Making a positive difference
for energy consumers

Transmission licensees, generators, suppliers, consumer groups and any other party who has an interest in the transmission arrangements

Date: 18 April 2013

Dear colleague,

Consultation on the needs case for the proposed Kintyre-Hunterston transmission reinforcement under the RIIO-T1 Strategic Wider Works process

This letter marks the start of a consultation on the needs case for a proposed reinforcement of the electricity transmission network in the Argyll area. The reinforcement planned by Scottish Hydro Electric Transmission Plc (SHE Transmission) would involve two 220kV subsea cables between Kintyre and Hunterston to be completed in 2016 at an estimated cost of £267million. We are considering the proposal under the Strategic Wider Works (SWW) process, which was put in place under the RIIO-T1 price control.

We appointed Pöyry Management Consulting UK (Pöyry) to undertake a review of the needs case and they concluded that in general the proposed scale of reinforcement has a robust needs case (their full report is being published alongside this letter). Based on the cost benefit, generation and other information provided by SHE Transmission, our initial view is that there appears to be a demonstrable need for the proposed reinforcement and the proposed timing and technical scope of the project appears appropriate. **We are seeking interested parties views' by 13 June 2013.** These responses will help inform our further assessment and potential decision on cost recovery for the proposed project.

The remainder of this letter is structured as follows.

- Firstly we provide some general background on the SWW arrangements and the assessment process that we will follow.
- We then discuss the capacity requirements in the Argyll area and summarise the proposed reinforcements.
- We summarise our consultants' review and outline our own initial thinking on the needs case.
- Finally we set out the next steps in the process.

Background

As part of the RIIO-T1 price control, which took effect from 1 April 2013, we put in place a mechanism for considering and determining potential revenue adjustments during the price control period to enable the delivery of Strategic Wider Works (SWW) outputs, such as the a significant increase in transmission capacity.[1] To put forward a project for consideration

[1] SWW outputs are defined as increases in boundary capability, or equivalent additional capacity where there is no boundary.

under the SWW mechanism the TO must provide notice under Special Condition 6I of the Electricity Transmission licence:[2]

- a needs case submission which should include a justification of the project (including the proposed scope and timing) and an explanation of how the proposed reinforcements would meet the required need; and then
- a detailed project submission which includes detailed plans on design, cost and risks for the project along with evidence that the proposed costs are efficient.

Our assessment process[3]

Our assessment and decision process on Strategic Wider Works is set out in more detail in annex 1. Once we have assessed whether a scheme put forward is eligible for the SWW process[4], we undertake a needs case assessment.

When assessing the needs case we will consider whether there is a demonstrable need for the reinforcement and whether the technical scope and timing of delivery proposed by the TO are sufficiently well justified. In doing so we will be looking to determine whether the TO's plans are likely to represent long term value for money for existing and future consumers. As part of this we will consider available Cost Benefit Analysis (CBA).

In the next stage of our assessment (subject to a justified needs case for the proposed reinforcement) we will assess the forecast total costs, outputs and scheduled delivery. In doing this we would consider whether the TO has developed a sufficiently robust development plan and risk sharing arrangements as well as the efficiency of the proposal. Any funding decision would be subject to a licence modification, including statutory consultation. The modification would amend the licence to reflect any new SWW output and associated funding allowance.

Kintyre-Hunterston is the first project being assessed under the SWW process. SHE Transmission submitted details of the proposed project to us before the RIIO-T1 price control came into effect, but we had indicated in Final Proposals[5] that we considered it appropriate to apply the SWW arrangements in these circumstances.

Transmission capacity requirements

The National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS or SQSS) sets out the criteria that transmission licensees must apply when planning and operating the electricity transmission system. These criteria are designed to identify the level of capability that ensures adequate demand security, facilitates competition in the generation market and is economic (in terms of the overall cost of transmission development versus constraint costs).

In July 2010 Ofgem granted SHE Transmission a derogation[6] from certain aspects of the SQSS with respect to a number of transmission circuits on the Kintyre peninsula. This was designed to allow additional generation in the area to connect to the transmission system. This was intended to be an interim solution and it was anticipated that SHE Transmission would develop a longer term solution which was likely to involve additional investment in the transmission system on (or around) the Kintyre peninsula. SHE Transmission believe that the proposed Kintyre-Hunterston reinforcement will provide the necessary increase to network capacity that will permit the connection of contracted generation in the area and will help to restore compliance with the SQSS[7].

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[2] Further detail on the SWW process can be found in appendix 2 of the RIIO-T1 Final Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Plc, located here: http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/SPTSHETLFPsupport.pdf.

[3] A summary of the SWW process is attached as Annex 1

[4] Eligibility criteria for each transmission owner can be found in RIIO-T1 Final Proposals.

