

SCIENCE AND INNOVATION INVESTMENT FRAMEWORK 2004-2014: NEXT STEPS – CONSULTATION ON THE POSSIBLE CREATION OF A LARGE FACILITIES COUNCIL - SUMMARY OF RESPONSES.

BACKGROUND

The Government announced at the time of the Budget on 22 March 2006 a consultation on a proposal to create a Large Facilities Council. The consultation was announced in the document *Science and Innovation Investment Framework 2004-2014: Next Steps*. The Government asked for responses on two principal questions as follows:

- The Government would welcome views on whether all large facilities operations should be integrated under a new Large Facilities Council, or whether there is a case for some facilities to remain under the management of other Research Councils.
- Furthermore, in the event of a merger of CCLRC and PPARC, should the grant-giving functions of the Particle Physics and Astronomy Research Council (PPARC) be moved to the Engineering and Physical Sciences Research Council (EPSRC)?

Possible creation of a Large Facilities Council (LFC)

Introduction

This paper summarises responses to the consultation. Responses, other than those that asked to remain confidential, are publicly available on request.

Responses

A total of 125 responses were received by the deadline of 16 June 2006. Not all respondents expressed clear views for or against the creation of a Large Facilities Council. Of those that did, two thirds were broadly supportive of the proposal.

Breakdown of respondents

Those responding can be categorised as follows.

Universities, (including individual departments)	46 responses
Individual Research Councils, (including RCUK)	5 responses
Learned Societies	4 responses
Private Industry and Business Groups	4 responses
Private Individuals	5 responses
Individual Academics	33 responses
Interested Science Organisations	20 responses
Others	8 responses
Total	125 responses

Question 1 – the proposal to create a Large Facilities Council.

Supportive Comments

Particular support for the proposal came from the UK's Nuclear Physics, Particle Physics and Space Science communities. Supportive comments referred to the potential of a Large Facilities Council to strengthen the ability of the UK to compete internationally. One respondent commented that International partners were confused by the variety of UK organisations currently involved in negotiations in this area. Other benefits cited were that a single Large Facilities Council could also produce economies of scale and managerial efficiencies. Another potential benefit mentioned was the new Council's ability to act as a coherent focus to attract high tech companies and spin outs to set up close to its facilities.

Comments from those opposed to the creation of a Large Facilities Council

Those against the proposal tended to question the need for change and expressed a view that creating a Large Facilities Council was 'highly unlikely to improve the delivery of science'. Another respondent felt that 'no good or substantive case had been made for merging CCLRC with PPARC', and that the reasons put forward were based on 'speculation and not supported by fact or evidence'. Potential conflicts of interest on behalf of CCLRC with respect to resourcing its own facilities and handling the UK's role in ESRF and ILL were also mentioned.

Other Comments

Some respondents who expressed no clear view on the merits of creating a new Council commented nevertheless on the potential structure and organisation of a new Large Facilities Council. Many emphasised that a new structure must be carefully designed and that it should not be an extension of either CCLRC or PPARC. Others indicated that they could not give a clear view until the structure and remit of a new Council was known. There was strong support that a new Council must be 'science-led' and not focus purely on the construction and management of facilities. The naming of the new Council should also reflect that it was a 'science-led' body. Some respondents commented that a new Council would need to ensure that it took full account of the particular needs of smaller disciplines.

Views from Research Councils

CCLRC and PPARC were supportive of the proposal. The key arguments made by the two Councils in favour of the proposal, which were also mentioned by some other respondents, were as follows:

- It would create a more integrated approach to large facilities, including international negotiations, for long term projects involving several countries acting together;
- It would obtain more value from the knowledge and technologies that are developed as a result of the new Council's programmes;
- It would bring together both of the above goals using the two science and innovation campuses at Harwell and Daresbury as identifiable knowledge transfer centres which host UK based large scale international facilities.

