

Guidance

Large Onshore Transmission Investments (LOTI) Re-opener Guidance and Submissions Requirements Document

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Overview:

This document covers the arrangements for the Large Onshore Transmission Investments (LOTI) re-opener. The purpose of the LOTI re-opener is to assess large electricity transmission projects that come forward during the RIIO-ET2 price control (1 April 2021 to 31 March 2026), where funding was not provided as part of baseline totex allowances.

This document is aimed at Transmission Owners (TOs) and other stakeholders with a general interest in the LOTI re-opener. It covers matters including the information that we require under each of the different LOTI stages and explains how we would expect to approach our assessments.

It is ultimately the responsibility of the TOs to decide what information is necessary to make a robust case for a proposed project and to provide us with all relevant information to inform our assessment.

Associated Documents

RIIO-1 Strategic Wider Works Guidance (Strategic Wider Works was the RIIO-1 precursor to LOTI): <https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0>

RIIO-2 Final Determinations Core Document (This document sets our RIIO-2 policy in relation to the approach to uncertainty and the introduction of competitive delivery models): https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_-_core_document.pdf

RIIO-2 Final Determinations ET Annex (This document sets our RIIO-2 policy in relation to the LOTI re-opener):
https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_et_annex.pdf

RIIO-2 Electricity Transmission Licence Condition 3.13:
<https://www.ofgem.gov.uk/publications-and-updates/decision-proposed-modifications-riio-2-transmission-gas-distribution-and-electricity-system-operator-licences>

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Context

Ofgem¹ is the Office of Gas and Electricity Markets which regulates the electricity and gas industries in Great Britain. Our principal duty is to protect the interests of existing and future gas and electricity consumers. Consumers' interests are taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply, and in the fulfilment of relevant statutory objectives when we are carrying out our functions as the gas and electricity regulator of Great Britain.

We work in various ways to protect the interests of current and future consumers. One way we do this is by regulating the network companies through the RIIO price controls. We set price controls to specify the services and level of performance that the TOs must provide for users and consumers and to restrict the amount of money that the network companies can recover through network charges over the length of a price control period.

In December 2020 we published our RIIO-2 Final Determinations for the electricity Transmission Owners (TOs) - National Grid Electricity Transmission Plc (NGET), Scottish Hydro Electric Transmission Plc (SHET) and Scottish Power Transmission Limited (SPT). This set out the key elements of the price control from 1 April 2021 to 31 March 2026. This included the replacement of the previous Strategic Wider Works (SWW) arrangements, for assessing large transmission projects deemed necessary during the price control, with the Large Onshore Transmission Investments (LOTI) re-opener. These newly introduced arrangements are given effect to in the electricity transmission licences of NGET, SHET and SPT.

This document is intended to provide further information on the LOTI arrangements.

¹ The terms 'Ofgem', 'the Authority', 'we' and 'us' are used interchangeably in this document.

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1. Introduction and executive summary

- 1.1. The Large Onshore Transmission Investments re-opener (LOTI re-opener) provides electricity Transmission Owners (TOs) with a route to apply for funding for large investments in the network, for example that may be required during RIIO-2 to meet decarbonisation or system reliability needs.
- 1.2. Projects coming through the LOTI re-opener would not have been funded at the time of setting the price control due to insufficient certainty regarding their need, scale and/or timing. The LOTI re-opener provides us with a robust assessment process through which we can ensure that TO proposals represent value for money for present and future consumers.
- 1.3. Special Licence Condition 3.13 of the TOs' electricity transmission licences (the LOTI Condition) requires that TOs complete LOTI applications in accordance with the requirements set out in this document. Specifically, Chapters 3, 4, 5, 6 and Paragraphs 7.8 - 7.12 of this document include requirements pertaining to Parts B, D, E, F and G of the LOTI condition.
- 1.4. Chapter 7 provides additional information regarding reporting on LOTI² projects and on the Large Project Delivery arrangements that Ofgem may implement on a project-by-project basis.
- 1.5. TOs should read this document in conjunction with any relevant statutory obligations and the LOTI Condition.

Description of the scope of the LOTI re-opener

- 1.6. TOs may bring forward under the LOTI re-opener projects which constitute investments in the transmission network that:
 - a) are expected to cost £100m or more of capital expenditure; and
 - b) are, in whole or in part, either;
 - i. load-related; or
 - ii. related to a shared-use or sole-use generator connection project.

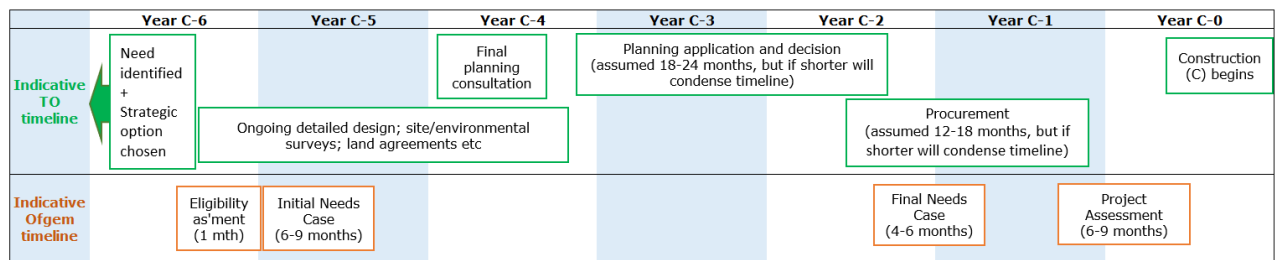
² Unless otherwise stated, defined terms in this document have the meaning given in the electricity transmission licences of the TOs.

Overview of LOTI assessment stages - a brief description of our usual assessment approach

- 1.7. Should a TO wish to propose a new network upgrade or connection project under the LOTI re-opener, it must, unless we have relieved the TO of that requirement, seek approval from us of eligibility to apply not less than 3 months prior to the TO's intended date for submitting an Initial Needs Case (INC). Through this process, the TO must demonstrate that the project meets the criteria set out at Paragraph 1.6 above.
- 1.8. If we approve eligibility to apply, a TO must then submit an INC to us in order to proceed further, unless we have relieved the TO of that requirement.
- 1.9. The INC must be submitted not less than 12 months prior to the TO's intended date for the issuing the project's Final Statutory Planning Consultation. The usual focus of our assessment at this stage will be to review the technical and/or economic requirement for the project, the technical options under consideration, and the TO's justification for taking forward its preferred option for further development. We will need to have published a response to the INC before the TO can progress its project to the next stage.
- 1.10. The TO must then seek approval of a Final Needs Case (FNC) in order to proceed, which it may do once it has secured all material planning consents for its project (unless we specify alternative timing). The focus of our assessment at this stage will be to confirm the need for the project, by checking that there have been no material changes in technical and/or economic drivers that were established at INC.
- 1.11. If the FNC is approved, the TO will then need to apply for a Project Assessment Direction. The focus of our assessment at this stage will be the assessment of the proposed costs and delivery plan that the TO has in place for the project, with a view to potentially specifying a new LOTI Output, a LOTI Delivery date, and setting the efficient cost allowances that can be recovered from consumers for delivery of the project.
- 1.12. Further details on these assessment stages are provided in Chapters 3-6 of this document.
- 1.13. Figure 1 below provides an indicative overview of the different stages in the LOTI assessment process along with indicative timings for when we expect to receive the submissions. Please note that the timeline has been provided for illustrative purposes only, and should be taken as an illustration of how we understand TOs will manage delivery of their projects (i.e. it is for TOs to manage the timings of the green boxes).

- 1.14. The timing of the overall process may need to vary from project to project. In exceptional circumstances where the LOTI timings set out in the licence are not practical for a specific project, and where sufficient evidence supports this, TOs are able to outline alternative timings for this process when they seek approval of eligibility to apply under LOTI. We will set out in our approval of eligibility any alternative timings for subsequent steps.
- 1.15. The timescales for our assessment are indicative only and are dependent upon receiving timely and complete submissions from the TO.

