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Decision

Decision on the 2022 Network Innovation Competition Successful Delivery Reward (SDR) applications

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In May 2022 we[1] received four applications for a Successful Delivery Reward from four network companies who have completed their NIC projects.

This document sets out our assessment of the project's Successful Delivery Reward applications and the resulting level of award.

[1] The terms 'we', 'us', 'our' refer to the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

Associated documents:

Multi Terminal Test Environment SHE transmission Project Direction, by Scottish and Southern Electricity Networks (SSEN):
amendments_to_the_mtte_project_direction_clean_publication.pdf (ofgem.gov.uk)

FITNESS Project Direction by SP Transmission (SPT):
Network Innovation Competition - Project Direction for FITNESS | Ofgem

Open LV Project Direction by Western Power Distribution (WPD):
Network Innovation Competition – Project Direction for OpenLV | Ofgem

HyDeploy Project Direction by Cadent:
Network Innovation Competition - Project Direction for HyDeploy | Ofgem

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Executive summary

Innovation is important to ensure that network companies support the transition to a smarter, more flexible, sustainable low-carbon energy system and reduce costs to consumers by finding new ways of operating and developing their networks. Accordingly, our framework for regulating network companies contains mechanisms to stimulate innovation.

Within the Revenue=Incentives+Innovation+Outputs (RIIO-1) price control framework, Network Licensees had access to the Network Innovation Competition (NIC) and Network Innovation Allowance (NIA).

While the RIIO-1 price control framework ended on 31 March 2021, a number of the RIIO-1 NIC projects remain in flight, and Ofgem will therefore continue to make decisions on these RIIO-1 projects during the course of the RIIO-2 price control framework.

The Successful Delivery Reward (SDR) is a financial reward that Network Licensees can apply for on completion of NIC projects that are delivered efficiently. The SDR is designed to reward those projects that are well managed and completed at least to the standard that could be expected given the information provided in the Full Submission. The Successful Delivery Reward Criteria (SDRC) against which the projects are judged are set out in the Project Directions.[2]

As per the NIC Governance Document, Network Licensees make a compulsory contribution of 10% of the total project funding approved at the start of the project. This is the maximum value of the SDR that can be awarded for each project. Licensees can apply to receive the 10% contribution once the project is complete and they can demonstrate how they have met project-specific SDR Criteria.

There is an annual window for completed NIC projects to apply for their SDR. As required by the NIC Governance Document, all four Submissions were made by 1 May 2022. We used the applications submitted, along with other evidence received in the course of the project, to assess whether the project had been well managed and met SDRC set out in the Project Direction

[2] The project directions for the four projects are linked in the associated document paragraph above.

Having considered the applications, we have decided to award the projects the following:

a) MTTE Project- Awarded £133,939.10 representing 100% of the potential reward. Remaining unspent funds on the project will be returned to consumers.

b) FITNESS Project- Awarded £945,327.98 representing 100% of the potential reward.

c) Open LV Project- Awarded £476,497.00 representing 87.5% of the potential reward.

d) HyDeploy Project- Awarded 763,454.00 representing 100% of the potential reward.

Our decision on the reward for the projects are presented in Table 1 below.

Table 1: Decision on the Successful Delivery Reward

Project	Funding Mechanism	Licensee	Licensee compulsory contribution (£)	Total SDR award (£)
MTTE for HVDC systems	Electricity NIC	SSEN	133,939.10	133,939.10
FITNESS	Electricity NIC	SPT	945,328.00	945,327.98
Open LV	Electricity NIC	WPD	544,568.00	476,497.00
HyDeploy	Gas NIC	Cadent	763,454.00	763,454.00

1. Introduction

Context

1.1. Network companies need to innovate to address the challenges they face and facilitate the transition to a low carbon economy. The NIC was designed to encourage Network Licensees to innovate and run network-related trials of technologies that will facilitate the transition to a low carbon economy, and deliver wider environmental benefits to consumers. The funding provided to Network Licensees through the NIC Funding are paid for by consumers.

