

Sizewell A and B Stakeholder Group (SSG)

Minutes of the Sub-Group meeting held at 7pm on Wednesday 2nd April 2014

at Leiston Community Centre

Item 1. Chair's Opening Comments

- 1.1 Chair welcomed attendees and advised the purpose of this meeting was to consider four items. It was noted that an attendee had to leave the meeting early and Chair sought confirmation that the order of the Agenda to consider these items remained as advertised. Attendees agreed.

Item 2. Attendance

- 2.1 Present: Cllr Marianne Fellowes (MF) Chair; Mr Trevor Branton (TB); Ms Joan Girling (JG); Cllr Terry Hodgson (TH); Ms Pat Hogan (PH); Cllr Bill Howard (BH); Cllr Sheena Robertson (SR); Mr Mike Taylor (MT); Mr Colin Tucker (CT)
- 2.2 In Attendance: Dr Louise Franks (LF), Minutes
Tom Griffiths-Jones (TGJ), Member of the Public
- 2.3 Apologies: Mr Adam Burt and Cllr Roger Plant.

Item 3. Discuss the follow-up from the meeting with the Office for Nuclear Regulation, held on 05.03.14., concerning the Reactor Pressure Vessel (RPV) at Sizewell B.

- 3.01 Chair drew attention to the verbatim transcript of the 05.03.14. meeting regarding reactor pressure vessels at Sizewell B and in Belgium. She led a vote of thanks to the Clerk, Jane Sparkle, explained that this transcript would be placed into the public domain via the website and that it had been sent to EDF Energy and to the two ONR Inspectors that spoke at the meeting for comment. No replies had been received to date. Chair invited contributions from attendees.
- 3.02 JG reminded attendees that the ONR have announced today that they are now a standalone organisation.
- 3.03 Chair reported that the Belgian Reactors (Doel-3 and Tihange-2) have been shut down after a test block of RPV material that had undergone accelerated irradiation, showed unexpected results regarding the mechanical resistance of materials. Further tests are ongoing. CT advised that the ONR and the EDF Energy structural specialists were aware of this article. He explained that because the RPV's at Doel-3 and Tihange-2 were known to have defects, that the unexpected results outcome of the accelerated radiation tests had resulted in the bringing forward of the outages for both stations. CT added that the safety case at Sizewell B is not affected because the RPV at Sizewell B does not have these defects.
- 3.04 Chair expressed her concern about the uncertainty surrounding detecting the defects in the first instance. CT clarified that the inspection scope for the Sizewell B RPV had involved three inspections of all accessible surfaces inside and out by three different organisations. That for the Belgian Reactors was the minimum inspection scope required for compliance.
- 3.05 Chair invited all attendees to comment and the following points were agreed:
- Transcript captures the meeting accurately
 - ONR Inspectors' presentation was clear and helpful
 - ONR Inspectors provided reassurance that the defects identified on the Belgian Reactors were not present on the RPV at Sizewell B.

