

## Annual Review Feedback – April 2023

Please note the annual review feedback is there to give an external view of the NRF, which can help inform areas to maintain or enhance future plans and peer review.

### NMR

Overall, the NRF is doing well in all aspects and there are clear future plans. The NRF is showing some good practices that other NRFs can learn from.

Overall Score: 7.5/10

### Recommendations

- Clarify the value proposition of the NRF
- Consider presenting at a wider range of conferences/events to broaden the user base
- Improve cost recovery and provide further information in that section
- Link with other NRFs and large facilities to improve the materials characterisation capability in the UK

**Value Proposition (score 7/10):** The NRF currently offers two solid-state NMR instruments (850 MHz and 1 GHz). Overall, the value proposition as put forward mostly deals with the broader UK infrastructure landscape and doesn't reflect on the specific aspects of the facility in adequate detail. It should include a clearly articulated summary of the purpose of the facility, which has more focus on, for example, the science community and the technology, and does not need to refer to the levelling up agenda.

**Scientific Excellence (score 8/10):** The NRF uses some descriptions of work published in 2022 to highlight scientific excellence and the two case studies presented are very good. Overall, there is a narrative that justifies the need for high-field instrumentation to tackle questions where standard instrumentation would not allow. This does come across strongly, however, it would be helpful to also put this into a broader context. Where does the NRF see itself making significant contributions to emerging R&D needs?

**Publications (score 8.5/10):** The short summary on the contribution of the NRF in each publication was excellent and seen as best practice. It is good to see that the publications are from various research groups in diverse disciplines. It would be helpful to highlight who the corresponding author is in the publications. It was noted that publications are tracked by requesting the NRF to be acknowledged – the HLG would like to know if any periodic searches on this are conducted to ensure that all publications are captured?

**Impact (score 8/10):** The NRF is a beacon for the community and have great training and user engagement activities, such as the annual symposium, solid state NMR workshop and industry-funded PhD studentships. The HLG would recommend presenting at events for more diverse communities, e.g. at the UK Catalysis Conference, which can attract new users and would be an easy win to meet the KPIs for research outputs and outreach.

**Cost Recovery (score 6/10):** The grant income (~£12k) equates to approximately 12 days of usage, which seems low. It is more promising that there will be at least 22 days of usage in the next reporting period. It is welcoming to see some industry activity, however, it is minimal and it would

be useful to have more detail here. It is good to see industrial PhD projects using the facility – how does this translate into more sustained engagement?

**Users (score 8/10):** The user data was helpful in how the information was broken down, which gave a clear picture of the new users. It was also appreciated that there was a table to show the days spent in each discipline.

**User Surveys/Satisfaction/Engagement (score 8.5/10):** Overall, very good feedback was received from the users. There is a thorough survey which is very welcome.

**Service Demand (score 8/10):** Overall, users are from a variety of institutions, there is a good level of uptime and the days are mostly assigned from the allocation panel. However, there have been occurrences where there was less time requested than time available. Considering that most of this allocation is not costed on grants, it would be good to move to a position of over-subscription.

**Risks (score 9/10):** It was good that the HLG's previous feedback had been taken on board. A risk register is available and it shows awareness of business critical activities. A good example of this is in the use of liquid helium, where there is clear awareness of the need to upgrade their current system and how helium is captured during filling. The HLG would like to know what % of recovery is acceptable. Also, if this a large value how you would plan for failure in local liquification facilities? Would you need distinct modular units for liquification to remove a single point of failure?

**Key Performance Indicators (KPIs) and Service Level (SLs) (score 8/10):** The NRF is meeting the KPIs and those that are amber are well explained with reasonable justification. It is recognised that Covid has had an impact on events and hence on the research output KPI. More proactive management of this KPI is encouraged for the next reporting period now that in-person events have resumed.

**Links (score 8.5/10):** There is a good list of national and international links. The NRF should consider synergy with other NRFs regarding material research, such as EMFL and EPR. In general, those materials characterisation NRFs can think about having joint meetings together to promote EPS research in the UK. This can be further linked with large facilities, such as DLS, ISIS and CLF.

**Improvements and future plans (score 8.5/10):** This section is mostly focussed on technological developments that keeps the facility at the pinnacle of the field. Clear plans are presented.

### Score descriptions

Individual Assessment Criteria Score Indicators	Score
<b>Exceptional</b> – World leading or of exceptional strategic importance	<b>10</b>
<b>Excellent</b> – Leading edge and internationally competitive	<b>9</b>
<b>Very High Quality</b> – Leading edge and internationally competitive	<b>8</b>
<b>High Quality</b> – Leading edge nationally and internationally competitive in parts	<b>7</b>
<b>High Quality</b> – Leading edge nationally, potentially internationally competitive	<b>6</b>
<b>Good Quality</b> – Nationally competitive	<b>5</b>
<b>Potentially Useful</b> – Requires significant improvement	<b>4</b>
<b>Potentially Useful</b> – Requires major improvement	<b>3</b>
<b>Not of Sufficient Standard</b> – Requires major improvement & questions if the NRF is required	<b>2</b>
<b>Not of Sufficient Standard</b> – Requires major improvement & poor evidence that the NRF is required	<b>1</b>
<b>Not ranked</b>	<b>0</b>