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Date: 28 February 2019

Colleague,

**Consultation on our assessment of Scottish Hydro Electric Transmission's proposal for reducing visual amenity impacts in the Cairngorms National Park**

We are consulting on our assessment of a funding request by Scottish Hydro Electric Transmission (SHE Transmission) to deliver a new Enhancing Pre-existing Infrastructure (EPI) output under the RII0-1 price control.

SHE Transmission has requested £31.9m<sup>1</sup> in total to replace two sections of overhead line (OHL). In total, the project will replace 12.3km of 132kV overhead line with 14.1km of underground cable in the Cairngorms National Park. SHE Transmission will deliver this and other associated works by 2020.

Associated works on this project include expanding the Boat of Garten substation to accommodate cable sealing ends, as well as undergrounding a 33kV line that is supported by the same towers that support the 132kV line in one section of OHL.

A non-confidential summary of SHE Transmission's submission is published alongside this consultation letter.

Having reviewed SHE Transmission's submission, we've assessed:

- SHE Transmission's fulfilment of the key commitments of its Visual Impact of Scottish Transmission Assets (VISTA) policy<sup>2</sup>. This includes working with stakeholders to identify and prioritise the Cairngorms National Park mitigation project to deliver an EPI output; and,
- SHE Transmission's proposed project costs of £31.9m.

Our initial view is that the project costs are economical, efficient, and justified based on evidence provided by SHE Transmission and our internal benchmarking exercises. We are not proposing any reduction to the proposed project costs.

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<sup>1</sup> Unless otherwise stated, all values are in 2018/19 prices

<sup>2</sup> <https://www.ssen-transmission.co.uk/sustainability-and-environment/vista/>

## Consultation questions

We are seeking stakeholders' views on our assessment and our proposed funding allowances for SHE Transmission to deliver the Cairngorms National Park mitigation project.

- i) Based on the information in this consultation, do you agree with our assessment of SHE Transmission's approach in undertaking the Cairngorms National Park mitigation project? In particular, we are looking for feedback regarding our approach to assessing the following elements:
  - implementation of the VISTA policy,
  - project benefits,
  - technical scope,
  - procurement process and delivery strategy; and,
  - risk management.
- ii) Based on the information in this consultation do you agree with our assessment and proposed funding allowances for the Cairngorms National Park mitigation project?
- iii) Do you have any other comments or information relevant to our assessment?

Please email your response to the following questions to Cissie Liu at [Cissie.Liu@ofgem.gov.uk](mailto:Cissie.Liu@ofgem.gov.uk) by 29 March 2019.

### Background on RIIO-1 Enhancing Pre-existing Infrastructure (EPI) outputs

As part of the RIIO-1 price control, we introduced a new scheme for electricity transmission owners (TOs) to reduce the visual impact of pre-existing infrastructure in nationally designated areas<sup>3</sup>. The scheme applies to infrastructure in the following designated areas: National Parks, Areas of Outstanding Natural Beauty and National Scenic Areas. The expenditure cap for all mitigation projects that come forward under the scheme during the RIIO-T1 price control is £500m (2009/10 prices) in total<sup>4</sup>. The deliverables from these mitigation projects are known as EPI outputs.

An electricity TO can propose new EPI projects, and request funding for these under its price control. However, before a TO can request funding for new EPI projects, it must have in place a policy in relation to methods of working with stakeholders to select projects in its transmission areas.<sup>5</sup>

When we receive a funding request for a specific mitigation project we assess:

- whether, in proposing a project, the TO can demonstrate that it has complied with its policy, in particular how it has engaged with stakeholders to identify, prioritise, and select projects; and,
- whether the proposed costs for delivering the project are economical and efficient.

If applicable, modification will be made to the TO's licence for the EPI output, including the amount of allowed expenditure.

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<sup>3</sup> Pre-existing transmission infrastructure is defined as network equipment such as lines and towers that are part of the licensee's transmission network as of April 2013.

<sup>4</sup> The level of the expenditure cap was informed by a survey of households on the amount they would be willing to pay to reduce the effects of pre-existing transmission infrastructure on the visual amenity of designated areas.

