

UNITED KINGDOM ATOMIC ENERGY AUTHORITY
Minutes of the 5th Board Meeting in 2017

Date: 5 December 2017

Location: Bickerton Room, E6
Culham Science Centre

Members present:

Roger Cashmore, Chairman
Ian Chapman
Norman Harrison
Jim Hutchins
Peter Jones
Chris Theobald

In attendance:

Stephen Axford (BEIS)
Adam Baker (BEIS)
Alli Brown
Rob Buckingham
Martin Cox
David Martin
Maya Riddle (sec)

Apologies:

Keith Burnett
Becca Holyhead (Women
Onboard)
Catherine Pridham

Item 5-6 – Damian Brennan
Item 5-6 – Andrew Hynes

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1 Chairman's Opening Remarks

- 1.1 Roger Cashmore welcomed Alli Brown to UKAEA and her first Board meeting.

2 Minutes of the 13 September 2017 meeting

- 2.1 The Board reviewed the key actions and approved the minutes of the Board meeting on 13 September 2017.

3 Report from sub-committees

4th December BAC

- 3.1 Chris Theobald informed members of key points from the previous day's meeting, which included:
- Safety statistics for the period indicated four incidents, two of which were RIDDOR reportable and there were also five high potential near misses;
 - JET operations with tritium had slipped from early 2019 to May 2019, although this was dependent on the Exhaust Detritiation System (EDS) replacement being procured in time;
 - Howard Wilson was looking at quality and standards of science;
 - New General Data Protection Regulation would come into force in May 2018. This had been picked up a bit late, but progress was now being made;
 - Following earlier issues with poor standards in workshops, there had been a great improvement in compliance;
 - The management systems audit programme was progressing to plan and there were no overdue actions; and
 - BAC undertook a self-assessment and it was agreed that more time should be allocated to the six-monthly meetings and interim catch-up calls in between.

5th December Audit Committee

- 3.2 Peter Jones informed members of key points from the previous day's meeting, which included:
- The NAO's audit plans for the pension accounts and statutory accounts were considered;
 - There was a potential risk of the statutory accounts getting a qualification as the lifetime plan, which the site restoration provision was based on, was coming up for 10-years old. UKAEA was pressing the NDA for resource to do an update;
 - The internal audit report indicated some slippage with completion of internal audit actions; and
 - A couple of issues had been highlighted during recent audits relating to substantiation of receipts and overtime recording, where procedures were in place, but were not always being followed.
- 3.3 Ian Chapman expressed concern that the renewal of the JET decommissioning plan was a low priority for the NDA.

- 3.4 Adam Baker said that he had already raised this with special advisors in BEIS.
- 3.5 Chris Theobald said that the JET Decommissioning plan could be a showcase for fusion with advances in remote handling and other technologies.

4th December Remuneration Committee

- 3.6 Norman Harrison informed members of key points from the previous day's meeting, which included:
- UKAEA faced challenges of diversity, particularly improving the percentage of women in STEM roles. A team was working on the Athena Swan resubmission and recruitment of a diversity manager was planned;
 - The succession plan for the Executive had been reviewed;
 - UKAEA was due to grow in head count by some 300-400 over the next few years;
 - There were significant ITER opportunities for the UK and recruitment of an ITER Business Development manager was planned; and
 - The Committee was fully supportive of UKAEA's efforts to gain approval for further pay flexibility.
- 3.7 Adam Baker encouraged UKAEA to look at wider diversity, not just gender.
- 3.8 Roger Cashmore said that there was still not a decision on the non-executive director posts, despite the adverts closing on 22 June 2017. He was concerned about the chair recruitment.

4 CEO's Report

- 4.1 Ian Chapman informed members that a ministerial announcement of funding for the National Fusion Technology Platform (NFTP) was expected on the 7th December. Andrew Hynes was acting Director until a director could be recruited.
- 4.2 During the debate on the Nuclear Safeguards Bill, both fusion and Culham had received a lot of support.
- 4.3 The US National Academies of Science's interim report on the strategy for fusion research in the US was with referees and a final report was due in October 2018.
- 4.4 China was planning an ITER scale Chinese fusion engineer test reactor, which would demonstrate tritium breeding.
- 4.5 Robert Jan Smits, Director General at the Commission was due to visit JET on 5th February 2018.
- 4.6 The independent panel reviewing the technical readiness of JET for tritium operations had presented its findings to the Bureau of the General Assembly and provided a strong endorsement.
- 4.7 MAST-U had been ready for bake on 3 November, but as previously reported contamination on tiles meant that R&D work was required before we could progress with the bake.
- 4.8 His view of risks was that the MAST-U risk should start reducing, and the priority shift towards repairing the EDS. As we were entering a period of growth, the risk of a lack of capability/capacity was also rising.

4.9 On the property side there were a number of developments:

- South Oxfordshire District Council had issued its draft local plan, which would allow for jobs growth at Culham;
- We were discussing a financial mechanism with BEIS for developing new commercial buildings;
- The minister had provisionally agreed an extension to the RACE building, but we needed to complete a business case; and
- We would be applying for planning permission for the Oxford Advanced Skills building and would retender for a training provider in the new year.

4.10 A reorganisation was taking place and three new department managers had been appointed, to start in early 2018.

4.11 Adam Baker reassured members that a lot of work was going on inside in government to prepare for the EU exit bill, which included optioneering. Ian Chapman would be involving in Research & Technology decisions.

4.12 He asked whether the CEO had enough support on the strategic side and Ian responded that he was considering a new strategic business role.

4.13 Roger Cashmore said that it was good to see the risk trends and an update on corporate performance. He complimented the improvement in the quality of the dashboard and asked for a MAST-U enhancements dashboard.