Figure 1: Indicative overview of LOTI assessment stages



- 1.16. We will consult at the INC, FNC and Project Assessment stages. These consultations will be expected to run for approximately 4-6 weeks,³ taking into account the complexity, scale, cost and urgency associated with a proposed LOTI output.
- 1.17. If we conclude positively at each stage, we will specify a LOTI Output, a LOTI Delivery Date and associated allowances in Appendix 2 of the LOTI licence condition either:
- by direction; or
 - if our prospective Project Assessment Direction is significantly different to the TO's application, by way of statutory modification under section 11A of the Act.
- 1.18. We will monitor the delivery of a LOTI Output. This will include annual monitoring under Standard Condition B15 (Regulatory Instructions and Guidance) during project construction and, ultimately, evidence that the TO has delivered the LOTI Output.
- 1.19. At the Project Assessment stage, we will apply one or more of our Large Project Delivery mechanisms (more detail can be found on those in Chapter 7).
- 1.20. Failure by a TO to deliver the specified output could give rise to enforcement action. Following investigation, Ofgem may use enforcement powers under Part 1 of the Electricity Act 1989

³ At the Project Assessment stage we will never consult for less than 28 days.

to impose financial penalties for breach and/or impose orders compelling a return to compliance.

Competition assessment

- 1.21. Given our intention to apply late competition to LOTI projects where we deem it to be appropriate, the information provided on competition in this document is relevant for stakeholders with an interest in the LOTI process. This inclusion of information on competition does not place obligations on TOs, and does not form part of any licence obligations.
- 1.22. We will assess whether each LOTI project, in whole or in part, meets the criteria for competition and whether it should be delivered through the late competition models identified in Chapter 9 of RIIO-2 Final Determinations Core Document⁴.
- 1.23. We will aim to reach our decision on whether to apply any model of late competition as soon as practicable once the relevant project design is sufficiently settled. We would normally expect this to be the point at which we are comfortable that the design of the project is unlikely to change. Wherever possible we intend to make a decision on whether to apply a late competition model at the INC stage. However, there may be occasions where it is not appropriate for us to do so because, for example, there may not always be appropriate certainty around the final design or timing of a project at the INC stage to allow us to determine whether the application of the late competition models will be in the interest of consumers.
- 1.24. In our competition assessment we will consider any relevant project-specific factors, or circumstances, through a project-specific assessment of the consumer impact of applying a competition model, as well as the impact of doing so on network company financeability.
- 1.25. The three models for late competition in the transmission sector which we would expect to consider are:
- the Competitively Appointed Transmission Owner (CATO) regime;
 - the Special Purpose Vehicle (SPV) model; and
 - the Competition Proxy Model (CPM).

⁴ https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_-_core_document.pdf

1.26. Our competition assessment is made up of two stages:

Stage 1 – Assessment against the criteria for competition

1.27. The first stage is to assess the assets constituting the proposed LOTI project against the criteria for competition⁵, which are: New, Separable and High-Value (over £100m expected capex).

1.28. The criteria for competition are intended to identify projects in respect of which consumer savings from using a late competition model are likely to exceed the costs of using such a model.

1.29. If any of the assets constituting the LOTI project meet the criteria for competition, those assets will move to the second stage of our assessment.

Stage 2 – Delivery model selection

1.30. Stage 2 of our assessment considers whether the assets that meet the criteria for late competition should be delivered through any of our late models of competition instead of the LOTI condition.

1.31. In coming to our decision we will consider whether it is in the interests of consumers, along with all other relevant considerations. For example, we expect to consider:

- the overarching RIIO-2 Impact Assessment on late competition, including any relevant new information;
- any relevant project-specific factors or circumstances (through a project-specific assessment of the consumer impact of applying the competition models);
- the impact on TO financeability.

1.32. Of the three late models for competition, we consider the CATO and SPV models have the potential to deliver greater consumer benefits than the CPM. This is due to their potential to unlock additional savings for consumers by driving savings in capital and operational expenditure (eg introducing innovations in the delivery of projects due to a wider range of potential contractors and contracting strategies). We expect to consider applying the CPM

⁵ <https://www.ofgem.gov.uk/publications-and-updates/guidance-criteria-competition>

only if CATO or SPV models can be clearly shown as likely to cause unavoidable delays in delivery that would lead to material additional costs to consumers that offset any likely benefits derived from using these competition models.

- 1.33. Under the CPM we use the CPM Cost of Capital methodology⁶ to calculate financing costs expected to be generated by a competitive process. This allows us to carry out an NPV comparison of the estimated revenue allowance that would result from a project being delivered with such financing costs relative to the estimated revenue allowance that would result from a project being delivered with the equivalent RIIO financing costs.
- 1.34. We expect to continue to carry out the described NPV comparison for projects considered for CPM during RIIO-2. We note however that there is a significant level of uncertainty around whether this comparative analysis may potentially undervalue the level of savings that the CPM is likely to deliver.⁷ Specifically, there is limited scope for accurately forecasting likely changes to the RIIO rates over the 45 year asset life of electricity transmission work. It is therefore possible that this analytical approach fails to fully capture the benefits that CPM has in terms of locking in rates for the longer-term relative to the 5 year price control cycles. We will always seek to use market evidence to help identify longer-term market trends that may impact on the allowed financing costs in future price controls. We will use all appropriate evidence in reaching each of our decisions on whether to apply the CPM. We will consider on a project-by-project basis how much emphasis to put on any qualitative evidence in reaching our decision.

Approach when we decide to apply a late competition model to only some of the assets constituting a LOTI

- 1.35. Where we decide to apply a later competition model to only some of the assets constituting a LOTI, the subset of assets to which we do not apply the model will continue to fall under the LOTI Condition if they will cost more than £100m. Where the remaining assets will cost less than £100m, we will consider the most appropriate RIIO funding mechanism for those assets on a project-by-project basis.

⁶ Paragraphs 1.7 – 1.25: https://www.ofgem.gov.uk/system/files/docs/2018/09/cpm_update_2018_final.pdf

⁷ We address this in paragraphs 5.38 – 5.44 of Shetland transmission project: Consultation on proposed Final Needs Case and Delivery model: https://www.ofgem.gov.uk/system/files/docs/2020/04/shetland_isles_fnc_consultation_accessibility_version_final_1.pdf

2. Assessment Process

General principles

- 2.1. This section provides additional detail regarding each assessment stage under the LOTI re-opener. The LOTI Condition requires that TOs complete LOTI applications in accordance with the requirements set out in this document.
- 2.2. While each assessment stage remains distinct, there is likely to be overlap between our assessments of the INC, FNC and Project Assessment. Such overlaps may help to reduce the overall timescale of our assessment.
- 2.3. We will only be able to reach definitive conclusions on aspects of the INC, FNC and Project Assessment when we have sufficient information to do so.
- 2.4. The quality of the information submitted, the robustness of the data within it, and how well it is justified, will also influence the appropriate level of regulatory scrutiny we apply during our assessment.
- 2.5. We would not normally expect to revisit areas of our assessment where we have previously found that no further assessment is required. However, we may consider doing so for example where new relevant information becomes known, such as changes in government energy policy or other important factors.
- 2.6. For the avoidance of doubt, views and conclusions reached by us on particular issues in earlier assessments will not restrict our decision on the Project Assessment.
- 2.7. When we receive a submission at each stage of the assessment process, we will usually undertake an initial high-level review of the submission. The aim of this is to decide whether the submission includes all of the information required for us to carry out our assessment of the proposal. If we consider that a submission does not contain all the relevant information that we need to carry out our assessment, we may send the submission back to the TO and not starting our assessment for the relevant stage until the appropriate information is provided. We expect such circumstances to occur by exception and this document is intended to provide the TOs with sufficient detail on what is to be included so that this can be avoided where possible.