1.2. In accordance with the NIC Governance Document[3], before licensees were awarded funding for NIC projects. Projects were assessed through an Initial screening Process (ISP) before they are eligible to be developed into Full submissions. The Full Submissions were reviewed by Ofgem and an independent Expert Panel. The Expert Panel upon assessment made recommendations to Ofgem on which projects should be awarded funding and Ofgem based on the recommendations from Expert Panel use its judgment to decide which project should be awarded funding, with each Network Licensee being required to make a compulsory contribution of 10% of the funding requested for the projects.

1.3. All NIC projects awarded funding in or before Relevant Year 2016/2017 are eligible to apply to Ofgem for the SDR once the project has been completed.

1.4. There is an annual window for completed NIC projects to apply for their SDR. The Network Licensee can enter any assessment window once the Project has concluded and the Close Down Report has been published.

[3] All capitalised terms not otherwise defined in this document have the meaning given to them in the NIC Governance Document.

The last window will occur one year after the final NIC Project has concluded.

1.5. The Network Licensee must provide sufficient evidence to allow Ofgem to evaluate the application. The Network Licensee may be permitted to resubmit its application in light of any clarification asked by Ofgem. Any resubmission or additional evidence submission may affect the timing of our decision. Ofgem may also use any other information it has gathered throughout the duration of the Project to inform its evaluation. If Ofgem considers that there is insufficient evidence to evaluate the application then the request for a Successful Delivery Reward will be rejected and the Network Licensee will be notified.

1.6. The maximum level of the Successful Delivery Reward is set out in the Project Direction and cannot exceed the level of the Network Licensee's Compulsory Contribution. The Authority will determine the level of the Successful Delivery Reward that may be awarded to the Network Licensee. This may be all, part or none of the amount requested.

1.7. In 2022, four NIC projects applied for the SDR. The total amount of funding applied for was £2,387,289.10

Our decision making process

The process for assessing the SDR applications is set out in the NIC Governance Documents[4]. Network Licensees are required by their respective NIC Licence Conditions to comply with the NIC Governance Documents as if it formed part of the licence.

1.8. Paragraph 8.63 – 8.65 and Appendix 3 of the NIC Governance Document sets out our assessment process and the three elements of our assessment are summarised here:

- Whether the project specific SDRC, contained in its Project Direction, had been met to a quality that we expected and delivered on time – weighted at 50% of the potential reward.

- the final project cost to understand if the SDRC were met cost-effectively – weighted at 25% of the potential reward.

- the management of the project, in particular how risk and uncertainty were controlled and how significant changes to the project were managed – weighted at 25% of the potential reward.

1.9. We place greater weighting on the first element because it is directly related to evaluating how the SDRC were met. The remaining weighting is split evenly between cost effectiveness and project management.[5]

1.10. We assess projects on a case by case basis, using:

[4] Network Innovation Competition Governance Documents v.3, paras 8.63 – 8.65.
[5] See previous decisions for consistency of weighting Decision on the 2021 Network Innovation Competition Successful Delivery Reward (SDR) applications (ofgem.gov.uk)

- evidence submitted in the applications
- responses from the companies to our supplementary questions (if any)
- evidence gathered by us during the life of the project.

1.11. We adopt a standard assessment process to ensure the projects are treated consistently and fairly.

1.12. Our assessment of each project consides the types of evidences for quality set out in Paragraph 11 of Appendix 3 of the NIC Governance Document.

1.13. Some projects undergo changes in their scope, methodology and expected outputs, which can be expected due to the nature of innovation projects. In order to incorporate these changes into the Project Directions, the licensees have to submit change requests to us for approval.

1.14. When we assess whether to approve these change requests, we consider whether there has been a material change in circumstances and whether the changes are in consumers' interest. We are not at that time evaluating the licensee's management of the change request, and our approval of the request does not influence our decision on the level of the award under the SDR.

1.15. We reduce the amount of the reward where we believe the licensee had not made full use of the available risk management tools.

