



Making a positive difference
for energy consumers

Company Secretary
Scottish Power Energy Networks
Lister Drive
Liverpool
Merseyside
L13 7HJ

Direct Dial: 020 3263 2782
Email: Judith.Ross@ofgem.gov.uk

Date: 11 December 2015

Dear Company Secretary,

Project Direction ref: SPMW / ANGLE-DC / 11 December 2015

SP Manweb plc (SPMW) submitted the project ANGLE-DC (the Project¹) on 31 July 2015 to be considered for funding through the Electricity Network Innovation Competition (NIC). In this year's decision², we³ selected the project for funding.

We have issued this Project Direction to SPMW. It contains the terms to be followed by SPMW as a condition of the Project receiving funding through the Electricity NIC. SPMW must comply with these terms, which can be found in the Schedule to this Project Direction.

Project direction

Paragraph 5.66 of the Electricity NIC Governance Document states that a Project Direction will:

- set out the Project-specific conditions that the Network Licensee is committing to in accepting funding;
- require the Network Licensee to undertake the Project in accordance with the commitments it has made in the Full Submission. Where appropriate, the Project Direction may therefore include extracts from the Full Submission or refer to specific sections of the Full Submission;
- set out the Approved Amount for the Project, that will form part of the calculation contained in the Funding Direction issued by the Authority under chapter 7 of the Governance Document;
- set out the Project budget that the Network Licensee must report against and how variances against the Project budget will be reported and approved; and
- set out the mechanism for the Network Licensee receiving the Approved Amount as set out in the Funding Direction.

¹ Unless otherwise specified, defined terms in this Project Direction have the meaning given to them in Appendix 1 of the [Electricity NIC Governance Document](#).

² <https://www.ofgem.gov.uk/publications-and-updates/electricity-network-innovation-competition-2015-funding-decision>.

³ The terms 'the Authority', 'Ofgem', 'we' and 'us' are used interchangeably in this letter. The Authority is the Gas and Electricity Markets Authority. Ofgem is the Office of the Authority.

These are described for the Project in the Schedule to this Project Direction.

Decision

Provided SPMW complies with the Electricity NIC Governance Document and with the Schedule to this Project Direction, ANGLE-DC is deemed to be an Eligible NIC Project.⁴

This Project Direction constitutes notice pursuant to section 49A (Reasons for decisions) of the Electricity Act 1989.



Judith Ross
Head of Network Regulation Policy
For and on behalf of the Authority

⁴ Eligible NIC Project has the meaning given in definitions of the Electricity Distribution licence.

Schedule to Project Direction

1. TITLE

Project Direction ref: SPMW / ANGLE-DC / 11 December 2015.

2. PREAMBLE

This Project Direction is issued by the Gas and Electricity Markets Authority (the "Authority") to SP Manweb plc (the "Funding Licensee") pursuant to the Electricity NIC Governance Document issued pursuant to Part E of Charge Restriction Condition 5A (The Network Innovation Competition) of the Electricity Distribution Licence (the "Licence"). It sets out the terms to be followed in relation to ANGLE-DC (the "Project") as a condition of it being funded under the NIC and the Funding Return Mechanisms.⁵

Unless otherwise specified, defined terms in this Project Direction are defined in Appendix 1 of the Electricity NIC Governance Document.

References to specific sections of the Funding Licensee's Full Submission in this Project Direction are, for ease of reference, made by referring to the section number in the Funding Licensee's Full Submission pro-forma.

3. COMPLIANCE

The Funding Licensee must comply with Part E of Charge Restriction Condition 5A of the Licence and with the Electricity NIC Governance Document (as may be modified from time to time in accordance with Part E of Charge Restriction Condition 5A and as modified and/or augmented in respect of the Project by this Project Direction) and with this Project Direction.

Any part of the Approved Amounts that the Authority determines not to have been spent in accordance with this Project Direction (or in accordance with the Electricity NIC Governance Document) is deemed to be Disallowed Expenditure.

Pursuant to Charge Restriction Condition 5A, Disallowed Expenditure is revenue received (whether by the Funding Licensee or by another Licensee) under the NIC and Funding Return Mechanisms that the Authority determines not to have been spent in accordance with the provisions of the Electricity NIC Governance Document or with those of the relevant Project Direction.

Pursuant to paragraph 8.48 of the Electricity NIC Governance Document, Disallowed Expenditure includes any funds that must be returned if the Project is halted without Ofgem's permission, any funds that have not been spent in accordance with the approved Project Budget contained within the Project Direction, and any unspent funds on the completion of the Project.

4. APPROVED AMOUNT FOR THE PROJECT

The Approved Amount is £13,121,436.21.

⁵ The Funding Return Mechanism is defined in part C of Charge Restriction Condition 5A.
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5. PROJECT BUDGET

The Project Budget is set out in Annex 1 of this Project Direction. The Funding Licensee must not spend more than 110% of any category total (eg "Labour") in Annex 1 without the Authority's prior written consent (such consent is not to be unreasonably withheld).

