

# Extending competition in electricity transmission: arrangements to introduce onshore tenders

## Consultation

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### Overview:

We are consulting on the arrangements for introducing competitive tendering to onshore electricity transmission projects.

Here we set out our proposals for what types of projects will be subject to tendering and how we will identify them. We also set out our initial thoughts on how we will run the tenders, how we will regulate competitively appointed transmission owners, and how conflicts of interest could be managed.

We welcome your views on these areas, including on the specific questions in the document. Please send your response to [TransmissionCompetition@ofgem.gov.uk](mailto:TransmissionCompetition@ofgem.gov.uk) by 11 January 2016. After considering your responses, we will publish our decision and consult on further detail next year, as appropriate. We expect to be in a position to run the first competitive tender for onshore transmission in 2017.

## Associated documents

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Integrated Transmission Planning and Regulation project: final conclusions

<https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions>

Criteria for onshore transmission competitive tendering

<https://www.ofgem.gov.uk/publications-and-updates/criteria-onshore-transmission-competitive-tendering>

CEPA report on regulatory incentives for Competitively Appointed Transmission Owners (CATOs)

[https://www.ofgem.gov.uk/sites/default/files/docs/2015/10/cepa\\_cato\\_final\\_report\\_oct\\_15.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/10/cepa_cato_final_report_oct_15.pdf)

Jacobs technical report on extending competition in transmission

[https://www.ofgem.gov.uk/sites/default/files/docs/2015/05/jacobs\\_report\\_on\\_technical\\_input\\_for\\_extending\\_competition\\_in\\_transmission\\_report\\_v1-1\\_28-05-2015\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/05/jacobs_report_on_technical_input_for_extending_competition_in_transmission_report_v1-1_28-05-2015_0.pdf)

## Context

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Great Britain's onshore electricity transmission network is currently planned, constructed, owned and operated by three monopoly transmission owners (TOs): National Grid Electricity Transmission (NGET) in England and Wales, SP Transmission in the south of Scotland, and Scottish Hydro Electric Transmission in the north of Scotland. We regulate these TOs through the RIIO price control framework. For offshore transmission, we appoint offshore transmission owners (OFTOs) using competitive tenders and have completed 13 OFTO tenders since 2009. For interconnection to other countries, we regulate asset owners under the 'cap and floor' regime or owners follow the 'exemption route' (where they are exempt from certain requirements of European legislation). NGET is also the system operator (SO) for the whole of the onshore and offshore GB transmission network.

We recently undertook the Integrated Transmission Planning and Regulation (ITPR) project, which reviewed the arrangements for planning and delivering the onshore, offshore and cross-border electricity transmission networks in GB. ITPR concluded that changes were needed to ensure that the network is planned in an economic, efficient and coordinated way, that asset delivery is efficient, and that consumers are protected from undue costs and risks.

Through ITPR we decided to enhance the role of the SO to play an increased role in identifying the long term needs of the system and to develop and assess options to meet those needs. In September 2015 we set out our decision to change the SO's and onshore TOs' licences to give effect to these roles.

We also decided through ITPR to increase the role of competitive tendering where it can bring value to consumers. In particular, we decided to extend the use of competitive tendering to onshore transmission assets that are new, separable and high value.

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## Executive Summary

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We are introducing competitive tendering for new, separable and high value onshore electricity transmission assets. The purpose of this document is to outline our current thinking and seek your views on:

- what types of investment will be competitively tendered and how we will identify those projects
- how the tender process should work and how we should regulate competitively appointed transmission owners (CATOs)
- how conflicts of interest should be managed.

Competitively selecting a party to construct, own and operate new, separable and high value transmission assets will create value for consumers by putting competitive pressure on costs, while allowing for innovation by new participants who have strong technical and delivery expertise. Our use of tendering in offshore transmission has resulted in significant cost savings, and brought innovative approaches and solutions to GB transmission.

Extending tendering to onshore transmission builds on our statutory duties and corporate strategy, which say that competition should be used where it can achieve positive outcomes for consumers. We anticipated the introduction of competition when reaching our RIIO-T1 final proposals for onshore transmission owners (TOs) in 2012 by setting out that strategic wider works (SWW) projects could be subject to third party delivery where it is in the interests of consumers. We recently concluded through our Integrated Transmission Planning and Regulation (ITPR) project that to ensure consumers are protected from undue costs and risks we would tender new, separable and high value onshore transmission assets.

The government is committed to driving savings for consumers by extending competition in the energy sector and, as stated in the Summer Budget 2015, will publish draft legislation to support competitive tendering onshore.

### **Identifying what projects to tender**

We propose to tender brand new or complete replacement transmission infrastructure projects that are worth £100m or more. We consider that the savings from tendering projects worth £100m or more will significantly outweigh the costs.

Setting out what specific projects will be subject to competition is a priority, but we are not yet in a position to do so given the need to establish the tendering arrangements and also given the uncertainty over the type and location of future investment. We will decide if we will tender specific RIIO-T1 SWW projects after considering incumbent TOs' SWW submissions.

Beyond RIIO-T1 we expect to tender all new, separable and high value transmission investments. The system operator (SO) will recommend whether a project meets the criteria for tendering and whether there is a technical and economic need for it. We will scrutinise the SO's processes and make the final decision on tendering.