General requirements on TOs

- 2.8. TOs must include up-to-date information at the time of each submission rather than relying on information provided in a submission for an earlier assessment stage. This includes information from third parties, such as the ESO, other licensees, contractors or stakeholders.
- 2.9. It is ultimately the responsibility of the TOs to decide what information is necessary to make a robust case for a proposed project and to provide us with all relevant information to inform our assessment. As each project is unique, the information required will vary between projects. For the avoidance of doubt, we emphasise that the information specified in each assessment area below is not an exhaustive checklist or structure for a TO's submission. Rather, it should be seen as a guide to the minimum information that we consider relevant in light of the issues we expect to consider in each assessment area.
- 2.10. Prior to each submission the TO may engage with us to help it to consider what information is necessary to make a robust case.
- 2.11. In instances where a TO considers it is unable provide information set out in this document, for example because of the nature of a project, it must explain to us why.
- 2.12. A TO must:
- keep us updated about its expected submission schedule for at least three months preceding its submissions, and ideally beyond, and advise us of any changes to the timetable that the TO has previously indicated;
 - engage early with the ESO, in parallel with discussions with us, where the ESO's analysis is required to support an INC or FNC assessment (a co-ordinated understanding of what analysis is required to allow our assessments to run as smoothly as possible);
 - identify whether there will be any joint working with other TOs, Distribution Network Owners (DNOs) or other relevant parties in the delivery of the proposed project and identify how work and responsibility on the project is to be shared across such parties;
 - provide complete and navigable submissions that do not rely on the cross-referencing of information provided previously to Ofgem (for example for some other purpose or given in a previous submission that was subsequently withdrawn);
 - maintain an assurance system for the quality and completeness of information submitted to us (eg senior management sign off on all submissions);
 - clearly identify and justify the validity of assumptions used in supporting analysis;
 - keep its submissions up-to-date throughout our assessments by actively providing us with the most up-to-date information;
 - inform us as and when changes are made to key assumptions and provide a log of the impacts of such changes on the supporting analysis and results;

- respond in a timely manner to requests for further information, ensuring that the information provided is complete, accurate and addresses the issue or question being raised; and
- proactively engage with stakeholders including other TOs, seeking their views and providing them with timely updates on changes to its plans in relation to the proposed LOTI project.

The role of Ofgem, TOs and the ESO

- 2.13. Ofgem does not design projects or plan how projects should be built or what routes they should take. This is the responsibility of the TOs, in accordance with the obligations placed on them by planning regulations and the relevant planning authorities and in accordance with their wider duties in the legislative framework. As economic regulator, Ofgem consider the investment case for transmission projects presented to us and the efficient costs that can be recovered from consumers for delivering these projects. We will take into account the outcome of the planning process in assessing the costs that network companies are allowed to recover from consumers for projects.
- 2.14. It is the responsibility of the TOs to identify what investments are needed in the networks to meet customers' needs in accordance with their legal obligations. The TOs are responsible for developing network investment plans and for obtaining the relevant consents from the planning authorities.
- 2.15. It is also for the TOs to work with the ESO to identify what system reinforcements may be needed to meet the needs of existing and future consumers. In 2015 we introduced licence modifications which require the ESO to carry out a cost benefit analysis of reinforcement options identified by TOs.⁸
- 2.16. Each year the ESO develops the Networks Options Assessment (NOA), which seeks to identify new transmission projects that may be required in the future. The NOA also identifies whether the funding of previously identified projects is still economic. We expect that the TOs should use the NOA alongside their own analysis to determine which projects are brought to us for assessment and what the optimal timing of delivering these projects will be.
- 2.17. In considering options, the TOs should work with the ESO and consider transmission solutions such as a wider reinforcement as well as non-transmission solutions such as contracting with users for flexibility, or active network management systems that make the most of the real-time operational capacity of the existing network.

⁸ Decision on licence modifications to enhance the role of the System Operator, <https://www.ofgem.gov.uk/ofgem-publications/96468/itprdecisioncoverletter-pdf>

Overview of timings of the LOTI assessment process

Table 1: Overview of timings of stages in the LOTI process

| Stage | Submission Timing | Our usual assessment process and timings | Output |
|---|---|---|--|
| TO seeks approval of eligibility to apply | Not less than 3 months prior to the TOs intended date for submitting an INC. | 1 month review of the TO's submission with reference to the scope of the LOTI re-opener. Additional consideration for the TO's proposed timetable for the project's critical path and for providing us with the relevant information. | If we consider the proposal is within the scope of the re-opener, we will work with the TO on the development of indicative timetable for the remainder of the LOTI process. |
| Initial Needs Case | Not less than 12 months prior to the TO's final statutory planning consultation, to allow for the provision of our views at a relatively early stage of the planning process. | 6-9 month assessment focused on main drivers of need and optioneering that the TO has done to reach its preferred technical option. Additionally, the earliest point at which we would expect to assess suitability for delivery through late competition. | Document will be published outlining our views on respective projects. |
| Final Needs Case | After the TO has secured all material planning consents, to provide us with comfort that the project (and associated design/costs) will not significantly change. | 4-6 month assessment focused on key drivers of need and whether the TO has factored in our INC views. Additionally, the latest point would expect to assess suitability for delivery through late competition. | Ofgem decision regarding whether the project is needed. |
| Project Assessment | After Ofgem has approved a FNC, and when majority of procurement is finalised. ⁹ | 6-12 month assessment focused on the detailed project costs that the TO is seeking allowances for. | Ofgem decision setting a funding allowance reflecting our view of efficient project costs along with a project output and delivery date. |

2.18. The anticipated assessment timings set out in Table 1 reflect our experience of operating comparable assessment processes. The usual assessment timings assume complete submissions are received from the TO and no additional information is required. Late or poor quality submissions may lead to the length of our assessments increasing. We may consider amending our assessment timetable where we consider it is in consumers' interests to do so,

⁹ This is not a requirement or implication that TOs should have placed/signed contracts at this point. We expect that approaches may vary based on the TO and/or project.

taking into account, for example, our ability to ensure our assessment remains robust. If a TO wishes to make a case to us that we should amend our assessment timetable, it may do so by outlining proposed alternative timings as part of its submission seeking approval of eligibility to apply under LOTI.

- 2.19. We will consult at the INC, FNC and Project Assessment stages. These consultations will be expected to run for approximately 4-6 weeks, taking into account the complexity, scale, cost and urgency associated with a proposed LOTI output.

3. Approval of Eligibility to Apply

- 3.1. To initiate the LOTI process a TO will need to seek approval of eligibility to apply (unless we relieve the TO of this requirement). The TO's submission must be provided not less than 3 months prior to the TO's intended date for submitting an INC. The TO's submission must include the following:
- Statements setting out why the proposed project meets the definition of LOTI in the electricity transmission licence, i.e. why the proposed project constitutes an investment in the transmission network that:
 - a. is expected to cost £100m or more of capital expenditure; and
 - b. is, in whole or in part, either;
 - i. load-related; or
 - ii. related to a shared-use or sole-use generator connection project.
 - A brief description of the proposed project.
 - If the TO considers that the timings for the LOTI process should differ from those set out in the LOTI Condition, proposed alternative timings.
- 3.2. The types of projects we expect TOs to bring forward include:
- boundary reinforcements designed to provide greater transfer capability across system boundaries and/or maintain NETS SQSS¹⁰ compliance; and
 - generator and demand connection projects.
- In addition, projects that partially relate to one of the areas above but that also relate to the health of existing assets on the network, which have not been funded within baseline allowances, can also be brought forward through LOTI.
- 3.3. Where a proposed reinforcement has already been assessed through one or more stages under the Strategic Wider Works (SWW) mechanism in RIIO-ET1, we would expect to relieve the TO of the requirement to obtain approval or give approval without further submission by the licensee, unless the proposed reinforcement has changed significantly. In these instances, we will engage with the TO regarding the stage of the LOTI process at which our substantive assessment of the project should continue.
- 3.4. If a proposed project is to be undertaken jointly between more than one TO, we will consider if there is sufficient coordination between the TOs for the efficient planning and delivery of

¹⁰ National Electricity Transmission System Security and Quality of Supply Standard.

the project. Therefore, we expect all TOs involved to participate in the initial submission to us¹¹. This will help us determine what information will be required from each TO or jointly in each part of the assessment and will inform the overall assessment timeline.

