



NDA Risk and Assurance, Environment and Sustainability Post-Doctoral Research Associate bursary Proposal Assessment Guide

This document describes the assessment process for the NDA PDRA bursary scheme that is targeted at predominately risk and assurance, environment and sustainability subjects.

The call will take the form of a request for proposals that will be communicated via the NNL web site, mailing lists including Konfer and via social media. The call announcement will direct interested parties to the NNL web site, which will direct to background material (supporting information, call themes) and a web site where the proposal can be entered via a web-based form.

The call for proposals will set out a number of specific challenges against two broad themes:

Theme 1: Risk and Assurance

Theme 2: Environment and Sustainability

Speculative proposals will be considered only if these fall within the remit of those subjects as broadly defined by funding bodies including AHRC and ESRC within their relevant calls. Example calls are on the UKRI web site.

- <https://esrc.ukri.org/about-us/what-is-social-science/>.
- <https://www.ukri.org/councils/ahrc/>, specifically AHRC Research Funding Guide Version 5.5 August 2021 page 10.

It is expected that the research topics will have a component of the research that does not have to fit the traditional STEM subjects (science, technology, engineering and mathematics). The purpose of this call is to begin to establish awareness in academic sectors beyond NDA's traditional science and engineering academic partners to build academic capability in these areas that could support broader aspects of the NDA mission.

This call for proposals is specifically aimed at research supporting NDA's mission that is complementary to research supported by the activities within the Direct Research Portfolio, specifically Integrated Waste Management & Site Decommissioning and Remediation and Spent Fuels & Nuclear Materials. For research proposals targeting predominately STEM research, applicants are to be directed to the NDA PhD bursary and the NDA direct research portfolio both of which publish regular calls in subjects based around supporting skills and developing capability to support technical aspects of NDA's decommissioning mission including subjects such as radiochemistry, materials science, robotics and characterisation.

The structure of the call for proposals, format of the proposal submission template, and the process by which each of the entries in the response will be assessed is set out in the following 6 sections.



1. Applicant details

Contact details, lists of collaborators & legal declarations. This information will be hidden from the reviewers to reduce the likelihood of unconscious bias.

The applicant should declare any collaborators within academia or working in the nuclear sector who will be supporting the research.



2. Idea summary

Overall description of the research project which should be accessible to a general audience, i.e. written in "plain English". Response will be limited to 200 words.

This section will not be scored by the reviewers but it may be published on public websites.



3. Support to the NDA mission

How the proposal will help the NDA mission. Response will be limited to **500** words. This response will contribute to 35% of the overall score weighting.

This is specifically a question on the research outcomes and methodology that will be applied in the project.

An ideal response will:

- Demonstrate understanding of a specific challenge as set out in the PDRA call.
- Speculative proposals will only be considered if they fit broadly within the categories as outlined on the first page of this document.
- Describe, where applicable, why the NDA's current solutions are non-optimal.
- Describe how the proposed research relates to the problem statements and how it will tackle them/increase understanding of them/contribute to or produce an alternative way of dealing with them.
- Clearly define the scope and main deliverables from the project.
- Describe how the work is novel and/or builds upon previous work or experience of the supervisory team.

Assessment

(0) No Evidence or very poor

- Response does not answer the specific question or provides no detail of how the methodology applied to the proposed project will support a problem statement set out within the call, or addresses a relevant challenge against the broad themes as set out in the PDRA call.

(1) Poor

- The response does not clarify how this proposal is relevant to a research challenge that has been specified in the call.
- The objectives are not stated or are unclear.
- The response is unclear with respect to the methodology that is to be employed and/ or is unclear as to how the response builds on prior research.

(2) Acceptable



- The final objectives of the project have been defined.
- The response provides an explanation of how this is either relevant to a research challenge that has been specified in the call or is relevant to the NDA mission, but may lack specific examples of where it could be employed within the NDA group.
- The response describes the methodology to be employed but may lack detail on why that methodology is appropriate and/or be unclear as to how the response builds on prior research.

(3) Good

- The response explains in detail how the research will be undertaken and why the proposed methodology is appropriate for addressing the challenge. The project objectives are clearly defined and could credibly be achieved via the stated method.
- The proposed research topic shows a clear link with a problem statement set out within the call, or in a topic that is closely linked to the broad themes within the call. The proposal demonstrates where it is building on prior research where appropriate.
- The response provides some supporting evidence of how the research meets the challenge and/or includes credible examples of where the research would be applicable with the NDA group.

