

NIRAB Meeting Minutes

Thursday 3rd March 2022, 09:30 – 12:00. Virtual on MS Teams

Attendees

NIRAB Members: Francis Livens (Chair), Kirsty Armer, Alyson Armett, Maggie Brown, Gordon Bryan, Gregg Butler, Alun Ellis, Kirsty Gogan, Martin Goodfellow, Malcolm Joyce, Mike Lewis, Edoardo Patelli, John Stairmand

BEIS: Professor Paul Monks (CSA), Ian Johnson (SICE), Lindsay Jamieson (Nuclear Directorate), Michael Armstrong (SICE), Jacob Home (SICE/NIRO), Will Ludlam (SICE)

NIRO: Robert Alford, Clare Bayley, Jeff Holliday, Jacob Home, Dan Mathers, Aiden Peakman, Lucy Platts, Greg Black, Nick Underwood (NIRO)

Observers: David Smeatham (ONR)

Apologies: Amanda Quadling, Fiona Rayment, Greg Evans (NIRO), Matthew Billson (BEIS), Ian Streatfield (EA), Si Dilks (BEIS), James Wiseman (NIRO)

1. Chair update

- Minutes and notes from previous meeting (3rd February 2022) have been circulated for comment. **Action:** NIRAB members to comment
- This meeting is a starting point for development of early advice. Thanks to all for the time and energy members have put in so far. We will consider how to structure advice following discussion, but early advice will be headlines and things we can put into the work programme.

2. BEIS update

- BEIS gave an update on the AMR RD&D programme, the recent market engagement, and plans for an Invitation to Tender (ITT).
- The Call for Evidence in Autumn 2021 supports the decision for the UK to pursue HTGRs as part of the AMR RD&D programme. Since then, the SICE team have been working on the programme structure and are currently conducting a market engagement exercise on the proposals. The survey closes on 4th March, and organisations are encouraged to respond.

3. Working Group Updates

Technology Working Group (TWG)

- Key points to have come out of working group discussion on early advice:



- Fuel will be a key enabler: Fuel manufacturing, fuel performance, source of fissile material, transport containers etc.
- Research / innovation is required on co-generation end uses (e.g. integration with H₂ generation). We should be thinking about end uses and co-generation, and bringing nuclear and hydrogen R&D.
- There will be high temperature, high irradiation materials challenges to be met.
- Need to maintain continuity / momentum of research and innovation with an increased focus on HTGR in order to meet target timescales.

Use Case Working Group (UCWG)

- Key points to have come out of working group discussion on early advice:
 - The primary role of HTGRs should be the provision of high-temperature heat to decarbonise processes that are difficult or inefficient to achieve with electrification. Co-generation should still be considered.
 - Large power outputs will limit the user group to large heat networks and large-scale hydrogen production
 - Accelerate the AMR demo programme by bringing activities into the current spending review period
- In this area the NIRAB work programme should focus on end-user engagement to better understand market needs and develop an economic model for the sale of nuclear heat.

Delivery Working Group (DWG)

- Key points to have come out of working group discussion on early advice:
 - Current programme as outlined does not align with the aspirations of demonstrator by early 2030s.
 - Assumption is that any demonstrator is an advanced prototype (as close to FOAK as possible) which rapidly leads to FOAK and fleet.
 - Assume factory / modular build, noting that we need to be building the factory as part of the programme and this may add to add to the timeline.
 - DWG has identified issues that need to be addressed. In some cases, it might be useful to include the issue in NIRAB's work programme as well as, or instead of, offering early advice to BEIS.

4. Early Advice to BEIS

- The intention is to send early advice by the end of March. There is sufficient early advice coming out of the working groups. The advice will be collective, rather than from each WG.



ACTION: NIRAB Chair and NIRO will draft early advice to be circulated to Members for comment.

5. AOB

a. Next meeting

- 4th April 2022

WG's are tasked with proposing actions for the work programme, with prioritisation. It is noted that NIRAB will not be able to cover everything. NIRO will continue to support the working groups.

