



Making a positive difference
for energy consumers

The Electricity System Operator Innovation Roll-Out Mechanism: Guidance on Submissions

Special Condition 4J of National Grid Electricity Transmission's (NGET's) transmission licence sets out the process in respect of the system operator innovation roll-out mechanism (SO-IRM). This document provides guidance to stakeholders about the process that the Authority will follow in assessing any applications made through this mechanism. The criteria for assessing applications are set out in Special Condition 4J. All applications must be made by completing an application [pro forma](#).

The document is set out as follows:

Part 1: Background – outlining the reasons for the introduction of the SO-IRM, and how the SO-IRM will work.

Part 2: Application process – explaining the timings for applications and the process for evaluation by Ofgem.

Part 3: Pro-forma guidance – describing the content that needs to be provided in NGET's application.

Part 4: Award notification – explaining how Ofgem will announce its decisions regarding funding.

Part 5: Funding recovery and monitoring process – explaining the process for successful applications after any funding is granted.

Part 1: Background

The SO-IRM is designed to provide the system operator (SO) with an opportunity to implement new techniques which would enable it to go beyond business-as-usual operation of the system and consider operation of the system beyond the two year length of its current balancing services incentive scheme (BSIS). The SO-IRM achieves this by providing up to £10 million of funding for the roll-out of proven¹ innovations that the SO can demonstrate:

- will provide enduring benefits to consumers; and

¹The terms 'proven' and 'late stage' are used to refer to innovations that are understood to be at Technology Readiness Level 9, where Technology Readiness Level is a measure used to assess the maturity of evolving technologies, and is graded on a scale from 1 to 9 as below:

TRL 1: Pure research that is theoretical or experimental work undertaken to acquire new scientific or technical knowledge for its own sake rather than directed towards an application

TRL 2-3: Applied research driven by a desire to broaden scientific and technical knowledge for application on the network, related to an identified problem. It typically includes investigating the underlying foundation of phenomena and observable fact

TRL 4-6: Development activities with a more commercial application including technology validation and or demonstration in a working environment

TRL 7-8: Full scale demonstration in a working environment to test and improve technologies so they are ready for commercial deployment

TRL 9: Application of technology in its final form, i.e. the technology has been proven.

- would be uneconomic for the SO to roll out during the current two year BSIS

We received broad support from stakeholders (including NGET) for some form of innovation mechanism to sit alongside the BSIS when we consulted on our proposals in March 2013. Respondents agreed with the proposal of introducing a mechanism through which the SO could take more responsibility to go beyond business-as-usual behaviour through actions which have impacts beyond a two year time horizon.

In developing the SO-IRM we have looked to ensure consistency and to take lessons from other innovation funding mechanisms already available under the RIIO framework². The three key funding mechanisms introduced under the RIIO innovation package are the:

- Network Innovation Competition (NIC);
- Network Innovation Allowance (NIA); and
- Innovation Roll-Out Mechanism (IRM).

The NIC and NIA offer funding for the development of relatively early stage innovations with technology readiness levels (TRLs)³ between two and eight. Through RIIO-T1, both transmission owners and the SO can apply for funding under these mechanisms. The IRM enables companies to apply for additional funding within the price control period for the roll-out of initiatives with demonstrable and cost effective low carbon and environmental benefits. However, this RIIO mechanism is targeted solely at the transmission owners, and the SO is not able to apply for funding.

The SO-IRM thus complements other innovation mechanisms introduced under RIIO by focussing on the funding of proven innovation, which the SO would not otherwise implement within the two year length of its incentive scheme because the innovation would not be profitable for the SO within the period. The level of funding provided under the SO-IRM is sufficient for NGET to identify key late stage innovation projects which can be rolled-out and where any funding provided will be used within the scheme period. The SO is able to make up to three applications totalling no more than £10 million.

It is important to note that while we have looked to ensure consistency and take lessons from the RIIO innovation package, the SO-IRM does not set any precedent for the design of any process or evaluation criteria of the RIIO-T1 IRM mechanism. Indeed, differences in the design of the regulatory framework for the SO and TO parties mean that there will be some inevitable differences in the design of the process.

Part 2: Application process

The opportunity to apply for funding through the SO-IRM will be available to the SO at the start of the second year of the SO incentive scheme (2014/15). Any funding provided would then be recovered through charges over the remainder of 2014/15.⁴ Applications must be submitted by 31 March 2014. The Authority will publish its decision regarding the application by 30 June 2014.

Special Condition 4J of NGET's transmission licences includes the criteria against which we will assess applications for funding. Any decision taken by the Authority will reflect its assessment of the submission against these criteria. Part 3 of this document expands on the evaluation criteria and provides further guidance about the information that should be

² RIIO (Revenue = Incentives + Innovation + Outputs) is Ofgem's framework for setting price controls for network companies. RIIO-T1 is an eight year price control set on the transmission owners until 31 March 2021.

³ See footnote 1 for a description of technology readiness levels.

