

NATURAL ENVIRONMENT RESEARCH COUNCIL

EVALUATION PANEL REPORT

**Evaluation of NERC's process for
commissioning Research Programmes**

April 2011

*This document reports the conclusions of a Panel of experts.
The views expressed are entirely those of the Panel.*

EXECUTIVE SUMMARY

Main findings

The Panel concluded that the overall concept of NERC's commissioning process for Research Programmes is good. The Panel recognises the challenges NERC faced in developing the process, and the tensions inherent to the process. There are many positive aspects and achievements, including the flexibility of the process, the diversity of programmes commissioned, the impressive amount and range of co-funding secured, and the fact that the process has fostered novel research and new interdisciplinary collaborations.

As with all new business processes, the introduction of the commissioning process has been an evolutionary progression: many lessons have been learned, but there are areas where improvement is needed. These include streamlining the process to optimise resource use both for the NERC executive and the research community; improving transparency and communication to address community perceptions of weaknesses in the process; ensuring greater involvement of experts to ensure that the correct commissioning process is chosen; and facilitating even greater user involvement in the early stages of the process.

The Panel offers eight proposals to build on these strengths, address the weaknesses and take account of the lessons learned. The proposals are made in anticipation of forthcoming pressures on administrative resources.

Proposals

Programme/commissioning process design

1. NERC should consider ways in which the commissioning process could be streamlined, including:
 - a. continuing to encourage large research programmes (>£4m), supporting small programmes only in specific cases where they bring considerable benefits e.g. address very specific research questions, foster capacity building. Small programmes should be commissioned using a streamlined process (paragraph 15); and
 - b. taking steps to manage demand (paragraph 34);
2. To ensure that the optimal commissioning process is used in each case, it is essential that both Theme Leaders and key research community members are consulted early in commissioning (paragraph 12);
3. To increase the research community's confidence in the commissioning process, NERC should urgently implement steps to improve the transparency of the process and its communications about the process (paragraph 30);

Partnerships

4. NERC should work with its partners and LWEC to strengthen links, and to explore further ways of facilitating co-funding activities, and alleviating the tensions that can arise between NERC priorities and co-funders' needs (paragraphs 22 and 23);
5. NERC should continue its policy of involving research users at an early stage in programme development. To maximise opportunities and impact, NERC should consider how knowledge exchange and impact could better be considered early in the design of programmes, including assigning programme funds for these activities (paragraph 26);

Calling for and assessing proposals

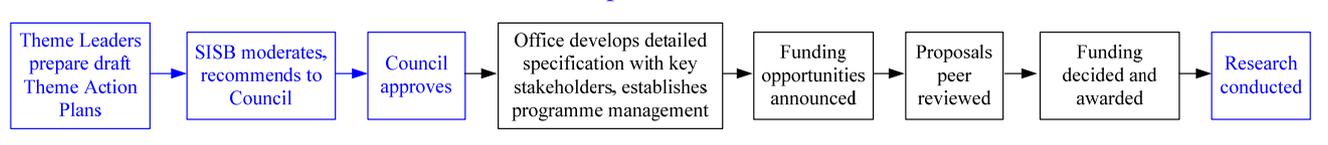
6. To ensure that the research community has sufficient time to prepare proposals, particularly for multidisciplinary and/or novel research, NERC should make every attempt to a) assign the appropriate call duration and b) alert relevant communities early (paragraph 18);
7. Announcements of Opportunity for broad topics with large research communities should call for Expressions of Interest, and state that EOIs may be sifted by peer review or expert review if required (paragraph 19); and
8. Sandpits should be used highly selectively where there is a clear need e.g. bringing together diverse communities to address a highly novel question (paragraph 21).

INTRODUCTION

1. NERC's Director, Science Delivery (DSD) commissioned this evaluation, considering it timely, after two cycles of commissioning Research Programmes, to assess the effectiveness of the process as it is applied to Research Programmes. The evaluation was designed in consultation with DSD (who is responsible for the commissioning process), and other key stakeholders including the Chair of NERC's Science and Innovation Strategy Board (SISB) and NERC's Director, Strategy and Partnerships. It follows a similar evaluation of the process for identifying and approving funding for investments (the Theme Action Plan process), which took place last year.
2. The commissioning process for Research Programmes was devised as part of wider changes to NERC's strategy delivery processes, and entered operation in 2008. The scope of this evaluation includes the actions undertaken from Council's funding decision on Theme Action Plans (TAPs) to grants being awarded, as shown in black below. More detailed information about the process is included at **Annex B**. The commissioning of National Capability (NC) is excluded from the scope as no NC has been commissioned since the process entered operation.

