

Q18 Cost

Please explain what will be delivered i.e. what assets will be constructed on site from the £17.4m that SPT intends to claim via the SWS project route and how SPT will ensure that none of these assets interact or enable the rollout of the reconductoring?

The original £17.4m is on overhead line uprating element only. The total of this has been taken out of the funding request, as illustrated in the Table 9. This Table has been further clarified in the Q/A during the bilateral meeting and documented in the answers thereafter (Q26 and Q28).

Q19 Technical [confidential]

Please provide a description including date of commissioning km, cost, rating, voltage of similar comparable projects using ACCR technology.

[Answer removed]

Q20 CBA spreadsheets

It is noted that neither the CBA spreadsheets or your written submissions provide any analysis on the impact of the roll out on losses. Please quantify the impact of the roll out on losses, and where appropriate, incorporate into your CBA.

Transmission upgrades often require many changes that can affect line losses. Losses are calculated as the square of the amps times the resistance of the conductor. Therefore, the actual line losses will vary based on a number of factors, including the size of the conductor, the amount of energy flowing down the line at various times, ambient conditions such as temperature and wind speed, and the duration of various levels of current flow.

Taken into account the short distance of the circuit concerned, an engineering assumption is that the roll out (of ACCR) on XY/YY will have limited impact on losses but see more significant benefits in accelerating the renewable connections, cost savings compared with alternative solutions to achieve the similar capacity and environmental aspects.

Q21 Regulatory arrangements

Please explicitly specify how (ie: which licence condition and what algebra) the baseline scenario in your CBAs would be funded and to what extent (ie: fully/ partially/ not at all).

The based line scenario: i.e. a new double circuit for XY route and a new single circuit for YY route is **not** part of the existing licence condition under RIIO-T1 **at all**.

Q22 Regulatory arrangements [confidential]

Your submission makes reference to "Paragraph 6.36 of the Transmission Owner Licence Code assures the business that all costs above the BSHE threshold will be fully recoverable". The BSHE term appears in special condition 6F, which does not have a 36th paragraph. Please identify which paragraph, of which condition assures the business that all costs above the BSHE threshold will be fully recoverable?

[Answer removed]

Q23 Funding request

How do you intend to fund the use of ACCR if IRM funding is not made available?

If the ACCR conductor technology had been available as a proven solution when the RIIO-T1 settlement was put in place then this would have been included as an option within the "basket of goods" that were set out in Licence Condition 6F. **If it is determined that IRM is not the appropriate funding mechanism for the deployment of this technology then the only other appropriate mechanism would be 6F.** In which case, the two options to be considered are: (i) apply the rate for a new 275kV double circuit line; or (ii) modify 6F to incorporate the use of ACCR conductor.

Option (i) would provide funding of £81.85m for YY Route and £27m for XY Route using the unit-cost framework, not taking into account any baseline allowance.

Option (ii) would require a modification to the licence.

In our opinion, the strong innovation nature of this particular conductor and its associated long term benefits to customers warrant our application to fund SPT's incremental costs via IRM.

Q24 Costs

NGET do not believe that the rollout of ACCR has significant additional costs compared to other conductor types. Please can you explain why SP has a different view?

As discussed during the bilateral meeting, SPEN would have to understand the circumstances (and the personnel involved on behalf of NGET) when such a comment was made.

Following the NGET trial, SPEN established formal contacts with the NGET approval team and entered into an information sharing arrangement for the approval processes of 'Curlew' and 'Drake'. The joint output of this arrangement is that we share experiences of the conductor. We have not been aware of the above named comments.

Q25 Generation Background

Please explain why the generation forecast you provided at the time of the price control review has change so dramatically.

A remarkable degree of increased generation is the key driver for this project. The Business Plan submitted in 2010/11 forecast approximately 1GW of onshore wind generation to connect in the South West of Scotland during RIIO-T1. This figure is currently expected double, in accordance with the SO Ranking Order. This is due to the unique characteristics of rich natural resources (onshore wind) and regulatory framework in that region.

