul Winkle (chairman), station director *
Mr Alastair Brockie, technical and safety manager *
Ms Fiona McCall, external communications manager *
Mr Colin Dunn, security*
Ms Kate Goan, environmental safety engineer*
Mr James Barker, engineering group head*
Mrs Ashleigh Dickson, communications and community liaison*

*(denotes EDF Energy staff)

**573. Welcome**

Mr Winkle welcomed everyone present to the forty fourth meeting of the Torness local liaison committee and went round the table and asked everyone to introduce themselves to the meeting. He also issued some safety and administration arrangements.

**574. Apologies for absence**

Apologies were received from: Paul Young, City of Edinburgh Council; Robbie Beattie, City of Edinburgh Council; Joe Wallace, Midlothian Council; Derek Rosie, Midlothian Council; Jane Young, Midlothian Council; Paul McLennan, East Lothian Council; Norman Hampshire, East Lothian Council; Michael Veitch, East Lothian Council; Jim Fraser, Scottish Borders Council; Kevin Sewell, Scottish Borders Council; Joan Campbell, Scottish Borders Council; Chris Bruce, East Lammermuir Community Council; Kevin Craig, Cockburnspath Community Council; Richard Hall, Fire Scotland; Jeff Douce, Fire Scotland; Dean Mack, Fire Scotland; Lesley Clark, Police Scotland; Colin Brown, Police Scotland; Alan Taylor, First Milk; Quintin Donald, Scottish Executive Rural Affairs Department; Lorna Paterson, Borders Health; Richard Othieno, Lothian Health; James Wyllie, National Farmers Union.

**575. Minutes of previous meeting**

The minutes of the forty third meeting of the committee were approved and accepted as an accurate record.

**576. Matters arising**

Councillor Chas Booth: At the 2015 meeting I asked if an environmental impact analysis (EIA) will be carried out as part of the life extension announcement, was this carried out.
Mr Paul Winkle: We will take the question away
Councillor Nick Gardner: This question refers to the Espoo Convention
Councillor Chas Booth: Can we receive the pack electronically
Action: Ashleigh Dickson to send out pack electronically
Mr Paul Winkle: In the 2015 meeting there was a question from Chris Bruce about the local community being represented at the EPCG or advised of the outcomes.
Mr Sandy Baptie: I contacted Mr Bruce and sent him the minutes of the Emergency Planning meetings, I also offered to come and talk to the community council – this offer remains for all the community councils

**577. Station director's overview**

Mr Winkle spoke to the reports in the packs under the headings of zero harm, financial performance, customers, environment, nuclear and people. The headings are around our ambitions and they are our plans for a sustainable business and ultimately a better energy industry.

**a. Zero harm**

Torness is one of eight nuclear power stations in the UK. In our business, safety has many dimensions; we focus on nuclear safety as our 'overriding priority'. Our enduring commitment to nuclear safety is symbolized by the inscribed, granite block at the entrance to the station. Torness' nuclear safety performance is at best ever levels. There have been no nuclear reportable events for over four years. Also it is more than a year since our last fire ignition event. That is all very positive progress and a significant, continuous improvement on previous years.

The people working on site are justifiably proud of the safety levels that have been achieved. A major highlight of 2015 is that there were no injuries to any worker that required off-site treatment. This is particularly pleasing given that we worked 4.31 million hours over the year.

At EDF Energy we talk about our TRIR rate - Total Recordable Incident Rate – the number of lost time injuries plus the number of restricted work injuries plus the number of medical treatment injuries to our employees and contractors per million man hours worked. Two years we benchmarked the oil industry that had a TRIR rate of 1.2. In 2015 we achieved a rate of 0.68 which is excellent. At Torness our current TRIR rate is 0.

We are very proud of these achievements and they openly sign-post our values for maintaining the safety and well-being of those who work here. A number of factors have contributed to this achievement; a highly engaged workforce, a flourishing Health & Safety Advisory Committee (HESAC) and not least, the ethic to ensure everyone goes home in a healthy state is firmly embedded. The strong open reporting culture

combined with the culture of challenge drive a high standard of safety awareness whilst avoiding complacency.

**Emergency preparedness**
Torness has a comprehensive emergency plan to cater for abnormal situations which present an immediate risk to the public, our staff, the environment or the power station plant. Off-site aspects of the plan are deployed in conjunction with East Lothian Council and the emergency services.