- 3.06 TB recalled that the cost for inspecting the Sizewell B RPV were twice that for its manufacture. TB suggested that the reasons why inspections, conducted in the 1970's, of the Belgian reactors did not detect faults maybe because the ultrasonic technology used was just emerging to replace routine radiography. Inspections using ultrasonic technology were well developed by the time the Sizewell B RPV was inspected and blind testing, to ensure operators could identify faults, was routinely used to ensure confidence in the accuracy of the outcomes.
- 3.07 CT commented upon the extra operational measures imposed by the regulators upon the Belgian Reactors (p7 of the transcript):
- decrease the rate at which the temperature of the plant was changed
 - the emergency water supply has a minimum core temperature limit
 - if a big transient occurs, the plant must be shut down
- He advised that Sizewell B has undertaken these precautions since start of life, confirming that the more restrictive temperature limit has always been used, that the emergency water storage tank has had a temperature limit and that transients have always been monitored and if any limits are exceeded then shut down is imposed.
- 3.08 Chair suggested that for the sake of public confidence that the inspection of the RPV at Sizewell B should be brought forward and posed the following questions:
- Does the risk to staff undertaking the inspection outweigh the benefits of public confidence?
 - If the process is really that dangerous for staff, why is this?
 - Does this operation pose any risk to local residents?
- CT clarified that the fuel is contained within the lower internals (a bucket-like structure within the RPV) and during an outage, whilst the fuel is removed, the lower internals remain *in situ*. To carry out an inspection of the RPV, the lower internals have to be removed and the process for doing this involves raising the RPV out of the shielding water to enable sufficient clearance for the lower internals to be removed. The process would require a shielded crane, remotely operated with no operators able to undertake normal outage procedures within the containment area for the duration. There would be no risk to anyone outside of the containment building. The outage plan is built around this operation to enable scheduling of all other required activities. If the regulators thought it was necessary to inspect the RPV, then they would force the operators to undertake this operation and this would cause significant disruption to the planned outage procedures, noted as a schedule of some 12000 tasks.
- 3.09 Chair asked what the worst case scenario would be if an event were to happen whilst the RPV was suspended partly out of the shielding water, seeking clarification that the phrase 'taking the top off of the dome' did not mean a possible escape of radiation in the air. CT clarified that there is an access capsule but this itself is within a contained building. CT added that the only risk is to station staff in terms of dose direct from the RPV.
- 3.10 JG asked how many staff were involved in the process. CT advised that this was the preparation phase for an inspection, would involve about 6 operators and that once the lower internals had been removed and the RPV lowered back into the water, the inspection phase could commence. The inspection phase involves an inspection kit (an underwater ultrasonic robot), specialised apparatus that is ordered well in advance. Once the inspection is complete the lower internals are reinserted, by reversing the preparation phase and only after this can normal outage procedures be carried out. The whole event would require several teams of up to twelve operators dedicated to the process.
- 3.11 Chair sought clarification that this process had already been scheduled into the 2016 outage and was already being progressed in terms of specialised equipment being specified and ordered. CT confirmed this and added that the site do not have a safety case to operate beyond 2016 without this inspection happening.

- 3.12 MT asked why the inspection was undertaken by a robot and heard that once the equipment was correctly positioned, robotic operation enabled improved consistency of ultrasonic measurements.
- 3.13 MT commented that completion of the programme of modifications resulting from the response to the Japanese earthquake event had also been scheduled for outages and heard that the majority of this would have been completed by the end of the next outage with the exception of the filter containment venting which required a substantial amount of work that was likely to fall into the following outage too. MT suggested this work was as important as an RPV inspection. CT concurred and advised that the regulators had indicated the same.
- 3.14 TGJ questioned what proportion of the outage work would be dedicated to completion of the Japanese earthquake programme. CT responded that this outage would cover several large parts of the Fukushima programme that could not be undertaken whilst the plant was running, and gave an example of the installation of the catalytic recombiners. TGJ questioned whether these were to deal with hydrogen and this was confirmed.
- 3.15 TGJ also asked if the specialised equipment necessary for the RPV inspection could be sourced urgently if required. To answer this CT described a situation at Hesham that involved mobilising thousands of people in hundreds of companies to resolve and solve a problem that enabled a return to operation and took 18 months to complete. He gave reassurance that if the Sizewell B safety case were similarly affected that it would be treated similarly. He advised he simply could not guess how quickly specialised equipment could be sought.
- 3.16 TH commented that, despite misgivings that defects in the Belgian reactors were not initially found, he was confident that the techniques used to inspect the Sizewell B RPV were robust and was reassured that any tiny steam leaks resulting from defects are immediately detected and the RPV shut down.
- 3.17 TB commented that if the RPV inspection was brought forward this may by necessity involve alternative inspection teams and equipment and that his preference was for the scheduled RPV inspection to go ahead using the trained inspectors and equipment on order.
- 3.18 Chair asked that attendees identify any specific areas not yet fully answered, explained or remaining of concern. TGJ commented that the Belgian regulator failed in their duty to ensure adequate inspection of the Belgian RPV's and that if an event occurred this would impact on the UK. He questioned whether there was enough confidence that the ONR were undertaking their duty appropriately. He cited the independent parliamentary report into the events at Fukushima that described the Japanese events as a man-made accident and suggested that the regulators were too cosy with the industry. He asked who regulates the regulators. He suggested that the lessons from Fukushima had not been completely learnt because of complacency. Chair responded that the ONR are now independent of the UK Government. CT added that the development of standards for construction and inspection had evolved considerably and that public awareness was now considerable. CT advised that having hosted three visits from Japanese delegates, he understood that the culture in Japan had been to enable stations to operate without a robust regulatory regime once the licence to operate had been granted. He advised that in total contrast, regulators in the UK drive for continuous improvement. He added that the regulators now often have an academic background rather than experience gained from working in the nuclear industry.

