



GUIDANCE FOR REVIEWERS OF DISCOVERY SCIENCE LARGE GRANTS FULL BIDS APPLICATIONS

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The NERC Large Grants scheme

NERC Discovery Science is open competition for curiosity-motivated basic, strategic or applied research in the environmental sciences. The Large Grants scheme supports adventurous, large-scale and complex research tackling big science questions that cannot be addressed through other NERC funding opportunities. The minimum funding level for Large Grant proposals is £1.2m, 100% (full economic cost). The maximum funding level for large grant proposals is £3.7m, 100% (full economic cost) with a duration of up to five years.

Reviewers are not asked to comment on the applicant's eligibility for the Large Grants scheme as this is checked by NERC staff at the point of submission, but for further details please refer to the [NERC Research Grants & Fellowships Handbook](#).

Conflicts of Interest

Before you complete a review please ensure that you do not have a conflict of interest with the proposal. NERC maintains a [conflicts of interest policy](#), available at **Annex A**. We ask that you make yourself familiar with the policy and let us know as soon as possible if you have, or are unsure whether you have, any conflicts of interest with the proposal you have been asked to review.

Important information about completing the review

Your review form as completed (minus the confidential sections) is provided to the applicants as part of the applicant response process. The review is also provided to the Research Organisation after the decision stage. The confidential sections of the form with your personal details, your expertise and the suggested reviewers will not be fed back to applicants or their organisation. **You should avoid comments in the non-confidential sections that could identify you or your level of expertise.** For example, if you need to cite your work then say "the" rather than "my" paper. All comments made should be in a manner suitable to be fed back to the applicant. If you think a particular comment could be misinterpreted or cause offence, please do not include it.

Please have regard to the Equality Act and be careful to avoid any unconscious bias in your assessment on the grounds of a protected characteristic such as age, disability, gender reassignment, marriage/civil partnership, pregnancy/maternity, race, religion/belief, sex or sexual orientation.

We are committed to the [San Francisco Declaration on Research Assessment](#). You should not use journal-based metrics, conference rankings and metrics such as the H-index or i10-index when assessing UKRI grants. The content of a paper is more important than publication metrics, or the identity of the journal, in which it was published, especially for early-career investigators. Please consider the value and impact of all research outputs (including datasets, software, inventions, patents, preprints, other commercial activities, etc.) in addition to research publications. You should consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

In completing the review you will be asked to self-assess your level of expertise for the proposal. Please only complete the review if you consider that you have an appropriate level of expertise in the area i.e. 'medium' or 'high'.

For multidisciplinary proposals, it is unlikely that you will be familiar with all the aspects associated with the programme of research. You may have been approached as a reviewer because of your particular expertise in one aspect, and reviews will also be sought from experts in the remaining aspects. If you only feel confident to comment on particular elements of the proposal, please restrict your comments to these, and tell us what they are. This will greatly assist the moderating panel in placing your comments in context. Furthermore multidisciplinary research may necessitate a researcher moving disciplines. While it is important that you are convinced that the appropriate logistical support is in place (including training where necessary), you should take care to review the project not the applicant(s).

We work internationally with other funding organisations to help support excellent research collaborations. Agreements exist with priority funders to allow researchers to submit a single collaborative proposal. These agreements help minimise the risk of double jeopardy - instead of being reviewed by both funders, each collaborative submission is reviewed by a single panel, avoiding duplication of effort for applicants and peer reviewers. These agreements do not represent additional funding, their aim is to make routes to collaboration as 'normal business' as possible.

Agreements operate with the NSF division of environmental biology (DEB), the NSF directorate for geosciences (GEO), the Research Council for the State of São Paulo, Brazil (FAPESP) and the Fonds National de la Recherche (FNR) in Luxembourg. More details on the arrangements can be found at ['Funding for international collaborations'](#). Any proposals submitted under these mechanisms should be assessed in the same way as other proposals. Reviewers should satisfy themselves that the collaboration is well thought out, that it is an integrated part of the project and that it will add value.

On a final note please ensure that you fully justify all scores given by providing clear and comprehensive comments in the accompanying text boxes.

Assessment criteria and scoring system

All Large Grants proposals submitted are assessed and ranked (by the moderating panel) solely on Research Excellence. Additional elements of the review include fit to scheme, risks, project partner involvement and resources.