The Commissioning process, simplified

Boxes in blue are included for context, but are not part of the evaluation



3. The consultees stated that the evaluation should:
 - Provide evidence on how well the process is working, including whether the research funded is appropriate for meeting the programme as approved by Council, and for meeting NERC's strategic drivers;
 - Provide a level of assurance and feedback on the effectiveness of the process to SISB, Council and the wider community; and
 - Inform improvements to the process and to other NERC business as appropriate.
4. The evaluation was designed to meet these evidence needs. To maintain independence, the process was managed by NERC's Evaluation Team, who are not involved with implementing the process. The evaluation was conducted by an independent Panel of five, chaired by Professor Huw Davies, and comprising representatives from key stakeholder groups (members listed at **Annex A**). The Panel met for one day in April 2011 and considered a range of evidence including results of a survey of key people involved with the process, and information about programme commissioned to date (**Annex C** lists the evidence presented to the Panel). NERC's Head of Research attended in an *ex officio* capacity, and was not present during the Panel's concluding discussions.
5. The Panel was asked to undertake an independent evaluation of **how well the commissioning process is enabling NERC to commission Research Programmes comprising the best research to meet its strategic aims**, and to prepare a brief report summarising its findings (Panel's ToR included at **Annex A**).
6. This report summarises the Panel's findings against their ToR, with proposals for ways in which the process might be improved. The report will be considered by SISB, and copied to Council along with a management response setting out any actions in response to the Panel's proposals. Both report and response will be published on NERC's website.

FINDINGS AND CONCLUSIONS

7. This report summarises the Panel’s findings and conclusions. Each point of the Panel’s ToR is addressed in turn, and an additional comment on resourcing is included at the end. Where appropriate, key facts from the evidence presented to the Panel are included to illustrate particular points.

Overview remarks - ToR 1: how well the commissioning process is enabling NERC to commission Research Programmes comprising the best research to meet its strategic aims

8. The Panel concluded that the overall concept of NERC's commissioning process for Research Programmes is good. The Panel recognises the challenges NERC faced in developing the process, and the tensions inherent to the process. There are many positive aspects and achievements, including the flexibility of the process, the diversity of programmes commissioned, the impressive amount and range of co-funding secured, and the fact that the process has fostered novel research and new interdisciplinary collaborations.
9. As with all new business processes, the introduction of the commissioning process has been an evolutionary progression: many lessons have been learned, but there are areas where improvement is needed. These include: streamlining the process to optimise resource use both for the NERC executive and the research community; and improving transparency and communication to address community perceptions of weaknesses in the process; ensuring greater involvement of experts to ensure that the correct commissioning process is chosen; and facilitating even greater user involvement in the early stages of the process.
10. The Panel offers eight proposals to build on these strengths, address the weaknesses and take account of the lessons learned, made in anticipation of forthcoming pressures on administrative resources. The proposals are included in relevant places in the report, and summarised by topic area in the Executive Summary.

ToR 1.a Meeting the aims set out in the Theme Action Plan and agreed by Council

11. This question can only be definitively answered once the commissioned research has been conducted. As far as can be ascertained at this stage, however, this aspect of the process is generally working well. The twelve sample programmes considered by the Panel have generally been implemented as envisaged in the TAP and at Council. Although only a small sample, the data on fit to programme criteria scores support this finding (see box). Where there were deviations, this was generally in co-funded programmes where scope had been adjusted to support co-funders’ interests. When this situation arises, changes should be clearly explained, to improve transparency both to SISB and Council, and to the community (transparency is discussed in more detail at paragraph 30).
12. The following would help to ensure that the research commissioned and conducted meets the aims set out in the TAP and agreed by Council:
 - Overlap between portfolio planning¹ and commissioning: as already happens in some cases, to ensure that Commissioning Managers (NERC executive) are involved in TAP development from an early stage (to capture a thorough understanding of the rationale