1.16. As per the NIC Governance Document, part of our assessment of the SDR is to consider whether the project was delivered cost effectively. We note in relation to the submissions assessed in this decision, that where Network Licensees have demonstrated that they have applied new and innovative approaches to underspend against the budget they have received the reward for cost effectiveness. We have not

rewarded these Network licensees for underspending budgets where they have not demonstrated underspending, as the underspend may simply be a reflection of an inaccurate, and possibly overstated, initial budget.

1.17. The remainder of this decision document outlines our assessment of this year's SDR application.

2. Multi Terminal Test Environment (MTTE) for High Voltage Direct Current (HDVC) systems

Project summary

Scottish and Southern Electrictiy Networks (SSEN) Transmission was awarded NIC Funding by Ofgem to build and operate a new facility that will enable multi terminal testing for HVDC systems through the Electricity NIC in 2013.

The MTTE facility enables the planning, development and testing of high voltage direct current (HVDC) transmission solutions in Great Britain (GB). This facility houses: a real-time simulator system (which simulates HVDC schemes); IT infrastructure; and accommodation for replica HVDC control panels. The facility aims to:

- support transmission planning and improve the specification of HVDC schemes;
- facilitate multi-terminal solutions;
- de-risk control interactions between multi-terminal and electrically connected converters, and with other active controlled equipment;
- facilitate competition and multi-vendor HVDC schemes;
- train and develop transmission planning and operational engineers;
- undertake post-commissioning scenario planning and operational optimisation; and,
- model new HVDC technologies.

Did the Project meet its SDRC?

2.1. The Project Direction set out nine SDR criteria. We consider the evidence submitted by SSEN Transmission in its SDR application for the project demonstrates that the all nine SDRC set out in OFGEM's Project Direction were delivered to an high quality and with no delays to deadlines. We therefore consider the project met its SDRC. There was a delay of 12 month to the completion of the project driven by covid-19,

however, this delay is not considered material as it did not exceed a year[6] and was communicated to Ofgem in good time.

Were the SDRC cost-effectively delivered?

2.2. The project was delivered under budget in all areas. The underspend varied between areas: the total underspend was 5% below budget. Specific cost elements showed more variance between budget and spend than others. Areas such as resource (internal and external) ended up underbudget (circa £1m) while some ended up overbudget, for example IT (£400k) and MTTE building facility expenses (~£800k).

2.3. SSEN transmission delivered the project £79,165 (1%) under budget. The unspent budget will be returned to consumers[7]. Overall, we consider SSEN's approach to be cost-effective.

How well was the SSEN Transmission project managed?

2.4. SSEN Transmission was required to provide reports at key milestones throughout the project. All of these reports were of an acceptable standard. SSEN Transmission provided risk analysis in its six-month and later annual reports as required. Additionally, SSEN Transmission submitted its SDR application on time.

2.5. The project was due to be completed on 31 March 2021, however, due to impacts of Covid-19, the project actually completed in March 2022. This was due to a number of sub projects being delayed. The risk of delay and later on any updates on the expected delivery date were clearly communicated to Ofgem in due time. This change was not considered material as it was under one year of delay caused by the unforeseen pandemic.

[6] Section 8.23 in the governance document (3.0)flags that material change will include a change which delayes the project my more than one year.
[7] For clarity, the sharing factor does not apply to the return of these funds.

2.6. In February 2020 the MTTE management team submitted its "future business model" to Ofgem, in line with SDR 9.8[8], which included its view on how the MTTE should continue to run in the upcoming price control period (2021-2026), and the funding needs for its operation.

2.7. In July 2020 Ofgem published its determination which approved the continued ownership and operation of the facility by SSEN Transmission during RIIO-2:

2.8. Overall, we consider that SSEN Transmission's performance on the project management criterion to be of a high standard.

