

Transmission licensees,
generators, suppliers, consumer
groups and any other interested
party

Date: 24 July 2013

Dear colleague,

Consultation on our Project Assessment, under the RIIO-T1 Strategic Wider Works arrangements, for the proposed Kintyre-Hunterston reinforcement

This consultation letter seeks stakeholders' views on our Project Assessment for a proposed reinforcement of the transmission system around the Kintyre peninsula (in the South West of Scotland) which was submitted by Scottish Hydro Electric Transmission plc (SHE Transmission). The proposed reinforcement is designed to deliver approximately 260MW of additional transmission capacity, is estimated to cost around £205¹ million, and is planned to be completed in 2016.

We are seeking interested parties' views **by 18 September 2013**. In particular we would welcome views on our initial views in this letter for the Strategic Wider Works (SWW) Output and the Allowed Expenditure that SHE Transmission would recover from consumers. Stakeholders' responses will help inform our assessment and decision on Allowed Expenditure for the project and the SWW Output that will be specified.

The remainder of this letter is structured as follows:

- Firstly, we provide some general background on the SWW process, summarise the proposed reinforcement and our "minded-to" decision on the Needs Case.
- Next we summarise our consultants' review and set out our own initial thinking regarding the project assessment to date including proposed outputs and allowed expenditure.
- Finally, we set out the next steps in the process including how to respond to this consultation.

Background

On 8 January 2013 SHE Transmission submitted a Needs Case to us for a proposed reinforcement of the B3 boundary² (Argyll and Kintyre peninsula) to allow the export of additional renewable generation in the area. The proposed reinforcement would deliver approximately 260MW of additional capacity. The proposed project,³ which is estimated to cost around £205 million, and is planned to be completed in 2016, comprises:

- 2 x 220kV 240MVA AC subsea cables from Crossaig to SP Transmission 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).

¹ The £205million figure is based on our initial assessment. SHE Transmission requested funding of £212million.

² Boundaries are used to split the transmission system into different areas in order to assess and report on system capability.

³ Additional information can be found on the SHE Transmission website

<http://www.sse.com/KintyreHunterston/ProjectInformation/>

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 Transmission Area⁴ at Hunterston. SPT will be completing the required works in its licensed Transmission area and SPT's share of the works has been included in its RIIO-T1 baseline allowance and therefore will not be subject to the SWW process.

As part of the RIIO-T1 price control, which took effect from 1 April 2013, we put in place arrangements for considering and determining potential revenue adjustments during the price control period to enable the delivery of SWW outputs that significantly increase transmission capacity.⁵ To put forward a project for consideration under the SWW arrangements⁶ the TO must provide notice under Special Condition 6I of the Electricity Transmission licence, this should include:

- A Needs Case submission, which should include a justification for the project (including the proposed scope and timing) and an explanation of how the proposed reinforcements would meet the required need; and
- 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.

Both of the above requirements have been submitted to us and we have assessed and consulted on the Needs Case (the first stage in the SWW process) for the proposed Kintyre-Hunterston reinforcement. We published our "minded-to" position on the Needs Case on 18 July 2013 that:

- There is a well justified need for reinforcement of the transmission system in the Kintyre area.
- The delivery timetable put forward by SHE Transmission appears to be appropriate, given the expected generation in the area.
- The technical scope of the option for reinforcement being proposed appears to be an appropriate first step for the need identified.
- We think it is likely to be in the interests of existing and future consumers. The scale of the benefit is dependent on the generation that connects in the area, but could be in the order of £526 million over the life of the project.

This consultation on our Project Assessment focuses on the forecast construction and ongoing operational costs associated with the proposed output. We will determine the outputs and allowed expenditure associated with the reinforcement on the basis of the Project Assessment. Potential Allowed Expenditure would be subject to licence modifications⁷ which would include a statutory consultation on the proposed licence modification to SHE Transmission's electricity transmission licence. The proposed licence modification would amend the licence to reflect a new SWW output and associated expenditure allowance. This licence obligation would also require SHE Transmission to deliver the specified increase in transmission capacity.