89% of funded proposals had been scored A for fit to programme criteria by Moderating Panels, compared to 40% of unfunded proposals
Sample size - 5 sample RPs: 19 grants, 25 unfunded proposals

¹ The process whereby Theme Action Plans (TAPs), including proposals for new Research Programmes, are developed and approved by Council.

behind, and objectives of, proposed investments) and that Theme Leaders are involved in commissioning right up to publication of the Announcement of Opportunity (to ensure that programmes are implemented as originally envisaged). This transition involvement should be limited to light-touch steering, to ensure that Theme Leaders retain their neutral position with the community;

- Ensure that the most appropriate commissioning process is used in each case (see paragraph 14); and
- Announcements of Opportunity (AOs): the requirements and context should be set out very clearly, to ensure that the intended communities submit relevant proposals (there have been a few instances where few and/or inappropriate proposals had been received).

Proposal 2: To ensure that the optimal commissioning process is used in each case, it is essential that both Theme Leaders and key research community members are consulted early in commissioning.

13. The Panel was pleased to note many examples of new interdisciplinary research (e.g. Ecosystem Services for Poverty Alleviation, Quantifying Uncertainty) and novel ideas from new communities (e.g. Technologies Proof of Concept, Analytical Science and Technology Studentships), and noted that this has come partly as a result of working with new co-funders. Interdisciplinary research can be further facilitated in a number of ways discussed elsewhere in the report, including ensuring that Commissioning Managers seek advice from the community when designing the process, earlier notification of forthcoming AOs, longer AO duration where appropriate, and greater clarity in defining requirements in AOs.

ToR 1.b Being flexible to suit varying circumstances and drivers

14. A flexible commissioning process is vital to enabling NERC to achieve its strategic objectives. The Panel was therefore pleased to see the considerable diversity both of programmes commissioned and of commissioning processes used. There were a small number of cases where the flexibility did not appear to have been used effectively, including small programmes which took substantial time and effort to commission (e.g. Algal Bioenergy), and programmes where large numbers of proposals were put forward for peer review (e.g. Arctic Programme). To ensure that the most appropriate commissioning process is used in each case (appropriate both for the aims and scope of the programme, and for the community that will deliver it), the Commissioning Manager should consult key members of the relevant research community at an early stage. To ensure transparency, consultees should be listed in commissioning documents (see paragraph 30).

15. The Panel endorses SISB's recent encouragement to Theme Leaders to propose **large programmes**, as these bring administrative economies of scale, facilitate consideration of multidisciplinary and complex research questions, and differentiate from the support available through Responsive Mode. It should also be recognised that small programmes (<£3.7m, the RM consortium grant limit) have an important role to play in very specific circumstances: where there is a clearly-defined, standalone research question, and/or if the benefit will be very high, e.g. capacity building. Clearly defined programmes should generally be commissioned via a streamlined process requesting a single consortium to deliver the entire programme, as was done successfully for the recent discipline-based programmes (e.g. Ocean Shelf Edge Exchange) and the Ocean Modelling Roadmap. Other options for administrative efficiencies are discussed at paragraph 34.

Mean programme size
TAP1: £4.4m (excluding
ESPA, an outlier at £31m)
TAP2: £5.5m

Proposal 1a: To streamline implementation of the process, NERC should continue to encourage large research programmes (>£4m), supporting small programmes only in specific cases where they bring considerable benefits e.g. very specific research questions, capacity building. Small programmes should be commissioned using a streamlined process.

16. Similarly, a mixed approach to **programme duration** is appropriate: in some cases a short, focussed programme is required to address a particular issue, in other cases a longer programme is more appropriate, bringing administrative economies of scale, enabling the consideration of more complex research questions, and facilitating planning and allocation for research bodies.

*Mean planned
prog duration
TAP1: 4.1 years
TAP2: 4.4 years*

17. The sample **Announcements of Opportunity** ranged from broad and unspecified to highly prescriptive, a range that is both necessary and appropriate. The Panel recognises that AOs do sometimes need to be prescriptive, particularly where there is co-funding. Where there is a need, the prescription should focus on outcomes rather than delivery mechanisms. There were a few cases where AOs appeared overly prescriptive in terms of delivery (see paragraph 23).