## **Running tenders**

We are developing two models for when and how we will run tenders. The 'early' and 'late' CATO build tender models would run at different points in a project's development, so would bring different potential benefits. Under early CATO build, we would run a tender to determine a CATO to complete all necessary preliminary works (such as environmental impact assessments, high level asset design and securing planning consent), as well as construct and operate the transmission assets. Under late CATO build, the SO or TO would complete all necessary preliminary works and we would run a tender to determine a CATO responsible for construction and operation.

In the short to medium term, we currently prefer the late model. If we tender any RIIO-T1 SWW projects, then we will need to do so under late CATO build, as all the projects will be too far advanced for an early CATO build tender by the time we are ready to run the first tenders. We also think that late CATO build is closer to existing public infrastructure procurement models and therefore would be more attractive initially to potential bidders.

## **Regulating CATOs**

All TOs receive regulated revenue in return for constructing and operating their assets. We propose that CATOs should receive an annual revenue stream, bid during the tender process and fixed for 25 years without any periodic reviews. Since we will be tendering relatively discrete assets, this approach would enable CATOs to take a long term view of asset construction and management while securing competitive financing. We think that the proportion of a CATO's annual revenue that is indexed to inflation should be bid during the tender, and that the benefits of any debt refinancing after the tender should be shared between consumers and the CATO.

It will be important for CATOs to deliver assets on time and to appropriately maintain them. We could encourage CATOs to deliver assets on time by only starting their revenue when the assets are available for use. We could also encourage CATOs to keep their assets in good condition and minimise any operational downtime through an availability-based performance incentive, designed to reflect how critical the CATO's assets are to the rest of the network.

## **Managing conflicts of interest**

A successful and robust competitive process relies on confidence from all participants that they are treated fairly and equally. We think that incumbent TOs or associated businesses should be able to compete in tenders as long as any conflicts of interest or risks arising from their participation are appropriately addressed. We are considering how to prevent any participants from gaining an unfair advantage in the tender process.

## **Next steps**

We welcome your views on these areas. Please send your response to [TransmissionCompetition@ofgem.gov.uk](mailto:TransmissionCompetition@ofgem.gov.uk) by 11 January 2016. Subject to responses, we plan to set out our decisions and consult further (as appropriate) during 2016. We expect to be in a position to run the first onshore tender in 2017.

# 1. Introduction

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## Chapter Summary

Our statutory duties and our corporate strategy identify that competition should be used where appropriate to achieve positive outcomes for consumers. We are extending the use of competitive tendering to onshore electricity transmission, building on the conclusions of our ITPR project.

## Promoting effective competition

- 1.1. Competition plays an important role in creating value for consumers. Requiring firms to compete can lead to lower costs and increased innovation. We have been competitively tendering offshore electricity transmission licences since 2009 and have seen significant benefits as a result. For example, a study by Cambridge Economic Policy Associates (CEPA)/BDO on the impact of the offshore regime showed that offshore transmission owners (OFTOs) achieved significantly lower costs when compared against various counterfactuals.<sup>1</sup>
- 1.2. Recognising that consumers could also benefit from applying competition to onshore transmission, our RIIO-T1<sup>2</sup> final proposals for the onshore electricity transmission owners (TOs) included the potential to competitively tender strategic wider works (SWW) projects. This builds on our statutory duties and corporate strategy, which identify that competition should be used where it can achieve positive outcomes for consumers.
- 1.3. We are introducing competitive tendering for onshore transmission assets that are new, separable and high value. These assets can be efficiently scoped for tendering and the potential gains from competing these assets are high compared to the administrative and interface costs resulting from the tender. We will run competitive tenders to identify parties to construct, own and operate transmission assets.
- 1.4. As decided under our Integrated Transmission Planning and Regulation (ITPR) project, the use of tendering should sit alongside the other forms of regulation we use, including price controls and the cap and floor regime for interconnection. Incumbent TOs will continue to deliver and own transmission investment that is not subject to tender. This is likely to represent the majority of future transmission infrastructure and costs. While we therefore see competitive tendering as an important initiative, it is only one part of our toolkit for regulating transmission.

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<sup>1</sup> CEPA/BDO, 'Conclusions of Consultation on the Evaluation of OFTO Tender Round 1 Benefits', 19 September 2014: <https://www.ofgem.gov.uk/publications-and-updates/conclusions-consultation-evaluation-of-to-tender-round-1-benefits>.

<sup>2</sup> RIIO-T1 is the current price control for onshore TOs. It applies from 1 April 2013 to 31 March 2021.



## Our objectives in competitively tendering onshore transmission

1.5. As our ITPR impact assessment shows, we expect competition to bring value for consumers in terms of capital and operational cost savings, and driving innovation across the asset development and operations process, including financing. The involvement of new parties also enables us to increase the number of data sources we can use to benchmark appropriate costs. This means that tendering will complement our wider regulatory toolkit and not just have benefits for the projects that are subject to tender.

1.6. In designing the arrangements for competitive tendering in onshore electricity transmission, we therefore aim to achieve the following objectives:

- provide value for consumers, protecting them from undue costs and risks
- deliver transmission infrastructure necessary to address system needs
- bring about timely, economic and efficient development of the GB electricity transmission system
- create a strong competitive field by attracting new entrants and new approaches to the design, construction and operation of transmission infrastructure.