<sup>5</sup> We approved SHE Transmission's Visual Impact of Scottish Transmission Assets (VISTA) policy in 2016. A copy of our decision letter is available on our website: <https://www.ofgem.gov.uk/publications-and-updates/consultation-our-assessment-she-transmission-s-proposed-visual-impact-scottish-transmission-assets-policy>

## Overview of the Cairngorms National Park mitigation project

The scope of the mitigation project submitted encompasses the following within the Cairngorms National Park boundary:

- replacing a 4km section of a 132kV double circuit overhead line (OHL), and 15 steel lattice towers, with 5.8km underground cable from Docharn to Boat of Garten substation<sup>6</sup>;
- replacing a 8.3km section of an OHL consisting of a 132kV single circuit OHL and a 33kV single circuit, and 31 steel lattice towers, with 8.3km underground cable from Boat of Garten substation to Nethy Bridge<sup>7</sup>;
- installing two air-insulated outdoor sealing ends (tower based) in Docharn and (wooden pole based) in Nethy Bridge to connect the new section of underground cables to the existing overhead lines; and,
- expanding Boat of Garten substation to accommodate sealing ends of underground cables.

SHE Transmission plans to complete the project by 2020.

A map of the undergrounding routes proposed by SHE Transmission can be found in [the Appendix](#).

## Our assessment of the Cairngorms National Park mitigation project

### Our Approach

In our assessment we have reviewed SHE Transmission's submission, as well as supplementary responses provided by SHE Transmission to our follow-up queries. We engaged with SHE Transmission through several rounds of discussion. We've examined SHE Transmission's submission to verify the project meets the criteria set out in Special Condition 6G.13<sup>8</sup> and SHE Transmission's VISTA policy document. As part of this, we have looked at the following aspects of the Cairngorms National Park mitigation project:

- the VISTA policy project selection process;
- project benefits;
- technical scope;
- interaction with projects in the nearby vicinity;
- SHE Transmission's procurement process for tendered elements of project and delivery programme;
- SHE Transmission's approach to risk and project management; and,
- the efficiency of costs (development, tendered, non-tendered).

We reviewed the scope of works proposed to ensure it is efficient for the outputs the project intends to deliver.

### Summary of our findings

Table 1 below summarises the key initial findings from our project assessment. It includes the assessment category, our rating (Red, Amber, Green – RAG), and a short summary of the underlying reasons for the rating.

Further details can be found in [the Appendix](#).

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<sup>6</sup> This section of works is known as Project LT183

<sup>7</sup> This section of works is known as Project LT184

<sup>8</sup> SHE Transmission's special licence conditions can be found on <https://epr.ofgem.gov.uk/>

**Table 1**

<b>Assessment category</b>	<b>RAG rating</b>	<b>Overview of findings</b>
Implementation of VISTA policy		Good documentary evidence of steps SHE Transmission has taken to implement commitments in its VSTA policy.
Benefits of project		Visual and landscape, economic, and other benefits (eg biodiversity) are expected to be substantial and impactful for the public, tourism, landowners, and other parties.
Technical scope		The technical scope is in line with the outputs the project intends to deliver. We are satisfied that SHE Transmission has engaged with Scottish Hydro Electric Power Distribution (SHEPD) on the undergrounding of the 33kV line works, and that SHEPD understand and will take ownership of the distribution asset upon project completion.
Procurement process and delivery strategy		<p>SHE Transmission appointed Morgan Sindall and Omexom as contractors, as they were best placed to manage and coordinate the Cairngorms project, alongside nearby projects (LT19 Knocknagael-Tomatin project<sup>9</sup> and LT214 re-conductoring project).</p> <p>We reviewed the procurement process for the LT19 project. MSVE (Morgan Sindall Vinci Energy)<sup>10</sup> were successful bidders for the LT19 project. We consider the procurement process allowed for a competitive outcome.</p> <p>Delivery strategy is well laid out and justified. Careful coordination between nearby projects would enable the project to be delivered on time in 2020, depending on system availability of various areas of works.</p>
Approach to risk management		<p>We consider that SHE Transmission are applying appropriate risk management and mitigation strategies.</p> <p>The activities in SHE Transmission’s risk register, and proposed risk allowance are in line with similar projects we’ve seen.</p>
Costs		<p><u>Project development costs</u></p> <p>Preliminary project development costs are in line with similar projects we’ve seen.</p>
		<p><u>Tendered costs</u></p> <p>After SHE Transmission finalised costs with contractors, the overall tendered costs have been justified.</p>
		<p><u>Non-tendered costs</u></p> <p>We consider the non-tendered costs to be justified and well evidenced.</p>

<sup>9</sup> More detail on the LT19 and LT214 projects, and project interactions can be found in the Appendix - [Procurement process and delivery strategy section](#).

<sup>10</sup> MSVE Transmission is a joint venture between Morgan Sindall and Omexom

It should be noted that we will further review and update the costs and impacts of changes in the initial indices for metal rates and currency exchange when we make our final decision on the funding allowances for the Cairngorms National Park mitigation project.