The Funding Licensee will report on expenditure against each line under the category total in the Project Budget, and explain any projected variance against each line total in excess of 5% as part of its detailed report which will be provided at least every six months, in accordance with paragraph 8.17 of the Electricity NIC Governance Document. Ofgem will use the reported expenditure and explanation to assess whether the funding has been spent in accordance with the Electricity NIC Governance Document and with this Project Direction.

For the avoidance of doubt this reporting requirement does not change or remove any obligations on the Funding Licensee with respect to reporting that are set out in the Electricity NIC Governance Document.

6. PROJECT IMPLEMENTATION

The Funding Licensee must undertake the Project in accordance with the commitments it has made in the Full Submission approved by the Authority pursuant to the Electricity NIC Governance Document and with the terms of this Project Direction. These include (but are not limited to) the following:

- (i) undertake the Project in accordance with the description set out in Section 2 (Project Description);
- (ii) provide a Network Licensee Compulsory Contribution of £1,483,890.57;
- (iii) complete the Project on or before the Project completion date of 16 April 2020; and
- (iv) disseminate the learning from the Project at least to the level described in Section 5 (Knowledge Dissemination).

7. REPORTING

Ofgem will issue guidance (as amended from time to time) about the structure and content of the reports required by paragraph 8.17 of the Electricity NIC Governance Document. The Funding Licensee must follow this guidance in preparing the reports required by paragraph 8.17 of the Electricity NIC Governance Document.

As required by paragraph 8.22 of the Electricity NIC Governance Document, the Funding Licensee must inform the Authority promptly in writing of any event or circumstance likely to affect its ability to deliver the Project as set out in its Full Submission.

8. REVIEW OF POTENTIAL DIRECT BENEFITS

Once the Project has ended the Funding Licensee must promptly (and no later than three months after the Project completion date) write to the Authority explaining the value of the additional assets installed for ANGLE-DC and any other RIIO-ED1 direct benefits from the project and how they relate to its load-related and totex allowances in its RIIO-ED1 settlement. The Funding Licensee should also assess how the Project has affected its performance against the RIIO-ED1 efficiency incentives, load indices and load related reopener.

The Authority will review this assessment and decide whether or not the value of the additional assets (or some part thereof) or any other attributable price control benefits from ANGLE-DC to the Funding Licensee should be returned to customers. Any such sums identified by the Authority's assessment will be considered Disallowed Expenditure and will be limited to the value of any avoided works.

9. COST OVERRUNS

The maximum amount of Contingency Funding that the Funding Licensee can request as additional funding for cost overruns on the Project is 5% of the approved amount.⁶

10. INTELLECTUAL PROPERTY RIGHTS (IPR)

In Section 5 (Knowledge Dissemination) the Funding Licensee has stated that the Project conforms to the default IPR arrangements set out in Chapter 9 of the Electricity NIC Governance Document. The Funding Licensee must therefore undertake the Project in accordance with the default IPR arrangements.

11. SUCCESSFUL DELIVERY REWARD CRITERIA

The Project will be judged by the Authority for the purposes of the NIC Successful Delivery Reward against the Successful Delivery Reward Criteria ("SDRCs") set out in Table 1 below (that comply with paragraphs 5.26 – 5.29 of the Electricity NIC Governance Document).⁷

Table 1. Successful Delivery Reward Criteria

Successful Delivery Reward criterion	Evidence
1) Development of the Technical Specification for Holistic Circuit Condition Monitoring systems	
<ul style="list-style-type: none"> The Technical Specification will be published in the form of a document which will include a description of the Scope and Objectives, Functionality, Architecture and Design of the system. 	<ul style="list-style-type: none"> Share the Technical Specification for the Holistic Circuit Condition Monitoring systems with other project stakeholders, principally other DNOs (17 June 2016).
2) Development of the Technical Specification for MVDC Converter Stations	
<ul style="list-style-type: none"> The Technical Specification will be published in the form of a document which will include a description of the scope and objectives, electrical specifications, control strategy and site installation requirements. This will also include the operating parameters for the scheme, which will be the subject to commercial guarantees. 	<ul style="list-style-type: none"> Share the Technical Specification for MVDC converters with other project stakeholders, principally other DNOs (24 February 2017).
3) Commissioning of the Holistic Circuit Condition Monitoring Systems.	
<ul style="list-style-type: none"> A report will be published in the form of a document describing the characteristics of the equipment installed, including the functionality and architecture and its integration in to the SP Energy Networks monitoring systems. Photos of the devices at the sites will be provided as well as evidence of the data being recorded and the trend information being stored. 	<ul style="list-style-type: none"> Publish report demonstrating the on-site installation of the monitoring systems has been completed including photos of the devices at the sites and evidence that data is being recorded. Formal service support contract will be also signed with the supplier for analysis of the data (15 November 2017).

⁶ This is the amount requested by the Funding Licensee in its Full Submission.