For technology-led, adventurous and multidisciplinary proposals, it is possible that a standard technique or method is being employed in a novel way or context. Again, it is not appropriate to lower your Research Excellence score to reflect this element if it underpins an otherwise exciting piece of research.

Research Excellence

There is no simple definition of Research Excellence. Proposals may build directly on prior work, or may involve a speculative leap forward. It may involve progress along an established research direction or a tangential switch into a new or different area, or may bring together expertise and approaches from different discipline areas. All of these approaches could demonstrate excellence, so your judgment should not simply be based on which approach has been adopted.

A proposal that demonstrates excellence can be characterised by terms such as: novel, ambitious, timely, exciting, at the international forefront, adventurous, elegant, or transformative but need not demonstrate all of them. Often you might expect to see a plausible hypothesis, with some basis within the published literature, and clearly identified objectives that sensibly test that hypothesis. However proposals do not need to be hypotheses driven and may instead focus on an exploratory approach or the development of a new technology. Certainty of outcome is not an indicator of

excellence, but neither is an incremental approach necessarily an indicator that a proposal lacks excellence.

Applicants are asked to set the context of their proposal in terms of the current state of knowledge and other work under way in the field. You should comment explicitly on this aspect of the proposal and, where possible, give your view of where this work would sit in relation to related activity internationally. Note that the existence of competing groups elsewhere should not be seen as a reason for downgrading a proposal, unless the work proposed is a direct duplication of other work already being undertaken.

In addition applicants are also asked to provide a track record of the proposers. **Reviewers should use this track record to assess the appropriateness of the team for carrying out and successfully delivering the proposed work.** Reviewers must bear in mind that it is the proposal and *not* the experience of the applicants that is being assessed. As such reviewers should not be tempted to lower their grade where the applicants do not have a long standing track record in the particular research area (e.g. early stage researchers, a discipline hopping proposal, cutting-edge research areas) as long as sufficient evidence of suitable support mechanisms has been provided.

Your review should consider:

- the potential rewards of the project: the significance and quality of the work, and the scientific impact it will have in terms of enhancing or developing insights, developing the field and adding to knowledge or understanding in the area to be studied in a national or international context;
- the extent to which the research questions, issues or problems that will be addressed through the work are stated and their importance and appropriateness specified; and
- the appropriateness, effectiveness and feasibility of the proposed research methods and/or approach.

Your review comments should NOT include any comments that could identify you, or your level of expertise.

Upon consideration of this assessment criterion, a score of between 0 and 6 should be awarded in the 'Overall Score' section for the Research Excellence, according to the scoring system below.

Score	Assessment of Proposal (Research Excellence)
6	Outstanding The proposed work meets outstanding standards in terms of originality, quality and significance and addresses extremely important scientific questions or will enable them to be addressed through technological development.
5	Excellent The proposed work meets excellent standards in terms of originality, quality and significance and addresses highly important scientific questions or will enable them to be addressed through technological development.
4	Very Good The proposed work meets high standards of originality, quality and significance and addresses important scientific questions or will enable them to be addressed through technological development.
3	Good The proposed work is of merit, meets satisfactory standards of originality, quality and significance and addresses reasonably important scientific questions or will enable them to be addressed through technological development.
2	Not Competitive/ Modest The proposed work is potentially of some merit but overall is of inconsistent quality, significance and originality but could result in some useful knowledge.
1	Unfundable/ Poor The proposed work is unsatisfactory in terms of originality, quality and significance and

	is unlikely to advance the field.
0	Non-Scoring For special cases e.g. flawed in scientific approach, subject to serious technical difficulties, insufficiently clearly written that it cannot be properly assessed, or is duplicative of other research.

Additional elements of the review

Reviewers of Large Grants proposals are also asked to consider and comment upon the following when completing their review.

Fit to scheme

The Large Grants scheme is intended to provide funding for adventurous, large-scale and complex research tackling big science questions that cannot be addressed through other NERC funding opportunities. More details on the [Large Grant scheme](#) are on the NERC website.

Resources

In addition to providing the score for Research Excellence, reviewers are asked to consider and comment upon the resources requested.