This consultation on our initial Project Assessment will help inform our decision on the appropriate outputs and allowed expenditure for this project.

Summary of our consultants' assessment

We appointed Pöyry to provide an independent assessment of the project and make recommendations regarding the potential allowed expenditure for SHE Transmission. We are publishing Pöyry's report alongside this consultation letter (a summary of the findings from the report is also provided in Annex 2). Its assessment has been designed to consider whether the Transmission Licensee has developed a sufficiently robust development plan

⁴ As set out in its Electricity Transmission Licence.

⁵ SWW outputs are defined as increases in boundary capability or equivalent additional capacity where there is no boundary.

⁶ 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/SPTSHELFPsupport.pdf>.

⁷ SHE Transmission has requested a modification to its transmission area (set out in Special Licence Condition AA. Special Licence Condition 6I would need to be modified to reflect the Output and the Expenditure Allowance.

and risk sharing arrangements to deliver the proposed output efficiently. To this end its report focuses on the following assessment areas:

- The robustness of SHE Transmission’s procurement process, whether this has been efficiently applied and could be expected to result in an efficient outcome.
- The appropriateness of the costs proposed by SHE Transmission taking into account the conclusions on the procurement process and detailed cost assessment including the benchmarking of specific elements.
- The robustness and appropriateness of SHE Transmission’s evaluation of and proposed approach to allocating risk and the efficient costs of managing those risks.
- The appropriateness of the construction programme and progress made towards being ready to proceed within the proposed timescales.

Table 1 below summarises Pöyry assessment.

Table 1: Summary of Pöyry assessment

Procurement	Project - Cost	Project - Equipment	Risk	Construction Programme
● ●	●	●	●	●
<p>Procurement – Pöyry considered the process followed was robust and has been as efficiently applied as possible given the time constraints of the project. However it noted that had the process started earlier there may have been scope for increased efficiencies resulting in lower risks.</p> <p>Project Cost & Equipment – Pöyry concluded that the overall project costs were reasonable based on its benchmarking analysis of the construction costs (with the exception of those highlighted below in the discussion on risk).</p> <p>Risk – Pöyry noted that SHE Transmission has allocated risk to contractors where possible, retaining only those risks that are best borne by itself or could not be transferred or insured against. However there were two areas where Pöyry considered a different treatment than that proposed by SHE Transmission would be appropriate.</p> <ul style="list-style-type: none"> • SHE Transmission included an allowance for a number of uncertain costs (such as those relating to ground conditions) in their construction funding. Pöyry considered it was more appropriate for these to be included in the risk allocation instead (meaning that the TO would not be fully protected against the risks and it would share the risks with consumers). • SHE Transmission were seeking a risk allowance based on P70 (meaning that there is a 70% probability that the TO will spend less on these risks than they have requested). Pöyry considered this to be inappropriate given the risks of the project and recommended a risk allowance based on P50. <p>Programme – Pöyry noted that the construction programme is challenging but considered that it is as good as practically possible given time constraints. It noted that the delivery schedule is heavily dependent on the subsea cable installation and that there is no slack in the timetable should any slippage occur.</p> <p>● Indicates an area where a reduction to the requested expenditure is recommended. ● Indicates an area of concern or where improvements could be made. ● Indicates a positive assessment.</p>				

Pöyry’s proposed reductions to Allowed Expenditure

There are two reductions to allowed expenditure that Pöyry has recommended:

1. Certain elements which SHE Transmission had included in the construction costs⁸ have been moved to the risk pot.
2. Proposed that a different level of protection is applied to the risk pot.