- 3.19 TGJ read from the Doel 3 - Tihange 2 RPV issue International Expert Review Board Final Report 15.01.13. (<http://fanc.fgov.be/GED/00000000/3300/3393.pdf>).
“The discrepancy between the indications reported in the acceptance reports of the rings from the 1970s and in the 2012 inspection in the core shells of the two plants remains unresolved, since the UT technology available at that time should have had the capacity to detect the indications found. Furthermore, it is documented that some other parts, like the transition rings, were rejected exactly because of these hydrogen flakes.”
TGJ suggested that the inspections were able to detect faults and that some components were rejected. CT explained that the technology was new and suggested that the standards that were applied at that time were less stringent than now, adding that the more well established the technique, the better understood appropriate tolerance levels.
- 3.20 TGJ went on to cite the following passage where the board expressed reservations about the safety case with respect to hydrogen:
“There is currently a lack of experimental data quantifying the effects of the hydrogen related defects on the mechanical properties”.
TGJ suggested this correlated with why the Belgian reactors had been shut down recently and suggested that radiation has a greater effect on steel with these defects than had been anticipated. He added his concern that there were no checks on how material that could have defects would perform when irradiated. CT countered that EDF Energy have tested blocks of the RPV material for the effects of accelerated irradiation (i.e. they have been placed around the core) and for thermal ageing since the RPV has been in operation. He added that the outcomes of the Belgian reactor tests would be evaluated by EDF Energy and any significance to the current safety case carefully considered.
- 3.21 Chair reminded attendees that the inspection of the RPV was scheduled for 2016 and that subsequent to the 05.03.14. meeting, she felt confident that the ONR Inspectors would push for an earlier inspection if they had any concerns, adding that she was less confident that the ONR as an institution would do so because of cost implications and the need to shut down the reactor.
- 3.22 PH commented that she would not want the inspection brought forward unless there was an obvious need and that she did not believe the regulators and operators were too cosy, that there was no evidence of this and that the Inspectors changed frequently enough to prevent any complacency. Chair added that despite the odd exception that operators do have integrity and care and that, they too, have to live in the local area.
- 3.23 SR commented that she felt reassured, that there was honesty and integrity and concluded that she believes that the RPV to be safe. She added that she felt out of her depth with the technology but was confident that there was a secure line of accountability that would prevent risks being taken that would impact on the local community.
- 3.24 Chair questioned why power stations were not built in London and this led to a debate about relative land costs and the costs of energy. CT advised that there were places in the world that had sited power stations in cities.
- 3.25 JG commented that she felt she had been misled in the past and had found it refreshing to hear an account of the ONR undertaking their regulatory role. She questioned who regulates the regulator. She expressed her faith in the regulators as the rationale for continuing to live in the area, however, it was essential that she had concerns answered with the truth. CT advised that a culture of ‘healthy unease’ was encouraged at Sizewell B. Attendees concurred that the meeting on 05.03.14. encouraged trust in the ONR.

- 3.26 BH commented that he understood that metals don't behave in a predictable way when exposed to radiation. He expressed the view that it was economics that was delaying the inspection. He questioned whether the programme of using test blocks was sufficient and CT explained the overlapping incoming new programme advising that the safety case required that samples were analysed over the course of the life of the station. **After further discussion, the Chair suggested that she seek further clarification of the sampling regime when she next visits the site with MT.**
- 3.27 MT asked about the inspection of other large components, as detailed in the WENRA report. CT explained that there was a ten year cycle for the in service safety inspection programme and that this was ongoing. MT advised that he was reassured that the Site Inspectors were able to speak to operators at all levels to uncover any concerns.
- 3.28 Chair reminded attendees that Charles Barnett had asked about the USA RPV's and that the ONR Inspectors were unable to comment at that time and that a written response was awaited. Chair asked whether there were any other questions still unanswered. MT reminded attendees of the questions about the use of MOX fuel and questioned whether the burn up rate of standard fuel had ever been changed. CT clarified that the rate determined the power level, suggesting that it may be the burn up limit that was of interest. CT explained that changes in fuel design, supplier of fuel pellets and updates in cladding material have enabled a slow increase in burn up limit. MT questioned the new value and CT explained that there was peak pellet burn up limit rather than a fuel assembly burn up limit. Chair interjected that EDF Energy and the NDA have both replied that there was no intention to use MOX fuel.
- 3.29 JG asked whether the frequency of inspection of the RPV would change as the plant aged. CT explained that there was a ten year frequency and that the every time there was an inspection it allowed a demonstration that there were no defects above a certain size. **CT understood that the frequency of inspection would not change however he agreed to take this back as a question for the structural colleagues on site.** There was some debate about the impact of radiation on metal and the implication for storage of radioactive materials long term.
- 3.30 TB responded to the questions posed by TGJ advising that over the 30year period that he had worked at Sizewell A there had been continual upgrading and improvement of the plant and processes. He added that the regulators drove many of these improvements and that he would not describe the relationship between operators and regulators as 'cosy' more 'respectful'.
- 3.31 Chair thanked CT for his helpful contribution, reminded attendees that EDF Energy and the ONR were due to respond to the transcript and to the article about the recent shutdown of the Belgian reactors, that the outcome of further investigations in Belgium were awaited and that this item remains live on the action tracker. Chair sought confirmation of the actions and recommendations resulting from discussions tonight. **In answer to "who regulates the regulator ?", the Chair suggested that it would be helpful to ask DECC to address the National SGG and if this was not possible to invite them to a future local SSG meeting.**