3.5. We will also review the TO's proposed timetable for the project's critical path and for providing us with the relevant information we need to conduct the remainder of the assessment. A key issue we want to consider is whether there are any implications arising from the TO's proposed delivery timetable for our assessment approach and timetable under the LOTI arrangements for that project. As referred to in Paragraph 3.1 above, if the TO considers that the timings for the LOTI process should differ from those set out in the LOTI Condition, it must propose alternative timings in its submission.

3.6. We do not normally expect to consult with stakeholders on the eligibility assessment.

Provision of information for eligibility assessment

3.7. Building on the items referred to in Paragraph 3.1 above, the TO's eligibility submission must include information on the overall delivery timetable and the proposed project's critical path. The submission must include, but need not be limited to:

- A measure of the proposed project in terms of the intended increase in transmission transfer capability across system boundaries or sub boundary, MW connected and/or other wider system benefits.
- Confirmation that the project has not been funded as part of the current price control settlement or other price control mechanisms.
- Estimates of total delivery costs, excluding the costs of pre-construction activities undertaken by the TO to develop the technical design plans and obtain the necessary planning or development consents in preparation for constructing a LOTI output.
- An indicative timeline for project delivery including the expected timing for awarding key supply contracts.
- A timeline outlining when it expects to provide submissions for the subsequent three stages in our LOTI assessment.
- if the project is to be undertaken jointly between more than one TO, details of the proposed working arrangements between the TOs (e.g. a formal joint venture or other forms of co-operation).
- Should the proposal involve significant involvement from a DNO, details of the proposed working arrangements must be provided.
- Any other analysis or information that the TO considers relevant to the Authority's assessment of its submission.

¹¹ This should not be taken to mean that more than one submission should be presented. A project involving more than one TO will still only require one joint submission.

Ofgem assessment of project eligibility

- 3.8. Should we approve eligibility to apply, we will work with the TO on an indicative timetable for our assessments for the remainder of the LOTI process. In coming to a view on the assessment timetable we will consider the TO's proposed timetable for providing information and the TO's proposed timetable for delivering the project. We will keep our assessment timetable under review as the LOTI process progresses. Following the assessment timetable will depend on the timely provision of information by the TO. Ofgem will aim to review submissions in a timely manner.

4. Initial Needs Case (INC)

Purpose and timings

- 4.1. Following the eligibility assessment, the next step in the LOTI process will be for the TO to submit an INC (unless we relieve the licensee of the requirement to do so). The purpose of this stage is to assess the need for the project, as well as to understand and assess the evidence used, and the process followed, by the TO to reach its favoured technical solution that it proposes to take through the planning process and implement.
- 4.2. Unless directed otherwise, an INC must not be submitted less than 12 months prior to the licensee's intended date for issuing its Final Statutory Planning Consultation.
- 4.3. Once we are satisfied that we have all of the information that we need for our assessment, we expect that we will take approximately 6 to 9 months to publish our INC response.

TO submission requirements

- 4.4. The TO's submission must include evidence of the technical requirement and scope of the proposed project, including:
 - Details of the existing network configuration and characteristics, including circuit rating of existing circuits, current generation and demand as well as whether the boundary is currently compliant with planning standards (NETS SQSS).
 - Expected future demand and generation scenarios and likelihood of this materialising.
 - Details on the type of generation and geographic distribution across the area, as well as any local arrangements or agreements with developers regarding transmission export restrictions that permit using intertrips and commercial agreements.
 - Any other factors that might affect the local load factor such as planned maintenance, outage regimes, energy storage etc.
 - Information on the power flow restrictions which require addressing through reinforcement or operational action, including information on the specific nature of the restrictions (ie. identification of the specific SQSS, licence condition and relevant industry codes that need to be complied with).
 - The strength of user commitment, including supporting evidence on historical rates of termination and the slippage in the timing on contracted generation connections
 - Analysis and explanation of what would happen without the added investment.
 - An explanation of the policy context and how it has helped to inform the choice of options and the timing of reinforcement.
 - An explanation of any other assumptions used in the submission.
- 4.5. The TO's submission must include evidence on the options considered and the TO's preferred solution. Such evidence may include:

- A full description of the options considered, be they, for example:
 - investment transmission solutions;
 - operational transmission solutions;
 - non-transmission solutions (eg active network management);
- For investment and operational transmission solutions, statement of the maximum transmission capability increase that can be achieved from each solution and the technical limitations associated with each option (this may be presented independently of issues such as route options, planning or cost implications).
- An evidenced appraisal of the reinforcement options (optioneering) covering lifetime costs, NETS SQSS compliance, technical complexity, lead times, environmental impacts, amenity values, impact on security of supply, delivery and planning and other risks and option values.
- Evidence that all feasible options have been considered
- An explanation of the TO's appraisal methodology, including the information and evidence the TO has considered, and the weighting attached to the different factors. This may include a clear timeline of the assessments that were carried out.
- Consideration of potential benefits and risks of future proofing, eg including some anticipatory investment.
- Explanation of the capital and operational cost estimates for each option, and reasons for any significant changes from any earlier cost estimates.
- A justification for the shortlist of options to be included in the Cost Benefit Analysis (CBA).
- An explanation of the process followed to exclude options from the CBA and the provisions of all relevant evidence to support their exclusion.
- Where relevant, quantitative analysis to demonstrate the extent to which consumers are willing to fund designs that go beyond the minimum cost consentable solution (e.g. through the use of willingness to pay surveys and analysis).

4.6. The TO's submission must include evidence on the expected long-term value for money of the proposed project for consumers when compared to alternative approaches. Such evidence may include:

- A CBA of the shortlisted reinforcement options using the most up-to-date inputs available. This should focus on the monetised costs and benefits for consumers across different scenarios for future generation. In the case of load-related projects (including generation connections), this must include standalone analysis produced by the ESO.
- An explanation of the methodology and assumptions used in the CBA.
- Additional analysis looking at the sensitivity of the CBA results to key inputs and assumptions such as the volume of generation and demand projections, discount rates and constraint volumes and costs.
- The modelling of the CBA, including:
 - a working spreadsheet of the CBA;
 - details of the inputs, outputs and any calculated constraint volumes from the CBA; and
 - any modelling of key assumptions.
- Relevant information provided by the SO which has been used to inform the analysis on the proposed reinforcement.

4.7. At the INC stage, the CBA should not include any costs associated with changing the delivery dates of options, as all options should be able to start at the same time at this stage of the project.