**Next steps:**

We intend to make a final decision on the Cairngorms National Park mitigation project and allowed expenditure later in the year, after considering responses to this consultation. We listed our main consultation questions at the start of this letter. Please send your responses to Cissie Liu at [Cissie.Liu@ofgem.gov.uk](mailto:Cissie.Liu@ofgem.gov.uk) by 29 March 2019. Unless marked confidential, we will publish all responses on our website ([www.ofgem.gov.uk](http://www.ofgem.gov.uk)). If you wish your response to remain confidential please clearly mark your response to that effect and give your reasons for seeking confidentiality.

Yours sincerely,

Min Zhu

Deputy Director, RIIO ET

## Appendix

The Appendix provides further details on the project and our assessment.

### Assessment of SHE Transmission's approach

#### Implementation of VISTA Policy

- 1.0 In 2016, we assessed and approved Scottish Hydro Electric Transmission's (SHE Transmission) VISTA policy<sup>11</sup>. Our assessment found that the VISTA policy met the requirements set out in Part A of Special Licence Condition 6G, specifically, paragraph 6G.6, and that its implementation will help ensure transparency about how SHE Transmission and its stakeholders select and prioritise mitigation projects during the price control.
- 1.1 Accordingly, a key aspect of assessing funding requests is ensuring that the proposed mitigation project is an appropriate application of the VISTA policy.
- 1.2 In its submission, SHE Transmission outlined the steps it took to implement the VISTA policy and how this has resulted in the proposed Cairngorms National Park mitigation project. As part of this, SHE Transmission summarised its methodology<sup>12</sup> for selecting the project after evaluating 7 shortlisted projects, and explained how it worked with its stakeholders in regular forums to reflect their views on project identification, selection, and development.
- 1.3 Overall, our initial view is that we are satisfied that, in proposing the Cairngorms National Park mitigation strategy, SHE Transmission have complied with the processes set out in its VISTA policy.

#### Benefits of project

- 1.4 The section of OHL from Docharn to Boat of Garten substation runs along the rolling hills of Docharn Wood, into flat and open farmland, and pastoral floodplain over the River Spey. As a result of the flat and broad landscape, the OHL is highly visible, particularly when seen against the skyline.
- 1.5 Undergrounding this section of OHL will enhance views along the Strathspey, particularly for road users on the A95, local residents, and visitors to the Cairngorms National Park.
- 1.6 The section of OHL from Boat of Garten substation to Nethy Bridge begins on the edge of the Abernethy Forest. The line is located near heritage areas, including Castle Roy, and Aultmore Garden, and is highly visible from the B970. Near Boat of Garten substation, the pylons appear large in scale and are particularly noticeable, as angle towers indicate a change in direction.
- 1.7 Undergrounding the OHL from Boat of Garten substation to Nethy Bridge enhances the views along Strathspey, and has additional benefits including for archaeology, heritage, and tourism within the Cairngorms National Park. Removal of the OHL will be particularly beneficial for users of the B970, local residents, and users of the Speyside Way walkway.

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<sup>11</sup> You can read our decision here: <https://www.ofgem.gov.uk/publications-and-updates/consultation-our-assessment-she-transmission-s-proposed-visual-impact-scottish-transmission-assets-policy>

<sup>12</sup>The methodology was developed by consultants LUC to understand the landscape and visual impacts arising in relation to pre-existing transmission infrastructure being considered within the VISTA initiative.

- 1.8 Our initial view is that the project will benefit consumers by mitigating adverse impacts of the existing transmission infrastructure on the highly valued landscape and visual amenities in the Cairngorms National Park.

### **Technical scope**

- 1.9 Our initial view is that the technical scope of the project is efficient. The preferred undergrounding routes are appropriate and justified. The proposed route for the underground cable between Docharn and Boat of Garten substation avoids high risk flooding areas, steep gradients, and main historic, environmental and ecological risks. The proposed undergrounding route between Boat of Garten substation and Nethy Bridge follows the line of the existing OHL closely, which is well designed to avoid flood risks.