## Rolling out competitive tendering

1.7. We understand that it is important to identify what projects will be subject to tendering as soon as possible. During RIIO-T1, only SWW projects can be delivered through tendering. We are examining which RIIO-T1 SWW projects may be suitable for tendering and will consider whether to tender these after we consider incumbent TOs' SWW submissions.<sup>3</sup> In addition to considering whether these projects are new, separable and high value, we will also consider the effects of tendering projects where incumbent TOs have already undertaken significant pre-construction work. All projects that would begin construction in RIIO-T2 and that are new, separable and

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<sup>3</sup> An SWW submission in this context could be an initial project report or a final needs case. A 'needs case' is information submitted to us by a TO for a proposed SWW project. It includes justification for the project (including the proposed scope and timing) and an explanation of how the proposed investment would best meet system requirements. We are currently updating our SWW guidance: this could introduce a new 'initial project report' that TOs would submit to us early in a project's development. In response to this report, we would clarify whether the project is suitable for tendering.

high value will be eligible for tendering. This may include projects where the preliminary works<sup>4</sup> begin during the RIIO-T1 period.

1.8. We are working with the government to draft legislation that will support competitive tendering onshore. The Department for Energy and Climate Change will publish draft legislation and a regulatory impact assessment for public scrutiny, and we encourage interested parties to engage with the government on these proposals. We are also working with the government on the future role of the SO more broadly. In this consultation we set out specific roles for the SO in supporting competition, but we will continue to work with the government on the SO's broader roles and how these might support tendering.

1.9. We expect to be in a position to run the first competitive tender for onshore transmission in 2017. This consultation is an important step in the process of developing and implementing the tendering arrangements for onshore transmission.

1.10. This document provides a high level overview of our thinking. Further detail has been included in the appendices. We are seeking your views on:

- the detailed criteria for determining what projects will be subject to tendering and the process for identifying projects for tendering
- the process and models we will use for running tenders and the package of regulated revenue, incentives and obligations that CATOs will receive
- how potential conflicts should be managed.

1.11. The closing date for written responses is 11 January 2016. During the consultation period we plan to host stakeholder workshops to discuss the onshore competition arrangements. Please contact [TransmissionCompetition@ofgem.gov.uk](mailto:TransmissionCompetition@ofgem.gov.uk) to register your interest. Following the consultation we will consider your views, and take decisions and consult on further detail, as appropriate. We expect work on licence changes to support competitive tendering to commence next year.

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<sup>4</sup> In offshore transmission, 'preliminary works' means the necessary works obtained, or to be obtained, in relation to the development of the proposed transmission assets, prior to the grant of an offshore transmission licence to a successful bidder, for construction and operation of the assets. This may include (but is not limited to) works in relation to planning permissions, consents, wayleaves, easements, leases, topography and sea bed surveys, environment and archaeological surveys, impact assessments and professional fees related to obtaining the necessary works. In the context of onshore transmission, preliminary works are broadly analogous to 'pre-construction' works funded under RIIO-T1, but not necessarily identical since the necessary works obtained prior to a construction funding decision under SWW may differ from those obtained prior to appointing a CATO.

## 2. What will be subject to competition and how will we identify those projects?

### Chapter Summary

We propose that brand new or complete replacement transmission infrastructure projects worth £100m or more should be subject to competitive tenders. These will be identified and developed by TOs or the SO before a tender. Appendix 2 has further detail.

**Question 1:** What are your views on the proposed detailed interpretations of new, separable and high value (the 'criteria')?

**Question 2:** Under what circumstances do you think asset transfer from an existing asset owner to a CATO would be required, recognising the principle that projects identified for tendering should be new?

**Question 3:** What are your views on our proposal that electrical separability should not be required at each interface, but that the SO can propose it to us if it thinks there is a cost-benefit justification based on system operability?

**Question 4:** What are your views on the suggested process and roles for identifying projects for tendering? We have proposed specific roles for the SO – do you think there are any additional roles the SO could take on to support competition? What's the most appropriate way to ensure that the network options assessment (NOA) considers the widest range of network options, including those that would be tendered?

**Question 5:** What incentives and obligations should the SO and TOs have for undertaking preliminary works for tendered projects, and is there any value in considering a success fee incentive?

**Question 6:** Should CATOs pay for the preliminary works at the point of transfer?

2.1. We propose to tender brand new or complete replacement transmission infrastructure projects that are worth £100m or more. Tendering assets that meet these criteria means that the potential benefits of tendering are high compared to the costs. It also means they can be efficiently scoped for tendering and have minimal interface costs.

2.2. The SO will be responsible for proposing the package of transmission assets that form a 'project' and for recommending to us whether this package meets the criteria for tendering. Investments that don't meet these criteria will continue to be developed by incumbent onshore TOs.

2.3. We expand on these proposals below and in appendix 2. We also refer to feedback received from stakeholders in response to the open letter we published in

May, which is summarised in appendix 7. We welcome any further views on the criteria, as well as the other areas outlined in the chapter.

## **What will be subject to competition?**

### **High value**

2.4. We intend to define high value as £100m or above. The £100m figure will relate to the expected capital expenditure (capex) of a project. We consider that £100m is an appropriate threshold because, for projects of this size, the benefits of competition will significantly outweigh the costs. We also expect there to be strong market interest in projects of this size.

