ISIS User Committee Minutes

4 December 2015, The Cosener's House, Abingdon

Attendees:

Jon Goff (Royal Holloway, Chair), John Holbrey (Queen's University Belfast), Beau Webber (Kent), Jeremy Lakey (Newcastle), Phil Salmon (Bath), Don Paul (Warwick), Roberto Senesi (Rome, Italy), Aiden Hindmarsh (Durham), Hongbiao Dong (Leicester)

Sean Langridge, Philip King, Debbie Greenfield, Steve Wakefield, Andrew Kaye, Zoe Bowden (ISIS)

Apologies:

Anthony Powell (Reading), Peter Slater (Birmingham), Robert McGreevy (ISIS)

1. Minutes and actions from the previous meeting

Minutes from the June 2015 meeting were accepted.

Actions from June 2015:

1. Developing user feedback – ongoing.

Action: AK to ensure users are getting feedback forms with claim forms and explore emailing a form with experiment reports.

Action: AK: User online feedback to be promoted prior to the next IUC meeting to provide reps with feedback from the community.

2. Award letters following the FAPs – these were sent within 2 weeks after the June 2015 meetings, and aim to be sent before Christmas following the Dec 2015 FAPs.

3. Interactions with the Diamond User Committee (DUC) – Jon has been asked to go to next DUC but a date is still needed. The DUC would like to write to STFC regarding accommodation provision at Ridgeway and have asked the IUC to support this – Jon will distribute the letter for the IUC to comment on when it is available.

Action: PK/JG to get the date of the next DUC

Action: JG to contact DUC chair regarding letter to STFC.

2. Chairman's report

STFC's Large Facilities Subgroup produced a report on possible funding scenarios for facilities prior to the spending review. An article in *Nature News* published on 12 November 2015 on flat-cash

scenarios stated that, under one possible scenario: “Britain’s flagship x-ray synchrotron, the Diamond Light Source, would operate at 70% of its capacity, the national Central Laser Facility at 50%, and the ISIS neutron source would need to shut down by 2019”. This was not one of the flat-cash scenarios.

3. Reports from User Representatives

Crystallography: A user group meeting was held in Oct for 2 days jointly with relevant BCA and IoP groups. ~80 participants attended and there was a wide range of science talks. The meeting reported a high level of satisfaction with the ISIS instrument suite and technical support.

A high turn-over of technicians to support pressure work on Pearl was raised, and staffing difficulties in this area were discussed, including recruitment and retention issues.

Disordered Materials: There were no issues to raise regarding the instrument suite for disordered materials. The first full physics paper from Nimrod has been accepted for Phys. Rev. Lett.

Large Scale Structures:

- Technical support for motion control maintenance for reflectometers was raised, and work is in progress to put maintenance plans in place.
- The Oxford Deuteration Facility has now been moved to ISIS. There is lots of demand, and further information is needed on what can be produced by the Lab for the user community. It was noted that access to deuterated material from the Lab is managed through the ISIS proposal system with a separate review panel.
- The new user room in TS1 was noted as being very good, with card access to drinks machines also being very useful (but the quality of the coffee was not as good as elsewhere on site). A fridge in the TS2 user area would be appreciated.
  Action: AK to explore TS2 user area fridge
- Double booking of equipment in the scheduling system was noted.
- Rapid Access becoming more popular on LSS instruments. An Increase in magnetic contrast work for soft matter on Offspec was noted and its possibilities on Crisp discussed.
  Action: SL to look at possibilities for this on Crisp.
- It was noted that Dan Myatt who had provided computing support for SANS had left, and continuing this work would be part of the more general ISIS scientific computing strategy.
- The press release for Jeremy Lakey’s work recent work was discussed.

Excitations: The Theoretical and Experimental Magnetism meeting had been good and well-attended, but didn’t have a user meeting as part of this.

Action: PK to pursue Excitations user meeting as part of TEMM

The LET detector bank was now complete, and a new oscillating collimator for LET was enabling background suppression from cryostat tails. A focusing snout for LET for flux increases was being progressed. The Maps guide project was progressing and included a disc chopper for rep rate multiplication. A water moderator with poisoning layer on the Maps side removed is due to be installed in upcoming shutdown which should provide flux increases on the instrument. The Mari

guide project was ready to go and needed ISIS Management Committee approval. The modernisation of the ALF crystal alignment facility was much appreciated.

Molecular Spectroscopy: Vesuvio and QENS had two new instrument scientists and an advert for Tosca was currently out. Feasibility studies for the Osiris secondary spectrometer are underway. The Tosca guide is due for installation in Spring 2016 and should produce a factor 10 gain in flux. In-situ equipment, e.g Raman, was being further developed. Vesuvio was now operating at 100% and Xpress is now available. Work is ongoing to incorporate output from simulation codes into Mantid; this is mature for Tosca, and developing for QENS and DINS. The catalysis programme is going well on Tosca and Maps. It was noted that Excitations users had need for Raman off-line.

Muons: Pabitra Biswas and Adam Berlie had now started as a muon instrument scientists. No user meeting had taken place, but science meetings had been held and a training school for PhD students is planned for March 2016. Development of –ve muons for elemental analysis is going well.

Engineering: No user meeting had taken place in the last year. Further information on the possibilities on IMAT was requested, and a user meeting was suggested on this and other developments.

Action: SL to encourage an engineering user meeting.

