

Transmission licensees,
generators, suppliers, and
consumer groups

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Dear colleague,

Determination on National Grid's proposal for reducing visual amenity impacts in the Dorset Area of Outstanding Natural Beauty

This letter sets out our final determination on a £118.0 million funding request from National Grid Electricity Transmission (NGET) to deliver a new Enhancing Pre-existing Infrastructure (EPI) output in the Dorset Area of Outstanding Natural Beauty (AONB). The project will reduce the impact of NGET's transmission infrastructure on the AONB's visual amenity by replacing a 8.25 km section of existing 400kV overhead line with 8.8 km underground cable and other associated works by 2022.

Summary of our determination

Our determination on a new EPI output and the associated efficient funding follows our August 2018 consultation on the proposed Dorset AONB mitigation project¹. Taking into account consultation responses and additional evidence received from NGET, we have determined:

- The Dorset AONB mitigation project is a valid outcome of NGET implementing its Visual Impact Provision policy and working with stakeholders to select EPI outputs during the RII01 price control.
- The efficient cost of the EPI output is £116.0 million². This is £2.0 million less than the amount NGET requested. The reasons for this reduction are as follows:
 - We've determined that the efficient cost of managing the project risks are lower than the amount NGET estimated.
 - We've determined that the proposed diversion of the eastern 33kV distribution circuit near the southern sealing end compound is not necessary. Alternative and lower cost arrangements can be put in place to mitigate safety risks. Removing the eastern diversion has had the effect of reducing the cost of third party diversion works.

¹ <https://www.ofgem.gov.uk/publications-and-updates/consultation-our-assessment-national-grid-s-proposal-reducing-visual-amenity-impacts-dorset-area-outstanding-natural-beauty>

² Unless otherwise stated, all values are in 2017/18 prices.

In the annex to this letter we provide further detail on:

- EPI outputs in the RIIO1 electricity transmission price control.
- The scope of the Dorset AONB mitigation project.
- Our assessment findings in the August 2018 consultation.
- Issues raised in the consultation and our consideration of these.
- Our final determination on the EPI output and the efficient cost of the project.

New EPI output and adjustment to RIIO1 allowed expenditure

We are proposing to modify NGET's transmission licence by way of direction to introduce a new EPI output and to adjust its RIIO1 allowed expenditure by £103.0 million. The allowed RIIO1 expenditure adjustment is £13.0 million less than the £116.0 million efficient cost we've determined for the project. There are two reasons for this difference:

- A proportion of the allowed expenditure on the project, to be completed in 2022, will be incurred in the first two years of RIIO2 (starting in 2021/22). Accordingly, we are not adjusting the RIIO1 allowed expenditure for the £12.7 million forecast expenditure on the project in 2021/22 and 2022/23. Instead this will go into the financial model for the RIIO2 price control. Work is ongoing as part of the RIIO2 price control review to finalise the arrangements for adjusting RIIO2 allowances for projects which will be in progress at the end of the current price control and completed in the next price control period.
- Our assessment of the project's efficient cost includes the asset value of the overhead line section that is to be replaced. However, it is not necessary to adjust the RIIO1 allowed expenditure for this existing asset value because it is already part of NGET's existing regulatory asset base. Therefore, we are excluding £0.3 million, the asset value of the overhead line to be replaced, from the allowed expenditure adjustment to avoid double cost recovery.

Please note that we propose to further adjust the main contract price for changes in the metal price and exchange rate indices³ that have occurred in the period between the supplier submitting their final bid price and NGET awarding the contract in our direction notice⁴. We propose this adjustment be reflected in the allowed expenditure that is directed following the licence modification consultation to implement our determination.

Following the implementation of our determination on the Dorset AONB mitigation project, the remaining available expenditure cap in the RIIO1 price control for new EPI outputs is £407.7 million (2009/10 prices).⁵

³ The indices to be used to adjust the contract price are: Metals: London Metal Exchange <https://www.lme.com/> Forex: Bank of England <https://www.bankofengland.co.uk/statistics/exchange-rates>

⁴ We expect NGET to report and justify any material changes in metal prices and the currency rate. Ofgem will adjust for changes in metal prices and currency rates for the cost of the main contract works to account for any changes that occurred between when the supplier submitted their final bid, and when NGET rewarded the contract.

⁵ This amount also takes into account £1.4 million of allowed expenditure (2009/10) we approved for NGET for VIP Landscape Enhancement Projects.