[5] RIIO-T1: Final Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd, Final decision - Supporting document, Appendix 2 – Guidance on Strategic Wider Works Arrangements, paragraph 1.1

[6] http://www.ofgem.gov.uk/Networks/Trans/ElecTransPolicy/TAR/Documents1/Derogation%20granted%20to%20Scottish%20Hydro-Electric%20Transmission%20Limited%20from%20standard%20condition%20C17.pdf.

[7] There is still expected to be a minor non-compliance with part of the generation connection requirements in the NETS SQSS, but SHE Transmission propose to manage this through use of an intertrip.

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The proposed Kintyre-Hunterston reinforcement

On 8 January 2013 SHE Transmission submitted a needs case to us for a proposed reinforcement of the B3 boundary (Argyll and Kintyre peninsula) to allow the export of additional renewable generation in the area. The proposed project[8], which is estimated to cost around £267million and is planned to be completed in 2016, comprises:

- 2 x 220kV 240MVA AC subsea cables from Crossaig to STransmission Ltd's (SPT) existing substation at Hunterston
- a new 132/220kV substation, including Quad Boosters, at Crossaig
- construction of 13km of new 132kV double circuit overhead line between Crossaig and Carradale (and dismantling of the existing 132kV overhead line).

The proposed reinforcement is largely located in SHE Transmission's licensed Transmission Area but 3.5km of cable and associated substation works are located in SPT's licensed area at Hunterston. SPT will be completing the required works in its licensed area and SPT's share of the works has been included in their RIIO-T1 baseline allowance and therefore will not be subject to the SWW process.

Summary of consultants' assessment

We appointed consultants (Pöyry) to undertake an independent assessment of the needs case for the proposed Kintyre-Hunterston project. We are publishing their report on this assessment alongside this open letter and a summary of their assessment is also provided in Annex 2). Their assessment has been designed to consider whether the reinforcement need, technical scope and timing of delivery of the project are well justified. Their report covers the following assessment areas:

- Guiding principles – assessment of whether SHE Transmission's general strategy for the Argyll area is appropriate. For example, this includes consideration of:
    - the rules around planning the transmission system (set out in the SQSS(, alongside cost-benefit analysis,
    - optimisation against a range of scenarios versus keeping options open for an uncertain future (for example, through anticipatory investment), and
    - relevant factors (for example, supply chain considerations and planning issues) not captured in the quantitative analysis.
- Capacity Need – assessment of the assumptions underlying the determination of the need for transmission capacity. This includes assessment of the reasonableness of these assumptions, eg a comparison of the proposed solution against current and future levels of contracted generation.
- Uncertainty – assessment of the range of uncertainties taken into account when evaluating the long term need for transmission capacity, and when optimising the scope of the planned reinforcement works (including any anticipatory investment) and the timing of delivery. This should include assessment of whether the input assumptions used in quantitative analysis capture an appropriate range of assumptions for the purpose of testing the needs case and optimising timing.
- Options – assessment of the adequacy of considering alternative investment options and/or operational measures to accommodate the same need.

Having undertaken their assessment, Pöyry concluded that in general the proposed scale of reinforcement has a robust needs case. Table 1 below summarises their assessment:

[8] Additional information can be found on the SHE Transmission website http://www.sse.com/KintyreHunterston/ProjectInformation/

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Table 1: Summary of Pöyry's assessment of the needs case

Guiding principles	Capacity need	Uncertainties	Options
			

Pöyry consider that:

- Guiding principles – the guiding principles that SHE Transmission has applied are broadly appropriate, although there is scope for further refinement
- Capacity need – the proposed Kintyre-Hunterston reinforcement is an appropriate first step which, along with further incremental reinforcements, would be able to meet the capacity requirement of higher renewable growth in the Kintyre region
- Uncertainties – although the consideration of uncertainties was not comprehensive it was acceptable
- Options – SHE Transmission had demonstrated a suitable assessment of potential alternative reinforcement options for the determined capacity need and has considered options delivering greater capacity versus incremental development pathways

 indicates a positive assessment

Our initial views on the needs case

Our assessment of the needs case will be informed by the responses to this consultation, however we set out below our initial views of the SHE Transmission proposal, taking into account Pöyry's assessment.

Based on the information available it appears that the existing transmission network in the Kintyre-Hunterston area has insufficient capacity to accommodate generation seeking a connection in the area. In 2010 we granted SHE Transmission a derogation from certain aspects of the SQSS in order to enable additional generation to connect to the network ahead of further reinforcements. We recognised at that time that SHE Transmission was developing plans for future reinforcement works to achieve compliance in the longer term. Our initial view, based on the cost benefit analysis and other information submitted by SHE Transmission and reviewed by our consultants, is that given the scale of generation seeking to connect there is a **demonstrable need** for reinforcement of the transmission system in the Kintyre area.