⁴ The SO-IRM is designed solely to fund the roll-out of innovations, and does not allow National Grid Electricity Transmission (NGET) to profit from any funding provided. As part of this consideration, we would expect the SO to consider and set out whether it expects any benefits to accrue to the SO through re-assignment of internal resources and the impact this would have under its internal costs price control. This would be taken into account in the level of any funding approved by the Authority.

provided to inform our assessment against them. Any application must be made by completing an application pro forma.

Ofgem expects to request meetings with the SO to discuss the content of its submission(s), and may ask for further supplementary information to be provided if the application is deficient. The failure of the SO to provide adequate information for Ofgem to complete its assessment would result in an application being rejected.

Ofgem will consider appointing consultants to review the application and provide additional evidence to consider in developing a recommendation for the Authority. Any appointed consultants may also request further communication with the SO regarding the content of submissions.

Ofgem may request a preliminary meeting ahead of the submission deadline to discuss the nature of any applications which the SO is expecting to make.

The Authority will not consider funding the roll-out of an innovation that has already been funded under the NIC or NIA. This will ensure that the SO continues to identify new innovations that require initial funding support to deliver benefits with a longer time frame than the current BSIS. Once the SO has been funded for earlier stages of innovation under the NIC or NIA, we would expect it to have sufficient experience and understanding of the innovation to identify the benefits and decide whether to proceed to roll-out without the need for further funding support. Further, Ofgem will not consider funding the roll-out of an innovation that has been unsuccessful at the application stage under the NIC or NIA. This will protect against the risk of repeated evaluation of the same innovation, and will motivate the SO to identify the most appropriate innovations and funding mechanisms, considering new innovations rather than attempting to fund non-optimum innovation in multiple ways.

Part 3: Completing the pro-forma

Please use the default font (Verdana size 10) when completing the pro-forma. It is up to NGET to decide how much information to include under each section, but each section should not exceed the stated maximum number of pages.

The pro-forma (without appendices) should not exceed 30 pages in total. The total submission of the pro-forma and appendices should not exceed 55 pages.

Section 1: Application Summary

1.1 Application title

Please give the submission a title for future reference and to distinguish it from any other applications.

1.2 Estimated total cost

This is the amount that NGET expects to spend on the whole roll-out.

1.3 Total funding request

This is the amount being requested for funding under the SO-IRM.

1.4 Start date

1.5 End date

1.6 Application summary

This section must not exceed two pages.

This section should outline the issue or improvement that the roll-out is designed to target. It should clearly identify the proven innovation and the desired impact.

Section 2: Application Description

This section must not exceed 8 pages.

Building on the application summary, this section should provide a more detailed high level description of the roll-out. This should be presented in a manner that enables someone with limited experience of electricity system operation to understand the material, and should focus on:

- The issue or improvement that the roll-out of proven innovation will address;
- The proven innovation that the SO plans to roll-out to resolve this issue;
- The expected outcome of the roll-out; and
- The ultimate impacts of the roll-out on consumers after implementation.

This section should also include a technical description which complements the high level description and provides greater depth at a more expert level.

Section 3: Application business case

This section must not exceed 5 pages.

NGET must present a clear business case justifying the merits of undertaking the roll-out and must set out how it links to changes it wants to make to its business in the long term.

In addition, this section should also include:

- i. An analysis of how the total costs are estimated, and the potential inaccuracies in this figure (supplementary information can be provided in the appendices);
- ii. How the SO will recover any granted funding through balancing services use of system (BSUoS) charges; and
- iii. How the SO will ensure that the timing of apportioning these costs will be appropriately reflected in BSUoS charges and that only costs incurred in the period 1 April 2014 to 31 March 2015 will be recovered.

Section 4: Evaluation Criteria

This section must not exceed 12 pages.

We set out more detail surrounding how the Authority will assess any application against the evaluation criteria below. A submission will have to provide sufficient information to convince the Authority that each of the evaluation criteria has been satisfied. There will be a high threshold for the award of any funding, and NGET will need to provide a convincing business case and robust information against each of the below criteria.

For any submission, NGET will need to demonstrate that the roll-out:

a) will deliver carbon benefits or any wider environmental benefits

Based on previous experience of any proposed innovation roll-out at earlier stages of innovation, or where applied in different contexts, any application must identify demonstrable carbon or environmental benefits.

If the roll-out will deliver carbon benefits then information under part (i) below must be provided, and if the roll-out will deliver environmental benefits then information under part (ii) below must be provided.

- i. How the roll-out will make a contribution to the Government's current strategy for reducing greenhouse gas emissions, as per the document entitled "the Carbon Plan"⁵ published by DECC. In particular:
 - What aspect of the Carbon Plan the roll-out will facilitate;
 - How the GB roll-out of the method will facilitate these aspects of the carbon plan; and
 - How the GB roll-out of the method will deliver the benefits either more quickly or in greater volume than the current most efficient method in use in GB.
- ii. How the roll-out will deliver wider environmental benefits to customers. In particular:
 - Evidence and references for the calculation of the environmental benefits of the roll-out; and
 - A qualitative explanation of the environmental benefits of the roll-out.

b) will provide long-term value for money for electricity consumers

The SO must set out:

- i. How the roll-out will have a direct impact on electricity system operations;
- ii. A justification that the scale/cost of the roll-out is appropriate in relation to the benefits that are expected to be captured;
- iii. The process that will be employed to ensure that the roll-out is delivered at a competitive cost;
- iv. What expected proportion of the benefits will accrue to the operation of the system as opposed to other parts of the energy supply chain, and what evidence has been used to derive the proportion of expected benefits; and
- v. How any project partners have been identified and selected including details of the process that has been followed and the rationale for selecting project participants and ideas for applications.