Individual Aspects of Resourcing the Proposal

Are the specific funding requests in the following areas essential and sufficient for the proper conduct and exploitation of the research proposed?

- The amount of time to be devoted to the project by the proposed principal and co-investigators.
- The level of the proposed principal and co-investigators.
- The amount of time for research, technical and support staff proposed.
- The level of appointment for such staff.
- The equipment, consumables and other directly incurred costs such as travel and subsistence. Where equipment has been requested please comment explicitly on the viability of the arrangements described to access equipment needed for this project, and particularly on any university or third party contribution.
- Costs of collecting, establishing, providing or organising the necessary data and research materials.
- Resources devoted to maximising the scientific, societal and economic impacts of the proposed research.
- Access to institutional research facilities
- The overall length of time for the project

Please comment individually if you believe any of these might need to be curtailed or expanded.

Areas where you should not comment: The costs of particular resources are for resolution as to true economic cost between the research councils and other relevant bodies. You should not comment therefore upon:

- The level of estate costs in different institutions
- The level of indirect costs
- Charging rates of institutional or other research facilities which are not open market provisions
- Specific salary levels in individual institutions

Risks

NERC understands that risk-taking is very often necessary to answer the challenging questions in environmental science. Some of NERC's science will be subject to operational risk, for example where the research is being carried out in extreme environments or where new technology is being used. In these cases, we would expect the applicant to show that every effort has been made to reduce the likelihood of the risk occurring and has in place measures to mitigate against any consequences.

Other risks are more specific to the research project itself and might be either aleatory (inherent randomness or uncertainty in the system) or epistemic (due to our 'ignorance' of the system). Some things can be planned for (risk mitigation), but other things may be outside the researcher's control (e.g. risk of failure because of unpredictable weather affecting field seasons).

As a reviewer you should provide comments on any risks associated with the proposal, how appropriate these are for the stated objectives, how effectively they have been identified and managed, and whether the potential for failure is balanced against the potential reward.

Project Partner Involvement

NERC seeks to increase collaborative research and encourages joint research activities between academic researchers and partners in public or private sector organisations. When project partners are named, Value Added should be assessed. Value may be added through: tangible input by named partners, e.g. cash or in-kind contributions; timeliness of the research; or increased potential impact and benefit to the research as a result of the partnership.

Annex A

<p>Handling Conflicts of Interest in Peer Review - Guidance for NERC Reviewers and Panel Members</p>

A conflict of interest occurs when an individual involved in the assessment of a proposal for funding has a personal, professional or organisational relationship with the applicants, affecting their ability to undertake their role in an objective and unbiased way. If you are asked to take part in NERC peer

review, either to review a NERC proposal or be a member of a NERC moderating or assessment panel then you need to be aware of the [NERC policy on conflicts of interest for members of NERC boards, advisory groups and peer review panels.](#)

The NERC policy defines a conflict of interest as being associated or involved in any way with:

- *An institution, department or individual that has submitted a funding proposal or would otherwise benefit from a decision*

and/or

- *the development or implementation of proposals seeking NERC/UKRI funds or in the evaluation of research investments*

You will have connections and collaborations both formal and informal with a range of organisations and individuals. In order to help you interpret the broad definitions above, this advice aims to set clear expectations of the specific situations considered to represent a material conflict of interest, and when conflicts of interest need to be declared to NERC so that appropriate action can be taken. Definitions of the individuals that may be involved in a proposal (investigators, project partners etc) can be found in the [NERC Grants Handbook.](#)

NERC will try to avoid asking you to review or introduce proposals where you have conflicts that can be identified from our own records, but many will not be obvious to us. The final responsibility for identifying and reporting conflicts of interest must therefore rest with the individual. Timing is very important as late notification is much more difficult to manage. A conflict for a panel member identified when the panel is being set up is straightforward to manage, the same conflict identified on the day of the meeting can create major problems, so please check the proposals assigned to you carefully as soon as you receive them.

What Constitutes a Conflict of Interest?

Due to the complexities of relationships between researchers it is challenging to provide definitive and exclusive definitions. Some cases will be clear cut, others will be less so and will require a judgement call. We expect researchers who work in the same field to know each other, and this doesn't bar you from commenting on their proposals. The test should be 'will a neutral observer have confidence in the impartiality of any advice provided' and in any case where there is significant doubt the relationship should be treated as a conflict. The NERC Executive have the final decision in any case where there is debate about whether a conflict of interest exists.