18. Some survey respondents commented that the duration of AOs has often been too short, especially where new interdisciplinary teams and/or innovative ideas were needed. While there is a clear tradeoff (the longer the AO is open, the longer the process), there are steps that NERC could take to address this issue. The Commissioning Manager should seek advice from key community members on appropriate AO duration. NERC's intention to pre-announce calls will increase the time available to applicants, similarly the published timetable for AOs is helpful (but could be more effectively signposted on NERC's website).

*Mean call duration
TAP1: 3.1 months
TAP2: 2.9 months*

Proposal 6: To ensure that the research community has sufficient time to prepare proposals, particularly for multidisciplinary and/or novel research, NERC should make every attempt to a) assign the appropriate call duration and b) alert relevant communities early.

19. For broad topics with large research communities, an **expressions of interest** (EOI) stage can significantly reduce the number of full proposals received (thus bringing significant administrative savings both for the office and the community), and can help to ensure that the research funded meets the programme's aims. However, EOIs are not always appropriate. They are not needed for small, highly specified programmes, for example. The Panel understands that the volume and balance of proposals cannot always be predicted in advance, but an unexpectedly high volume can lead to delays and difficulties with peer review (e.g. Technologies Proof of Concept).
20. It is therefore proposed that AOs for broad topics with large communities require an EOI, and that applicants are informed that EOIs could be sifted by peer/expert review if required. This sift should then be actively managed to bring focus to the remainder of the process, reducing the burden on peer reviewers and the community, and avoiding raising unrealistic expectations. If peer/expert review is used at the EOI stage, Swindon Office should make sure that modifications to the process and timetable are quickly and clearly communicated to applicants.

Proposal 7: AOs for broad topics with large research communities should call for EOIs, and state that EOIs may be sifted by peer review or expert review if required.

21. **Sandpits** should be used highly selectively when there is a clear need (e.g. where diverse communities need to be brought together to address a highly novel question), as they can be very effective in the right circumstances (as demonstrated by the Virtual Observatory

programme), but also have significant drawbacks (e.g. can be exclusive, resource intensive). It is clear that the executive has learned lessons as it has gained more experience with implementing this mechanism.

Proposal 8: Sandpits should be used highly selectively where there is a clear need e.g. bringing together diverse communities to address a highly novel question.

ToR1c. Enabling the effective development of partnerships to achieve joint objectives;

22. NERC is congratulated on its considerable success in securing co-funding for recent research programmes. The Panel recognises that partnership building is often time- and resource-intensive, but that it brings considerable benefits, and will increasingly be required as NERC's and partners' budgets come under pressure. Commissioning is likely to speed up considerably as partnerships mature and detailed process negotiations are no longer required. NERC, and its partners, are nevertheless encouraged to consider ways in which co-funding could be further facilitated. This could, for example, include Memoranda of Understanding with partners, and/or encouraging LWEC to develop shared principles and processes amongst partners. This would also help to address potential conflicts of interest and differing commissioning cultures between co-funders. In this context it would be helpful to reference the LWEC principles of co-funding, co-production and co-delivery.

53% of TAP1 and 2 programmes are co-funded, amounting to an additional £54m, or extra 38% (plus in-kind support)

23. There can be, in relation to an individual programme's scope, a tension between meeting a co-funder's specific needs, and adhering to the original description in the TAP and/or to NERC's prioritisation of science quality. This tension can focus and constrain the programme's scope, but can also realise significant benefits (e.g. broader exploitation of the available infrastructure, increased funding, better exploitation of results, enhanced impact). The Panel noted, for example, that the co-funded Ocean Acidification programme was tightly scoped, and led to some concern that the community's ability to deliver the best research had been constrained. In principle larger programmes could span the spectrum from blue skies/basic to targeted/user driven research. To alleviate this tension, NERC should develop and strengthen links with its partners.

Proposal 4: NERC should work with its partners and LWEC to strengthen links, and to explore further ways of facilitating co-funding activities, and alleviating the tensions that can arise between NERC priorities and co-funders' needs.

24. It is also important to recognise that co-funding is not appropriate or necessary in all cases, particularly where the need is for a broad call for basic and fundamental research that is wholly within NERC's remit.