2.5. Many respondents to our May open letter supported using £100m as a threshold for high value, with several indicating that they would bid for projects of that value. Some suggested that tendering projects below this value could still bring benefits to consumers. Other respondents considered that the threshold should be higher to ensure that the benefits of tendering outweigh the costs. We think that the threshold should be kept under review and we will revise it if necessary as we gain greater experience of running tenders to ensure that tendering is used where it can bring benefits for consumers.

### **New and separable**

2.6. We propose that a brand new overhead line, cable or substation, or a complete replacement of these, should meet the new and separable criteria. To ensure separability, it will need to be possible to delineate ownership boundaries, so that it is clear who is responsible for each asset. Most respondents to our open letter supported these principles.

2.7. To give this effect, existing asset owners would undertake any required work on their assets in order for the new and separable assets delivered by the CATO to connect to, and form part of, the national electricity transmission system (NETS).

2.8. Where, in order to develop its project effectively, the CATO requires particular assets from an incumbent asset owner, we will expect these to transfer to the CATO. For example, preliminary works or land that relates to the tendered assets may need to be transferred or shared with the CATO. Another example might be where there is a complete replacement of an asset, and the TO transfers all or some of the existing asset to the CATO for the purposes of decommissioning and replacing. There could also be circumstances where the CATO needs access to something an incumbent TO owns but that the CATO itself doesn't necessarily need to own, such as the benefit of a particular consent or land right. We are considering whether and how such assets would be included within the scope of a tender exercise, and we would expect proposed transfer or access arrangements to be set out ahead of the tender and factored into bids. Existing asset owners should expect to recover a fair value, determined by us where necessary or appropriate, for any assets that need to

transfer to or be shared with the CATO. We are exploring what mechanisms would be used to determine fair value.

2.9. We propose that electrical separability (eg the use of a circuit breaker at each interface) will not be required for a project to be tendered. Most respondents to our open letter supported this. Ownership interfaces without electrical separability currently exist on the transmission system and any management requirements are dealt with on a commercial basis between parties.

2.10. NGET's response to our open letter noted its concerns with being responsible for operating the transmission system where electrical separability does not exist between parties. We have considered this and, although we do not think electrical separability should be a requirement for tendering, we propose that the SO should consider whether there is a cost-benefit justification for additional electrical separability. We would take this cost-benefit analysis into account and determine whether there is a case for introducing additional electrical separability to the scope of the tender.

2.11. Finally, we propose that assets do not need to be directly and physically connected to one another (electrically contiguous) in order to be tendered. What is important is that the works form part of a coherent package for development.

## **How will projects be identified and progressed before a tender?**

2.12. The criteria for identifying projects for tendering should be embedded in the transmission system planning and funding decision processes so that tendered projects are addressing system needs and so that a tender can occur in good time without delaying delivery. We are seeking your views on the potential process, roles and responsibilities below.

### **RIIO-T1 SWW projects**

2.13. We will consider whether to tender RIIO-T1 SWW projects after considering their needs cases or initial project reports. We will apply the new, separable and high value criteria and consider the effects of tendering projects where incumbent TOs have already done pre-construction work. If the project as a whole doesn't meet the criteria for tendering, we will see if a particular part of it does, and whether it would be efficient to tender that part.

### **Medium and longer term projects**

2.14. In the medium to longer term the SO will be responsible for identifying projects for tendering, and doing the early development works before a project is tendered, as set out in our ITPR conclusion to enhance the SO's role. This will include analysing the capacity to be provided, technology choices and high level routing.

2.15. We consider that this would be done through the new network options assessment (NOA) process that the SO is responsible for. Under the NOA, the SO identifies the needs of the transmission system, options to meet those needs, and recommends the best approach.

2.16. If there's a project that doesn't initially meet the criteria for tendering, we suggest the SO should assess whether there are aspects of it that could form a sensible package of works that does meet the criteria. In response to our May open letter, some stakeholders suggested that projects that don't initially meet the criteria shouldn't be tendered. We consider this could result in projects that may be suitable for tendering being left out, resulting in foregone benefits for consumers.

2.17. We would scrutinise the SO's processes and make the final decision on whether a project meets the criteria and should proceed to a tender. We suggest a new 'tender checkpoint' process where we will review, at various stages of a project's development, whether a tender should proceed. At the initial tender checkpoint, the SO would recommend to us whether a project meets the criteria for tendering and whether there is a technical and economic need for the project to proceed. We would decide whether the criteria are met and which tender model to use. We would also decide the next steps for the project, including the timing of the tender. The tender checkpoint process is described in more detail in chapter 3.

2.18. Stakeholders will be able to provide their views on the NOA process by responding to the annual NOA report, including what options could and should proceed, and whether these options meet the criteria. We encourage stakeholders to take up this opportunity. We recognise that conflicts could arise from the additional roles we expect the SO to take on. We consider these in chapter 4.


### **Generator connections**

2.19. Even though tendering will be limited to SWW projects during RIIO-T1, for projects that begin construction in RIIO-T2 and beyond we will tender any onshore transmission assets that are new, separable and high value. This may include transmission assets resulting from a request to connect to the transmission network, ie generator connections.

2.20. Under existing arrangements in the Connections and Use of System Code (CUSC), in some circumstances a generator can choose to construct its transmission connection assets (which are sole-user assets connecting the generator's system to the TO's transmission infrastructure) before handing them over to the incumbent TO. We are not proposing to change these arrangements for any such assets that are not new, separable and high value.