Our decision

2.9. We have decided to award the project 100% of the full SDR available: £133,939.10

2.10. This reflects the high standard of project management, and timely delivery of all the outputs set out in the project direction. It also reflects the financial management of the project. SSEN Transmission has delivered the project to high standard, and under budget. How this has been calculated is set out in Table 2 below:

[8] Successful Delivery Reward 9.8 in Table 5 of the Project Direction linked in the Associated Documents above.

Table 2: MTTE Project Award

SDR criterion	Available (£)	Awarded (£)
SDRC Delivery	669,695.50 (50%)	669,695.50 (50%)
Cost effectiveness	334,847.80 (25%)	334,847.80 (25%)
Project management	167,423.90 (25%)	167,423.90 (25%)
Total	**133,939.10**	**133,939.10**

*The award is broken down as follows: 50% of the total award is calculated under the project specific SDRC delivery; 25% weighting is awarded for cost effectiveness and a further 25% is awarded for project management. The table above represents how the project measured against each criteria.

3. FITNESS

Project summary

SP Transmission (SPT) was awarded funding by Ofgem in 2015 to build and operate a multi-vendor digital substation demonstration project using process bus at SP Transmission's Wishaw 275kV substation.

FITNESS will deliver the pilot GB live multi-vendor digital substation instrumentation system to protect, monitor and control the transmission network using digital communication over fibre to replace copper hardwiring, reducing cost, risk and environmental impact, and increasing flexibility, controllability and availability.

Did the Project meet its SDRC?

3.1. We consider from the evidence submitted by SP Transmission in its SDR application that the SDRC set out in it's Project Direction were delivered to an acceptable quality and with no time delays. We therefore consider the project met its SDRC.

Were the SDRC cost-effectively delivered?

3.2. SPT delivered the project at a cost of £9,596,440, £143,160.25 (1.5%) over the budget set out in the Project Direction.

3.3. There are variances within budget categories. No budget categories were within 5% variance[9] against the projected amount. Labour costs were £573,371.9 (35.5%) under budget, Equipment & Contractor costs were £780,346.3 (11.3%) over budget, IT costs were £71,193.0 (39.6%) over budget. SPT attributes this to an unforeseen need for specialist knowledge and skills required by digital substations, especially in the engineering design and testing phases of the project, resulting in a strategic "trade-off" of outsourcing labour to contractors.

[9] Paragraph 13 of Appendix 3 in the Governance Document requires that to demonstrate the cost effectiveness for the SDRCs, the actual project expenditure should be presented against each line in the project budget and any variances in excess of 5% should be explained.

3.4. Travel and Expenses costs were £74,109.7 (23.4%) below budget and Contingency costs were £60,897.4 (14.8%) below budget.

3.5. Despite these variances, SPT delivered the project only 1.5% over budget, within the 5% materiality threshold set out in the project direction, and we are satisfied with SPT's justification for cost variances. Overall, we consider the project to have been cost effective.

How well was the SP Transmission project managed?

3.6. We consider that the project was managed well, with the risk register maintained and updated as the project progressed and no substantial deviations from the project's initial timeline. SPT submitted project progress reports largely on time and notified Ofgem of any delays.

Our decision

3.7. SPT delivered the FITNESS project by meeting all SDRCs and managed project risks appropriately. The project was delivered slightly over budget, but it was within the 5% materiality threshold.

3.8. We have decided to award SPT £945,327.98 of the SDR out of a total £945,327.98.

Table 3: FITNESS Project Award

SDR criterion	Available (£)	Awarded (£)
SDRC Delivery	472,664.00 (50%)	472,664.00 (50%)
Cost effectiveness	236,332.00 (25%)	236,332.00 (25%)
Project management	236,332.00 (25%)	236,332.00 (25%)
Total	**945,328.00**	**945,328.00**

*The award is broken down as follows: 50% of the total award is calculated under the project specific SDRC delivery; 25% weighting is awarded for cost effectiveness and a further 25% is awarded for project management

4. OPEN LV

Project summary

Western Power Distribution (WPD) was awarded funding by Ofgem to implement their OpenLV project through the Electricity Network Innovation Competition (NIC) in 2016. The OpenLV Project set out to demonstrate the effectiveness of distributed intelligence platform, utilising EA Technology's LV-CAP® (Low Voltage Common Application Platform), at providing benefits to the LV distribution network.