(4) Excellent

- The response explains the methodology to be employed in a way that is fully understandable to a wider technical audience. The project objectives are unambiguously defined and clearly obtainable via the stated method.
- The proposed research topic shows a strong connection with an existing research challenge and shows insight into the challenge that goes beyond that purely communicated in published materials from NDA.
- The response makes clear the link to prior research, so the technical credibility of the research is soundly established.
- The benefits of undertaking the research project are clearly defined with credible examples of application and of how it will help the NDA to achieve its mission faster, cheaper or safer.



4. Capabilities and Skills

How the response will fill a skills gap including how the wider research team's skills will be developed. Response will be limited to **350** words.

An ideal response will:

- Identify how the outputs of the research will directly support the development of a increased capacity within the research base.
- Identify how the research will lead to the development of capability and skills that can underpin a challenge set out in the call or will lead to a useful capability that fits within the general remit of the call.
- Identify the specific skill set that will be developed by the proposed work and demonstrate how & where these skills could support the NDA mission beyond the duration of the proposed project.
- Explain how the research will be delivered in a collaborative way with the NDA group. The proposal should demonstrate how the outputs will be retained within NDA, and the methodologies applied to ensure the impact of the outputs are maximised.
- Show how the skills developed in the project will support the post-doctoral researcher on their chosen career path (ether industry or academia).
- Show how skills will be developed/retained within the wider supervisory team. This will include the researcher, the supervisory team and any NDA or nuclear experts who will be engaged throughout the project.

This response will contribute to 25% of the overall score weighting.

(0) No Evidence or very poor

- The response provides no information as to how the research will fill an identified capability or gap relevant to the NDA mission.

(1) Poor

- The response doesn't get across the nature of the skills or capability that will be developed by the proposed PDRA research project.
- The response provides limited information of how the research will develop capability and skills that can fill a gap identified within the NDA group.
- No explanation of why a PDRA research project is an appropriate way to develop the capability and skills to meet the NDA challenge.



(2) Acceptable

- The response defines the skills and/or capabilities that will be maintained and/or developed during the research project.
- A description is given as to why the research is relevant to the NDA Group but may lack detail as to the existing or future need for the outputs.
- Some benefits of undertaking the research project are described but may not be definitive.

(3) Good

- The response clearly defines the skills/capabilities that will be maintained and/or developed during the research project and the level to which it is expected the researcher will be elevated in their field.
- The response provides a description, with at least one credible example, of how the research will develop skills and capabilities which are linked to a specific request in the call.
- The proposal describes why a PDRA research project is an appropriate way to develop the defined skillsets and the benefits over alternative training routes.
- The applicant gives some thought to how (at least some of) the skills/capabilities might be developed within the wider supervisory team.

(4) Excellent

- The proposal will demonstrate how the skills/capabilities that will be developed during the research project and of how the researcher will attain (at least) national level recognition in their field.
- The response defines, with credible supporting evidence, how the developed skills capabilities are linked to specific requirements as set out in the call and may go beyond published information to define as-yet unidentified but credible skills and capabilities needs.
- Peripheral skills that will be developed by the research project are defined along with their relevance to the NDA mission.
- An explanation is provided as to how the wider supervisory team's skillsets would be developed.
- The response considers at a high level how follow up research could increase the embedding of skills within the NDA estate. This could involve opportunities for commercial investment, innovation funding or SLC investment.



5. Integration of output with NDA group

This is a question relating to how the outputs of the research will be integrated within the NDA group. Specifically the applicants will need to demonstrate how dissemination goes beyond publication in academic journals and that they demonstrate the application of alternative dissemination routes to maximise impact. UKRI guidelines published by ERC should help the reviewer:

- <https://www.ukri.org/councils/esrc/impact-toolkit-for-economic-and-social-sciences/>.

Response will be limited to 300 words.

This response will contribute to 15% of the overall score weighting.

An ideal response will:

- Describe what will be done by the researcher and academic PI to ensure that the learning from the project is disseminated within NDA group and that the correct tools and approaches have been applied to demonstrate impact.
- Describe how the research outputs will influence the development of policy, practice or services, shaping legislation and changing behaviour within the NDA group.
- Describe how the research outputs will contribute to the understanding of policy issues and reframing debates within the NDA group and within wider stakeholders where appropriate.

(0) No Evidence or very poor

- The response does not answer specific question or provides no information of how the research outputs will be integrated with the NDA estate.

(1) Poor

- The response provides only limited evidence of how the research will be disseminated generally.
- The response does not make clear how those who are not directly involved in the project will gain benefit from the research outputs.