⁸ By way of provisional sum estimates

SHE Transmission’s estimated construction costs included estimates which related to construction activities it believed would be required but where the precise costs were still uncertain (such as ground conditions and environmental mitigation). This approach implicitly assumed that the uncertain costs would arise and did not take account of the possibility that they might be lower than anticipated. Pöyry considered that it was inappropriate to provide the TO with this level of protection against these uncertain costs as it does not strike an appropriate balance between TO and consumer risk allocation. Therefore Pöyry recommended that these costs are moved to the risk pot. As the risk pot is adjusted to take into account the probability of risk materialising, this has the effect of lowering the allowed expenditure.

Pöyry also recommended a different level of protection against risks. SHE Transmission proposed that the risk allowance be derived from the results of a Monte Carlo simulation model of the residual risks (the risk model) provided by SHE Transmission. The TO’s proposal was to set the allowance at the 70th percentile (P70) which provides a 70% likelihood of the allowance exceeding the outturn cost for the modelled risks. Pöyry are recommending risk value based on P50 which would mean there is an equal probability of costs turning out to be higher or lower than the ex-ante allowance.

The table below sets out Pöyry’s recommended expenditure allowance for the proposed outputs for the Kintyre-Hunterston reinforcement.

Table 2: Pöyry proposed allowed expenditure (£million, 2013 prices)

	Total
SHE Transmission submission	212.40
Pöyry recommendation	204.74
Variance	-7.66

Outputs

Table 3 below summarises the capacity increase that is expected to be realised by the proposed Kintyre-Hunterston reinforcement. This capacity increase is the SWW output that would be delivered by the reinforcement. The National Electricity Transmission System Security and Quality of Supply Standard (NETS 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). A range of criteria apply for planning and operating the system and as such the capacity (or transfer capability) of a particular part of the network can vary depending on the time of year and the purpose of the assessment. As such an indicative range of outputs is set out in Table 3.

Table 3: Kintyre-Hunterston Outputs

Area	Existing capacity (MVA)⁹	Post reinforcement capacity (MVA)
Carradale and Port Ann to Inverary	79-99	370-540
Taynuilt to Inverary	79-99	79-99
Total South West area	120-250	380-510

⁹ Note transfer capability or capacity is shown in MVA here rather than MW as this is the measure most commonly used for system analysis.

Our initial views

Our ongoing assessment of the project and decision on the proposed outputs and allowed expenditure for the Kintyre-Hunterston project will be informed by the responses to this consultation, and any additional analysis we may carry out. However, we set out below our initial views of the SHE Transmission proposal, taking into account Pöyry's assessment.

A key consideration in our assessment is whether the licensee (in this case SHE Transmission) has developed a sufficiently robust development plan and risk sharing arrangements to deliver the proposed output efficiently, and whether there is a sufficiently advanced technical solution against which we can assess the efficient costs and outputs as required by the licence. Taking into account the original submission made by SHE Transmission, and the various discussions that have taken place between SHE Transmission, Ofgem and our consultants, we have been able to reach an initial view on the appropriate outputs and allowed expenditure for the Kintyre-Hunterston project.

Initial views on the proposed SWW Output

Our initial view is that it would be appropriate to set an output relating to the transfer capability across the B3 boundary which encompasses the Argyll and Kintyre peninsula. Given that SHE Transmission's projected spend profile is intended to deliver the additional capacity in late 2015/16 (with the project being completed in 2016), our initial view is that it is appropriate that this output be scheduled for delivery in Quarter 4 of 2015/16.

In light of this, our initial view is that the SHE Transmission's SWW Outputs table in its licence would be amended such that the transfer capability for boundary B3 increases in accordance with the additional capacity delivered by the Kintyre-Hunterston project. We anticipate that the capacity figures in the licence condition (which would be consistent with those presented in Table 2 above) would be specified by season.