### **Role of the SO in preliminary works**

2.21. We set out our thinking on early and late CATO build in the next chapter. Under late CATO build, the SO will carry out the preliminary works for the transmission assets before transferring the works to the CATO at the end of the



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tender. These include activities such as commissioning site surveys and environmental assessments, as well as obtaining planning permissions and consents. For RIIO-T1 SWW projects already in development, the TO currently developing the project will continue to do pre-construction and we expect it would be paid for any additional works necessary for the tender.

2.22. Preliminary works need to be done effectively in order for there to be a successful tender and ultimately robust and efficient transmission assets. We are considering licence obligations, as well as potential financial incentives linked to successful delivery, to ensure the SO and TOs deliver these works on time and to a high standard.

## 3. How will the tender work and what will CATOs get?

### Chapter Summary

We propose to continue to develop both early and late CATO build tender models, although in the short term we intend to prioritise late CATO build. We also propose that CATOs should receive an annual revenue stream fixed over a 25-year period without periodic reviews.

**Question 1:** What are your views on our proposed late CATO build tender model? Do you have any views on the basis of bids, use of cost-sharing factors or what risks, if any, it would not be efficient for a CATO to manage during construction?

**Question 2:** What are your views on our proposed early CATO build tender model? Do you have any views on what tender specification would best facilitate innovative but deliverable bids, and how we can best manage cost uncertainty after the tender?

**Question 3:** Do you have any views on the best way to tender projects that use high voltage direct current (HVDC) technology?

**Question 4:** Do you have any views on our proposal to prioritise late CATO build? Do you have any views on specific circumstances where early CATO build might lead to better outcomes than late CATO build?

**Question 5:** Do you have any views on how we could mitigate the risk of a CATO not being in place?

**Question 6:** What are your views on our proposed revenue package for CATOs? Do you have any views on the proposed duration of the revenue term, including how it links to the asset cost recovery period, and whether operations and maintenance costs can be fixed over this period? Do you have any views on our proposed approach to indexation, refinancing and enabling new asset investment?

**Question 7:** What are your views on our proposed package of financial incentives for CATOs? Do you have any views on how we could structure an availability-based incentive to ensure CATOs operate their assets with a 'whole network' view? Do you have any views on whether there are circumstances under which 'payment on completion' would not be appropriate to incentivise timely asset delivery?

**Question 8:** Are there other types of incentives not covered in this chapter that you think should apply to CATOs?





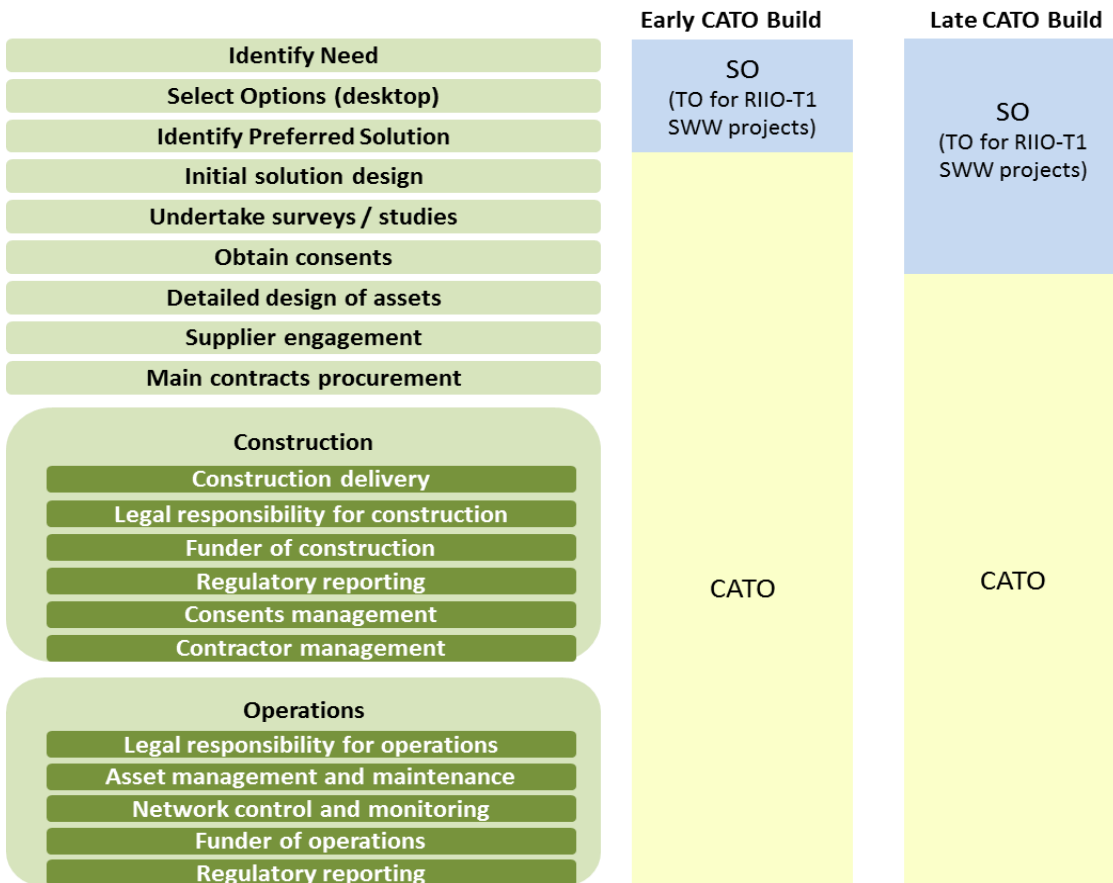
## Extending competition in electricity transmission: arrangements to introduce onshore tenders

3.1. We intend to develop two options, or tender models, for when and how we run a tender and appoint a CATO.<sup>5</sup> We call these 'early' and 'late' CATO build to reflect the point in the project development process when the tender takes place. We expect that CATOs will receive a revenue entitlement and be subject to a range of obligations and incentives to ensure they act in the interest of both consumers and network users. We call this the 'CATO market offering'. We set out further details on the above in appendices 3, 4 and 5.

