

Announcement of Opportunity

Technology Proof of Concept Programme

Call for Proposals

Date issued: 30th November 2009; Closing date for Expressions of Interest: 5th January 2010; Closing date for full proposal: 26th January 2010, 16.00hrs.

Summary

The Technology Proof of Concept programme is a NERC research programme that will support the development of new and innovative technologies for environmental science. The programme will provide funding for proof of concept projects at Technology Readiness Levels¹ (TRL) 1 to 4. This Announcement of Opportunity invites proposals for the programme's second and final grant round – for which up to £2M of funding is available with individual projects limited to £150K (where this is 80% of Full Economic Cost).

A. Background

NERC's Strategy 'Next Generation Science for Planet Earth'² identifies technology development as one of the key areas NERC needs to support in order to deliver the aims and objectives of the strategy. To reflect this NERC's strategy includes a dedicated Technologies Theme and associated Theme Action Plans³. One of the actions from the first Technologies Theme Action Plan is a research programme to fund the development of new and innovative technology concepts with potential applications to environmental science. The first Technologies Proof of Concept round has been completed and details of projects funded in this round can be found at:

http://gotw.nerc.ac.uk/list_them.asp?them=Technologies+Proof+of+Concept

The rationale behind enhancing such activity is that it fosters a dynamic and vibrant research base within both HEIs and NERC Research and Collaborative Centres where high risk - high reward technologies can be developed. This programme will sit at the heart of the NERC Technologies Theme and operate as an enabling mechanism for delivering new technologies. This programme is a high priority in terms of timeliness within the Technologies Theme being applicable to a wide community and with substantial potential to deliver innovation in short timescales.

¹ For definitions of each TRL level see http://esto.nasa.gov/files/TRL_definitions.pdf

² NERC's strategy is available at <http://www.nerc.ac.uk/about/strategy/ngscience.asp>

³ Technologies Theme Action Plan is available at <http://www.nerc.ac.uk/research/themes/tap/>

B. Remit of the Call

This Announcement of Opportunity calls for proposals to develop new and innovative technologies for environmental sciences, providing that they are at the proof of concept stage (TRLs 1 to 4). Please note that projects to develop a technology beyond TRL 4 should be submitted to NERC's responsive mode funding schemes, where technology-led applications are encouraged. Further information on NERC's responsive mode funding schemes are available at: <http://www.nerc.ac.uk/research/responsive/>

A broad range of activities are considered suitable for this call – from paper studies to laboratory experiments. All projects will be required to demonstrate clearly a potential application to environmental science that will result in a significant advance in the field, for example by enabling the measurements of new parameters, or providing higher resolution datasets. The environmental science topics that are within NERC's remit are listed at: <http://www.nerc.ac.uk/funding/application/topics.asp>

All proposals submitted to the call must meet the requirements outlined above. For this funding round, up to £2M is available. Projects in the programme will be limited to **a maximum cost per project of £150K** (where this is 80% Full Economic Cost); the average project however is expected to be of the order of £80K - £100K (80%FEC). The duration of the projects should not exceed 12 months. The proposed start date for grants in Technologies Proof of Concept Round 2 is expected to be in the period August-October 2010. It will be a condition of the award that grants must commence within THREE months of the start date indicated on the application.

C. Application Procedure

Eligibility to apply for this funding is restricted to individuals eligible to apply for NERC grants. While it is expected that projects will be led by a HEI or NERC Research and Collaborative Centres, private sector company and/or public sector organisation involvement as project partners are strongly encouraged where appropriate. For this programme unsuccessful applications from the previous round may be re-submitted.

NERC wishes to encourage a wide participation by the community in this programme. Therefore, in reaching its recommendations for funding, the assessment panel will consider whether a particular research area has been adequately supported by the first round of funding for this programme. Furthermore Principal Investigators or Co Investigators may submit only one application each in this round.

All applicants must submit a brief **Expression of Interest** (EoI) no later than **5th January 2010**. This EoI should be a maximum of 1 side of A4 in single-spaced typescript of minimum font size 11 point, with margins of at least 2cm. The EoI should include:

- the names of the Principal Investigator, Co-Investigators and Project Partners;

- a description of the technology, noting the stage of development that will be achieved by the end of the project (TRL level);
- a summary of the potential application of the technology, and
- recommendations on scientific and technological experts able to review the application as part of the assessment panel.

The purpose of the Expression of Interest is to assist NERC in identifying potential panel members in advance of receipt of full proposals, in order to ensure the quality of proposal assessment and to reduce the length of the assessment process. The Expressions of Interest will not be assessed for Science and Technological Excellence, and applicants will not be penalized for alterations to their proposed plan of work. No feedback will be given on the Expressions of Interest.

Expressions of Interest should be emailed to Nicky Lewis at nile@nerc.ac.uk , no later than **4.00pm on 5th January 2010**

Submission of full applications will be via Je-S⁴. The call will be listed under Scheme 'Directed' and Call 'Technologies Proof of Concept' and will utilize the standard Je-S proforma. **Please note any projects submitted to the call for which NERC did not receive an Expression of Interest by the 5th January will not be reviewed.** Guidance on the application process, including details of eligible costs, is available in the Research Grants Handbook (<http://www.nerc.ac.uk/funding/application/researchgrants/>). NERC's normal grant terms and conditions will apply, and these are also outlined in the handbook. The closing date for full applications is **4.00pm on 26th January 2010**.