Next Steps

Alongside this letter, we are publishing a notice under Part C of Special Condition 6G (Mitigating the impact of Pre-existing Transmission Infrastructure on the visual amenity of Designated Areas)⁶ to modify NGET's electricity transmission licence to implement the above determination. The notice sets out the proposed new EPI outputs and the adjustment to NGET's allowed expenditure. Please respond to Cissie.Liu@ofgem.gov.uk on or before 30 November 2018.

Yours sincerely,

Min Zhu
Deputy Director – RIIO Electricity Transmission
2 November 2018

⁶ <https://www.ofgem.gov.uk/publications-and-updates/determination-national-grid-s-proposal-reducing-visual-amenity-impacts-dorset-area-outstanding-natural-beauty>

Annex

Background on mitigating the impact of pre-existing infrastructure transmission infrastructure in RIIO1

As part of the RIIO1 price control, we introduced a policy for electricity transmission owners (TOs) to reduce the visual impact of pre-existing infrastructure in nationally designated areas.⁷ The policy 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 in total.⁸ The deliverables from these mitigation projects are known as EPI outputs.

A 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 respective transmission areas⁹.

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 in 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, a modification will be made to the transmission's owner's licence for an EPI output, including the amount of allowed expenditure.

Summary of the Dorset AONB mitigation project

NGET's proposed scope of the mitigation project involves:

- replacing a 8.25 km section of a 400kV double circuit overhead line (OHL), known as the 4YA, with 8.8 km underground cable in the Dorset AONB area. The OHL runs from northwest of Winterborne Abbas to south of Friar Waddon Hill inside the boundary of the Dorset AONB;¹⁰
- installing two new sealing end compounds (SEC) to connect the new section of underground cable to the existing overhead line;
- installing reactive compensation equipment at the existing Chickerell substation to manage voltage issues and increasing capacitance from the underground cables; and,
- underground diversions of two 33kV distribution circuits near the southern SEC for safety reasons and associated fibre optics cable.

NGET will complete the project by 2022.

⁷ Pre-existing transmission infrastructure is defined as network equipment such as lines and towers that are part of the licensee's transmission network as at April 2013.

⁸ 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.

⁹ We approved National Grid's Visual Impact Provision policy in 2013. A copy of our decision letter is available on our website: <https://www.ofgem.gov.uk/publications-and-updates/response-our-consultation-national-grid-electricity-transmission%E2%80%99s-proposed-visual-impact-provision-policy>

¹⁰For more information on the undergrounded route, you can visit National Grid's website: <http://dorset.nationalgrid.co.uk/project-updates/route-options-aug-2017/>

August 2018 consultation and our key assessment findings

We consulted on our project assessment which focused on ensuring the project meets the criteria set out in Special Condition 6G.13¹¹ and NGET's VIP policy document. As part of this, we considered the following aspects:

- the VIP policy project selection process;
- project benefits;
- technical scope;
- National Grid's procurement process for tendered elements of project and delivery programme;
- National Grid's approach to risk and project management; and,
- the efficiency of costs (development, tendered, non-tendered).

The key assessment findings set out in our consultation are summarised as follows:

1. We considered that NGET had provided satisfactory evidence to show it had implemented the commitments in its VIP policy and worked with stakeholders to select the Dorset AONB mitigation project to reduce the impact of existing transmission lines on the visual amenity of the AONB.
2. We were satisfied that most of the proposed project scope is economical. Although we considered that the diversion of the western 33kV distribution circuit is needed to mitigate safety concerns, we were unconvinced that the eastern 33kV diversion is justified. We considered that lower cost mitigation actions to manage the safety risks should be also considered.
3. We said that the majority of the project costs for the Dorset AONB mitigation project are efficient. However, we highlighted that some of the non-tendered costs for managing some risks, and the estimate for the civils works for the reactive compensation are not fully justified on the evidence submitted.
4. We consulted on our overall view that the efficient costs of the Dorset AONB mitigation project are approximately £2.2m less than NGET's funding request.

Consultation responses

We received seven responses to our consultations. All non-confidential responses are published on our website alongside this letter.

All respondents supported the funding of the Dorset AONB mitigation project proposed by NGET. NGET was the only stakeholder to raise specific points on our assessment.

Summary of NGET's consultation response

NGET agreed that our approach to assessing the Dorset project was appropriate and had followed the criteria stated in the transmission licence. NGET also agreed with most of the outcomes of our assessment, including the proposed reductions to the specific risks we highlighted in the consultation (summarised in third assessment finding above). However, NGET raise some additional points in relation to removing the diversion of the eastern 33kV distribution circuit from the project scope (see second assessment finding above).