### **Procurement process and delivery strategy**

- 1.10 SHE Transmission must provide a firm connection to Tom nan Clach windfarm by December 2019. Originally, the connection was to be provided through a 132kV OHL to Tomatin substation, which is part of SHE Transmission's LT19 Knocknagael-Tomatin project<sup>13</sup>.
- 1.11 The windfarm however has since opted to connect through a 33kV underground connection to Boat of Garten substation. To accommodate the additional load of the windfarm connection, additional capacity is needed between Tomatin substation and Boat of Garten substation (a re-conductoring of the OHL known as the LT214 project), which interacts with the section of underground cabling between Boat of Garten and Docharn (LT183) included in the Cairngorms project.
- 1.12 SHE Transmission appointed the suppliers of the LT19 project, MSVE (Morgan Sindall and Omexom), to undertake the LT214 re-conductoring project, and the Cairngorms National Park mitigation project, as they would be best placed to manage project interactions. As such, we assessed SHE Transmission's original tendering process for the LT19 project.
- 1.13 For the LT19 project, SHE Transmission asked a framework supplier to provide the design and specifications (Part A), as well as a quote for the implementation of the works (Part B). SHE Transmission also invited the other suppliers on its framework agreement to submit a quote for Part B of these works. SHE Transmission invited tenderers to submit quotes for individual works, or a bundled solution.
- 1.14 Our initial view is that tender process for the LT19 works was open and attracted a number of competent bids. MSVE provided the most competitive price, and were selected as contractors for the LT19 project. We think that it is appropriate that SHE Transmission appointed the LT19 contractors to undertake the Cairngorms National Park work programme, as they were best placed to coordinate projects, and manage any potential interactions of work streams.
- 1.15 The delivery strategy highlighted key milestones. SHE Transmission demonstrated considerations of nearby projects and evidence of collaboration with third parties.

### **Risks**

- 1.16 We reviewed SHE Transmission's risk register, as well as the risk register of preferred contractors. We considered and queried which party is best positioned to manage risks, and whether risks were justified. We also reviewed mitigation actions

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<sup>13</sup> <https://www.ssen-transmission.co.uk/projects/knocknagael-tomatin/>

and strategies associated with all risk items. We ensured there were no double-counted items in the risk register and in other project risks.

- 1.17 SHE Transmission bear a marginally larger percentage of project risks than main contractors, Morgan Sindall and Omexom. We consider this justified, as the majority of project risks are related to consents and environmental management, which fall outside of the framework agreement with the preferred contractors.
- 1.18 SHE Transmission have identified the following top five areas where they retain responsibility over risks that are not covered by contractors:
- Environmental risk of coming across protected species
  - Landowner blocking access;
  - Missed outage windows;
  - Impact on archaeological sites;
  - Unforeseen damage to utilities and landowners' ground.
- 1.19 Our initial view is that SHE Transmission provided an appropriate approach to identify and assess risks, as well as mitigation activities for risks associated with the project.
- 1.20 SHE-T requested a risk allowance of £0.5m (as part of non-tendered costs). We think this value is justified and we are satisfied that SHE-T has put in place measures to mitigate risks.

## **Assessment of SHE Transmission's proposed Costs**

### **Costs**

- 2.0 We reviewed project costs in three general categories; preliminary project development costs, tendered costs, and non-tendered costs. We analysed costs for each project activity and cross-checked similar activities from other projects. Areas that were unclear were clarified with SHE Transmission so we could understand differences between similar items to ensure no duplication of costs
- 2.1 Table 2 below shows the cost breakdown across project categories.

**Table 2**

<b>Project category</b>	<b>Cost (£m)</b>
Preliminary project development costs	1.1
Tendered costs	26.7
Non-tendered costs	4.1
<b>Total</b>	<b>31.9</b>

### *Preliminary project development costs*

- 2.2 We assessed the project's preliminary project development costs in two sections - VISTA policy development and implementation costs, and Cairngorms National Park project development costs.



- 2.3 SHE Transmission are seeking to recover the costs it has incurred to date on the development and implementation of its VISTA programme<sup>14</sup>. This cost is included in their total requested project cost. Based on the supporting evidence provided, we consider that the requested costs for the policy development and implementation of the VISTA programme to date (from 2013 to 2016) are efficient.
- 2.4 SHE Transmission is seeking to recover Cairngorms National Park project development costs, including pre-construction works, such as preliminary works for developing design options, stakeholder engagement, environmental works, and associated costs for land acquisition and consents. It's our view that these costs are comparable to other similar projects.