⁵ The Carbon Plan: Delivering Our Low Carbon Future December 2011.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47621/1358-the-carbon-plan.pdf

Where this document is amended or replaced by Government, Ofgem will notify the Licensee of any changes in writing.

c) will not lead to the SO receiving commercial benefits

The SO must explain:

- i. The financial impacts on the current scheme, and whether funding will cause greater/lesser costs to be incurred under the current incentive package;
- ii. The implications for any other areas of the SO's businesses;
- iii. Any benefits to the TO role of the licensee;
- iv. The measures NGET will employ to minimise the possibility of cost overruns or shortfalls resulting in indirect benefits;
- v. How it will ensure that only those costs incurred up to the maximum funding allowance will be passed through to BSUoS charges;
- vi. How the cost that is incurred under the SO-IRM can be managed and reported to Ofgem (for example a separate account that manages funding for each application); and
- vii. The relationship between the total amount requested for funding and the total cost of the roll-out, referencing the above criteria.

d) will not be used to fund any of the ordinary SO business arrangements

The SO should provide:

- i. An explanation of how roll-out funding will be kept separate from business-as-usual expenditure; and
- ii. A description of the means by which costs associated with the roll-out and use of any funding will be tracked.

Consistent with Special Condition 4J, to receive funding for any application, the SO must also demonstrate that the roll-out:

a) involves proven innovation and warrants limited funding support

The SO must justify why:

- i. The roll-out is innovative and is not viable under business-as-usual operations within the current BSIS;
- ii. The innovation is considered to be TRL9; and
- iii. The roll-out can only be undertaken with the support of the SO-IRM, including reference to the specific risks e.g. commercial, operational, or regulatory associated with the roll-out.

b) is ready to be rolled-out with any funding provided being used in the period from 1 April 2014 to 31 March 2015

The SO must include:

- i. A detailed project plan;
- ii. The resources (human, IT etc) that will deliver the roll-out, which should be of a sufficient size and quality to be reasonably expected to ensure its delivery;
- iii. An identification of all appropriate risk mitigation processes, including:
 - a risk register;
 - risk management and mitigation plans; and
 - contingency plans

Section 5: Regulatory issues

This section must not exceed 2 pages.

The SO must explain whether it believes the roll-out will require:

- a derogation;
- licence consent;
- a licence exemption; or
- changes to the regulatory arrangements;

either as a requirement of the roll-out, or as a contingency in the event that the roll-out is not successful.

In addition, the SO should also raise any potential negative impacts on customers, and any financial or logistical implications on generators and suppliers, that may result from the proposed roll-out. The SO should also set out any consultations or discussions it has had with customers regarding the roll-out.

Any expected requirement for a derogation or change to regulatory arrangements will be taken into account by the Authority when deciding on whether to approve funding for any applications.

Section 6: Appendices

This section must not exceed 25 pages.

In the event that technical detail of a type not provided for in the pro-forma is necessary, NGET should submit this in appendices, listing the titles and a very brief summary of the content.

The SO is free to include any further supplementary information it wishes in the appendices. Below are some examples of what could be included in the appendices:

- Any diagrams to help explain the technical detail of the roll-out;
- A project organogram;
- Further detail on the methodology that the SO has used to calculate the costs.

Part 4: Award notification

We will publish the Authority's decision by no later than 30 June 2014 on our website. In this decision, we will provide a brief summary of each submission received, will state our

determination on whether the applications have met the evaluation criteria, and will state the approved maximum amount of funding that can be recovered by the SO through BSUoS charges.⁶

Ofgem will also provide an indication of when and how the SO's recovery of funding through BSUoS charges will impact on consumer bills.

Part 5: Funding Recovery and Monitoring Process

A condition of funding being granted by the Authority will be that the funding is spent in a manner consistent with the application. Ofgem will actively monitor the roll-out of funded innovation projects to certify that funding is being spent in this way. If this condition is not met then the Authority may disallow any costs deemed as having been incurred in a manner outside that proposed in the original submission.⁷

A further condition of funding being granted by the Authority is that the SO will provide a detailed report at the end of the funding period for any approved roll-out (i.e. 31 March 2015). This report should provide the following information:

1. General progress of the roll-out against the original plan;
2. A summary of progress against the budget, and the track record of the financial expenditure of the roll-out;
3. Any overruns or unfinished aspects of the roll-out; and
4. Any other information that the SO wishes to include in the report which should be considered by Ofgem in understanding the progress and expected benefits of the roll-out.

⁶ Any funding allowance will be reflected by a change to the value of ROVt in table 1 of Special Condition 4J.

⁷ These conditions will be issued subject to paragraph 4J.12(b) of Special Condition 4J.