- 4.8. If there are limitations on the transparency of the CBA modelling submitted and/or on the inputs used, we may consider that this undermines the credibility of the submission.
- 4.9. The TO's submission must include evidence on the optimal timing of the reinforcement. Such evidence may include:
- An assessment of the key uncertainties underlying the timing of the transmission reinforcement, including CBA results for different delivery dates and, where relevant, a range of generation scenarios.
 - Analysis of the merits of different delivery dates under various scenarios.
 - Description and explanation of factors that have driven the TO's proposed timing, including evidence of the extent to which factors such as availability of resources and supply chain constraints have influenced the timetables.
- 4.10. The TO's submission must include project timelines and the delivery strategy. This may include:
- A delivery plan/schedule, including the project lifecycle, lead times and key milestones.
 - An explanation of the TO's procurement strategy (eg the objectives, operating structure, how the TO will maximise value for consumers, supplier strategy, risk management, post-delivery evaluation, key procurement milestones).
 - Where any material works related to the project are to be undertaken by another TO, a DNO, or other third party:
 - an explanation of the proposed scope of such works; and
 - an outline of the arrangements and obligations that are in place to ensure all parties work effectively to ensure that the scope of the works being delivered by the other TO/DNO third party is appropriate and that the works will be delivered efficiently.
 - An assessment of the supply chain availability for the preferred solution, eg setting out any significant constraints or supply issues.
 - An overview of the risk profile of delivering the competing reinforcement options (and a detailed description of how the TO intends to manage these risks), eg potential planning sensitivities, supply chain issues, cost uncertainties, weather related risks and risks to consumers, such as technology risks or delays in delivery.
 - An explanation of how lessons learned from previous projects will be applied to the proposed LOTI project.
- 4.11. The TO's submission must include evidence on the TO's stakeholder engagement on its proposal. Such evidence may include:
- The TO's stakeholder engagement plan and the range of stakeholders the plan involved.
 - The full range of stakeholders' views on key aspects of the proposal.
 - An explanation of where stakeholders' views have informed the proposal, and where the proposal differs from the views of stakeholders and the TO's justification for such differences.

Ofgem's approach and considerations

4.12. Our assessment of the INC will normally examine issues including:

- The validity of the technical requirement for reinforcement.
- Whether the TO has considered all technically feasible options and/or operational measures to meet the network requirements.
- The quality of the TO's optioneering, focusing on the justification for shortlisting options based on cost and other relevant considerations that are supported by evidence.
- Whether there is a strong economic case for proceeding with the TO's preferred solution, i.e. is it the most economical, efficient and coordinated solution relative to other options and is it in the interests of existing and future consumers overall.
- Whether there is a robust requirement for the reinforcement and optimal timing, given potential uncertainties about the level of generation connecting, constraint costs and demand projections.
- The validity of the assumptions and inputs used in the quantitative analysis.
- Whether the cost benefit methodology is appropriate and the sensitivity analysis is well justified.
- Whether the methodology for estimating the costs of options is appropriate and allows a fair comparison between the different options.
- Whether we will need to revisit any of the considerations at later stages in the LOTI assessment process, taking into account the strength, quality, and robustness of the evidence presented in the TO submission.

Our Competition Assessment

4.13. Wherever possible we intend to decide whether to apply a late competition model at the INC stage.

4.14. For the avoidance of doubt, we may, for example, give an initial view on our competition assessment alongside our INC assessment and then finalise our view at the FNC stage.

Output of the Initial Needs Case assessment

4.15. We will publish our views on the areas covered by our assessment.

5. Final Needs Case (FNC)

Purpose and timings

- 5.1. The purpose of this stage is to review the progression and changes to the project since the INC and reach a final view on whether or not the project as proposed by the TO is needed. If the key drivers of the need for the project remain, and the optimum design and cost of the project has not changed materially since the INC, we would expect the FNC assessment to take between 4-6 months.
- 5.2. In order to proceed further in the LOTI process, FNC approval must be sought after all material planning consents have been secured, or by such other date as we may specify. This means the submission will occur later in the project's development, after the TO has developed a detailed project design and has completed stakeholder consultation.

TO submission requirements

- 5.3. Generally, we will revisit areas covered in our INC assessment during our FNC assessment and the information requirements and guidance set out in Paragraphs 4.4 - 4.11 above will apply. An exception to this is where, as referred to in Paragraph 2.5, we decide that no further assessment is required in a particular area, in which case any relevant parts of Paragraphs 4.4 - 4.11 will not apply, unless we specify otherwise. Nevertheless, as referred to in Paragraph 2.5, we may subsequently change our view and decide to revisit an area (eg, if new information comes to light) and in such a case any relevant parts of Paragraphs 4.4. to 4.11 would again apply, unless we specify otherwise.
- 5.4. A TO must engage with us no less than 6 months prior to its intended FNC submission date to provide information on how the project has changed since the INC. Having received this information, we may inform the TO that we do not intend to revisit certain areas of our INC assessment. Subsequently, the TO may decide not to submit information related to areas which we have said we will not revisit. In such a case, the TO must always submit, as a minimum, confirmation and relevant evidence that:
- the key drivers of the 'need' for the project (e.g. local generation background, relief of system constraints or other technical requirements) have not fundamentally changed since the INC;
 - the anticipated costs of the project are broadly consistent with those set out at INC;
 - the technical design of the project has remained broadly consistent with that proposed at the INC; and
 - where any of the areas described above have changed, such change has not materially altered the results of the CBA submitted at INC.

- 5.5. We will review the information provided by the TO and will identify any differences we consider material between the project we reviewed at INC and the project presented at FNC. We may inform the TO that following our review we intend to revisit an area or areas of our INC and the TO would, therefore, need to provide further information. For the avoidance of doubt, this could mean that all the requirements and guidance in Paragraphs 4.4 - 4.11 would apply.

Ofgem's approach and considerations

- 5.6. As described above, whilst applying the appropriate level of regulatory scrutiny, we may vary our assessment approach at this stage depending on our findings, and the extent to which the project has changed since the INC.
- 5.7. If the key drivers of the need for the project remain, and the optimum design and cost of the project has not changed materially since the INC, we expect that we will take approximately 4 to 6 months to publish our FNC decision.

Our Competition Assessment

- 5.8. For any project where we have not reached a decision on the delivery model at the INC, the FNC stage is the latest point we would expect to make our competition decision.

Output of the Final Needs Case

- 5.9. We will publish a decision document concerning whether we approve the FNC for the particular project.

6. Project Assessment

Purpose and timings

- 6.1. This is the final assessment stage in the LOTI process before a decision is taken on whether to specify a new LOTI Output, a LOTI Delivery Date and set allowances in the licence. The Project Assessment determines the efficient cost allowance for the delivery of the project. We will look at the proposed project in depth with a focus on the TO's readiness to proceed with delivery, as well as the efficiency of the total forecast costs of construction, risk contingencies, and other elements of delivery.
- 6.2. We will engage with TOs on a project-by-project basis to determine the optimum timing of the Project Assessment, but it is unlikely that a project assessment submission submitted before the following circumstances prevail will provide us with all of the information that we need for our assessment:
 - The TO has confidence in its cost estimates;
 - The TO has received its final procurement offers from external suppliers¹²; and
 - The TO can provide clear evidence of negotiations with external suppliers, including those that have already led to the signing of contracts.

TO Submission requirements

- 6.3. TOs are required to provide the information and evidence in the format stipulated below.
- 6.4. As we progress with our assessment of the submission, we may require the TO to provide us with additional information or documentation.
- 6.5. TOs must submit detailed plans and information showing the TO's readiness to proceed with the proposed LOTI project and showing that the proposed costs of delivering the output are efficient. Moreover, TOs must submit detail on the technical design, a delivery strategy, and details of how the TO will manage risk. All relevant information must be provided as part of a single submission. As such, the TO should include copies of all documents referred to in the text of the submission with the submission.

¹² This is not an implication or requirement that contracts should have been signed at this stage, rather an expectation that negotiations would have reached final stages.

- 6.6. The TO must engage with us in the months leading up to its Project Assessment submission to help ensure that its submission will enable us to conduct an effective assessment.