In addition to the standard Je-S proforma, applicants will also be expected to provide a Case for Support detailing the work to be undertaken. This should comprise:

Description of the Proposed Project not exceeding 5 sides of A4 and will:

- detail the potential scientific application of the technology
- outline the technical approach of the proposed project
- include a project management plan

Track Record of the applicant(s), up to 2 sides of A4.

Justification of Resources up to 1 side of A4 submitted as a separate attachment in the JeS system. It should include justification for all Directly Incurred Costs, Investigator effort, use of pool staff resources and access to shared facilities and equipment being sought. No justification for Directly Allocated Estates and Indirect Costs are required.

⁴ Grant applications must be submitted using the Research Councils' Joint electronic-Submission system (Je-S). To use this system, the applicant's research organisation must be Je-S registered, see <http://www.nerc.ac.uk/funding/application/> for further details

Impact Plan not exceeding 2 sides of A4. All research proposals submitted to NERC should be accompanied by an impact plan that will detail those who may benefit from, or make use of, the research; how they might benefit and/or make use of the research; and methods for disseminating data/knowledge/skills in the most effective and appropriate manner. More details at: <http://www.nerc.ac.uk/funding/application/impactplans.asp>.

All intellectual property arising from the project will be subject to the same conditions as NERC standard research grants (as detailed in the NERC Research Grants Handbook). Where these proposals are collaborative, ownership of any intellectual property will have to be agreed and clearly set out in a collaboration agreement prior to any work commencing. Any award offer will be conditional upon NERC receiving a copy of a fully signed collaboration agreement between the partners within **three months** of the issue of an award letter and in advance of a project starting.

D. Assessment Procedure

As with NERC's responsive mode schemes, the main assessment criteria will be the scientific and technological excellence of the [proposal](#), which takes into consideration the novelty and uniqueness of the technology and the potential application of the idea to environmental science. Applications will also be assessed for Fit to Programme Objectives; for Cost Effectiveness based on an assessment of the financial resources requested against the outputs proposed, and for Risk and Reward criteria. NERC is seeking to support the early development of cutting-edge technologies, it is expected that the development of these technologies will have an element of risk. This will be offset by the feasibility of the technical approach and the project management plan. The Technologies Proof of Concept assessment criteria can be found at **section F**.

Applications will be assessed by a panel of experts. External peer review of applications (by written correspondence in advance of a moderating panel meeting) is not anticipated at this time. Therefore, Principal Investigators will not be invited to respond to reviewers' comments. However, NERC reserves the right to send proposals to external peer review, if this is deemed necessary to ensure that an informed funding decision can be made. After the grant round is completed, feedback will be available upon request.

E. Contact details

For queries related to the remit of the technology proof of concept scheme please contact either:

Mrs Nicky Lewis

nile@nerc.ac.uk

01793 411739

Dr Adele Gardner

adga@nerc.ac.uk

01793 411736

For queries related to the Je-S system, please contact the Je-S helpdesk:

JeSHelp@rcuk.ac.uk

01793 444164

F. Technologies Proof of Concept Scheme

The main assessment criteria will be the **scientific and technological excellence** of the proposal. The definitions of the excellence grades as given in the table below:

Excellence

Grade	Quality of Research
$\alpha 5$	Outstanding: exceptional technological merit and originality; potential application of the technology is expected to lead to a major advance in environmental science; top 5%
$\alpha 4$	Excellent: technology at the forefront of the field: potential application of the technology will provide a substantial advance in environmental science; top 25%
$\alpha 3$	Very good; a generally competitive proposal developing a technology that has potential application to advance the application field; top 60%
$\alpha 2$	Good; a good proposal, but proposed technology not leading edge
$\alpha 1$	Of merit; modest advance in the field
B	Probably not advancing the field
Reject	Flawed technological approach or repetitious.

Fit to Programme's Objectives

Grade	Quality of Research
A	Completely aligned with the Programme's objectives, as outlined in the Theme Action Plans and Announcement of Opportunity.
B	Well aligned with the Programme's objectives
C	Aligned with the Programme's objectives
D	Limited alignment with the Programme's objectives
E	Not aligned with the Programme's objectives

Risk-Reward

Risk-reward will be graded on a matrix as follows;

		Reward		
		Low	Medium	High
Risk	Low	1	2	5
	Medium	1	2	4
	High	1	1	3

The criteria for Reward and Risk are as follows:

Reward Criteria

Grade	Research Technologies
High	Certain long term, broad impact on knowledge within the environmental sciences.
Med	Probable long term impact on knowledge within the environmental sciences.
Low	Little probable long term impact on knowledge within the environmental sciences.

Risk Criteria

Grade	Research Technologies
Low	No discernible operational risk. Certain that the objectives are tractable.
Med	Some discernible operational risk. Certain that the objectives are tractable.
High	Likely operational risk. Risk that the objectives are not tractable.

Cost Effectiveness. As a public funding organisation, NERC must ensure that funding is allocated on a basis that ensures best value for money. The Cost Effectiveness assessment and grading should be based on an assessment of the total financial resources requested against the outputs proposed. The assessment should implicitly consider factors such as relevant track record of proposers, leverage of investment already made in existing infrastructure/facilities, and benefits arising from co-funding e.g. jointly funded programmes, in-kind contributions, attraction of third party funding.

Grade	Research Technologies
V	Excellent value for money.
IV	Very good value for money.
III	Good value for money.
II	Satisfactory value for money.
I	Poor value for money.