⁷ These are the Successful Delivery Reward Criteria set out in the Funding Licensees Full Submission

Successful Delivery Reward criterion	Evidence
4) Factory Acceptance Test of MVDC converters.	
<ul style="list-style-type: none"> A report will be produced describing the testing procedure as well as findings from the testing. 	<ul style="list-style-type: none"> Share report describing the testing procedure and highlighting the key findings during the Factory Acceptance Test (30 November 2018).
5) Installation of the MVDC circuit	
<ul style="list-style-type: none"> A report will be produced and published in the form of a document describing the on-site installation of the MVDC converter stations process. The report will incorporate photos of the installed equipment and a description of the installation procedure. 	<ul style="list-style-type: none"> Share report demonstrating the on-site installation of the DC circuit has been completed, including photos of the sites (12 April 2019). Share design of how the converters have been installed and key considerations for the future installations of MVDC converters (12 April 2019).
6) Publication of circuit condition data report	
<ul style="list-style-type: none"> A report will be published on the project website summarising the data collected by the Holistic Circuit Condition Monitoring systems. The report will describe the condition of the circuit while in AC operation and how the condition changed, if at all, after conversion to DC. Data trending and conclusions will be presented. 	<ul style="list-style-type: none"> Share report documenting the data gathered by the Holistic Circuit Condition Monitoring Systems. All incidences in the circuit since Holistic Cable Condition Monitoring system installation will be described, including the severity and mitigation measures (23 January 2020).
7) Publication of operational performance of MVDC converter stations	
<ul style="list-style-type: none"> A report will be published on the project website summarising the MVDC performance. The report will target the availability and reliability of the system. Outages rates and energy availability figures will be provided. A differentiation will be made between forced and planned outages. The report will include information on the maintenance regime, in terms of time and resources required. 	<ul style="list-style-type: none"> Share the report documenting the performance of the system. The report will summarise the reliability and availability of the converters after the initial adjustment period. The report will differentiate between the forced outage rate (FOR), scheduled energy unavailability (SEU), forced energy unavailability (FEU) and energy availability (EA) (23 January 2020).
8) Successful dissemination of knowledge generated	
<ul style="list-style-type: none"> The knowledge and lessons learnt will be maintained in a knowledge repository where all learning points will be categorised based on their usefulness to different interested parties. 	<ul style="list-style-type: none"> Timely delivery of project progress reports (by June and December of each year). Bi-annual knowledge dissemination workshops (bi-annual). Presentations at annual innovation conferences (Autumn 2016-2019, annually). Establishment and up-to-date maintenance of online project portal

Successful Delivery Reward criterion	Evidence
	(ongoing). <ul style="list-style-type: none"> • Publication of the close-down report (16 April 2020).

The maximum amount of the NIC Successful Delivery Reward (which will not exceed the Licensee Compulsory Contribution) that the Project will be eligible for is £1,483,890.57.

12. USE OF LOGO

The Funding Licensee and Project Partners, External Funders and Project Supporters may use the NIC logo for purposes associated with the Project but not use the Ofgem or Ofgem E-Serve logos in any circumstances.⁸

13. AMENDMENT OR REVOCATION

As set out in the Electricity NIC Governance Document and this Project Direction, this Project Direction may be amended or revoked under the following circumstances:

- (i) if the Funding Licensee considers that there has been a material change in circumstance that requires a change to the Project Direction, and the Authority agrees (paragraph 8.23 of the Electricity NIC Governance Document); or
- (ii) if Ofgem agrees to provide Contingency Funding, which requires the re-issue of the Project Direction (paragraph 8.42 of the Electricity NIC Governance Document); or
- (iii) if the Funding Licensee applies for Contingency Funding to cover a decrease in Direct Benefits and the Authority decides it would be in the best interest of customers to make changes to the Project Direction before the Contingency Funding would be awarded (paragraph 8.42 of the Electricity NIC Governance Document).

14. HALTING OF PROJECTS

This Project Direction is subject to the provisions contained in paragraphs 8.30 to 8.34 of the Electricity NIC Governance Document relating to the halting of projects. By extension, this Project Direction is subject to any decision by the Authority to halt the Project to which this Project Direction relates and to any subsequent relevant Funding Direction issued by the Authority pursuant to Part E of Charge Restriction Condition 5A.

In the event of the Authority deciding to halt the Project to which this Project Direction relates, the Authority may issue a statement to the Funding Licensee clarifying the effect of that halting decision as regards the status and legal force of the conditions contained in this Project Direction.

NOW THEREFORE:

In accordance with the powers contained in the Electricity NIC Governance Document issued pursuant to Part E of Charge Restriction Condition 5A of the Licence the Authority hereby issues this Project Direction to the Funding Licensee in relation to the Project.

This constitutes notice of reasons for the Authority's decision pursuant to section 49A (Reasons for decisions) of the Electricity Act 1989.

⁸ As listed in Box 1.6 in Section 1 of the Full Submission pro-forma.

ANNEX 1: PROJECT BUDGET

Cost Category	Cost (£)
Labour	1,814,766.95
Equipment	6,074,084.97
Contractors	5,365,651.20
IT	0
IPR Costs	0
Travel & Expenses	344,645.08
Payments to users	0
Contingency	1,199,757.50
Decommissioning	0
Other	40,000.00
Total	14,838,905.70