Submission structure

- 6.7. The Project Assessment submission must be clearly structured and provide a robust case for the costs to be funded. The TO must provide the following at a minimum (additional information submitted beyond the items listed below must be relevant to the project and the TO's case for cost allowances):
- A submission narrative
 - Main cost spreadsheet
 - Supporting cost spreadsheets, where relevant
 - A detailed Technical overview
 - Relevant procurement documents, such as evaluation reports and analysis
 - Where appropriate, all major signed contracts and details of final offers (immediately prior to signing)
 - Delivery and risk management strategies
 - Project risk register
 - Associated evidence, such as relevant cost benefit analyses

Submission narrative

- 6.8. The purpose of the narrative is to explain the structure of the submission, summarise the project costs and tender processes at a high level, and provide a general overview of the project. This document must provide a clear rationale for all major project decisions that have been made, and any assumptions that impact project costs must be clearly explained in the narrative. Particular explanations must be made in areas that might drive costs away from industry benchmarks. It must be a clear document that provides complete transparency on the project's history and its costs.
- 6.9. The narrative may include, but need not be limited to:
- An overview of the project and its history, as well as expected project timelines;
 - A detailed technical summary of the project, including justification for all major technical decisions;
 - A summary of the tender process, the selection criteria for bidders and an overview of key procurement decisions that have been made to date;
 - Details of land ownership;
 - An overview of the project's risk mitigation strategy, including details on key project risks and key decisions regarding risk allocation (between contractor(s) and employer);
 - An overview of the developer's resourcing estimates for the construction of the project;
 - A detailed description of the project costs, including an overview of any assumptions that have gone into the costs;
 - Evidence that the costs are efficient, e.g. through cost benchmarking, market testing, or competitive tendering;
 - An explanation of any changes in costs from previous submissions to Ofgem;

- Clarity on which contracts have been awarded to date and a timetable for those which are to be awarded in the future;
- Details of the structure of the overall submission, including a comprehensive reference guide of any associated documents (e.g. studies) and their relevance in the submission; and
- information on the business structure, where relevant (e.g. establishment of subsidiary companies), including but not limited to:
 - Legal form of the ownership and operational vehicle, and how this fits within existing ownership and licensing framework;
 - The currency that the project and company accounts will be denominated in;
 - Whether contracts are procured on a joint or individual basis between the TO and any associated developers; and
 - If relevant, details of any project revenues which will be received outside of RIIO-T2 price control mechanisms, in which currencies and on what basis.

The main cost submission

6.10. The TO must provide a breakdown of all costs and cost schedules associated with the project in spreadsheet form. This main cost spreadsheet may include a summary tab of the entire project construction costs and separate tabs/sheets with a cost disaggregation for each asset type (e.g. overhead line). These high-level costs may be indexed to supporting spreadsheets (or tabs in the same spreadsheet) to show the calculations and assumptions that have been used (including relevant units, price bases and time profiles). These supporting spreadsheets may cross refer to any supporting contract terms and quotes, studies, reports or other relevant documents that provide the evidence base. Any source data from the contractor may be provided to Ofgem in original format.

6.11. Within the main cost spreadsheet, a clear indication of the ‘firmness’ of each cost must be provided. Our classification for this ‘firmness’ is as follows:

Table 2 – Firmness of cost submissions

| | Classification | Description | Supporting documentation required |
|---|--|---|---|
| 1 | Fixed | The cost has been incurred, is not subject to change and has supporting documentation matching the amount. | Contract/bill with supporting documentation of payment made. Fully auditable if needed. |
| 2 | Agreed, but re-measurable | The cost has been agreed or estimated, but is subject to change according to a clear and agreed variation process. Changes only driven by unforeseeable circumstances. | Contract/bill with supporting documentation of payment made/to be made. Fully auditable if needed. |
| 3 | Agreed, but will be re-measured based on known future information received | The cost has been agreed or estimated, but will be subject to change due to clarifying the scope of works or due to additional surveys and assessments being undertaken. As above, changes should follow a clear variation process. | Contract/bill with supporting documentation of payment made/to be made. Rates auditable, volumes subject to change based on quantifiable and foreseeable factors. |

| | | | |
|---|----------------|--|--|
| 4 | Estimated | Cost estimated on the basis of assessments and actual surveys and using experience and examples from other projects. | Spreadsheet with the calculations (methodology), assumptions and evidence base. Emails/minutes of meetings with specific mention of the variables that have been used in calculating these estimates, the person and company providing the calculations and information. List of surveys done as well as documentation of the surveys. |
| 5 | Early estimate | Costs estimated through modelling cost ranges from different projects and past experience. | Spreadsheet with the calculations (methodology), assumptions and evidence base. Emails/minutes of meetings with specific mention of the variables that have been used in calculating these estimates, the person and company providing the calculations and information. List of surveys to be performed to increase the confidence of the cost estimates. |

Technical Summary

6.12. A technical summary must be submitted detailing the scope of the project. For example, this would cover the route (e.g. maps, including of any known utility crossings etc.) and landing points. Each area must be indexed to the supporting documentation.

6.13. The technical case may provide:

- A description of the construction works.
- Details of any changes in design since earlier submissions, with explanations and associated evidence, if appropriate.
- An appropriate level of detail on technical designs (e.g. substation layout) and construction techniques to be used in the project, including an explanation and justification for all major technical decisions that have been made for the project. We expect more detail would be provided if design and/or construction activity is technically challenging, novel, or a cause for divergences in cost relative to industry benchmarks.
- Detail on any optional capability that is included in the technical proposal and justification for its inclusion.

6.14. TOs may also propose outputs for the project, to be considered by us for specification in the LOTI licence condition, and a clear overview of the project scope.

Information on procurement and contracts

6.15. TOs must provide all relevant procurement and tender information that demonstrates the scope and efficiency of the procurements process(es) and the associated works and costs must be included as appendices or supporting documents. The information may present how many bids were received, on what terms and prices, and the process that was followed and justification applied for selecting a preferred bidder, as well as deselecting the others. The TO must also provide a clear document register that details all of the documents associated with the procurement process(es). The following information may also be provided:

- Project specifications (what was tendered).
- Original Invitation To Tender (ITT) issued. We may ask for full copies or parts of the tenders returned.
- Documents from any additional rounds of tendering, with description of any changes to the ITT or the tenders and a comparison table to clearly see a summary of the bids and how they changed.
- Outline of any relevant award criteria or negotiations in the selection process.
- Justification for the chosen contractor(s) in the form of a standardised and quantified comparison. Clear estimated value ranges have to be presented for “difficult to quantify” selection criteria.
- Any variation orders since signing major contracts.
- A summary table of the entire procurement process to show the chronological sequence of events and actions, including all the dates, actions taken or comments by the contractor and actions taken or comments by the developer.
- Signed contracts for all major construction sub-projects

Delivery and risk management strategies

6.16. The TO must outline its approach to delivery and risk management. This may include:

- A description of the delivery model and a detailed delivery plan/schedule with key dates and critical paths clearly identified.
- Evidence of readiness to proceed, e.g. details of delivery team structure, roles and responsibilities.
- Details of the company’s previous experience in managing similar projects and how learning from previous projects (if applicable) informs the proposal, e.g. lessons learned from previous risk mitigation strategies.
- The delivery risk profile of the proposed project, and an assessment of the key risks, and uncertain costs. An up-to-date risk register must be included along with details of how the risk register has been derived and the process for updating it (including audit trail).
- The risk mitigation strategy and risk sharing arrangements, including what costs and risks have been included in supplier contracts, and why this represents an efficient level. All incentives in the contracts to encourage the supplier to deliver on time and to budget must be highlighted, e.g. arrangements to pass through any potential regulatory penalties to the supplier through the contract.
- Details on the level of contingency risk that is included in the proposed costs and justification for why this is an appropriate level given other risk sharing mechanisms such as RIIO-T2 Totex Incentive Mechanism and the Cost and Output Adjusting Event provisions that are part of the LOTI arrangements.
- A summary of the insurance strategy and any signed or near-signed contracts. This should include what factors are insured against.
- Information may be provided on the TO’s policies (and project policy, where different) for managing risks, hedging and foreign exchange, and cost overruns or delays.