4.14 The Board noted the report.

Andrew Hynes and Damian Brennan joined the meeting

5 NFTP presentation

5.1 Andrew Hynes took members through a presentation which provided an overview of plans for NFTP. Key points included:

- The aims were to raise ca. £1billion for UK plc and to grow skills in the UK through extending collaborations and partnering with industry;
- The government had awarded us £86m - this roughly split as £52m capital for the new facilities - Fusion Technology Facilities (FTF) & H3AT, and £33m for resources;
- People to deliver this would be a mixture of current staff, recruitment and secondments from our partners. Recruitment would also include support staff to enable the growth;
- It was a four-year programme with interim facilities in 2018 and the new buildings due to be completed by end of 2020;
- There would be a programme board including external partners and three project boards below this. A draft programme was being developed to go to the first programme board in January 2018;
- We would follow the Integrated Delivery Process (IDP) and key areas would have stop/go Gates to ensure that sufficient progress was made before moving on and also avoid mistakes of the past;

- A number of key ITER contracts had been identified for which the UK was well positioned. We would also do smaller pieces of work to help ITER with risk reduction;
- FTF was already well placed with our Materials Technology Lab and work on Heating by Induction to Verify for Extremes (HIVE); and
- Key additions in FTF would be Thermo-Hydraulic Test (THT) and Electro-Magnetic Test (EMT) facilities, which would be beneficial for ITER and fusion regulation.

5.2 Adam Baker advised to have impact assessment/metrics build in right from the start and Andrew Hynes agreed saying that the catapult report was a helpful pointer.

6 H3AT Presentation

6.1 Damian Brennan took members through a presentation which provided an overview of plans for H3AT. Key points included:

- The aims for H3AT were to:
 - provide the UK with a strong tritium capability, acting as a hub to coordinate disparate national capability; and
 - help fusion towards commerciality. The tritium fuel cycle for a fusion power plant needs to be far simpler than it was now.
- The ITER tritium plant would need to scale up from lab conditions to handle kg of tritium and we could help to de-risk this;
- Engagement with potential partners had been positive, but we were limited on what could be divulged until the ministerial announcement. Stakeholders engagement workshop for requirements capture would take place in the new year;
- He talked members through the building's conceptual design. In the interim, an area in the Materials Research Facility (MRF) would be used to set up a tritium lab;
- A tritium science & technology programme was being developed and would include work currently undertaken as part of the technology programme, research for the NDA and collaborative research with universities; and
- An organisational structure had been developed and recruitment for a number of posts would shortly be launched.

6.2 Jim Hutchins asked why we could not just leave tritiated waste and Damian explained that the tritium was mobile and that it was safer and easier to treat it at source.

6.3 Chris Theobald asked about the US and Adam Baker responded that fusion had been identified as an area for collaboration in the recent UK-US agreement.

6.4 Roger Cashmore asked about harvesting tritium out of the blankets and Damian responded that this was an area that the Karlsruhe Institute of Technology (KIT) was leading on.

6.5 Chris Theobald asked about local communications and Damian responded that they would take a similar approach to MRF.

Andrew Hynes and Damian Brennan left the meeting

7 Update on RACE

7.1 Rob Buckingham provided an update on RACE, which included:

- RACE had confirmed new funding of £23m over the next five years, much of this as part of collaborative bids;
- They were now 130 people. For the most part they were doing well at attracting people, but struggling to get sufficient electrical engineer and female applicants;
- The RACE building (B1) was full and an extension sought, which would provide space for an additional 50 people. More space was also required for tenants;
- The first tender for the European Spallation Source project had come in much higher than the initial industry supplied estimates;
- We had supported Millbrook on a bid to host Connected and Autonomous Vehicles (CAV) testing and provided an overview of options for commercial principles; and
- AI & mobility were important in the Industrial Strategy and Culham was well positioned in the Oxford-Cambridge corridor. RACE could play a larger role in the RAS sector deal.

7.2 Jim Hutchins asked about the benefits of working on ESS and Rob responded that helped with upskilling of the team and was useful experience for the ITER hot cell

7.3 The Board noted the update.

8 P7 Financial Report

8.1 Alli Brown highlighted key points on the Period 7, 2017/18 position including:

- The year-end forecast for JET was now expected to be £2.4m lower than the one provided to the Commission in July, which reduced the pressure on the EPSRC grant (which covered the UK host contribution);
- Since issuing the report, the figures had been reconciled back to Unit 4 and all the CSR funding had been allocated out;
- Now that we had been awarded the NFTP funding it would be necessary to undertake an exercise to look at the impact on the EPSRC programme/funding stream;
- The Executive Committee had agreed to amend the RACE & MRF financial targets to take account of external factors; and
- BEIS has agreed to swap £1m of capital to resource funding and we were working with the BEIS finance team on depreciation.

8.2 Ian Chapman asked Adam Baker if there was a decision on the National Nuclear Users Facility business case and Adam responded that the economic case needed more work.

8.3 Peter Jones commented that there wasn't a table on the cash position and Alli responded that this would be included in the next report.

8.4 The Board noted the financial position at the end of period 7 of 2017/18.

9 Board electronic system

- 9.1 Maya Riddle said that three options had been considered. Board Intelligence was the more sophisticated and also costly option. SharePoint was the cheapest option and would enable collaborative working.
- 9.2 The Board was asked to move to a paperless system and undertake a trial of SharePoint for a year.
- 9.3 Jim Hutchins said that he saw no benefits in Share point over the current system for distributing papers, whereas the Board Intelligence would save him time and lead to more effective working. The other non-executive directors shared this view.
- 9.4 The Board agreed to trial Board Intelligence.

10 Any Other Business

- 10.1 The next Board meeting would be held on 14 March 2018.

Secretary Maya Riddle

Chair Roger Cashmore