### Tender models

3.2. Figure 1 below shows the main division of responsibilities under early and late CATO build:

Figure 1: Simple representation of primary responsibilities under early and late CATO build



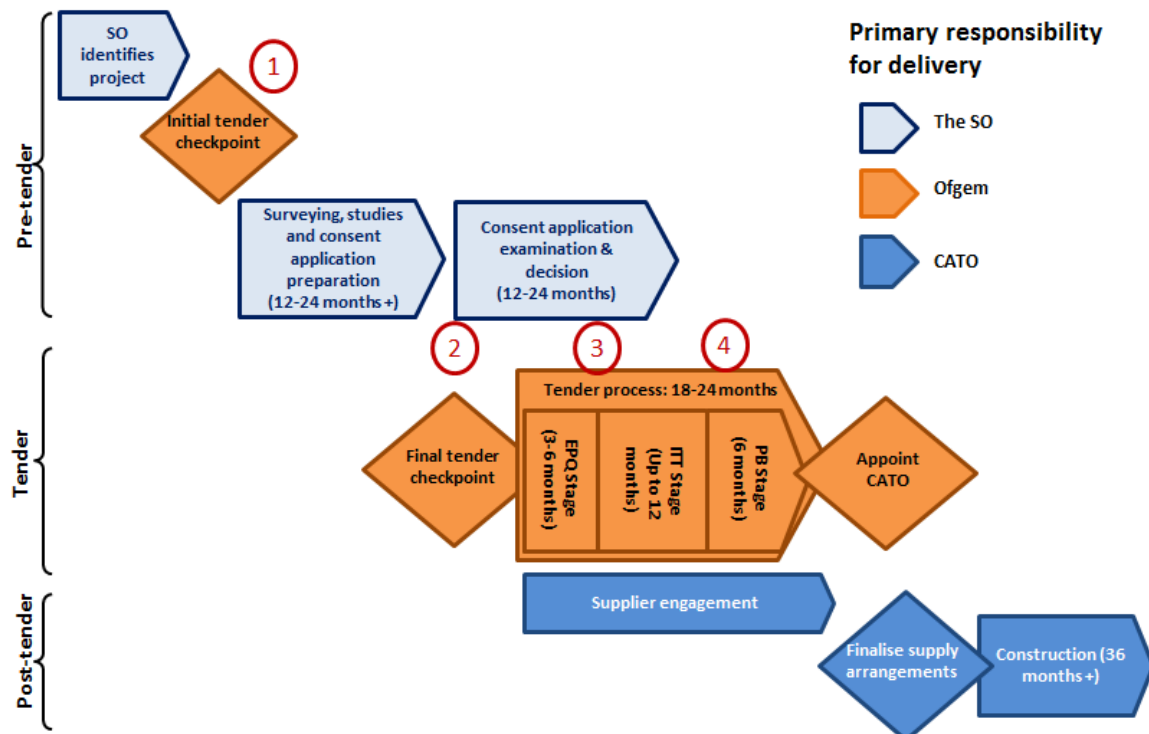
<sup>5</sup> This may involve granting a new licence or amending an existing licence. It would also involve a preferred bidder reaching financial close.

3.3. We plan to continue developing both early and late CATO build as we can see the potential for both models to deliver consumer benefits. We consider however that late CATO build will be more effective for tenders we run in the short to medium term. Late CATO build is likely to be better understood by potential bidders as it more closely resembles other competitive procurement models for public infrastructure, including the models we have developed for offshore transmission. Moreover, for any RIIO-T1 SWW projects, we would need to use late CATO build where an incumbent TO has already taken forward pre-construction.

### Late CATO build

3.4. Figure 2 below shows the main features of late CATO build:

Figure 2: Late CATO build



**Notes:**

1. Initial tender checkpoint would confirm whether a project should be competitively tendered, the tender model to be used, and the optimal time for tender commencement.
2. Before running a tender we would have a final tender checkpoint. This would be our primary project needs assessment and would also inform when we need to run a tender.
3. Some stages of the tender process are likely to take place alongside the preliminary works.
4. Our preference would be to wait until planning consent is granted before we appoint a preferred bidder.

Tender stages: Enhanced Pre-qualification (EPQ), Invitation to Tender (ITT); Preferred Bidder (PB) Stage.  
Exact timings would vary depending on the size and complexity of a project.

3.5. A late CATO build tender would typically start around four to five years before the assets are needed, at a point where there is certainty on what transmission assets will be required, as well as when they need to be delivered. This would introduce competition into transmission procurement, construction and financing, with the tender focusing competition on the project's expected capex and operational expenditure (opex).