There have been no site events whereby the emergency arrangements were invoked since the last meeting.

Our key job is to make sure we never need to make use of our emergency arrangements and we work very closely with the emergency services to ensure we would know exactly what to do if they were needed. One thing Fukushima has taught us is that we have to expect the unexpected and be prepared for anything that nature may throw at us

At Torness we have eight diesel generators which would come into operation if we lost all power supplies. As a company we have procured a lot of back-up equipment which includes pumps, diesel generators, earth moving equipment etc. Much of this new emergency back-up equipment is located at Bellshill, Glasgow. Our emergency scheme role holders have received practical hands-on training with the equipment and a workshop to gain appreciation of the range and type of equipment available to the station.

Mr Alastair Brockie: We been working with local groups on the Resilience project
Mr Sandy Baptie: The Council have an excellent relationship with EDF Energy

In 2016, the off-site Strategic Co-ordination Centre (SCC) – where Police, Government agencies and local authorities would manage the off-site implications of an emergency – will move from Cockenzie Power Station to the East Lothian Council offices at Macmerry. The allocated rooms have been extensively refurbished at EDF Energy's cost.

Mr Sandy Baptie: East Lothian Council will also be able to use the facility for other events, eg flooding. It is an excellent asset for the community
Mr Ross Baird: The Scottish sites have been very proactive with their actions following Fukushima
Mr Marc Vannerem: I recently viewed the new strategic coordination centre (SCC) at Penston House, Macmerry, where existing Council buildings are being converted to bring them up to the standards required of a modern fully-functioning SCC. These new facilities will replace the current SCC at Cockenzie, which is due to close shortly but will remain fully functional and available until the new facilities have been commissioned.

Mr Chas Booth: What is the current extent of the DEPZ and will you extend it?
Mr Alastair Brockie: Our 3km DEPZ is already larger than most AGR sites (1km), and is unlikely to be expanded, especially given the UK's approach which enables emergency arrangements to be extended to 30km and beyond in the event of a severe accident.
Mr Sandy Baptie: 3km is sufficient, it's a rural area. Post Fukushima we held a multi-agency workshop and discussed the size of the zone in an extent of an emergency and are waiting for the report. The report may include advice on the Emergency Plan but we are not likely to extend the zone.
Mr Chas Booth: What is the timescale for the report?
Mr Sandy Baptie: There may be a quick turnaround but I am not able to put a timescale on it as it will have to be signed off by the Chief Executive for East Lothian Council.
Mr Ross Baird: When will the report be available at national level?
Mr Sandy Baptie: I am unsure but Torness and Hunterston are the first sites to take the Resilience project forward.

Mr Dennis Dixon: In the near future there will be more houses in Dunbar and the local area. Does this have an impact on the Plan?
Mr Sandy Baptie: The Plan is reviewed every three years and like most plans it is ongoing. All new housing goes through the planning application process and if it should be within the 3km DEPZ it would come to myself, to date I have no concerns.

Dr Albert Massimo: I am worried about wind; does your Plan include wind velocity?
Mr Sandy Baptie: We do look at what would happen if the wind was blowing towards Dunbar. It is unlikely that that Dunbar will ever be affected.

Mr Nick Gardner: What is the logic/ reason for 3km?

Mr Alastair Brockie: It is a balance between foreseeable scenarios and what is practical to plan for. In our exercises we model how far the plume would go
Mr Marc Vannerem: Under REPPIR, the licensee prepares a number of detailed technical reports (a report of assessment (RoA) and a hazards identification and risk evaluation (HIRE)), which ONR assesses to determine the contour. A number of practical and strategic factors, which take local factors into account, are applied to the contour to define the detailed emergency planning zone (DEPZ).

Dr Albert Massimo: Do you have an exclusion zone incorporating the sea, ie oil tankers travelling past the station
Mr Paul Winkle: No our exclusion zone only covers air

**b. Financial performance**
When we set our 2015 budget, we knew it would be challenging. It was made significantly more difficult by the fall in wholesale energy prices that we have seen since this time last year.

Operational performance was strong and our focus on cost control was effective.

This achievement against the context of a very difficult market environment gives us great confidence to face the challenges ahead.