### Tendered Costs

- 2.5 The majority of project costs are for the overhead line removal, main construction and electrical installation of undergrounding cables, and substation works. These items were originally competitively tendered by SHE Transmission when setting up their procurement framework.
- 2.6 Preferred contractors Morgan Sindall and Omexom were appointed as they are working on the LT19 Knocknaegal-Tomatin project in the nearby vicinity, and were considered to be best placed to coordinate projects. We assessed the tender competition for the LT19 project works. As stated in the [Procurement Process and Delivery Strategy section](#), it is our initial view that the tendering process undertaken by SHE Transmission was economical and efficient.
- 2.7 We assessed contract costs using our internal benchmarking model, and compared costs against those of projects with similar scope. As the preferred contractors did not tender directly for the Cairngorms National Park works, we assessed both costs that were included in the preferred contractors' framework, and those that were outside the framework.
- 2.8 The towers on the OHL section between Boat of Garten substation and Nethy Bridge also support a 33kV circuit. As a result, the 33kV circuit, will also be undergrounded alongside the 132kV cable. SHE Transmission were able to reduce the cost of the 33kV cable by procuring the cable directly, resulting in a cost reduction of 86% from the original cost submitted by contractors.
- 2.9 Due to the reinforcement needed to accommodate the Tom nan Clach windfarm connection (LT214), SHE Transmission need to uprate the underground cables that are replacing the section of the 132kV OHL from Docharn to Boat of Garden substation to ensure capacity for the wind farm connection. The Cairngorms visual mitigation project should only cover the costs of the underground cables specified to meet the existing OHL capacity. Therefore, the difference in cost between the underground cable specified for the existing capacity, and that required to meet the additional load will be excluded from the VISTA project funding. The excluded cost will be covered by other parts of SHE Transmission's RIIO-1 price control.
- 2.10 The VISTA policy only applies to the replacement of existing infrastructure as of 1 April 2013<sup>15</sup>, and should not fund new load projects. This was discussed with SHE

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<sup>14</sup> According to Special Condition paragraph 6G.12, the licensee may request the Authority to approve Allowed Expenditure for an EPI Output. The Authority will determine the total allowed efficient expenditure, including the development costs as stated in paragraph 6G.13(c), following an assessment of the TO's proposed delivery costs.

<sup>15</sup> Paragraph 6G.10 of SHE Transmission's special licence conditions. SHE Transmission's special licence conditions can be found on <https://epr.ofgem.gov.uk/>

Transmission, and they have agreed to remove this cost (£0.226m) from their submission. This has been reflected in their project cost submission.

### Non-Tendered Costs

2.11 Non-tendered costs of the project are incurred through areas of work which don't form the main scope of the contracted works. These include:

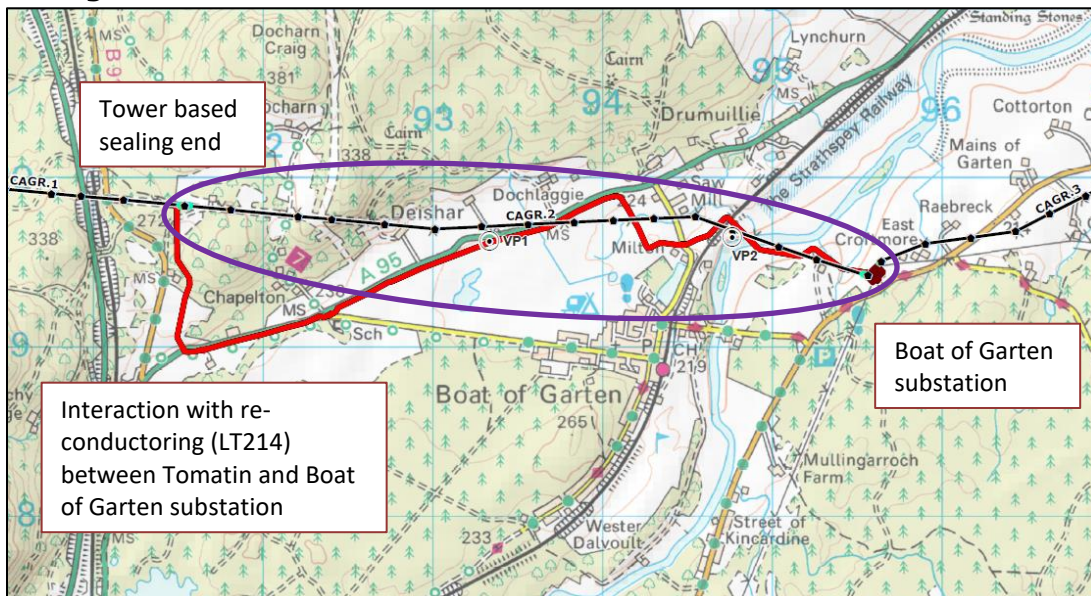
- risks held by SHE Transmission (covered in [the risks section](#) above);
- project management and overhead costs; and,
- other programme related costs (eg consents).

2.12 Our initial view is that non-tendered costs are within reasonable range. We assessed these costs using historical data, and proposed costs are comparable to previous projects. It is our view that SHE Transmission have provided sufficient evidence on its non-tendered activity.

## Maps of preferred undergrounding route

3.0 Figure 1: LT183 Docharn to Boat of Garten substation:

**Figure 1**



3.1 Figure 2: LT184 Boat of Garten substation to Nethy Bridge

**Figure 2**