3.6. The main inputs to the tender would be a specification prepared by the SO based on system performance requirements and preliminary works, including the parameters of any planning consent.<sup>6</sup> We expect this would enable bidders to submit bids based on detailed design work and supply chain engagement for construction, operations and maintenance. We consider that bids should be fixed-price, possibly with a limited number of reopeners for anything that cannot be efficiently priced during the tender. As such we do not think that applying sharing factors (ie sharing a proportion of over- or underspend on outturn against expected costs between the licensee and consumers) as we currently do under RIIO, would be required or facilitate efficient bids during the tender.

#### *HVDC*

3.7. For projects using High Voltage Direct Current (HVDC) technology we understand that there may be some supply chain challenges, specifically how convertor station design can influence consent applications. This may require procurement of a converter station before consents are secured, and before a CATO would be appointed, in order to meet transmission asset delivery timescales. We consider that, where this is the case, HVDC projects could still be tendered by adapting late CATO build to work around the supply chain, for example requiring the SO to procure the converter station before transferring it to the CATO. This would reduce the scope of competition but we would ensure any procurement done by the SO was economic and efficient.

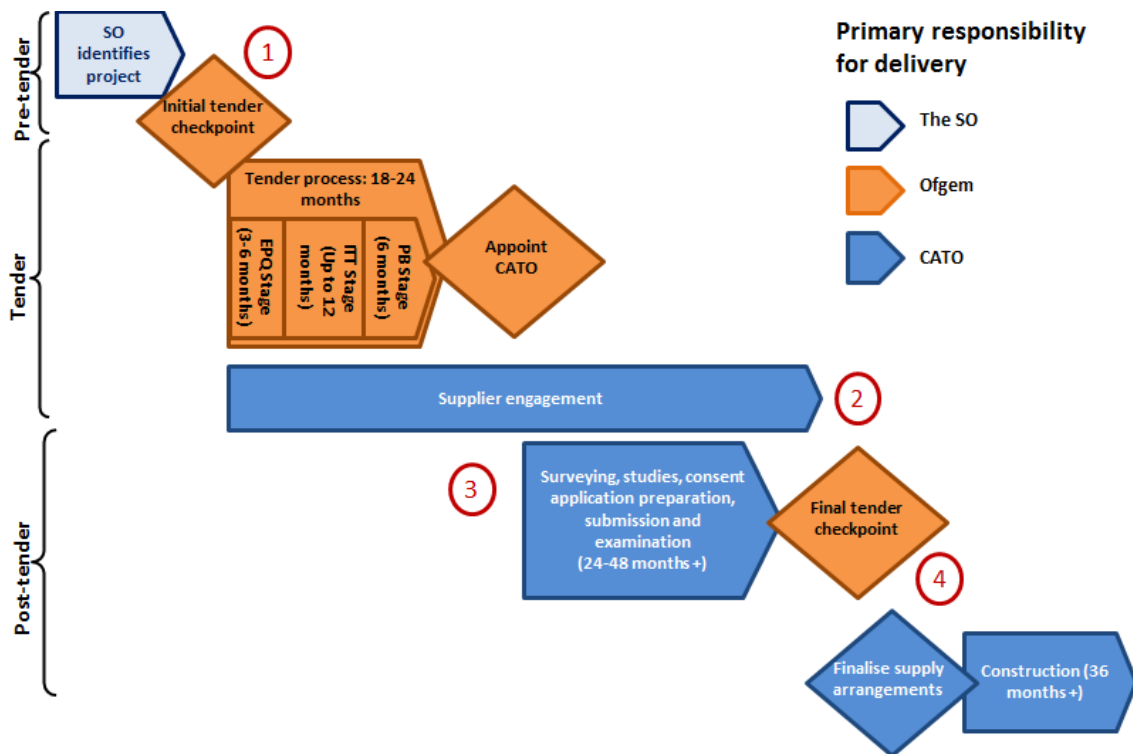
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<sup>6</sup> Preliminary works would be carried out by the incumbent TO for any RIIO-T1 SWW projects.

### Early CATO build

3.8. Figure 3 below shows the main features of early CATO build:

Figure 3: Early CATO build



Notes:

1. Initial tender checkpoint would confirm whether a project should be competitively tendered, the tender model to be used, and the optimal time for tender commencement.
2. We expect bidders would engage with supply chain during the tender, finalise arrangements for preliminary works once appointed CATO and then finalise arrangement for construction and operations after the final tender checkpoint.
3. CATO takes forward preliminary works following the tender
4. Once all preliminary works are complete we would run a final tender checkpoint to confirm project need, prior to construction, and finalise the CATO's allowed revenue stream for construction and operations

Tender stages: Enhanced Pre-qualification (EPQ), Invitation to Tender (ITT); Preferred Bidder (PB) Stage.  
Exact timings would vary depending on the size and complexity of a project.

3.9. An early tender would typically start around seven to nine years before the transmission assets were needed, and would introduce competition into high level asset design (eg voltage type, alternate current or direct current) and consenting (eg detailed route planning). It could therefore potentially unlock additional innovation in system design.

3.10. The main inputs to the tender would be a tender specification prepared by the SO detailing the system performance requirements (ie the need that the project must address). We would not expect this to be very detailed in order to allow for the greatest possible innovation in designs. Bidders would also have access to any relevant information from a project's early development work undertaken by the SO, including environmental and system studies.