The nuclear fleet had exceptional performance and generated 60.6TWh, the best performance in 10 years.

This excellent level of output – driven by our investment in the fleet – helped to mitigate, to an extent, the impact of falling wholesale prices.

In February 2016 EDF Energy announced that we have extended the expected operating lives of four nuclear power stations. These are Heysham 1 and Heysham 2 in Lancashire, Hartlepool in Teeside and Torness in East Lothian. Our guest speaker James Barker will take us through this in more detail.

**c. Customers**
We aim to be the best and most-trusted energy company, known for helping customers.

**d. Environment**
In 2015 Torness was awarded the Biodiversity Benchmark by the Wildlife Trusts for all the hard work done to protect and enhance the unique and diverse wildlife around the East Lothian site.

The technical sub-group meet twice a year and they recently met in March where the various reports (radioactive waste management, operational district survey results and on-site radiological conditions) were discussed in detail. We have the detailed reports if anyone wishes to have a copy.

Torness has an authorisation issued by the Scottish Environment Protection Agency (SEPA) which allows the transfer of radioactive waste to a waste permitted entity for the purposes of treatment or disposal. We are working hard to minimise waste and looking at different ways to recycle the waste. We make use of the waste management hierarchy.

Torness is allowed to store radioactive waste on site. This waste will either be dealt with when the designated storage area is full, at the end of the station operational period or during station decommissioning.

We measure the radiation dose of each worker individually by an electronic personal dose meter, all doses are well within limits and the table in the booklet puts it into context.

**e. Nuclear**
Hinkley C heralds the future of the nuclear industry and will provide long term employment, security of supply and the future of low carbon generation. We are unsure when will it go ahead.

Mr Denis Dixon: costs billions to build; how long will it take to pay back?
Mr Alastair Brockie: Roughly £18 billion
Mr Paul Winkle: Torness cost £2 billion 28 years ago. It is a third the size of Hinkley Point C which brings the amount up to £6 billion. If you add inflation you will get to roughly the same figure as Hinkley Point C. It is a big number but you will get your return and it's very important asset for security of supply.

Mr Denis Dixon: What do you need to keep Torness going?

Mr Paul Winkle: We need additional investment but there is some equipment that you can't replace. We do regular inspections and these inspections will determine when we reach our end of life. We monitor our core and do thorough internal inspections during an outage. We have developed new ways to maintain existing equipment and have also replaced a lot of older equipment. In terms of people we need to ensure we continue to bring in and train the correct people.

Mr Denis Dixon: Could there be a scenario where you could be forced to close before 2030?

Mr Paul Winkle: Our investment and recruitment is based on an operating life until 2030. If we found a significant issue beforehand we would shut immediately if we needed to. We could also get to 2028 and decide to operate longer than 2030. We will continue to carry out detailed inspections. The ONR only grant us a Licence to Operate for as long as it is safe to do so.

Mr Alastair Brockie: The level of investment required is a fraction of the cost of Hinkley Point C
Ms Anne Lyall: How is the cost of decommissioning covered?

Mr Paul Winkle: We contribute to the Nuclear Decommissioning Authority and it's a fund based in Scotland, it covers the cost of dealing with spent fuel and is part of normal running costs. There are sufficient funds available for decommissioning.

**Torness performance**
During 2015 Torness generated 8.7 TWh. This is enough electricity to power 2.1 million homes.

Plant performance during this period was below target by 133GWh.

We took reactor 2 offline on 14 December 2015 during routine testing when an issue was detected in an electrical system. Reactor 2 was synchronised to grid on 17 December.

During 2015 54 flasks containing spent fuel were safely transported to Sellafield for reprocessing

Mr Chas Booth: Please clarify the unplanned shutdown
Mr Paul Winkle: Reactor 2 automatically shut down during routine testing when an issue was detected in an electrical system. Protection equipment, which is designed to 'fail safe', operated to automatically shut down the reactor. This was the only unplanned shut down in 2015.

Mr Chas Booth: This happened after the outage. Did you not test this equipment during the outage?
Mr Paul Winkle: It was a new component and we tested it at the back end of the outage and it operated satisfactorily and then three months later it failed.

Mr Denis Dixon: How often do you have a double reactor shut down?
Mr Paul Winkle: The last one was in May 2013 due to marine ingress.

