Astronomers seem to be living in interesting times at the moment – in the sense of the proverbial Chinese curse. The impact of budget constraints at the Particle Physics and Astronomy Research Council – tough decisions about research funding across the board, but hitting hard in areas such as solar-terrestrial physics – followed swiftly by the Treasury announcement of proposals to replace PPARC with another research council or councils, has left many in the community concerned for the future of the science.

The proposals “Science and innovation investment framework 2004–2014: next steps” (by HM Treasury, Department for Education and Skills) can be read in full at http://www.hm-treasury.gov.uk/media/1E1/5E/bud06_science_332.pdf. The good news is that the government values science, especially the physical sciences, and wants to halt the decline in students choosing these subjects, and that they want to support high-risk, high-impact research in innovative areas and boost links between science and industry. Less clearly good news, however, is the proposal that the operation of the large facilities currently carried out by PPARC should be merged with work of the Central Committee for the Laboratories of the Research Councils (CCLRC) to create a Large Facilities Research Council (LFRC), with consequent simplifications to physical sciences funding. The seemingly inevitable reorganization of PPARC’s research interests has engaged many in the community to seek a positive outcome, where funding continues to promote excellent research, in blue skies areas as well as those where knowledge transfer can benefit industry and society.

This is no simple task, however, and opinions differ across the community. There is a strong feeling within the community that it is vital to maintain the links between the large facilities in the PPARC field and the research that exploits them; this points towards keeping essentially all the funding for PPARC research together, as part of the LFRC. This would maintain the long-term planning and strategic roles of PPARC that have been good for the science. Yet others argue that a relatively small research budget would be swamped by the scale of facilities costs, and that astronomy research would do better within the wider physics community, albeit again as a small part of the bigger field.

In the following pages you will find a range of personal opinions about these changes, chosen to reflect points raised at the RAS meeting at the National Astronomy Meeting in Leicester, and subsequently on the Forum on the RAS website (http://www.ras.org.uk/phpBB2/).

The RAS considered these and other representations at its Council meeting in May and has provided input to the government – now available on the RAS website. Further comments and contributions to these pages and to the wider debate are most welcome.

Forum: The future of PPARC

Which model has worked best?

Nic Walton, Institute of Astronomy, University of Cambridge.

It is interesting to note that the government discussion paper makes one reference to a possible Large Facilities Research Council – but many references to a Large Facilities Council. The “Research” in the title will make all the difference.

The last shake-up of SERC to form EPSRC, PPARC, NERC and CCLRC, PPARC more or less kept facilities and grants together, but for the rest of physics they were split across EPSRC and CCLRC.

The question now must be: which model has worked best? If PPARC were to be merged with CCLRC, where astronomy grants would represent a much smaller part of the total LFRC budget, would the interests of astronomy researchers in university groups necessarily be better recognized than they are currently? Or would splitting the users (c.f. customers) of large facilities into, for example, an enlarged EPSRC, lead to a more responsive provider (e.g. LFC) of relevant world-class facilities?

Potential for damage – and opportunity for growth

Alan Smith, Mullard Space Science Laboratory, University College London.

My personal conclusions from reading “Next Steps” are that it was put together in rather a hurry, leaving too many unanswered questions.

There is little evidence that the changes proposed are good for PPARC science. It seems to me that they are most strongly motivated by a need to show a commercial return from our investment in large facilities – criticized of late by those who would rather see money invested in innovation at a more entrepreneurial level.

The word on the street is that a LFRC is inevitable. Rather than fight against change we should try to ensure the scope of the LFRC preserves and encourages PPARC science. The UK’s heritage as leaders in particle physics and astronomy could be lost within a decade without hope of recovery if we get this wrong: the investment needed to recover our position would be too great. While such a loss would be upsetting for many reasons, I believe it would also be counter-productive because much innovation comes about from developing technologies and techniques that answer problems posed by our field of science.

A separation of PPARC science from its facilities seems to me to be an unnecessary and potentially dangerous step. While not strictly on the table (although much talked about) it would seem that something akin to a merger of PPARC and CCLRC might work – the devil would be in the detail and we should take a great interest in that detail.

To avoid being marginalized it is important that the funding body for PPARC science remains within a science-led organization. I do not support a separation of planetary science from solar physics, space plasma physics or astrophysics. Just when we are beginning to view the solar system as a system, some are proposing dispersion across research councils. We should be careful that we do not enter a process of irreversible vaporization.

There is no reason why PPARC science and the national economy cannot both benefit from a change. We should engage with those motivated to make this change so as to better understand their perceived difficulties with the current arrangements and seek a win-win outcome for all concerned. What “performance metrics” are government looking for? At present we are asked to offer our views; I think we need to go further and stimulate a genuine dialogue. And finally, in the spirit of “every threat is an opportunity”, we should embrace the possibilities on offer and seek to emerge as a stronger community.

Time to take stock?

Robert Minchin, Arecibo Observatory.

It seems to me that as this change is going to happen one way or another it makes far more sense for the PPARC grants to go to EPSRC than to the LF(R)C.

Putting a small (and astronomy-only) grants section into a council with a huge facilities budget would be anomalous – and just asking for trouble. That small section would be vulnerable to being squeezed either by pressures from the facilities or simply by the head of the council having it nowhere near the top of the priority list when bidding for money. Combining with EPSRC, however, makes a lot of sense as virtually every department that applies to PPARC also already applies to EPSRC. Bringing the whole of physical sciences into EPSRC seems to me so obviously the better of the two options that I was fairly surprised to hear that putting the PPARC grants into the LF(R)C was even being considered.

But this change would be a great chance for the RAS to set up something akin to the US “decadal review” – a wish-list roadmap of which facilities we would like to see the UK participate in, with priorities attached, arising from consultation with the community and expert review.