

**NOTES OF PROGRESS MEETING 2: EXPERT PANEL – CLIMATE CHANGE GROUP<sup>i</sup>**

**DATE:** 20-21 May 2014

**VENUE:** HSE, Redgrave Court, Merton Road, Bootle, UK

**ATTENDEES:**

ONR  
EA  
IC  
Technical Secretary  
Exeter U  
Oxford U  
Aberystwyth U

**OBJECTIVES**

- Provide clarity on nuclear safety case requirements in respect of climate change science and the need for further guidance.
- Agree a way forward for future work
- Discuss progress of the expert panel as it affects climate change members

**Day 1 – Tuesday 20 May 2014**

***1. Introduction and Overview***

welcomed all participants, noting that this was the second meeting of the CC Panel and invited participants to introduce themselves. briefly explained that the Panel was split into two sections; one was dealing with Seismic Hazard and the other with Climate Change issues.

summarised the agenda (see appendix to these notes) and the minutes of the last meeting; all actions were discharged or superseded. then provided some general information about the status of the new-build programme. gave an update on the position of each of the licensees and the technology they will be using. In particular, EDF-NNB has the intention to build two UK EPR units at each of the sites at Hinkley and Sizewell. added that HNP (Horizon Nuclear Power), had been taken over by Hitachi, and they intended to build ABWR units (boiling water reactors) at Wylfa and Oldbury. added that the site at Moorside, in Cumbria, was operated by NuGen. It was taken over by Toshiba (a controlling share) at the end of last year and they intend to build AP1000 reactors.

explained that the new build project is accelerating, that Hinkley Point C site (HPC) is now licensed and the first round of safety documentation had been received for this site. HPC will be the first of the new build sites to start construction with Sizewell 2-3 years behind that. emphasised that the new build sites are very large and costly, with many factors and issues to be considered in their design and construction. explained that EDF-NNB are waiting for a ruling by the EC over the UK Government's compliance with EU open competition rules that cover state

## **FOI201901052 – Annex A**

funding of national projects. A decision is expected around September this year and if this is positive (informal indications are that it will be), then this will enable EDF-NNB to endorse their final investment decision (FID), opening the way for large amounts of work to commence on the HPC site. The FID is expected by the end of the year, after which the pace of work will pick up significantly. The HPC project, being the first, is being watched keenly by Horizon and others and it is anticipated that if FID is positive, then this will accelerate development of non EDF-NNB new build sites.

### ***2. Nuclear regulatory process***

summarised the position of the new build sites. reported that eight of the proposed new build sites will be on the coast: Hinkley Point, Sizewell, Bradwell, Oldbury, Wylfa, Heysham, Sellafield and Hartlepool. added that five of these are at least partially in Flood Zone 3. stated that there are no new hazards from climate change, only increased magnitude and frequency of existing hazards. emphasised that for safety NPP's needed Control, Cooling and Containment (the 3 Cs). added that ONR routinely has to respond to FOIs on flood related issues and that using the knowledge and experience of the Expert Panel was invaluable in helping to respond to these.

added that an important feature of the nuclear design process against external hazards was the demonstration that the design of plant was able to withstand repeated applications of the design basis hazard severity with no nuclear release. An important contribution to this demonstration was the use of beyond design basis analysis that predicted the effects on the plant of hazard levels more severe than the design basis itself. It is important that cliff edges are avoided just beyond the design basis, i.e. a small change in hazard severity should not lead to a disproportionately large increase in plant response.

#### ***4a. Climate change science. Implications for nuclear safety/environmental protection***

introduced the BECC report which was a study carried out by a working group . He explained that BECC is a committee formed by EDF and they produced a technical paper on "extreme water levels to inform the next design phase of Sizewell C". said it was out-of-date already but concluded it was a good piece of work although some issues were found to be inaccurate, e.g. tsunamis are not influenced by sea-level rise. He added that Climate Change issues are fast moving and, therefore, many studies become rapidly out of date. noted that if this is the case, then when they receive the safety case, it will already be two years old, so it is important that it is adaptive to any new science.

followed with his presentation on "Predicting Future Sea Level Rise and agreed with SH's conclusions about the BECC report.

### **Day 2 – Wednesday 21 May 2014**

#### ***7. Hinkley C, Sizewell C, Wylfa B – Summary of progress***

*Owing to time constraints this was not covered in the meeting*

**8. Discussion**

said that it appeared from the meeting that H++ was not a safe surrogate for a  $10^{-4}$ /yr design basis or beyond design basis hazard levels. [A post meeting e-mail (Annex A) is provided from , who was not present for the second day, when this aspect was discussed.]

asked what the trends were for the next 5-10 years, and responded that there are many papers being published which will need to be addressed. added that the latest science indicates that changes in climate are happening more quickly and that the climate change models are not capturing it adequately.

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<sup>i</sup> The minutes of the expert panel meetings should not be used out of context, the consolidated technical advice from the expert panels can be found in the expert panel papers which support the [Technical Assessment Guide on External Hazards](#)