Mr Denis Dixon: What does it mean if you have a double reactor shutdown to the station?
Mr Paul Winkle: At Torness we have eight diesel generators on site. The two generators will provide enough power however all eight will start. The safety systems will direct feed into the reactor, the standby pumps will feed water to maintain cooling, plus we will still have a connection to the outside world.

Mr Denis Dixon: Why does marine ingress shut you down?
Mr Paul Winkle: We use sea water for cooling. If we have severe marine debris ingress we loose our normal route for cooling and have to use an alternative.
Mr Nick Gardner: Does sea water come into contact with the reactor?
Mr Paul Winkle: No

Mr Chas Booth: Last year you ran at a lower load than now due to carbon, please explain why.
Mr Paul Winkle: We use carbon dioxide to cool the reactor; as a result the carbon goes onto the fuel pins. We have monitored levels of carbon on the fuel and have now decided it is safe to increase load.

**Outage**
Reactor 2 was taken out of service on 10 July for a major maintenance programme worth around £30 million. It was planned for 67 days but ended up taking 84 days.

We carried out over 12,000 separate pieces of work. The extensive programme of work saw inspections take place inside the reactor, as well as the installation of new equipment at the plant. The biggest projects included exchanging two large gas circulators which help cool the reactor and replacing blades on the turbine which is used to turn steam into low carbon electricity.

We also performed many inspections on the reactor graphite core via cameras and monitoring. Whereas no anomalies were identified in the graphite core, a number of minor cracks were observed in the peripheral boundary blocks. We performed additional inspections and technical assessments, and committed to further work and future inspections. With these in place, ONR was satisfied that reactor 2 could be restarted.

The gas circulator Variable Frequency Converters (VFCs) Torness form a key part of the essential electrical supply system and support variable speed operation of the gas circulators at all times other than operation at power. They form part of a line of post-trip cooling protection for all faults and hazards in which forced primary coolant circulation is claimed. During the outage we replaced two then identified a fault on another one so replaced that one as well, which is what extended the outage.

Reactor 2 outage was a safe and successful periodic shutdown where the benefits of excellent outage preparation were realised in several areas. On safety, we delivered against our Zero Harm objectives by completing the outage with zero reportable Nuclear, Environmental or TRIR events and a new low of 7 accident book entries (all minor in nature). Prior to returning to service we work closely with the ONR as they need to grant approval for start up. On the basis of their own independent outage inspections and assessment work, the ONR will only consent to the restart of reactor 2 when it is fully satisfied that EDF-Energy has prepared a safety justification demonstrating that the future operation of reactor 2 is safe.

Mr Denis Dixon: You spend huge amounts of money on spares. Could you have ended up getting a faulty part by trying to save money?
Mr Paul Winkle: Parts that are critical for safety and cooling are graded as QA1 and we receive supplier certification for them. Other parts are graded as QA2 & QA3. We work very hard to make sure we get the right parts with the right level of integrity.

**f. People**
We put a lot of effort into developing our people. People management is as important to the success of the station as engineering and science. We place strong emphasis on managing the succession of roles and ensure suitably qualified and experienced personnel are available to fill vacancies - guaranteeing continuity of the business.

The station continues to recruit to plan and currently has 525 full time employees. Our training programmes are in excellent shape and are working with our leaders at all levels to strengthen leadership and accountability.

Torness currently has 27 recruits in our four-year Advanced Nuclear Apprentice Scheme and have just offered six new applicants and apprenticeship to start in September 2016.

We also value the people who work with us – celebrating their diversities and capturing the value that their differences bring. We believe that a culture of inclusion forms the basis of a truly sustainable business and is vital to shaping a strong and fresh-thinking organisation.

**Community**
We are committed to engaging with and supporting the local communities around our sites in Scotland. Employees at EDF Energy Torness are engaged in programmes to promote academic education at all levels and staff members help local schools and provide education through various events. We also run a scheme within EDF Energy called 'Helping Hands' which allows staff to take two paid days off a year to help out in the local community or for an environmental cause.

**ONR**
Mr Marc Vannerem: The role of ONR is to hold the industry to account on behalf of the public. We carry out a significant number of inspections throughout the year, and our programme of inspections intensifies during outages. As an independent regulator, ONR inspects against high standards and Torness is, in my view, a good performing station with a good safety culture, which seeks to continually improve standards.