Initial views on the Allowed Expenditure

Having considered the submissions made by SHE transmission and the review carried out by our consultants our initial view is that:

- The overall construction costs proposed by SHE Transmission appear to be appropriate with the exception of the risk element discussed below.
- In line with Pöyry's recommendation we consider it appropriate that the allowance for uncertain costs requested by SHE Transmission is considered as part of the risk pot and treated accordingly. We think this is appropriate given the other risk sharing mechanisms (the sharing factor and the relevant reopener provisions) which already provide some protection. This ensures a reasonable balance between consumer and TO risk.
- In line with Pöyry's recommendation, we also consider that it would be appropriate to instead adopt the P50 value (which means there is an equal likelihood of costs being higher or lower than those provided), on the basis that:
 - The risk allowance only captures residual risks not included in the contract and consumers are already protecting the TOs against risks reflected in the contract price, including those which have been taken on by the supplier.
 - We think that the sharing factor and re-opener provisions set out in RIIO-T1 provide sufficient protection to the TOs.
 - Setting the risk allowance based on P50 would in this case represent an appropriate sharing of risk between SHE Transmission and consumers.
- We consider that the adjustments proposed by Pöyry are appropriate as it would give SHE Transmission sufficient allowance for the risks identified whilst protecting consumers from paying for risks that may not materialise. (The RIIO arrangements include a sharing factor which essentially splits any overspend or underspend between the TO and consumers.)
- We consider the construction programme to be challenging. However, we note that SHE Transmission is moving forward with the project and is expected to award contracts for the main areas of activity this summer. The outputs led approach put

in place under RIIO-T1 is designed to protect consumers from the impacts of any delays in delivery by specifying the delivery timescales in the licence.

We plan to make a determination in the autumn on the Allowed Revenue and associated SWW Outputs after considering responses to this consultation and any further information available regarding costs at that time.

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 the anticipated increase in transfer capability across boundary B3 is the appropriate SWW Output to be specified? And do respondents consider that Quarter 4 of 2015/16 is an appropriate delivery date for this Output?
- Do respondents agree with our consultant's assessment and our initial views on the possible funding allowance?
- Do respondents have any other comments or information that they consider to be relevant for us in our continued assessment regarding these costs and outputs?
- Do respondents have any other comments on our proposed approach and timetable?

Next steps

Once we have considered the responses to this consultation we anticipate making a decision on the proposed outputs and allowed expenditure in the autumn. Any decision would be subject to a licence modification. This will include a statutory consultation on the proposed licence modifications to SHE Transmission's electricity transmission licence. The modification would be intended to amend the licence to reflect any new SWW output, an associated expenditure allowance. This licence obligation would require SHE Transmission to deliver the specified increase in transmission capacity.

Responses to this consultation should be sent **by 18 September 2013**, preferably by e-mail, to Sheona Mackenzie, Senior Policy Manager, Electricity Transmission (**SWW@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 respondents who wish their response to remain confidential should clearly mark the response to that effect and give their reasons for confidentiality.¹⁰

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

¹⁰ 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.