NERC believed that some good arguments had been made in support of the creation of a Large Facilities Council; these included opportunities to improve value for money, to better coordinate the provision of large facilities, to strengthen the UK's international leadership and positioning and to achieve higher levels of partnership with business. However, NERC expressed concern that the analysis in favour of a

Large Facilities Council lacked sufficient supporting evidence. It also considered that a Council whose mission is driven by supporting facilities rather than having a clear scientific mission may find it difficult to maintain a strong relationship between facilities and users.

RCUK responded that the creation of a Large Facilities Council and the greater integration of long-term strategic planning and international operational expertise would enable the UK to engage more effectively in international negotiations. The establishment of a Large Facilities Council could also deliver a range of other benefits including engendering a more integrated approach to the management of large facilities, providing a more widely encompassing national focus of advice and expertise, and maximizing the exploitation of new knowledge and technologies from large facilities through procurement, knowledge transfer and commercialisation.

EPSRC believed that a Large Facilities Council would enhance the UK's role on the World and European scenes and thus enable opportunities for the UK research base which had been previously very difficult to obtain.

Question 2 – In the event of a merger, should the grant giving functions of PPARC be transferred to EPSRC ?

Of those responding to the question, most (about three quarters of respondents), were of the opinion that the grant giving functions of PPARC should not be transferred to EPSRC. There was wide ranging support that they should be merged into a new Large Facilities Council so that facility management and grant-awarding powers were not separated. This view was expressed by several respondents who commented that facilities 'should not be removed from their exploitation' and that 'there should be a close relationship between those using the facilities and those developing the facilities'. The long term strategic planning required to construct new facilities (in a Large Facilities Council) was also cited as an argument for incorporating the grant giving functions of PPARC into a Large Facilities Council.

Those in favour of the grant giving functions of PPARC being transferred to EPSRC commented that this would remove the artificial divide in physics funding and allow the innovation agenda to be better addressed

Additional Questions set by the Office of Science and Innovation (OSI)

In addition to the two key questions above, OSI also issued eight additional questions for consideration which were published on the OSI website. Overall there was a low response to these questions with only 14 respondents giving their views directly. A number of other respondents also addressed these questions in response to the headline questions. Their views are incorporated in the section below.

1. Would bringing large facilities under a single research council enable the UK to play a stronger and more coherent role in the next generation of European and global projects?

There was considerable agreement that this would be the case. Support for the proposal illustrated the benefits as providing more coherence in large facilities and providing a single UK contact for International negotiations.

2. A Large Facilities Council could be created either by merging PPARC and CCLRC or by merging the large facilities of PPARC into CCLRC and

putting the grant making operations of PPARC into EPSRC. What are the advantages and disadvantages of each approach?

There was a strong preference that the best way forward would be to merge CCLRC and PPARC and that the grant making operations of PPARC should be merged into a new Large Facilities Council rather than into EPSRC. One respondent commented that 'It is much better to keep facilities and grants together when the research is large scale, international and of long duration'.

However, some respondents felt that there was a risk that funding may be diverted away from grants to support facilities management and that universities may be disadvantaged in favour of Government-run facilities as a result.

Some respondents believed that putting the grant making operations of PPARC into EPSRC would have the disadvantage that the management of grants to the users of the facilities would become separated from the management of the facilities themselves. The different operating styles and practices of EPSRC and PPARC was also felt to be a disadvantage to this approach. Conversely others thought that EPSRC 'has a strong track record of the effective management of grants across universities, individuals and groups'.

3. What are the advantages and disadvantages of having the management of large-scale facilities separated from the grant giving operations of the councils which largely use them?

Particle physicists were strongly of the view that separation would entail significant problems as in this discipline almost all projects are carried out with international partners. One respondent commented that 'there are significant advantages if those partners can work with one body in the UK'. The long term strategic planning required to construct new facilities (in a Large Facilities Council) was also cited as an argument for incorporating the grant giving powers of PPARC into a Large Facilities Council.

A few respondents felt that separation would reduce the risk of any potential conflict of interest and allowing responsiveness in grant giving.