6.17. The project’s risk register must display a clear indication of how the costs associated with this risk register informed the project’s cost submission. For each of the project’s risks, the risk register should demonstrate, as a minimum, the areas outlined in Table 3.

Table 3 - Risk register details

| Item | Description |
|--------------------------|---|
| Project area | Which part of the project the risk relates to e.g. subsea cable. |
| Risk category | For example – weather downtime. |
| Description of risk | A description and rationale behind the risk, including: <ul style="list-style-type: none"> • An explanation of what the risk relates to. • Why it is appropriate for the risk to be included within the register/submission. • Whether or not the employer is solely responsible for this risk, or if it is shared with the contractors, as well as a justification for this decision. • If it is a shared risk, a reference may be made to the relevant contract clause. |
| Action | What actions have/will be taken towards the risk and how will the risk be monitored |
| Mitigations | What actions will/have been taken to mitigate the risk, with associated cost (estimates) |
| Risk identification date | Date when the risk was identified |
| Risk owner | Developer or shared |
| Risk owner rationale | Rationale why the party owning the risk has been identified as such |
| Risk expiry date | Date when the risk is due to materialise or expire |
| Associated costs | Minimum, most likely and maximum associated cost for the risk |
| Cost method | An explanation of the assumptions and/or calculations that have been used to derive the minimum, most likely and maximum cost values. |
| Probability | Probability of the risk occurring |
| Reference | Reference(s) to any supporting documents (or sections within documents) that will support the details set out within the risk register. |

Associated documents

6.18. Alongside the main documents mentioned above, as part of its submission the TO must also provide any supporting documents or evidence that it believes would help explain and justify its cost submission.

6.19. The supporting documentation may cover, but need not be limited to, the following:

- Project management details, including hours worked/to be worked and rates used.
- A summary table to provide references (name, date produced, supplier, report name and description of report objective) for any supporting third party reports, including:
 - Scope/technical drawings
 - Design and engineering studies
 - Site surveys and evidence of these being passed to relevant contractors
 - Technical equipment testing reports
 - Route and site selection reports
 - Any relevant consultant reports
 - Stakeholder engagement
 - Any cost allocations and the methodology used

- Any related party margins (with linkages to the completed cost templates)
- Any hedging (eg forex), or hedging gains/losses
- Signed targets or forecasts of project internal rate of return (IRR).

6.20. As we progress with our assessment of the submission, we may ask the TO to provide us with the documents listed in Paragraph 6.19 above, or any other documents that we believe would aid our assessment.

Ofgem's approach and considerations

6.21. We expect our Project Assessment process to usually comprise the following aspects.

6.22. *Communication and engagement* - discussions between the TO and Ofgem will be held throughout the Project Assessment process to ensure that we understand the rationale behind the submitted costs, as well as the project's scheduled activities.

6.23. *Initial review* – an initial review of the Project Assessment submission to ensure the necessary information has been provided by the TO. If we believe that the TO has not provided all of the information necessary for us to carry out our assessment it will be notified. The TO must then engage with us to ensure that we receive all relevant information needed for us to complete our review.

6.24. *Full information review* – once we are broadly satisfied that the TO's submission includes the necessary information, we will undertake a thorough review of the project's costs, alongside its technical characteristics. This will include comparing the project's costs to other projects, as well as multiple rounds of supplementary questions (SQs). The purpose of the SQ process is to ensure we can capture any information/clarifications we require on project-specific issues to ensure a clear and complete basis for our assessment.

6.25. The above is an outline of the key stages of our Project Assessment, but other elements may be included as appropriate.

6.26. After completing our initial review of the project's submission, and once we are broadly satisfied that we have all of the information that we need for our assessment, we expect that we will take approximately 6 to 12 months to publish our Project Assessment decision.

6.27. As part of our assessment, we would expect to consider a number of issues, including but not limited to:

- Whether there is sufficient detail on the technical design to demonstrate that the costs are efficient and that any optional capabilities included in the proposal represent long-term value for money.
- The robustness of the TO's process for procurement and selection, and whether this process had been efficiently applied and could be expected to lead to an efficient market outcome.
- The efficiency of the proposed costs, taking into account the conclusions on the above and any additional detailed cost assessment including benchmarking of specific elements where comparable data is available.
- The evaluation of risks, and the appropriateness of the proposed risk management strategy including the allocation of risks and the associated costs.
- The appropriateness of the construction programme and progress made towards being ready to proceed in the proposed timescales.

6.28. As mentioned above, our assessment will include undertaking detailed benchmarking analysis of the project's costs.

6.29. The benchmarking exercise consists of comparing the TO's submitted costs with those of comparable projects, ensuring that we take into consideration aspects such as the technical characteristics of the project. The costs may be disaggregated to enable us to analyse costs on an asset level e.g. onshore cable.

6.30. We analyse how the costs submitted by the TO for the various assets compares with comparable projects. This enables us to identify areas of the developer's submission where costs are higher than we would expect.

6.31. The main purpose of our benchmarking is to guide our assessment, rather than as an absolute determinant of allowable costs. Where our benchmarking highlights specific costs as a concern, further analysis is conducted to determine whether these costs would be, or have been, incurred in an economic and efficient manner. TOs are given the opportunity to explain why their costs may differ from industry averages derived from similar projects. In the absence of appropriate evidence to justify these differences, we may use benchmarking data to inform our view of economic and efficient costs.

6.32. In addition to the benchmarking of the project's assets, we also conduct further analysis to compare other aspects of the developer's submission to our datasets of historical projects. We will undertake high-level comparisons of aspects such as resource costs and risk budgets. We will also undertake comparisons of more granular costs, and discuss any concerns or issues with the TO.

- 6.33. Our assessment will also consider which of our Large Project Delivery mechanisms set out in Chapter 7 should be implemented on the project. We would expect that our considerations when assessing this will usually include:
- The consumer benefits that the TO has identified could be achieved if this project is delivered on time (and hence the potential for consumer detriment if delivered late);
 - Liquidated damages or other delay provisions in supply chain contracts;
 - Cashflow and financeability of the TO;
 - A review of the standard 20% expenditure impact criteria (Paragraph 7.9) for a project to qualify for a Cost and Output Adjusting Event (COAE); and
 - The length of the construction period, and key milestones within that period which will be critical to ensuring timely delivery.

Output of the Project Assessment

- 6.34. After considering responses to the consultation we will publish the Authority's decision on the proposed project.
- 6.35. Any new LOTI outputs), delivery dates, associated allowances and applicable LPD mechanisms will be specified in the LOTI Condition in accordance with the provisions of that condition.
- 6.36. For the avoidance of doubt, the adjustment to the TO's RIIO-ET2 allowed expenditure determined through the LOTI arrangements will not cover any Pre-Construction Works.

7. Delivery of LOTI outputs

During Construction

Role of the TO

- 7.1. The TOs are required through Standard Condition B15 (Regulatory Instructions and Guidance) to report annually during the construction phase on their expenditure and progress in delivering the LOTI output. As part of this annual reporting the TO must provide an update on the status of the project delivery programme against the project plan. This must include an explanation of divergences in expenditure or project milestones or concerns that the TO has about delivery progress.
- 7.2. A TO may seek an adjustment to the allowed expenditure, LOTI Output or delivery date through the provisions in the LOTI Condition for a Cost and Output Adjusting Event (COAE), although we expect such applications to be rare. More information on the COAE process is set out below.

Role of Ofgem

- 7.3. We will monitor progress against deliverables based on information provided in the TO's annual regulatory report. Where appropriate we will consider and make decisions on any COAE requests made by a TO.