Ms Isabelle Watson: SEPA also have a rigorous inspection programme for the site. We are happy with Torness's level of compliance and we work together with the ONR.

We do have our own Environmental Monitoring Programme which is available on the SEPA website.

We will be carrying out a habit survey shortly and Professor Andrew Tyler will be able to tell you more.

**578. Guests and other**

Mr Paul Winkle handed over to the apprentices who delivered a presentation and video on their experiences as an EDF Energy apprentice.

Mr Paul Winkle handed over to Mr James Barker who delivered a short presentation on life extension.

Mr Nick Gardner: Where are you with the environmental impact assessment (EIA)?
Action: Mr Paul Winkle to take away and provide an answer
Mr Marc Vannerem: ONR is not expecting an EIA to be produced by Torness for the extension of power generation beyond 2023. Although there is no legal requirement for plant life extension to be approved by ONR, other robust regulatory measures are in place to ensure the ongoing safety of nuclear installations. Throughout the full lifetime of a nuclear power plant, there is a robust regime of plant inspections, supplemented by statutory three yearly inspections which require the reactors to be shut down. ONR Consent is required for the reactors to be restarted following statutory outages. In addition, the operator of each nuclear licensed site has a legal requirement to conduct a periodic safety review (PSR) every ten years, which considers (amongst other factors), plant ageing and advances in safety standards. Ultimately, ONR has the power under licence condition 31 to direct the licensee to shut down reactors "within such period as ONR may specify".
Mr Chas Booth: Some of you say you don't need an EIA but you not sure. Will you carry one out?
Mr Alastair Brockie: We will take the matter away for investigation and provide an answer

**Security**
Mr Colin Dunn: The world is ever changing especially in terms of security and we have seen some unexpected events quite recently. The EDF Energy guard force is the CNC and they improve our capability to respond to any kind of threat. They have a new control room and have the capability for more improved technical measures.

Our staff are vetted to a very high level.

CNC deter, protect and deny. They operate within the site and their footprint outwith the site is limited. They have an inspection regime for continuous improvement.

Security teams are part of emergency plan training and actively participate in scenarios.

Our job is to protect the site and reassure the public against worldwide threats.

Mr Simon Mountford: Are CNC armed?
Mr Colin Dunn: Yes

Dr Albert Massimo: Can they shoot down a drone carrying a bomb?
Mr Colin Dunn: I'm not sure but it's not a requirement. Our security plan covers likely threats. The no fly zone over the station is rigorously enforced.

Mr Denis Dixon: Are you notified in advance if the RAF fly over Torness
Mr Colin Dunn: They are exempt from the no fly zone

**The Habit Survey - Professor Andrew Tyler**
The Habit Survey is a routine survey which is carried out around every nuclear facility on a five yearly basis. The results will be available on the SEPA website.

To assess the doses that members of the public receive from a nuclear facility it is necessary to make some assumptions about how people interact with the environment around that facility. People can be exposed to radiation directly from the plant, from discharge plumes or from material deposited in the environment. They can also ingest radioactive material from eating locally grown fruit and vegetables, locally reared birds and animals and from eating locally sourced seafood.

One method of finding out how people interact with the environment is to carry out a habit survey. This involves gathering information about how people interact with the environment.

There will be postal questionnaires – 2000 in a 20km radius, face to face surveys and observations.

There will be a large volume of detectors driving around with hand held devices.

We are keen to involve the community councils.

**579. Any other business**

Mr Paul Winkle asked if the committee thought it would be a good idea to have a second meeting during the year and open it up to the public

Mr Chas Booth: One closed meeting and one public meeting would be good.
Mr Simon Mountford and others agreed.

Action: Public meeting to be held

Mr Chas Booth: Why did the outage carry on beyond plan?
Mr Paul Winkle: We replaced the VFC and it did not adequately drive the gas circulator when we tested it so we had to replace another gas circulator. By the time we started back up everything was working satisfactorily.

Mr Chas Booth: When will you provide an answer about the EIA?
Mr Alastair Brockie: Two weeks

**** Mr Paul Winkle wrote to the LLC on 22 April 2016 providing a detailed answer to why Torness does not require an EIA for a nuclear plant life extension***

**580. Date of next meeting**

16 March 2017

Mr Paul Winkle thanked all attendees for coming and closed the meeting.