4. What would be the advantages of giving EPSRC the full spectrum of physics funding? What benefits would this bring to physics departments which have faced difficulties in attaining long-term sustainability?

There was a general view that the benefits would be small. Although this would in principle allow tensioning and balancing needs across fields, it could in practice be hard to achieve when disciplines have different scales of collaboration and timescale. 'Having multiple Council sources for funding of physics departments has at least as many advantages as disadvantages, especially under the applied grants scheme' was one comment.

5. What facilities in addition to those listed above should be considered for a new council? In particular, should the new Council cover fusion and nuclear physics?

Fusion

CCLRC and PPARC expressed the view that there is a strong case that support for leadership of Nuclear Physics and Fusion should be incorporated in a new Council reflecting their needs for long-term commitments to large-scale international communities.

In the case of Fusion, CCLRC and PPARC cited that the long-term nature of the large international fusion facility ITER was suited to the Large Facilities Council. One respondent saw considerable engineering and technical synergies between constructing large accelerator projects and designing Fusion research machines, particularly since these types of project are usually organised and managed internationally.

EPSRC thought that there would be merit in the transfer of ownership and funding for the operation of the main Fusion facilities at Culham to the Large Facilities Council, though grants for all other HEI based Fusion work and the support and funding of plasma physics should remain with EPSRC.

UKAEA Culham were of the view that if a Large Facilities Council is created that is the only body able to fund large facilities, it will be essential that fusion funding moves to the Large Facilities Council as fusion development relies on major facilities.

Nuclear Physics

EPSRC and the UK's nuclear physics community were both generally supportive of including nuclear physics in the Large Facilities Council. Both believed the Council would be well placed to operate facilities in the UK and to negotiate UK membership of and access to international facilities. The Institute of Physics believed the inclusion of nuclear physics within the Large Facilities Council would be 'natural and timely', on account of the current proposal for the UK to join Germany in the FARI project. EPSRC believed the support of individual research projects should continue to be its responsibility thus enabling proposals to be fixed against other leading edge areas of physics research.

6. What practical steps could a Large Facilities Council take to improve industrial engagement with large facilities?

The development of science campuses at Harwell and Daresbury, were viewed as positive steps likely to improve industrial engagement. It was also thought that industrial fora might also help facilitate this, and that industrial partners could be involved in facility construction and development. Others felt that knowledge transfer could be encouraged through early collaboration on prototype development. Another respondent thought that industrial engagement could be improved by business making greater use of large facilities.

7. If the grant giving functions of PPARC are passed to EPSRC, should a Large Facilities Council have a role in providing grants and studentships to Higher Education Institutions?

Considerable opposition to PPARC's grant giving functions being passed to EPSRC was expressed. Some respondents felt that in any event a Large Facilities Council would need to provide grants, for example for work on accelerator R&D and large scale experiment construction at the universities within large international collaborations. Another respondent expressed the view that having two funding streams for grants and studentships risks confusion and will 'very likely get in the way of developing a coherent programme (unless the two are coordinated in some way)

as the same broad subject area is assessed in different, and on some occasions inevitably incompatible, ways.'

8. How should a Large Facilities Council manage its relationships with the other Councils who fund the users of its facilities?

One respondent emphasised the need for a standing committee of expert scientists that are representative of the user communities to advise on long-term strategy. The role of an advisory board for each facility comprising of members of other research councils was also cited as important in ensuring close contact between all stakeholders.

Space

CCLRC, PPARC and NERC believed the formation of a Large Facilities Council would provide a timely opportunity to reposition the organisation of BNSC within the overall set of space activities and to strengthen the UK's space technology and instrumentation programmes. BNSC also believed the creation of a Large Facilities Council provides an opportunity to reconsider the organisation of BNSC. One respondent thought that BNSC should be included in the possible Large Facilities Council reinforcing the Council's ability to speak to international partners such as the European Space Agency and NASA with more authority and clarity.