This improved visibility would allow the distribution network companies to manage the network level more actively, which is necessary as more generation and demand is connected locally. Some of the activities that would be involved in the project includes:

- Creating an approach that would ensure that available capacity is used more effectively, minimising the costs of reinforcement.
- The platform that would be created will enable other parties (e.g., large users such as councils, housing associations, universities, etc) to investigate ways to make better use of the network.

Did the Project meet its SDRC?

4.1. We consider the evidence submitted by WPD in its SDR application for the project, which demonstrates that the SDRC set out in it's Project Direction were delivered to an acceptable quality, though with some delays to deadlines. The delays experienced were due to the impacts of COVID-19, which limited social interaction during the project's activity execution. We therefore consider the project met its SDRC.

Were the SDRC cost-effectively delivered?

4.2. The project was delivered under budget by 5%. The cost of the Project appear to have been accurately forecasted relative to the budget.

4.3. The project delivery under the 5% budget was equivalent to £272,284. The unspent budget will be returned to consumers. Overall, we consider WPD's approach to be cost-effective.

How well was the WPD project managed?

4.4. WPD was required to provide reports at every key milestone throughout the project. All milestone reporting were submitted to an acceptable standard, with no substantial changes introduced in the project. WPD provided the project's risk analysis in its six-month reporting as required, and they also submitted the SDR application on time.

4.5. However, as noted in paragraph 2.1, WPD encountered some delays in the completion of some of its SDRC. As a result of the pandemic, the end date for the project was pushed back from July 2020 to December 2020. Also, WPD's spending on IT was within budget (for the entirety of the project but was outside of budget for expected spend up until Dec 2018) and the spend happened earlier than expected. Contingency provisions for the project were used to develop an app (£15k) for the community participants. This was done because the community groups needed additional support to develop their own applications. WPD's ability to manage these suggests good project delivery.

4.6. Overall, we consider that WPD's performance on the project management criterion to be of a mixed standard.

Our decision

4.7. We have decided to award the project 87.5% of the full SDR available: £476,497. This was on the basis that, three criteria weighted 50, 25 and 25%, for SDRC, SDRC Cost effectiveness and project management respectively, are being considered, and where the company meets the conditions set out for each criteria under the project, the company is given a 100% award. However, in the case of WPD, and under the project performance criteria, the company meets the amber performance level, thus won't get the full award , but half of the 25% fund equivalent for the criteria.

4.8. This reflects the fact that despite its mixed performance regarding the project management criterion, the overall project was delivered to a mostly satisfactory standard, and under budget. How this has been calculated is set out in Table 4 below.

Table 4: OpenLV Project Award

SDR criterion	Available (£)	Awarded (£)
SDRC Delivery	272,284.00 (50%)	272,284.00 (50%)
Cost effectiveness	136,142.00 (25%)	136,142.00 (25%)
Project management	136,142.00 (25%)	68,071.00 (12.5%)
Total	**544,568.00**	**476,497.00**

*The award is broken down as follows: 50% of the total award is calculated under the project specific SDRC delivery; 25% weighting is awarded for cost effectiveness and a further 25% is awarded for project management. The table above represents how the project measured against each criteria.

5. HyDeploy

Project summary

Cadent (formally National Grid Gas Distribution[10]) was awarded funding by Ofgem in 2016 to demonstrate blending up to 20% hydrogen into the natural gas supply within Keele University's private network. The project created evidence to establish the level of hydrogen that can be safely blended with natural gas for transport and use in the GB natural gas network. Cadent is using the evidence created to contribute towards the case for allowing increased volumes of hydrogen on the natural gas network.

Did the Project meet its SDRC?

5.1. We consider the evidence submitted by Cadent in its SDR application for the project demonstrates that the SDRC set out in it's Project Direction were delivered to an high quality.