ToR 1.d Awarding an appropriate configuration of grants and other activities

25. A mixed approach to programme configuration (e.g. grant size and type, balance between grants and other activities e.g. workshops) is appropriate given the range of programmes, and the balance between research grants and other activities was broadly right in the sample programmes. Consultation with the research community at an early stage is crucial to ensuring that programmes are appropriately configured. To maintain the confidence of the community, the office should explain transparently why the programmes were configured as such, and how the decision was made.

26. Many benefits arise from NERC's move to include research users early in programme development. This approach is clearly appreciated by the co-funders and vital to ensuring that

programmes meet research users needs where desired. Some of the programmes have had strong user involvement and impact focus (e.g. Environmental Nanoscience Initiative, Coastal Sediment Systems), but some would benefit from more. To maximise opportunities and impact, NERC should consider how knowledge exchange (KE) and impact could better be considered early in the design of programmes. One option would be to have an assumed basic level of programme funding for KE and impact (e.g. a few %), and then require an indication in the TAP as to whether the level should be more or less than average for each programme. To ensure that outputs are publicly available and communicated to users, funding for KE and impact should include exchange activities at the end of the programme.

Proposal 5: NERC should continue its policy of involving research users at an early stage in programme development. To maximise opportunities and impact, NERC should consider how KE and impact could better be considered early in the design of programmes, including assigning programme funds for these activities.

ToR 1e. Interfacing effectively with other processes, particularly portfolio planning and programme management

27. As discussed at paragraphs 12 and 25, an overlap between portfolio planning and commissioning is crucial to ensuring both that the right commissioning process is used in each case, and that programmes are implemented as originally envisaged in the TAP and approved by Council.
28. The Panel briefly discussed programme management. It was noted that resource planning (e.g. ship time) appeared to be addressed in an adequate way, and that in a few cases the programme management structure seemed overly complex (e.g. Arctic Programme). The office is encouraged to keep the management structure simple, both for efficiency, and to optimise the use of experts' time.

1.f Maintaining the confidence of the research community

29. It was apparent from the survey responses, Panel members' discussions with colleagues, and recent evaluation reports, that the research community does have some concerns that are reducing its confidence in the commissioning process. Two issues were particularly prominent: transparency, and the time taken to commission programmes.
30. Lack of transparency has been noted several times above. The Panel identified a number of ways in which transparency, and hence community confidence in the process, could be improved:
 - Listing the authorship of key documents (e.g. TAP Actions, Science Plans);
 - Using open calls for Panel membership wherever feasible and appropriate;
 - Publishing the membership of all advisory and executive bodies (e.g. Advisory Groups, Moderating Panels, Executive Boards);
 - Explaining (e.g. in the AO, on the programme website), who decided on the nature of the commissioning process to be used and the configuration of the programme, why, and who they consulted; and
 - Generally improving programme websites (currently highly variable), in particular ensuring that they provide up-to-date information on the process to be used, the current stage of the programme, and explaining any delays.

Proposal 3: To increase the research community’s confidence in the commissioning process, NERC should urgently implement steps to improve the transparency of the process and its communications about the process.

31. In terms of timeliness, the overriding reported concern was that too much time elapses between idea generation and award of funds (i.e. both portfolio planning and commissioning processes). The Panel recognises that speed does not necessarily equate to overall value in terms of funding the right research, building partnerships (and increasing available funding), building new capacity, and ensuring a fair process. However, slow speed also presents significant risks to delivery, including that the field will have evolved and hence that the grants are no longer at the cutting edge, that key researchers will have gone elsewhere/changed direction, and/or that others will have initiated the research.

Mean duration from Council approval to first grants awarded
TAP1: 18 months
TAP2 (progs commissioned to date): 11 months

32. The Panel recognises that this is partly a need for improved communication – that the community needs to have a better understanding of the constraints of the process (e.g. office resource availability, EU procurement procedures), and the benefits that can arise from a more measured approach (e.g. co-funding, capacity building). The suggestions at paragraph 30 would help to address this issue.

