

NIRAB Quarterly Plenary Meeting

Friday 23rd September 2022, 10:00-16:00.

BEIS Conference Centre, 1 Victoria Street; and virtual on MS Teams

Attendees

NIRAB Members: Francis Livens (Chair), Gordon Bryan, Gregg Butler, Alun Ellis, Edoardo Patelli, Fiona Rayment, John Stairmand.

MS Teams: Mike Lewis, Maggie Brown, Martin Goodfellow, Kirsty Armer

NIRO: Dan Mathers, Clare Bayley, Simon Franklin, Dave Graham, Jeff Holliday, Aiden Peakman, Martin Townsend. MS Teams: Greg Black

BEIS (MS Teams): Michael Armstrong (SICE), Jacob Home (SICE), Jen Young (ND), Hannah Keene (ND), Paul Monks (BEIS CSA) (part-time)

Observers (MS Teams): Jane Nicholson (EPSRC), Ian Streatfield (EA), Tim Parkes (ONR)

Apologies: Alyson Arnett, Kirsty Gogan, Malcolm Joyce, Amanda Quadling, Matthew Billson (BEIS), David Smeatham (ONR), Ian Johnson (SICE), Lindsay Jamieson (ND)

Minutes

1. Chair Update

The Chair reflected on the year since the inception meeting of NIRAB 3, noting the significant progress that has been made to date with the following deliverables:

- NIRAB Early Advice to BEIS to support the Advanced Modular Reactor Research, Development and Demonstration Programme (AMR RD&D), March 2022.
- NIRAB Advice to Regulators on Scope of AMR RD&D programme, July 2022.
- NIRAB paper on Review of Nuclear New Build Approval Processes, September 2022.
- NIRAB response to House of Lords Inquiry on People and Skills, September 2022
- NIRAB response to House of Commons Science and Technology Committee Inquiry on Nuclear Power, September 2022 [Draft to be discussed at this meeting]
- NIP overview, September 2022 [Draft to be discussed at this meeting]
- NIRAB Annual Report, September 2022 [Draft to be discussed at this meeting].



The Chair also gave an update on 1:1 meetings held with Damitha Adikaari, Director of SICE and Paul Monks, BEIS Chief Scientific Advisor, and a meeting of working group chairs reflecting on progress.

The minutes from previous plenary on 4th July 2022 were approved by the Board

2. Update from BEIS

Officials from BEIS gave updates on programmes relevant for NIRAB.

- AMR RD&D programme
 - Phase A is now underway with two lots: reactors and fuels to Winter 2022.
 - On reactors there are four projects, led by: NNL, USNC, & U-Battery with specific reactor technology; and EDF Energy which is a site and user led requirements approach (reactor agnostic). These include work to identify end use cases to make a big impact on net zero by 2050.
 - On fuels there are two projects, led by: NNL and Westinghouse.
 - The phased programme is well set up to meet objectives and move forward to Demonstration.
- Future Nuclear Enabling Fund (FNEF)
 - FNEF is a £120million fund seeking to reduce risk/address barriers for short term new nuclear power projects. The competition for funding bids has opened and will close at the end of October 2022.
- Great British Nuclear (GBN)
 - GBN is being scoped with senior industry secondees and civil servants.
- Nuclear Fuel Fund (NFF)
 - NFF is a £75 million fund to support the UK front end fuel cycle capability in support of energy security, to March 2025. BEIS have been getting feedback from the sector on proposals for the fund and are going through internal assurance and approvals processes on fund design before launch in the autumn.
- Medical Radio-Isotopes (MRIs)
 - Work is progressing on the Medical Radioisotope Innovation Programme. Looking for UK nuclear sector to diversify. NNL are developing processes to extract MRIs from wastes. BEIS are working with the Department of Health and Social Care (DoHSC) to secure long-term supply of MRIs for imaging and treatment.



3. Update from NIRO

- NIRO attended the September 2022 IAEA Technical Group on SMRs (which includes AMRs), overview provided. Of particular note, there was an update on work on codes and standards, with 130 contributors working on harmonisation. There is a publicly available database providing information on ~70 reactors.
- IAEA are progressing technical documents in all areas on Coordinated Research Programmes (CRPs)
- EC presentation on funding projects for reactor development, with a focus on safety. It is not clear how UK can engage with EU programmes such as Horizon Europe.
- NIRO is supporting international bilateral collaborations.

4. NIRAB Response to the Commons Science and Technology Committee inquiry into the Government's approach to developing new nuclear power.

The draft response to the inquiry was discussed in detail. Comments will be reflected in the final draft, to be submitted by 30th September 2022. It is expected that the responses to the consultation will be published in due course.

5. NIRAB Annual Report

The Annual Report provides an overview of NIRAB's work to date from the inception meeting in September 2021 to September 2022. NIRAB members discussed a version of the report and broadly accept this, with some minor changes. The report will be finalised and will be submitted to BEIS before publication on the NIRAB website.

6. Technology Working Group Update

NIRAB discussed the Overview of the Impact of the Nuclear Innovation Programme report. Members broadly accept the draft report with some minor changes. This will be finalised and submitted to BEIS before publication on the NIRAB website.

7. Delivery Working Group Update

The NDWG chair gave an overview of the next phase of work on planning and siting. A further update will be provided at the next plenary in December 2022.

8. Use Case Working Group Update

There have been challenges in determining way forward on use case. NUCWG now has a clearer way and aim to fit timely advice with timetable to support the AMR RD&D programme. Working on three key things, building on thinking done already:



1. Revisit and agree list of key HTGR attributes for a demonstrator.
2. Develop an end user engagement plan with urgent key questions to advise BEIS on what needs to be done and what key questions to answer.
3. Develop a model / decision tree, with constraints and what would this mean for end use.

In the longer term the NUCWG will look to support the development of a roadmap on steps to get from a demonstrator to FOAK to fleet.

9. AOB

a) Invited speakers

A programme of external speakers on relevant topics to support the NIRAB work programme will be developed. Invited guests should align with NIRAB's meeting agenda.

b) UKAEA hosted event on Digital Materials Assurance for nuclear builds on Thursday 13th October in Culham. NIRO are happy to support NIRAB members attendance at the event and will provide secretariat support to ensure that the outputs are captured.

c) Next meetings

- Plenary meetings have now been scheduled for the next two years.
- Plenary meetings should be attended in person where possible. Remote attendance via MS Teams will be possible.
- Next meeting to be held in Manchester on 8th December 2022.