In assessing the appropriate timing of reinforcements of the transmission system we consider the costs associated with delivering capacity either too early (incurring capital costs earlier than necessary) or too late (increased constraint costs). SHE Transmission envisages that key assets will become available, releasing transmission capacity, in late 2015 (although work will continue during 2016). Our initial view, based on the cost benefit analysis presented by SHE Transmission and reviewed by our consultants, is that this delivery **timescale appears to be appropriate** in terms of enabling planned generation to connect in a cost efficient manner.

SHE Transmission has set out in their needs case submission a variety of reinforcement options that they have considered (these are summarised in the Pöyry report published alongside this open letter). These options have different **technical scopes**, levels of capacity, capital costs and delivery timescales. Our initial view, which is subject to consideration of consultation responses, based on the options presented by SHE Transmission and reviewed by our consultants, is that the option SHE Transmission is taking forward appears to be appropriate at this time.

Based on the analysis summarised above our initial view is that the project is likely to be in the best interests of consumers. Also, given the project is intended to enable the connection of renewable generation in the Kintyre area our initial view is that the project is likely to have a positive impact on the ability to meet sustainable development targets.

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Views invited

We are seeking the views of stakeholders and interested parties on the proposed project, the Pöyry report and our initial views set out in this letter. In particular, we would welcome feedback on the following areas:

- Do respondents consider that there is a need to reinforce the transmission system in the Kintyre peninsula in line with SHE Transmission's proposal?
- Do respondents consider that we (and our consultants) have identified and are considering the relevant factors? Are there other factors respondents feel we should consider in order to form a view on whether there is a need for the reinforcement?
- Do respondents have any other comments on our proposed approach and timetable?

Next steps

Along with our assessment of the needs case, we consider it appropriate to commence the next stage of our assessment in tandem with this consultation. This approach is consistent with the guidance on the SWW process we published as part of RIIO-T1 Final Proposals and is designed to ensure an efficient assessment approach and timetable. Therefore we will progress the remainder of the needs case assessment in parallel with the more detailed project assessment.

We anticipate concluding the needs case assessment for Kintyre-Hunterston this summer after considering the responses to this consultation. At that time we will also provide an update on our progress on the more detailed project assessment.

Our final assessment on the needs case for the proposed Kintyre-Hunterston reinforcement will be informed by the responses to this consultation.

Responses should be sent **by 12 June 2013**, preferably by e-mail, to Sheona Mackenzie, Senior Policy Manager, Electricity Transmission (**sheona.mackenzie@ofgem.gov.uk**; telephone 0141 331 6019; Ofgem, 3rd Floor, Cornerstone, 107 West Regent Street, Glasgow, G2 2BA).

Unless marked confidential, we will publish all responses by placing them in Ofgem's library and on our website (www.ofgem.gov.uk). Any respondent who wishes their response to remain confidential should clearly mark the response to that effect and give their reasons for confidentiality[9].

Any questions about the content of this letter should also be addressed to Sheona Mackenzie in the first instance (contact details above).

Yours sincerely

Kersti Berge

Partner – Electricity Transmission

[9] Ofgem shall respect such requests subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

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Annex 1 – Stages for assessment and regulatory treatment of an SWW project

This table which was published as part of the RIIO-T1 Final Proposals for SHE Transmission provides a summary of the SWW process.

Stages	Objective	TO	Ofgem
Eligibility assessment	Determine eligibility for assessment under SWW mechanism.	Advises Ofgem of its intention to submit a request for SWW and provides evidence of the scheme meeting the pre-defined eligibility criteria. Provides information on the project timescales for modelling and tender results.	Assesses whether scheme is eligible. If appropriate, agrees with the TO the timetable for assessment.
Needs case assessment	Determine needs case for the project, including the scope of proposed works and timing; and show that lessons (eg for planning) from previous projects are being applied.	Submits details of needs case (based on Security and Quality of Supply Standards (SQSS, cost-benefit analysis, user commitment, etc), including justification of proposed timing and explanation of how proposed project would meet the required scope.	Assesses the needs case, including whether the proposed timing is appropriate.
Project assessment	Justify proposals against technical readiness and cost effectiveness, including that any outstanding pre-con work is on track according to proposed project timelines. Determine funding allowances and outputs, and criteria for any future adjustments to costs or outputs. This process will build on the TII process.	Submits detailed information about design, costs and risks for project.	Assesses the TO's forecasts of total construction costs to complete the secondary deliverable by the scheduled completion date. Issues consultation on initial findings and issues under consideration. Proposes funding allowances, secondary deliverable and completion date.
Implementing decisions	Provide TO allowances for efficient costs of delivery output where needs case is justified.		Publishes decisions. Consults on licence changes. Issues licence changes.
During construction	Monitor progress towards outputs, and expenditure against profiled allowances.	Reports to Ofgem on progress and expenditure. Notifies Ofgem of any asset value adjusting event.	Considers requests for any COAE. Applies efficiency incentive annually.
Post-construction	Determine delivery of outputs.	Advises Ofgem about delivery of outputs.	Determines performance in delivery of outputs.