(2) Acceptable

- The response provides information about how the research will be shared, for example in scientific/technical journals.



- The response provides some detail of how the project will exploit some dissemination routes that are relevant to the wider NDA group through engagement events.

(3) Good

- The response gives examples of how the research outputs will be integrated into the general body of scientific and technical decommissioning knowledge. These could include, but are not limited to, the NDA knowledge hub and technical papers presented at nuclear industry led conferences.
- There is a plan for relevant interactions with the NDA group which could include interviews, meetings or a secondment.
- The proposal provides some evidence on how communication routes will be utilised to maximise the impact of the proposed research within the NDA group.

(4) Excellent

- The response provides specific examples of dissemination routes and describes why these routes are important and relevant to the NDA mission. These could include multi-media presentations, video and other technologies that maximise impact.
- There is a credible plan for how secondments and placements are used to embed the researcher within the NDA. Risks and uncertainties associated with these activities have been accounted for.
- The proposal provides detailed evidence on how communication routes will be utilised to maximise the impact of the proposed research across the NDA estate and beyond, influencing policymakers and other stakeholders relevant to the NDA mission.
- There is a high-level plan to engage with industry on follow up work that will embed the research across the NDA group. This could include awareness of industry supported innovation funding, plans for training or engagement events.



6. Project management

This question covers the project delivery. Response is limited to 300 words, with additional boxes provided for project finances.

This response will contribute to 25% of the overall score weighting.

An ideal response will:

- Include an approximate breakdown of costs to the nearest £1k showing how the funding will be split between labour, equipment and consumables etc.
- Incorporate a project plan/Gantt chart showing the durations of the key phases of the work and identifying key milestones and deliverables.
- Identify any additional input/time/resources that would be required from the NDA group to support or enable the project. This excludes the industrial supervision cost, but should include T&S considerations to cover secondments or visits to NDA offices or sites that might be necessary as part of the research.
- Identify any data that would be required to deliver the research and highlight the requirement to the NDA so that access to this data can be factored into any project award that follows a successful application.
- Account for the need for appropriate security clearances. An example would be a request for security clearance to handle sensitive information or obtain access to the NDA's electronic knowledge retention system. A further example would be to sponsor a visit to a licensed site.
- Identify any major risks to the research and associated mitigation that can be considered against these risks.
- Demonstrate value for money for any 'large ticket' items required to deliver the research, including in-kind access to equipment where appropriate.
- Itemise any leverage associated with the research. This can include use of existing facilities, in-kind support from other areas/projects.

(0) No Evidence or very poor

- The response provides no detail on how the research project is to be managed.
- No justification of project finances.

(1) Poor

- Limited justification of project finances is provided with no or insufficient cost breakdown.



- Milestones/deliverables/projects phases are not defined.
- Risk analysis/mitigation is insufficient/not defined.

(2) Acceptable

- Major costs are itemised and justified.
- Key project milestones/deliverables/phases are identified and logical.
- Some risks are identified although mitigation may be lacking.
- Where applicable, requirement for data identified but specifics are unclear.
- The application may recognise that NDA group or its supply chain organisations input would be required to undertake the research but lack understanding or detail.

(3) Good

- A clear and appropriate cost breakdown is given with justification of major items.
- Project milestones/deliverables/phases are identified and logical and supported with a Gantt chart (or similar).
- Key risks are identified, and credible mitigation is given.
- Where applicable, requirement for data identified, but risks, for example around obtaining data and validity of data, are not identified.
- Any input required from the NDA group is considered and a reasonable estimation made as to the extent of this input.

(4) Excellent

- A thorough and appropriate cost breakdown is included with underpinning evidence (e.g. links to examples).
- Key risks are identified, and credible mitigation is given. These risks will be linked to the relevant project milestones/deliverables/phases.
- Opportunities are highlighted and linked to specific milestones in the project plan/ Gantt chart.
- Where applicable, requirement for data is clearly identified and risks relating to data are brought out in the proposal.
- Any input required from the NDA group or other external bodies such as a supply chain organisation is recognised and defined, and evidence provided that the applicant has had up-front discussion with the appropriate people to allow for this input.



- If applicable to the response, proposed active work is appropriately scheduled and associated risks to the project schedule recognised and mitigated. This will not be assessed if it is not applicable to the response.



Attachments

The applicant will be allowed to upload images to enhance the proposal. These can include:

- Images and diagrams that explain the research or technology element.
- A Gantt chart or equivalent to support the project management section.

Scoring and feedback

Feedback to applicants will be in the form of written justification for the assessment against each of the scored categories.