Annex 1 – Regulatory processes under SWW arrangements

This table provides additional information on the SWW arrangements

Regulatory process	Objective	TO	Ofgem
1. Notification	Identify a new wider reinforcement proposal	Formally notifies Ofgem that it proposes a new SWW Output	Consider assessment approach and timetable.
2. Assessment			
- Eligibility	Confirm proposal is eligible for assessment under SWW arrangements.	Provides information to show the proposed SWW output is eligible.	Review whether scheme is eligible and meets qualification criteria in RIIO-T1 Final Proposals.
- Needs case	Assess the Needs Case for the proposal including the investment drivers, scope of proposed works and timing are appropriate; and that the reinforcement is value for money for consumers.	TO submits information to support the investment case for its proposals, and a timetable for submitting other relevant information for assessment under SWW arrangements.	Assess whether the proposal has a robust investment case, ie to what extent is investment underwritten by users, including whether the proposed scope and timing are well justified. Consult on initial views arising from assessment and issues under consideration.
- Project Assessment	Assess if proposal is cost efficient, technically fit for purpose and TO is ready to proceed according to proposed project timelines. Determine efficient costs and define SWW output to be delivered.	Submits detailed plans about design, costs, delivery and risk management for project.	Assess the TO's technical design, delivery plans and proposed costs to deliver the SWW Output by the proposed completion date. Consults on initial views and proposals for SWW output to be delivered and efficient costs, and scheduled completion date.
3. Decision and implementation	Determine a new SWW Output for TO to deliver and adjust TO allowances for efficient costs of delivery.		Publish a decision letter. Consults on licence changes. Directs licence changes.
4. Construction	Monitor progress towards delivery of SWW Outputs, and expenditure against profiled allowances.	Reports to Ofgem on progress and expenditure. Notifies Ofgem of any Cost and Output Adjusting Event (COAE).	Considers requests for for a COAE. Applies efficiency incentive annually.
5. Delivery	Determine delivery of SWW Outputs.	Advises Ofgem about the delivery of outputs.	Determines performance in delivery of the outputs.

Annex 2: Summary of Pöyry report

This annex contains a high level summary of the analysis Pöyry has undertaken on the proposed Kintyre-Hunterston project and its conclusions. It should be read in conjunction with the full Pöyry report, which is being published alongside this letter.

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

- The **procurement and selection** process followed was robust and was applied as efficiently as possible given the time constraints of the project. However, it noted that had the process started earlier there may have been scope for increased efficiencies resulting in lower risks.
- The overall **project costs** were reasonable based on its benchmarking analysis of the construction costs with the exception of the items discussed below.
- Where possible, SHE Transmission has allocated **risk** to contractors, retaining only those risks that are best borne by itself or could not be transferred or insured against. However, Pöyry recommend two adjustments to the treatment of risk:
 1. Uncertain costs which SHE Transmission had included in the construction costs be moved to the risk pot and treated accordingly.
 2. Proposed that a different level of protection is applied to the risk pot.
- The **construction programme** is challenging but Pöyry considered that it is as good as practically possible given time constraints. It noted that the delivery schedule is heavily dependent on the subsea cable installation and that there is no slack in the timetable should any slippage occur.

Procurement and selection process

Pöyry carried out a review of the procurement and selection process to assess how the market was engaged, and SHE Transmission's approach to definition and application of evaluation criteria to short-list and select the final supplier/s and technology. This included supply of plant, construction and installation services, and engineering and design. It also considered the overall contracting strategy taken and how this might influence project efficiency and risks.

This enabled assessment of the techno-economic efficiency and robustness of SHE Transmission's approach in terms of sensitivity to design changes and potential supply chain constraints for example. Co-ordination of procurement with SPT was also reviewed.

Pöyry concluded that SHE Transmission's approach to procurement appeared to be appropriate and robust giving higher weighting to costs, risk and technical compliance whilst giving due recognition to other more intangible measures. It noted that a number of the measures are subjective and hence at risk of manipulation. However, where the majority of such risks occur the evaluation is advised by independent external contractors to limit any overt favouritism. Overall it concluded, based on the time constraints imposed, both the techno-economic efficiency and robustness of this approach is good, with the award based on the basis of the "most economically advantageous tender".

However, it noted that the late commencement of the project has resulted in a number of activities, principally site investigation work, being undertaken in parallel with contract negotiations. It considered that would have lead to at the very least an inefficient process, the need for provisional sum items in contradiction to NEC 3 principles and the potential for an increased risk allocation to cover for cost uncertainty.

Project Costs

In analysing the project costs Pöyry compared the key project unit costs for items of plant, construction and installation (ie substation transformers, switchgear, quad boosters, HVAC cables and overhead lines, onshore civil work, undersea cable laying etc) with benchmark unit costs. The general approach was to look at specific unit costs for elements of the project while taking into account differences between projects.