Delivery

Role of the TO

- 7.4. Once the LOTI output has been commissioned the TO should confirm to us the delivery of the output as specified in the TO's licence and must provide evidence (e.g. through an independently verified report) to verify that the LOTI Output has been delivered.

Role of Ofgem

- 7.5. We will review the TO's performance of the delivery of the LOTI Output. If a TO does not deliver a LOTI Output by the delivery date, we would expect the TO to proactively explain to us why and to provide plans for progression. Failure by a TO to deliver a LOTI Output by the delivery date could lead to the operation of mechanisms under our Large Project Delivery (LPD) framework (see Paragraphs 7.13 - 7.26).

- 7.6. Failure by a TO to deliver a LOTI Output by the delivery date could give rise to enforcement action. For the avoidance of doubt, we do not consider that operation of the aforementioned LPD mechanisms would preclude the possibility of also pursuing enforcement action in the event that a project is delivered late. Where this is the case, we would follow our usual processes and policies for enforcement.¹³
- 7.7. We consider that a licensee is responsible for all of its actions and their consequences, including where it engages third parties. Licensees are best placed to manage these risks rather than consumers. Therefore, we do not consider it appropriate to treat issues differently based on whether the licensee does the work in house or uses an external contractor. This helps to ensure that the licensee takes appropriate care in the selection and oversight of their contractor(s).

Cost and Output Adjusting Event (COAE)

- 7.8. An event may be categorised as a Cost and Output Adjusting Event refers to:
- an Extreme Weather Event;
 - the imposition of additional terms or conditions of any statutory consent, approval or permission (including but not limited to planning consent);
 - unforeseen ground or sea-bed conditions; and
 - for the purposes of a particular LOTI Output, any event that the Authority directs is a Cost and Output Adjusting Event in the Project Assessment Direction.
- 7.9. Where there has been a COAE, a TO may apply to Ofgem to amend the LOTI Output, delivery date or allowance of a project if:
- the licensee could not have reasonably foreseen the event;
 - the licensee could not have economically and efficiently planned a contingency for the event;
 - the event has caused expenditure to increase or decrease by at least 20% (expenditure impact) relative to the relevant allowance in Appendix 2, or by at least such other percentage as the Authority may direct (calculated before the application of the Totex Incentive Strength); and
 - the increase or decrease in expenditure is expected to be efficiently incurred or saved.
- 7.10. During the Project Assessment stage, we may consider the value of the expenditure impact threshold, including whether to make any changes to the standard 20% threshold set out in Paragraph 7.9 for the specific LOTI output.

¹³ A copy of the guidelines can be found here:
https://www.ofgem.gov.uk/system/files/docs/2016/12/enforcement_guidelines.pdf

7.11. Unless we direct otherwise, in order to make an application under the COAE provisions, the TO must make the application:

- as soon as is reasonably practicable after the Cost And Output Adjusting Event has occurred; and
- not later than before the end of the period of three months beginning with the delivery date for the LOTI Outputs.

7.12. Additionally, submission must:

- be made in writing;
- include detailed supporting evidence that a Cost And Output Adjusting Event meeting the requirements set out in Paragraph 7.8 has occurred;
- set out any amendments requested to the LOTI Output, the delivery date or associated allowances in Appendix 2 of the LOTI Licence Condition;
- explain the basis of the calculation for any proposed adjustment to the allowances in Appendix 2 of the LOTI licence, which must be designed to keep, so far as is reasonably practicable, the financial position and performance of the licensee the same as if the Cost And Output Adjusting Event had not occurred; and
- include a statement from a technical adviser, who is external to and independent from the licensee, whether, considered in the context of the value of the LOTI Output, the proposed adjustments to the LOTI Output, the delivery date or associated allowances fairly reflect the effects of the Cost And Output Adjusting Event; and
- include an update to the submission narrative provided in the Project Assessment submission;
- include an updated main cost spreadsheet;
- include updated supporting cost spreadsheets, where relevant;
- include a detailed technical overview of any changes to the project's technical scope;
- include an updated risk register; and
- detail updates to delivery strategy and risk management.

Large Project Delivery (LPD) Mechanisms

7.13. The LPD framework was introduced for RIIO-2 through our Final Determinations. It applies to large (£100m+) transmission projects in order to incentivise timely delivery, and consequently minimise the detriment of late project delivery on consumers. The framework consists of the following three mechanisms:

1. Re-profiling – When projects are delivered late, we re-profile the allowances provided to the TO to reflect actual expenditure.
2. Milestone-Based Approach – We set project allowances based on the delivery of specific, pre-set, milestones. The allowances would only be granted following confirmation that a milestone had been delivered.
3. Project Delay Charge – For each day that a project is delivered late, network companies would pay a pre-set day-rate charge to compensate GB consumers for the late delivery.

- 7.14. Either Re-profiling or the Milestone-Based approach will be applied to each LOTI project to remove any financial benefit to the company from delay.
- 7.15. The Project Delay Charge may also be applied to a project to reduce the consumer detriment caused by a delay.
- 7.16. We will decide which mechanisms to apply on a project-by-project basis by giving consideration to, amongst other things, the likely detriment that delayed delivery would cause for consumers and the financial impact of the mechanisms on the TOs.
- 7.17. The sections below set out further detail regarding each of the mechanisms.

Re-profiling

- 7.18. Under this mechanism, when projects are delivered late, we will re-profile the allowances provided to a network company in its licence to reflect actual expenditure, to avoid the network company benefitting from delayed expenditure.
- 7.19. This will be done by retrospectively adjusting TO allowances in the licence and Price Control Financial Model (PCFM) to match the actual expenditure profile that was incurred in delivery of the project.

Milestone-Based Approach

- 7.20. Under this mechanism allowances would be profiled in the licence and PCFM in line with the TO's expected delivery dates of project-specific pre-set milestones. However, if a milestone is delivered late, those allowances will be retrospectively adjusted to a later date to reflect the actual delivery date of the corresponding milestone.
- 7.21. We would carefully assess the financial impact on network companies of applying the Milestone-Based Approach on a project-by-project basis. This may involve project-specific adjustments to the approach set out in Paragraph 7.20 above, such as varying the timing of release of funding and/or combining the Milestone-Based Approach with the Re-Profiling Mechanism.

Project Delay Charge

- 7.22. The level of the Project Delay Charge will be set on a project-by-project basis, based on a consideration of various factors, including:
-

- estimates of potential consumer detriment (including consideration of the Needs Case prepared for the project by the network company)
- industry benchmarks for delay clauses on similar projects
- the delay clause(s) that the network company negotiates with its contractor(s) for that project would be shared with Ofgem through the project assessment submission.

7.23. The structure of the Project Delay Charge will be similar to delay clauses set out in standard form contracts such as the NEC/JTC/FIDIC suites which are widely used.

7.24. The Project Delay Charge would:

- be set on an ex ante basis
- be charged after reasonable notice has been given
- follow an approach that allows for reasonable changes to the project schedule if that would facilitate returning the project to its original delivery dates or otherwise minimise delay
- be set on the basis of a day rate, taking into account an ex ante estimate of consumer detriment and relevant delay clause benchmarks, subject to a pre-set cap. Our initial view is that the cap should not normally exceed 15% of the total cost of the project, but we will take account of TO and wider stakeholder views on this matter and other relevant considerations on a project-by-project basis before coming to a firm view.

7.25. In order to implement the Project Delay Charge, we would expect to introduce provisions into the licence requiring network companies to return sums determined by the Project Delay Charge to consumers. We will consult on the level of the Project Delay Charge no later than the Project Assessment stage.

7.26. Where we indicate an intention to apply a Project Delay Charge, we would not expect an increase in contract costs negotiated by the network company. Our understanding is that delay clauses are routinely negotiated by network companies on large investment projects, and our expectation is that network companies would utilise their own contract delay clauses to cover most or all of any Project Delay Charge in the event that a project is delivered late.