Q27 Costs

The business case cites a deduction of £17.4m. In a recent question response it was indicated that this reduction flows from the upgrade of the line (XY) being part funded from the project "New Cumnock 275KV SBB Extension (3rd Transformer; COYL Line CBs & KILS-COYL OHL Upgrading)". Please indicate why the same funding method was not revisited when the capacity of the line increased and the project costs increased to £22.8m?

If the ACCR conductor technology had been available as a proven solution when the RIIO-T1 settlement was put in place then this would have been included as an option within the "basket of goods" that were set out in Licence Condition 6F. **If it is determined that IRM is not the appropriate funding mechanism for the deployment of this technology then the only other appropriate mechanism would be 6F.** In which case, the two options to be considered are: (i) apply the rate for a new 275kV double circuit line; or (ii) modify 6F to incorporate the use of ACCR conductor.

This point has also been restated in the bilateral meeting and documented in the answers thereafter from SPEN.

Q25 Costs

Please indicate if any of the costs listed in tables 8 and 9 have have a specific TIIO-T1 allowance associated with them? If so indicate which allowances and associated values.

Please see the table below, more associated information can be found in the bilateral meeting follow up notes (and answers to Q26, Q28)

Project Forecast (Gross) Cost	RIO-T1 allowance (15/16 prices)	XY twin Drake ACCR - estimated cost (£m)	Incremental difference
Conductor and fittings	17.4	8.03	5.45
Civil works		0.73	
Reconductoring works		7.80	
Project planning, design and management		1.28	
Environmental, legal and wayleaves		0.66	
GIB		1.98	
Incremental risk associated with ACCR		2.41	
OHL Total	17.4	22.88	2.64
Replacing underground cable	2.8	avoided cost	
Total (OHL & UGC)	20.2	22.88	

Q26 Costs

Explain the reasoning behind the inclusion of 'risk' in the YY business case and not in the XY case. Conversely, please indicate why 'Outage costs' are included in the XY business case and not in the YY case.

The same as Q30:

SPEN to remove funding for 'risk' or justify why it considers funding should be provided to cover 'risks' to the implementation of the rollout given the rollout should be no more risky than the current BAU method

Incremental risk elements are included in both XY and YY cost calculation.

Corrections: Table 9 (XY Calculation) on page 25 of the application mistakenly states "Outage Costs (SPT & Gen)" and should read "Risk".

For both XY and YY, the incremental risk represents the following elements:

1. Contract cost – lack of experience with new technology, (YY route currently being tendered)
2. Additional specialist site supervision required during installation.
3. Conductor and fittings cost – currency rates fluctuation
4. 'Manufacture only' approved fittings for high temperature operation and heat dissipation. (Non-standard procurement policy).
5. Larger diameter installation equipment.

6. Specialist tension roller arrays, specifically designed to the conductor system.
7. Conversion of auxiliary equipment to suit North American sizes.
8. Non-standard compression equipment for terminations
9. Alternative winch positions are required (further from towers compared to standard arrangements, affecting Landowners and requiring larger demarcation areas).
10. Strategic additional components for fault repair and maintenance.

Q30 Costs

Explain the reasoning behind the inclusion of 'risk' in the YY business case and not in the XY case. Conversely, please indicate why 'Outage costs' are included in the XY business case and not in the YY case.

Q31, Q32 Costs

Explain the methodology behind the 'risk' calculation for the YY business case

Explain the methodology behind the 'Outage costs' calculation for the XY business case

Correction: Table 9 (XY Calculation) on page 25 of the application mistakenly states "Outage Costs (SPT & Gen)" and should read "Risk".

Clarification: Table 9 includes calculated figures of risk £0.85m for Option 0 (Baseline new double circuit) and £2.41m for Option 1 (ACCR Drake). The value associated to risk for Option 2 (Rubus) was not directly calculated and so a value was assumed to equal that of the Drake system. The £2.41m relates specifically to uncertainties surrounding the ACCR installation and so is not would likely lower.

The incremental risks list can be found in the answer above.