The following are examples of conflicts of interest considered material by NERC for a proposal you have been asked to review or introduce:

	Conflict	Action Required
1	You are a named investigator, staff member or project partner involved in the proposal or have signed a letter of support	NERC should identify these conflicts please tell us if an error has been made
2	You have a formal affiliation to any Research Organisation or Project Partner organisation involved in the proposal. This generally means you are a current member of staff at the organisation. You also have a formal affiliation if you are a Professor Emeritus, or Visiting Professor, or have signed a contract of employment or receive personal remuneration in excess of £5,000 per annum from the organisation.	NERC should identify staff conflicts please tell us if an error has been made. Please inform us of other relationships e.g. visiting professor

	<p>For Fellowship proposals conflicts apply to both the organisation where the applicant is currently based and the organisation where the fellowship would be held.</p> <p>[Association with an organisation that has provided a letter of support but is not a Project Partner is not a conflict]</p>	<p>which may not be obvious to us.</p> <p>If you are moving to a new organisation please inform us as this will create new conflicts.</p>
3	You are directly involved in the work proposed and would benefit from it being funded and/or have assisted the applicants with their proposal for funding and/or have agreed to be a member of an advisory committee connected with the project.	Please inform us NERC may not have received complete information.
4	You have an existing business or professional partnership with any of the investigators or staff named in the proposal	Please inform us NERC does not hold this information.
5	You are a close relative - spouse, child, sibling or parent - of any of the investigators or staff named in the proposal.	Please inform us NERC does not hold this information.
6	You are a close personal friend of any of the investigators or staff named in the proposal and think that might affect your judgement or be seen as doing so by a neutral observer familiar with the relationship.	Please inform us NERC does not hold this information.
7	You are in close regular collaboration with any individuals named in the proposal, including investigators, research staff, collaborators, subcontractors and project partners, to an extent where you feel uncomfortable being involved in the discussion or you feel unable to give an unbiased opinion.	Please inform us NERC does not hold this information.
8	On Fellowship proposals: you have been the applicant's supervisor within the last eight years.	Please inform us NERC does not hold this information.
9	You have had any involvement in the development of the proposal, at any stage of its preparation, including providing comments or advice to the applicants.	Please inform us NERC does not hold this information.

Managing conflicts

Reviewers - NERC aims to avoid selecting reviewers where a conflict of interest is clear or applicants have requested that specific reviewers are not used. This will include anyone with a personal or organisational association with the proposal identifiable from the information available to NERC. In the peer review of funding calls with a specific research scope NERC will also avoid selecting reviewers that have submitted a proposal to the same call. Anyone asked to provide a review should check to ensure they have no other material conflicts, if so they should decline the request citing 'conflict of interest' as their reason. Please contact NERC quickly for advice if you are

unsure. Where a material conflict is identified after a review is submitted that review will be classed as unusable and excluded from the process.

Panels - Panel members are reminded to identify any material conflicts of interest, especially with proposals they have been asked to introduce, as early as possible in advance of the meeting. Where a conflict of interest is identified, panel members' meeting papers will be edited to remove relevant information regarding the conflicted proposal and the member will be asked to leave the meeting room when it is discussed. The meeting record will note all instances where a conflict of interest was identified and managed at a panel. For some panels, particularly where these are interview panels, the standard practice of members leaving the meeting for a conflicted proposal may not be practical. However they will never participate in the discussion of that proposal, or be permitted to influence the final ranking of a proposal where such a conflict exists. In the peer review of calls with a specific research scope NERC will avoid appointing anyone to a panel that is a named investigator on any proposal to be considered by that panel. For Discovery Science panels, where the research scope can be broad, NERC will only involve applicants in panels when their expertise is critical, the meeting procedures will prevent them being able to influence or receive immediate information on the score or ranking of their proposal.

NERC staff

NERC staff may also have connections with applicants that constitute a conflict of interest. Although their opportunity to influence outcomes is limited, in such circumstances staff will not be involved in reviewer selection or any decision stage for proposals where a material conflict exists.