NGET noted that it had discussed removing the eastern 33kV diversion with its preferred supplier to gain an independent assessment on whether the safety issues could be mitigated through alternative arrangements. Their supplier's view is that alternative arrangements can be put in place to facilitate the crane operation but this would likely require an outage on the distribution assets. NGET considered that the latter would likely add significant risk and cost to the project programme overall (from project prolongation costs if the planned outage is missed or changed).

NGET did not agree with our proposed efficient cost of the western 33kV distribution circuit diversion. We proposed to proportionally reduce the third party diversion costs based on the cost per route metre. NGET argued that some of the costs are not proportional to the

¹¹ <https://epr.ofgem.gov.uk/Content/Documents/National%20Grid%20Electricity%20Transmission%20Plc%20-%20Special%20Conditions%20-%20Current%20Version.pdf>

length/number of circuits being diverted. Consequently, NGET had concerns that our proposed reduction would lead to a shortfall in the cost of the third party diversion works.

Our consideration of consultation responses

We have considered the points raised in NGET’s response and subsequently sought additional clarification to finalise our assessment of the Dorset AONB mitigation project. The outstanding issues are:

- the risk and efficient cost of a single 33kV diversion programme; and
- the efficient costs of the civil works for installing the reactive compensation.

Risk of a single 33kV diversion programme: we asked NGET for additional information to better understand the value of the new project risk arising from missing an outage window. NGET explained that its valuation of the risk had reduced since it put in its response to the consultation. This is because SSEN had indicated a strong preference to avoid outages on the distribution circuit where possible. NGET also confirmed that its main supplier and SSEN both thought that working around the live circuit was achievable but will need careful planning. As a result, NGET has reduced the value of the risk of a single 33kV diversion programme by more than 70 per cent. We are now satisfied that the revised valuation of the single diversion risk is an efficient value. We are satisfied that the single 33kV diversion programme is cost efficient and adequately manages safety risks for erecting the tower near SSEN’s two 33kV overhead lines.

Cost of the western 33kV circuit diversion: we reviewed NGET’s calculation for allocating the breakdown of costs for the western 33kV circuit diversion. NGET suggested these costs would be higher than our initial proposed cost reduction (£0.9m) because some costs are not strictly proportional to circuit length. We agree with this, however, we consider that most of the different cost elements (e.g. design) will be lesser to some degree for a one rather than two diversions. Taking both factors into account, we have increased our view of the single diversion cost.

Cost of civil works for reactive compensation: in our August consultation, we were concerned that the cost of the civils works for the reactive compensation installation were not justified by the information NGET provided. Since the consultation, NGET has gone to tender for the reactive compensation and has provided us with the tender documents that include much more detailed plans on the scope of these works. Having reviewed this new information, we consider the NGET’s cost estimate is justified, therefore we are not proposing to make any adjustment in this area.

Our final determination

The table below summarises our final determination on the adjustment to be made to National Grid Transmission’s RIIO-T1 Allowed Expenditure for the delivery of the Dorset AONB mitigation project. The table compares our proposed cost reductions in the August 2018 consultation and our final cost reductions.

Cost category	Initial proposed cost reduction (£m)	Final cost reduction (£m)
Single 33kV circuit diversion	£0.9m	£0.8m
Civil works for Reactive compensation	n/a	£0m
Risk allowance	£1.3m	£1.2m
Total	£2.2m	£2.0m

Taking into account our assessment, consultation responses, and additional evidence submitted by NGET we have determined:

- To make an allowed expenditure adjustment and introduce an EPI Output specified in Special Condition 6G of NGET's electricity transmission licence for the Dorset AONB project.
- To require NGET to deliver an EPI output by 2022 specified as:
 - replacing an 8.25 km section of a 400kV double circuit overhead line (OHL), known as the 4YA, with 8.8 km underground cable in the Dorset AONB area. The OHL runs from northwest of Winterborne Abbas to south of Friar Waddon Hill inside the boundary of the Dorset AONB;¹
 - installing two new sealing end compounds (SEC) to connect the new section of underground cable to the existing overhead line;
 - installing reactive compensation equipment at the existing Chickerell substation to manage voltage issues and increasing capacitance from the underground cables; and,
 - underground diversion of the western 33kV distribution circuit near the southern SEC for safety reasons and associated fibre optics cable.
- To increase NGET's allowed expenditure in the price control, RII01, by £103.0 million (in 2017/18 prices).

The above determination is subject to a licence modification consultation to insert these into Special Condition 6G of National Grid Transmission's electricity transmission licence.