Actions & Recommendations:

- i **Chair and MT to seek clarification of the sampling programme of test blocks at Sizewell B.**
- ii **CT to ascertain from structural colleagues whether the frequency of inspection of the RPV would change as the plant aged.**
- iii **Chair to request that DECC address the National Stakeholders Group meeting to address the issue of who regulates the regulators.**

Item 4. Scope questions and concerns regarding the Sizewell B dry fuel store for Chair and Deputy Chair to discuss with EDF Energy on 17.04.14. and to inform response and discussion at 5th June meeting.

- 4.01 Chair reminded attendees that the following questions had already been posed:
 - Ventilation of the building given that the materials stored within may generate heat.
 - Process of moving fuel from the reactor into the dry fuel store.
 - Who will oversee the actual construction of the store.
 - The rationale for the transport route for contingency concrete.
- 4.02 Chair sought other concerns or questions from attendees and the following items were suggested:
 - Are there any other components likely to be transported and if so what are the travel routes?
 - How are the containers constructed?
 - Quality of the concrete used for containment / shielding?
 - Duration of intended storage and the process that would occur after this time?
 - How will the condition of the flasks be monitored to ensure containment of the radiation?
 - Maintenance and security arrangements for the dry fuel store?
 - How the contents would be re-packaged if the lifetime of the flask was reached or in order to ship the spent fuel to a final disposal site?
 - Will there be an on-site facility needed for re-packaging fuel?
 - What vehicle / mechanism will be deployed for transporting fuel on site?
- 4.03 CT cautioned that the security regulator may advise that some of these questions should not be answered as fully as the SSG may like.
- 4.04 Chair advised that she had scrutinised the planning permission for the dry fuel store and found that it was entirely about the building itself and not the functional use. Attendees agreed that understanding how the building was to be used was important.
- 4.05 Chair commented that, depending on the outcomes of discussions with EDF Energy, that this may be the subject of a separate evening meeting rather than an item on the June agenda.

Item 5. Consider latest response from Public Health England to the group's questions

- 5.01 Chair drew attention to the previously circulated questions and answers and asked for attendees views. JG expressed the view that the replies were insufficient and that the questions asked were side-stepped.
- 5.02 Chair suggested a mechanism to progress this may be via Dan Poulter MP, reminding attendees that his representative was a member of the SSG, that Dr Poulter was the Junior Health Minister and that this was of National interest. Attendees discussed this and agreed in principle.

- 5.03 Chair sought comments on which areas in particular were of concern. TGJ questioned whether the questions and answers were on the website and Chair agreed to check. Attendees considered this matter, noted that a fellow member, Pete Wilkinson, had posed many of these questions and speculated whether these answers were sufficient for him. MT commented that dose limits for exposure were described for an adult male and not a child or female. Chair commented on the difficult language and the reference to alternative studies provided.
- 5.04 In conclusion, **Chair suggested that she speak with Mr Wilkinson to gain his views and that subsequently he accompanies the Chair and Deputy Chair to meet with Dr Poulter MP.**

Actions & Recommendations:

- i **Chair to meet with Pete Wilkinson and subsequently the Chair, Deputy Chair and Mr Wilkinson to meet with Dan Poulter MP to progress this matter to a satisfactory conclusion.**

Item 6. Discuss the proposal to invite John Busby to address a future group meeting on the subject of steam venting at Sizewell B.