Pöyry's comparison of the key benchmarked costs items (contract price excluding equalisation items) indicated that the SHE Transmission costs are reasonable. The project costs are driven by a combination of the multi contract procurement strategy and the tender evaluation process leading to a competitive tender situation resulting in the most economically advantageous solution. Costs are largely led by current market forces and the nature of this project.

Subsea Cable: The Subsea cable contract/costs seem comparable to internal database costs and are deemed reasonable.

Land Cable: The Kintyre Land Cable Works (1km) are high but deemed reasonable for the defined scope.

Substation: The substation as a whole, as well as the individual Transformer, Quad Boosters and Shunt Reactor costs, are comparable to the benchmark used.

Overhead Lines: SHE Transmission unit costs for the overhead line (including foundations, earthing, and conductors) are comparable to internal cost estimates and therefore reasonable. Road works costs appear reasonable for the scope defined.

Risk

Pöyry reviewed the project risk register, key project risks and mitigation actions as identified by SHE Transmission and how these have been treated in the costs. Key to Pöyry's review was an assessment of SHE Transmission's ability to influence the level and timing of the risk – for example, through contracting arrangements.

Pöyry considered that insurance risk appeared reasonable but provisional sums (ie the costs that remain uncertain at this time) as they stand were not considered acceptable. From discussions the QRA risk process adopted by SHE Transmission is new to SHE Transmission and will be rolled out across all future SWW applications. In that respect Pöyry considered that it was not clear whether the risk strategy adopted is still developing or has been forced on them due to limited project timescales. In principle the process is reasonable but shortfalls are apparent in both the traceability/auditability of risk allocation and how to deal with high probability risks. It is possible in future, where more time is available, that these provisional sums may be better defined and hence incorporated into the contracts. However Pöyry considered that it was not acceptable to take a P100 stance (ie treating these costs as if they are certain) on these and alternatives should be further investigated. Therefore Pöyry's view is that the provisional sums should be re-incorporated into the risk register (and as such based on a P50 approach as set out below).

SHE Transmission based its funding request on a P70 approach to risk. The use of P70 value means that there is a 70% probability that the TOs would have to spend less on residual risk than it has been given in its ex-ante allowance. Pöyry considered that this would only be appropriate where there is significant upside risk, which needs to be balanced by a higher P-value. The project does not have significant upside risk as any asymmetric risk distribution and high costs have been addressed by the COAE mechanism. Therefore, it did not believe that additional protection by setting P>50 is appropriate.

Construction programme

A review of the construction programme was carried out to develop a view on whether it seems realistic and achievable in the proposed timescales, including consideration of project progress made to date such as consenting and other pre-construction works.

Critical path definition and consistency and interaction with key risks such as extreme weather, consenting, key milestones and treatment of task interdependencies by SHE Transmission were investigated in detail. Interdependencies with the procurement strategy were also assessed.

Due to the overall project timescales and the timing of the SWW process, no float in the programme has been allowed for. Therefore the recovery from any slippage is dependent on the ability to add additional resources. Whilst this can mitigate early construction

programme slippage, it has limited impact at the end of the programme and is unlikely to have any impact on manufacturing delays. The programme appears to show that a delay of one month on the cable installation programme would force a delay of more than six months due to a combination of military training and the need for winter downtime.

Whilst the programme in itself appears reasonable it is tight and has been driven by the end date. In addition it is heavily reliant on the subsea cable installation which is reliant on largely benign installation conditions and thus very much subject to weather delay.

SHE Transmission have contingency plans in place, but their impact will be largely dependent on the timing of any event though ultimately it expects under worst case scenario to install one of the two circuits to enable at least partial transmission capability.

Ultimately the programme would appear to be as good as is practically possible, being constrained by both supply chain restrictions and the required completion date. More time would have allowed float to be built in whilst removal of supply chain restriction may have allowed both circuits to be installed in parallel.