There was discussion of technical needs around increasing the furnace temperature, stress tensor measurement under applied load, reduction in background and reduction in changeover time between experiments through improved slits and collimators.

4. Update on ISIS

Points included:

- ISIS annual review 2015 was out now
- Progress on Tosca, Maps guides; IMAT was now in commissioning; Larmor was now in the user programme; ChipIr was in commissioning; Zoom was under construction.
- The project to replace the Linac tank 4 was progressing – around 4 years until installation
- HRPD review has reported; very positive review for a new upgrade, but a £6M project including a new building will need tensioning against other instrument development projects
- A celebration had been held in Italy to mark 30 years of the ISIS-Italy agreement. An agreement with India for funding was being discussed as part of UK government Newton funding; Newton funding for Chinese and South African users was available too.
- A decision on the future of the RIKEN-RAL muon facility was being discussed
- Campus developments included universities wanting to locate activities onto the RAL site.
- A proposal for a stress engineering centre based at ISIS was being developed jointly with the Open University

- ISIS – ESS interactions – ISIS will build two instruments plus a variety of other technical involvements.
- A project to model the existing ISIS first target station and then refurbish it was ongoing. The project aims to renew the 30-year-old target station, improve target station operations, improve future flexibility for changes and provide neutron flux improvements where possible. Installation was likely to take place in 2020-2021 (1 year shutdown for TS1). Wider comment by the user community on the TS1 project was discussed.

Action: PK to look at web-based feedback for TS1 plans

- Plans were well advanced for an STFC Technology building near ISIS to provide space and handling facilities for new developments and large projects
- A feasibility study for ISIS-II was about to begin to consider what a future accelerator-based source would look like.

5. Update on operations

- 2 cycles contributing 77 days to the user programme had been run since the last IUC meeting. Time had been taken out for the STFC open days, but otherwise the accelerator availability had been very good.
- Sample environment developments presented included a pressure cell for dilution refrigerator temperatures, an RF furnace, diamond anvil motion system, and a robotic sample changer.
- Neutron target manufacture is now done within ISIS and the facility now has capabilities and expertise for doing this

6. ISIS Facility Development Studentships

ISIS was able to support a number of studentships which coupled excellent science with facility developments. Links to other parts of the RAL campus, particularly Diamond, were also important within the studentship projects. ISIS offers 50% funding (or 33% if Diamond is also co-funding). In 2014 there were around 50 applications of which 14 were funded. In the recent 2015 call, ISIS had 41 applications and will support around 10 of these (selection process ongoing at the time of the IUC meeting), with 3 being jointly funded with Diamond.

7. Student Training

The paper on student training activities which ISIS currently undertakes was noted, and the amount of training which happens was appreciated.

Further linking of students using ISIS through a network run by students was suggested, to enable them to share experiences and support.

Action: PK/SL to suggest a student network to ISIS student activity organisers

A request was made for the ISIS-Diamond CDT school to be made available for non-CDT students too. This might include getting access to recorded talks from the Diamond Moodle site

Action: PK to explore the possibility of wider access to talks from the ISIS-Daimond CDT school

Assessment of students to enable them to gain credit from the CDT school was discussed.

It was felt that students would benefit from online content such as instrument simulation, data analysis videos and videos showing instruments and setup – examples of what it's like when they come to ISIS for an experiment. SEPnet have good examples of online training material.

8. Member rotation and terms of reference

The terms of reference were generally found still to be appropriate. A line on links with the Diamond User Committee could be added, as could a note of the term of the Chair. Review of the ToR provided a reminder of the IUCs role in stimulating and promoting user meetings.

Action: PK to produce revised version of IUC ToR.

Length of service of current IUC members was discussed.

Action: PK to contact members after the meeting to discuss rotation.

9. AoB

The question of Chip irradiation representation on the IUC was raised now that this is coming online.

Action: PK to consider chip irradiation representation on IUC.

A certificate for Newton-supported users was requested.

Action: AK to produce a certificate for Newton-supported users when required.

A standard format for user meetings which ISIS could support was discussed. ISIS can provide facilities (at RAL or Cosener's) plus support for online registration, etc, in order to encourage user meetings.

Information on the methane moderator refresh seems to have been lost from MCR news.

Action: SW to look at moderator information on MCR news

Consumables requests for cells, etc, now go through instrument groups.

Action: PK to ensure this is included on the ISIS web page.

10. Date of Next Meeting:

The next IUC meeting will take place on Friday 10 June 2016.

Action List from December 2015 ISIS User Committee.

1. ***Action: AK to ensure users are getting feedback forms with claim forms and explore emailing a form with experiment reports.***
2. ***Action: AK: User online feedback to be promoted prior to the next IUC meeting to provide reps with feedback from the community.***
3. ***Action: PK/JG to get the date of the next DUC***
4. ***Action: JG to contact DUC chair regarding letter to STFC.***
5. ***Action: AK to explore TS2 user area fridge***
6. ***Action: SL to look at possibilities for this on Crisp.***
7. ***Action: PK to pursue Excitations user meeting as part of TEMM***
8. ***Action: SL to encourage an engineering user meeting.***
9. ***Action: PK to look at web-based feedback for TS1 plans***
10. ***Action: PK/SL to suggest a student network to ISIS student activity organisers***
11. ***Action: PK to explore the possibility of wider access to talks from the ISIS-Daimond CDT school***
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