- 6.01 Chair advised that Mr Busby had offered to attend the June SSG meeting to provide a presentation about steam venting at Sizewell B. She reminded attendees that Mr Busby had been part of the group that had held a meeting at Sizewell B to understand steam venting and answer Mr Busby's questions. No minutes of this on-site meeting were recorded. PH added that all of Mr Busby's questions were fully answered and that everyone at that meeting left confident that this matter had been openly and comprehensively explained. CT advised that Mr Busby's subsequent report did not reflect this, contained a large number of technical inaccuracies and where evidence was presented by operators that did not meet original assumptions, this evidence was not believed.
- 6.02 JG asked how this matter had arisen and Chair explained that questions were raised and EDF Energy had extended an invitation to all interested parties to attend a meeting, talk with operators and review the evidence about steam venting at the site. Subsequent to this, Mr Busby wrote a report expressing additional concerns and raising supplementary questions that he has now offered to present to the SSG. JG asked that a balanced debate was held.
- 6.03 MT referred to the extra radiation monitoring posts around Leiston commenting that these were part of RIMNET, the nuclear radiation monitoring and nuclear emergency response system. MT advised this was linked to Emergency Planning and suggested that Andy Osman was asked about this at the June meeting. MT clarified that these monitored in real time and that if the steam venting contained radiation, that RIMNET would enable detection.
- 6.04 Attendees discussed Mr Busby's offer further and Chair suggested that she request a copy of Mr Busby's report to send to the regulators and the operator for comment prior to sharing with all SSG members to enable an informed debate about whether this matter needed further exploration. CT advised that EDF Energy had already considered Mr Busby's report and concluded that the high level of technical inaccuracies and the belief that the evidence that challenged his assumptions held no credence, meant that they were not prepared to spend the considerable time needed to unpick and respond to his report. TGJ suggested that EDF Energy pick out key inaccuracies and respond to these.

- 6.05 Members considered whether circulating the report and requesting feedback should be delayed until the next full SSG meeting. Attendees noted that whilst the sub-group were not able to make a decision, that **enabling members, regulators and the operator to be fully informed of the facts prior to the next meeting enabled a decision about how to proceed to be made and prevented unnecessary delay.** CT advised that Mr Busby had a website (after-oil.co.uk) on which his reports were published. Attendees debated this at some length and **agreed to recommend that the full SSG consider how to respond to Mr Busby's request to present his report.** CT cautioned that the report was factually incorrect and could appear frightening; he requested that some form of caveat was included. **Chair advised that she would ask the advice of the Sizewell B Station Director about the wording for including this item on the agenda.**

Actions & Recommendations:

- i Chair to meet with Sizewell B Station Director to ensure appropriate wording for the forthcoming June Agenda item concerning Mr Busby's report. Chair to ensure that members, regulators and the operator receive a copy of the report and are encouraged to respond to inform members when they decide how to progress this matter.**

Item 7. Any Other Business

- 7.1 Chair advised that Ross Proctor had now left Magnox and led a vote of formal thanks for his helpful and considerable input into the SSG secretariat. Members noted that Paul Hetherington was the current point of contact.
- 7.2 JG commented that the SSG website needed housekeeping in that, for example, meetings were in alphabetical rather than chronological order. Chair advised that this was an outstanding item for the incoming secretariat to organise.
- 7.3 Chair advised that on 31st March the NDA announced CFP (Cavendish Fluor Partnership) as the preferred bidder in the Magnox and RSRL Parent Body Organisation (PBO) competition. The appointed PBO will provide direction, leadership and management through ownership of the shares in the site licence companies (Magnox and RSRL). There follows a two week stand down period prior to the commencement of a six month transition period. Chair was noted to have met all bidders previously and will attend a meeting on 22.04.14. to meet again with CFP. Attendees discussed the possible impact of a new PBO at some length.
- 7.4 Chair asked members to consider what has worked well in the last year and what could be improved upon. It was suggested that all main SSG meetings were held during the day with special meetings held in the evenings.
- 7.5 Chair reminded all those wishing to be co-opted applied at least six weeks prior to the next full SSG meeting.

Actions & Recommendations:

- i Incoming secretariat to ensure that the SSG website undergoes appropriate housekeeping.**
- ii SSG considers timing of meetings to enable maximised attendance.**

The meeting closed at 9.15pm

Next SSG meeting: 18.30 on Thursday 5th June 2014 at Saxmundham Market Hall