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for energy consumers

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Date: 04 March 2016

Dear Company Secretary

Decision on funding for Element¹ 4 of the Southern Gas Network (SGN) Robotics project

I am writing with details of our² decision on funding for one of your³ innovation projects.

On 19 December 2013 we directed that your 'Robotics' project had been selected for funding through the Gas Network Innovation Competition (NIC), subject to you complying with the Project Direction ("Direction").⁴

In making the decision to fund this project, we and the Expert Panel had some concerns with your initial project plan scheduling. Element 4 (Automated live asset replacement for distribution services and mains for tier 1 mains) represents a substantial portion of the project costs. Our concern was that Element 4 ran concurrently with Elements 1, 2 and 3. We considered that the learning which would be gained from the first three Elements would substantially enhance progress with Element 4. A condition was therefore added to the Direction to ensure that the project would only proceed with Element 4 if the conditions set out in Section 9 of the Direction were met.

The condition in Section 9 (copied below) requires that SGN submit a report under Successful Delivery Reward Criteria (SDRCs) 9.2 by 14th December 2015. The report is to fully address all of the condition components and provide a clear motivation on which we can base a decision on whether to allow you to proceed with development of Element 4 past the Module 4 Conceptual Design Stage. This report was submitted to us by the deadline.

¹ The terms "Element" and "Module" are used interchangeably in this document.

² References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

³ References to "SGN", "you" and "your" are used interchangeably in this document.

⁴Project Direction ref: SGN / Robotics / 19 December 2013

https://www.ofgem.gov.uk/sites/default/files/docs/2014/01/project_direction_for_robotics_incl_project_plan_v2_0.pdf

9. ELEMENT 4 DEVELOPMENT

The Funding Licensee must, prior to continuing the development of Element ("Module") 4 beyond the Conceptual Stage as described in the Full Submission (Project Description) and Project Plan, provide a report to Ofgem which includes the following information -

- (i) The progress and development, including learning to date, of Modules 1, 2 and 3, as described in the Full Submission (Project Description);
- (ii) The learning gained through the Conceptual Design Stage (internal stage gate 13 in the SDRC) for Module 4, including any technical and functional specifications and designs for Module 4;
- (iii) A proposed methodology for the development of Module 4, as described in the Full Submission (Project Description). This must include a description of the technologies that will be used in Module 4. It must also include an explanation and justification of why these technologies have been chosen, based on the learning described in (i) and (ii);
- (iv) A description of the process and steps taken by the Funding Licensee to consult with other Network Licensees and interested third parties on whether, based on the information provided in (i), (ii) and (iii), proceeding past the Conceptual Design Stage and thus further developing Module 4 would provide the learning outlined in the Full Submission pro-forma. This must include a written consultation; and
- (v) The written responses to the written consultation described in (iv) together with summaries of all other feedback received. The Funding Licensee must describe the consideration it has given to the feedback provided by other Network Licensees. It should explain how the feedback has informed its approach to delivering Module 4 and how this feedback supports its request to either proceed with Module 4 or suspend the project.

The Funding Licensee will not access any funds from the Project Bank Account for the development of Module 4, other than £400.8k for the Conceptual Design Stage (internal stage gate 13 in the SDRC), until the Authority is satisfied that there is sufficient evidence and justification provided in the report mentioned in (iv) that the Funding Licensee and the other Network Licensees consider that Module 4 would provide the learning outlined in the Full Submission pro-forma. The Funding Licensee must receive approval from the Authority before it accesses funds to continue past Module 4 Conceptual Design Stage."

Our views of the SDRC 9.2 Report

We have considered the contents of the report against the requirements set out in the Direction.

	Requirement	Our views
(i)	Progress and development, including learning to date, of Modules 1, 2 and 3	<p>The learning taken from the development of the CIRRIIS⁵ platform under Modules 1, 2 and 3 is discussed under Section 6 of the report.</p> <p>Overcoming technical challenges has provided valuable learning from the research and development phases of the first three elements. SGN's project partners ULC Robotics compiled 38 separate deliverable reports capturing learning, which you submitted to additional consultants⁶ for independent analysis. The lessons learnt have been, and will continue to be, taken into account in Module 4. The same process will be used to document the learning throughout Module 4.</p> <p>We consider that you have met this requirement of the condition.</p>

⁵ The Cast Iron Robotics Repair Inspection System (CIRRIIS) platform consists of two robots – the CIRRIIS XI™ and the CIRRIIS XR™ Robotic Systems.

⁶ RPS – technical consultants for the project

	Requirement	Our views
(ii)	Learning gained through the Conceptual Design Phase for Module 4	<p>Section 5.2 of the report addresses “Research and Concept development”, and discusses the processes and concepts researched (these concepts are discussed in further detail in ULC’s appended report A). It discusses the key stages of the process, evaluation against the SDRC considerations. The report notes that while a primary concept has been selected, elements of the other concepts may be utilized during the detailed design phases to follow.</p> <p>We consider that you have met this requirement of the condition.</p>
(iii)	A proposed methodology for the development of Module 4	<p>Section 5.3 of your report sets out the chosen primary concept, and gives a detailed breakdown of each of the key components. A brief summary of the functionality of each of the components is provided. Section 5.4 provides a detailed GAP analysis against industry standards. The report identifies the high level key test criteria that will need to be met by the robot in controlled testing and the live field trial. This allows clear targets to be set for the practical application of the system, ensuring its functionality and safe operation.</p> <p>We consider that you have met this requirement of the condition.</p>
(iv) and (v)	A description of the process and steps taken by SGN to consult with other stakeholders; including a written consultation and written responses	<p>This condition was required to provide information on whether proceeding past the Conceptual Design Phase and further developing Module 4 would provide the expected learning. Section 7 sets out the key activities which you have undertaken to disseminate information and gain feedback from other network companies and key stakeholders. The activities include:</p> <ul style="list-style-type: none"> • engagement through the monthly Gas Innovation Governance Group (GIGG) • Conference presentations • hosting stakeholders at field trials • use of social media to promote conceptual design and invite feedback • targeted information disseminated through the critical design phases. <p>You also sought written feedback through a targeted approach to 150 stakeholders, and received 72 completed responses from a broad range of stakeholders. We consider that the information sharing and consultation process you have followed has elicited a high degree of interest within the industry, and that feedback has been positive.</p> <p>We consider that you have met this requirement of the condition.</p>

Our decision

We have reviewed your SDRC 9.2 report and consider that you have met the conditions to proceed with Element 4 of the Project. We are satisfied that there is sufficient evidence and justification provided in the report that SGN and other Network Licensees consider that Element 4 would provide the required learning.

As you have met all of the conditions set out above, we authorise you to access funds to proceed with Element 4 past the Module 4 Conceptual Design Phase.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Paul Branston', is centered on the page.

Paul Branston
Associate Partner, RIIO Networks

Duly authorised on behalf of the Authority