33. Acknowledging the above, there were a few cases amongst the sample programmes where commissioning took longer than was necessary. The Panel understands that during TAP1 this was partly due to the large number of programmes approved at the same time, and recognises the success of recent attempts to speed up the process, including initiating fewer, larger, programmes and increased phasing of programmes in TAP3. Other suggestions that might help to enhance speed without risking added value include:

- Ensuring that the office seeks the best advice to design the most effective and efficient commissioning process (discussed at paragraph 12);
- Speeding up partnership building (discussed at paragraph 22); and
- Streamlining and demand management (discussed at paragraph 34).

Resourcing and streamlining

34. In discussing the evidence presented, the Panel also considered resource issues related to implementing the process. There were a few cases where a bottleneck in demands on Swindon Office staff had led to delays in commissioning. These constraints are likely to increase in future (for the NERC executive, co-funding partners and the research community), and NERC needs to consider how the process could be streamlined. Suggestions (mostly already discussed elsewhere in the report) include:

- Consulting key members of the community to ensure that the right process is designed;
- Commissioning similar programmes together (e.g. joining smaller programmes to larger programmes where appropriate);
- Taking steps to manage demand (i.e. reduce the number of full proposals), including EOIs with peer review sift where appropriate, clearer description of requirements in AOs;
- Streamlined contracting where appropriate in very specific circumstances (e.g. where there is a limited community and/or range of providers); and
- Using lighter management structures (discussed at paragraph 28).

Proposal 1b: NERC should consider ways in which the commissioning process could be streamlined, including taking steps to manage demand.

PANEL MEMBERSHIP AND TERMS OF REFERENCE

PANEL MEMBERSHIP

Position	Name	Organisation
Chair	Huw Davies	ETH Zurich, also a NERC Council member
SISB representative	Gideon Henderson	University of Oxford
NERC Centre representative	Andrew Willmott	National Oceanography Centre
HEI representative	Jeff Bale	University of Birmingham
Co-funder representative	John Rea	Department for the Environment, Food and Rural Affairs

Attending ex officio

Pamela Kempton, Head of Research, NERC Swindon Office (part of meeting)

Panel secretaries

Fiona Goff, Evaluation Team Leader, NERC Swindon Office

Will Thomas, Evaluation Project Manager, NERC Swindon Office

TERMS OF REFERENCE

Purpose

To carry out an independent evaluation of the process that NERC uses for commissioning Research Programmes.

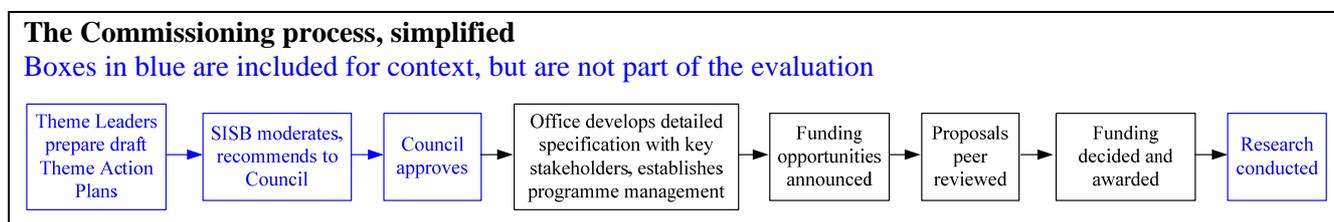
Responsibilities

Based on the evidence presented, the Panel is asked to:

1. Evaluate how well the commissioning process is enabling NERC to commission Research Programmes comprising the best research to meet its strategic aims (both aims specific to that programme and higher-level drivers). This includes:
 - a. Meeting the aims set out in the Theme Action Plan and agreed by Council;
 - b. Being flexible to suit varying circumstances and drivers;
 - c. Enabling the effective development of partnerships to achieve joint objectives;
 - d. Awarding an appropriate configuration of grants and other activities (e.g. number, size, collaboration);
 - e. Interfacing effectively with other processes, particularly portfolio planning and programme management;
 - f. Maintaining the confidence of the research community.
2. Prepare a brief report summarising key findings, highlighting good practice to be shared, and suggesting ways in which the process could be improved.

BRIEF DESCRIPTION OF THE COMMISSIONING PROCESS

NERC defines its commissioning process for Research Programmes as the actions taking place after Council's funding decision to grants being awarded, as shown in black in the diagram below.