5.2. There were slight delays to the submission of five of the ten SDRCs, but these were communicated with us in a timely manner. We consider these delays to be out of the project's control or to have a reasonable justification.

5.3. For example, two of the SDRCs were delayed because the exemption to the Gas Safety (Management) Regulations (GS(M)R) took longer to be approved than Cadent originally aniticpated, despite the evidence being submitted to the Health and Safety Executive (HSE) in line with the original project timetable. Cadent said this was due to the first of a kind nature of the project requiring an extended engagement process with the HSE. We consider to be a reasonable justification.

5.4. There was also a delay of 12 months to the completion of the project which was primarily driven by Covid-19, which delayed two of the SDRCs. However, as this did not delay the project for more than one year, it is not considered a Material Change

[10] The Project was submitted by National Grid Gas Distribution (NGGD), in 2017 NGGD was sold to Cadent Gas Plc. Cadent Gas acquiried NGGD rights and liabilities including this HyDeploy NIC project.

under the NIC Governance document. The delay was also communicated to Ofgem in good time.

5.5. The HyDeploy project was completed in March 2021, and the Project Close down report was submitted to Ofgem on 28 June 2021, along with evidence that it had been peer reviewed by WWU.

Were the SDRC cost-effectively delivered?

5.6. Overall Cadent delivered the project £33,255 (0.4%) over the budget set out in the Project Direction, but this cost overrun was covered by the project partners.

5.7. There was large variance between the proposed budget and actual spend across all parts of the project.

5.8. Costs for the design and installation of the Grid Entry Unit were significantly higher than budgeted for, which Cadent say is due to the equipment being first of a kind, and requiring a more complicated functional specification than originally anticipated. This added £306,018 (132%) to the design element and £422,908 (22%) to the installation of the hydrogen injection equipment budget lines. Additionally, activities to develop the exemption from the GS(M)R were £337,773 (23%) over budget. Cadent said this was because it was the first exemption of it's kind and more evidence than anticipated was required to ensure the technical evidence was sufficient.

5.9. However, cost overruns for these areas were identified early in the project and were well communicated with Ofgem throughout the trial. We consider these to have been outside of Cadent's control, as the original assumptions appeared to be reasonable. For example, the assumptions for the cost of the Grid Entry Unit were based on the approach used for blending in Germany.

5.10. In response to these cost overruns, Cadent managed and reallocated the costs in other areas of the project to ensure that the overall project budget was not significantly impacted. This meant that most other areas of the project underspent compared to the project budget. We accept Cadent's explanation that this was to manage the budget in response to the areas where costs were higher than expected.

5.11. We also note that the operational element of the trial operated for longer than originally planned, which required budget management. We consider that this adaptation helped to create better quality data to contribute to the evidence base for blending hydrogen.

5.12. Overall we consider that the project was cost effective.

How well was the Cadent project managed?

5.13. We consider that the project was managed well, with the risk register maintained and updated as the project progressed and no substantial deviations from the project's initial timeline. Cadent submitted project progress reports largely on time and notified Ofgem of any delays.

Our decision

5.14. Cadent delivered the HyDeploy project by meeting all SDRCs and managed project risks appropriately. The project was delivered slightly over budget, but the cost overrun was covered by project partners so did not impact consumers.

5.15. We have decided to award Cadent £763,454 which is the full SDR requested. How this has been calculated is set out in Table 5 below.

Table 5: HyDeploy Project Award

SDR criterion	Available / £	Awarded /£
SDRC Delivery	381,726.88 (50%)	381,726.88 (50%)
Cost effectiveness	190,863.44 (25%)	190,863.44 (25%)
Project management	95,431.72 (25%)	95,431.72 (25%)
Total	**763,454.00**	**763,454.00**

*The award is broken down as follows: 50% of the total award is calculated under the project specific SDRC delivery; 25% weighting is awarded for cost effectiveness and a further 25% is awarded for project management. The table above represents how the project measured against each criteria.