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Annex 2 – Summary of Pöyry's analysis of the needs case

This annex contains a high level summary of the analysis Pöyry's have undertaken on the needs case for the proposed Kintyre-Hunterston project. It should be read in conjunction with the full Pöyry report, which is being published alongside this letter.

Overall, having carried out their review and assessment of the submission made by SHE Transmission, Pöyry concluded that:

- Guiding principles – the guiding principles that SHE Transmission has applied are broadly appropriate, although there is scope for further refinement
- Capacity need – the proposed Kintyre-Hunterston reinforcement is an appropriate first step which, along with further incremental reinforcements, would be able to meet the capacity requirement of higher renewable growth in the Kintyre region
- Uncertainties – although the consideration of uncertainties was not comprehensive it was acceptable
- Options – SHE Transmission had demonstrated a suitable assessment of potential alternative reinforcement options for the determined capacity need and has considered options delivering greater capacity versus incremental development pathways

Guiding principles

Pöyry reviewed the submission to determine whether it adequately considered:

- The Security and Quality of Supply Standard (SQSS) criteria that apply to local transmission circuits, demand and the Main Interconnected Transmission System (MITS).
- Cost Benefit Analysis (ie the balance between operational costs associated with not reinforcing the network and the cost of the proposed reinforcement). The central case presented indicated a net benefit of the project of £526million with the most pessimistic case considered resulting in small disbenefit of £2million.
- The various reinforcement options open to it including onshore reinforcement of the transmission system around Kintyre and different subsea cable options (such as HVDC).
- Wider issues such as consenting, environmental issues and delivery timing.

They concluded that it would have been helpful had SHE Transmission carried out a comparative CBA assessment of the alternative options considered, but that based on the available information about the cost and delivery timescales of alternative options the proposed solution is the more economically suitable of those considered.

In assessing the proposed solution Pöyry considered the proposal against a range of future generation scenarios set out by SHE Transmission. Pöyry considered that the assumptions made by SHE Transmission were slightly conservative. However, this did not alter their view that the proposed reinforcement was appropriate.

Pöyry also found that:

- The consents process for the transmission reinforcement is well advanced.
- The approach to procurement taken by SHE Transmission appears to be appropriate and consistent with the proposed work programme.

Capacity need

Pöyry reviewed SHE Transmission's determination of capacity need including the assumptions about generation that is expected to connect to the transmission system (summarised in Table A1).

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Table A1. Generation

Generation status	**MW**
Connected and operations	227.5
Contracted: under construction or consented	152.9
Contracted: Consent process[10]	54.1
Total Connected & Contracted	**484.5**

Pöyry also considered the potential for future generation to develop in the area and noted the 1248MW of potential generation indicated by SHE Transmission from their discussions with Argyll & Bute Council. In considering the potential future generation:

- They reviewed the assumptions SHE Transmission had made about the probability of this generation connecting and concluded that although these assumptions are possibly conservative, a more optimistic view of this generation was unlikely to change the suitability of the proposed reinforcement as part of an incremental development of the transmission system in the area.
- In particular they note that although a different design (such as an HVDC connection) might allow additional generation to connect, the lead-time for such an investment could be significant (which would increase constraint costs in the meantime).

Pöyry identified that it may be appropriate, in the context of the level of proposed generation, to consider further the option of a third AC cable (and proposed to explore this further in the wider project assessment).

Uncertainties

In considering the appropriateness of SHE Transmissions approach to uncertainties, Pöyry considered the SKM analysis that SHE Transmission had provided on the costs and benefits of the proposed solution and the sensitivities around:

- the capital cost of the proposed reinforcement
- the cost of capital (or discount rate) applied
- different generation scenarios.

These sensitivities indicated net present benefits of the proposed reinforcement of between £342.2million and £526.2million. As mentioned earlier, Pöyry considered that it would have been helpful had SHE Transmission carried out this analysis for each reinforcement option they considered. However, they considered that the methodology applied in assessing the benefits was appropriate and the assumptions made were reasonable.

Options

Pöyry reviewed the various reinforcement options considered by SHE Transmission which included:

- Rebuilding the existing overhead line between Carradale and Sloy and Sloy and Widyhill (increasing voltage from 132kV to 275kV).
- Different sized AC cables from Kintyre to Hunterston (120MVA).
- An HVDC link between Kintyre and Hunterston.

Pöyry considered that the options considered appeared to be adequate and the proposed solution appears to be appropriate given challenges and delivery timescales of the larger scale options.

[10] This includes a 30MW generation connection at Carradale which, due to the timing of the connection contract, had not been included in the original submission by SHE Transmission.