The process comprises a number of steps summarised below. It is important to bear in mind that some of the steps occur concurrently, some are iterative (e.g. the business case evolves as the process continues)

1. Director for Science Delivery: Assign Commissioning Manager (from the NERC executive)
2. Commissioning Manager: Resource and process planning
3. Commissioning Manager: Stakeholder consultation
4. Commissioning Manager: Develop business case (design and justification for commissioning process to be used)
5. Head of Research: Gate review – sign off business case
6. Commissioning Manager: Develop Announcement of Opportunity/Invitation to Tender (AO/ITT)
7. Head of Research: Gate review – sign off AO/ITT and authorise procurement
8. Commissioning Manager: Invite proposals/tenders
- Optionally preceded by an outline/expressions of interest stage*
9. Research community: Submit proposals/tenders
10. Commissioning Manager: Establish Selection Panel
11. Selection Panel: Advise selection
- With optional additional advice: Peer review and Moderating Panel recommendations, performance assessments, and/or other advice, references, assessments*
12. Moderating Panel (NERC Executive, co-funders, independent adviser(s)): Select preferred supplier(s)
13. NERC Executive: Authorise investment
14. Commissioning Manager: Negotiate with supplier(s)
15. Commissioning Manager: Place grant/contract or assign Swindon Office budget and manager

A more detailed description of the process is available at www.nerc.ac.uk/about/delivery/processes/commissioning.asp

Information on NERC's Research Programmes is available at www.nerc.ac.uk/research/programmes

EVIDENCE PROVIDED TO THE PANEL

The Panel was provided with oral evidence from the NERC Head of Research (who attended part of the meeting in an *ex officio* capacity), and the following written evidence:

a) Results of a survey of key people involved with the process

Key messages from the 64 responses (36% response rate) to a short, tailored list of questions sent to the following:

- Relevant NERC Swindon Office staff;
- Theme Leaders;
- Research community:
 - Research Centre Research Directors and key contacts for the commissioning process;
 - A small sample of HEI Heads of Department, focussing on departments that are engaged with NERC and focussed on helping NERC to deliver strategic science;
- People involved with commissioning TAP2 investments, including:
 - Members of Selection Panels and Advisory Groups;
 - Successful Principal Investigators;
 - A sample of unsuccessful applicants; and
 - Co-funding partners.

b) Relevant evidence from recent audit and evaluation reports

Opinions about the commissioning process expressed by:

- Three independent evaluation panels, in evaluation of three of NERC's strategy science themes;
- Survey respondents for the Theme Action Plan process evaluation; and
- The Research Councils Internal Audit Service, in an audit of the commissioning process.

c) Information about Research Programmes commissioned to date

- *Key facts about all Research Programmes;*
- *Detailed information* about a representative sample of 12 Research Programmes², including the commissioning process used, timeline (planned and actual), a brief explanation of issues arising, and relevant documents such as the original TAP description of the programme, comments from SISB and Council, the Science Plan, Announcements of Opportunity, and key facts about grants awarded;
- *Summary information* about the other Research Programmes, including programme objectives, commissioning process used, numbers of successful and unsuccessful grants; and
- *Summary data on aspects of the process* relevant to understanding the process and the issues raised in other evidence sources.

² Sample programmes were chosen by the Evaluation Manager and Commissioning Process Manager, with advice from the Head of Research. The sample size was set at 12 (38% of all programmes commissioned to date), aiming to be manageable for the Panel, yet cover sufficient breadth of programmes and commissioning processes used. The aim was to choose as representative a sample as possible, balancing key variables such as programme size, number of partners, type of programme, commissioning mechanism used, and current status of programme.

The sample comprised the following programmes: TAP1 – Changing Water Cycle, Environmental Nanoscience Initiative Phase 2, Ecosystem Services for Poverty Alleviation, Ocean Acidification, Quantifying Uncertainty, Storm Risk Mitigation, Technologies Proof of Concept, Virtual Observatory, and TAP2 - Algal Bioenergy, Analytical Science and Technology Studentships, Arctic Programme and Ocean Shelf Edge Exchange.

Each Panel member was assigned three sample programmes to consider in detail.