3.11. There are uncertainties at this stage of project development, including around planning consent and the required project outputs. So we would expect bidders to bid a best indicative cost for their design, including firm costs where possible and indicative or unit costs otherwise. Our current view is that we would then include mechanisms to deal with potential changes to project design which impact project cost, before finalising a CATO's allowed revenue for construction and operations.

### **Mitigating the risk of a CATO not being in place**

3.12. We intend to introduce a CATO of last resort mechanism to mitigate the risk of a CATO not being in place, either because the CATO is unable to continue with its obligations during development, construction or operation, or because we are unable to appoint a CATO through the tender process. We consider either of these risks unlikely and there are steps we would take before appointing a CATO of last resort. However, CATOs will play an important role within the wider GB transmission system so we consider that we need a back stop mechanism if other measures fail.

### **CATO market offering**

3.13. We outline below our initial views on a package of regulated revenue and incentives for CATOs following both early and late tenders. We have considered a wide range of options, drawing on experience from OFTOs, RIIIO and other public infrastructure procurement. As such, we think this package would benefit consumers by creating a stable, attractive and competitive regime with appropriate allocation of risk. We also think it would ensure CATOs deliver assets within the required timeframe and efficiently operate their assets as part of the GB transmission system.

3.14. We are mindful that this is the first time we have provided a view on the market offering for CATOs, and are consulting now to provide clarity on our initial thinking and possible approach. As such we welcome your views now and as we develop our policy. We intend to finalise the CATO market offering nearer the time of a tender, taking into account market conditions at the time, as well as the specifics of any project.

3.15. We have also published alongside this consultation a report by CEPA, which further analyses some of the issues and options.

## Regulated revenue

3.16. All TOs receive regulated revenue in return for constructing and operating their assets. This is recovered from consumers. We propose that a CATO's annual revenue stream should be bid through the tender process and then fixed for as long as it is economic and efficient to do so, without periodic reviews. We expect that CATOs will own and operate a discrete set of assets, not a large and changing portfolio of assets, which we consider lends itself to a bid revenue stream-based approach. We also consider that this approach supports a wide range of bidding strategies and sources of finance, which may encourage innovation.

3.17. We propose the following core package of regulated revenue for a CATO:

- CATOs would receive a fixed, 25-year revenue stream for construction and operations, with no periodic reviews. We consider that this would facilitate efficient and competitive financing of projects, while potentially allowing other costs, specifically for operations and maintenance, to be fixed.
- In general, consumers should pay for new CATO assets over the same period as other new onshore electricity transmission assets. As the current cost recovery period under RIIO is 45 years, CATOs would partially depreciate their assets over the proposed 25-year revenue term. At the end of the 25-year revenue term the assets would have a regulatory residual value equal to the non-depreciated asset value, which would then be recovered from future consumers.
- A CATO's revenue stream would be indexed to inflation, with bidders proposing the percentage of the total revenue stream they want to index. This would protect consumers from the risk of over- or underindexation, where they might otherwise be exposed to either annual increases in a CATO's revenue exceeding its actual cost increases, or to higher bids with cost contingency built in to mitigate the risk of increases in inflation over the revenue term.
- There would be a refinancing gain share mechanism to ensure consumers benefit from a CATO getting a lower cost of debt financing during its revenue term.
- There would be a mechanism for CATOs to make additional investment in upgrades or extensions to their assets during the revenue term to respond to new network needs, for example new connections, and ensure the network can develop in the most economic and efficient way.

## **Incentives**

3.18. CATOs will play an important role in the GB transmission system. We propose to introduce the following primary CATO incentives to ensure they deliver and operate their assets effectively and efficiently.

### *System reliability*

3.19. Our initial view is that an availability-based incentive may be appropriate to incentivise efficient operations and asset reliability. Asset availability would be within a CATO's control and applicable to all types of projects. We would structure this incentive to ensure it reflects the criticality of CATO assets to the network. We are also considering whether to combine this with another type of incentive, for example relating to energy not supplied. Our initial view is that 10 percent of a CATO's annual revenue should be at risk through underperformance, similar to the arrangements for OFTOs.

### *Asset delivery*

3.20. We think payment on completion (ie commencing a CATO's revenue stream only once its assets are available for use) would create a strong incentive to deliver on time. In certain exceptional circumstances, for example where assets have long construction periods, we may consider allowing some revenue before completion. Revenue would however be tied to a CATO achieving milestones. In either case we do not think that additional delivery incentives are needed.

## 4. Managing conflicts of interest

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### Chapter Summary

The roles of incumbent TOs and the SO could lead to conflicts of interest or opportunities to give one party an advantage in the competitive process. We think there should be transparent measures to ensure that there is a level playing field for all participants and no one is able to unduly benefit from the competitive tender process. Further details are set out in appendix 6.

**Question 1:** Are there any risks or conflicts of interest arising from the SO's role that we haven't identified?

**Question 2:** Are there any risks or conflicts of interest arising from the participation of incumbent onshore TOs that we haven't identified?

**Question 3:** Are there any additional conflicts of interest that we haven't identified?

**Question 4:** What measures do you think would be appropriate to mitigate the risks and conflicts of interest? What additional conflict mitigation measures would be needed if the SO takes on a broader role in supporting competition?

4.1. Incumbent TOs and the SO have existing roles in the network planning and delivery process, and receive funding through price controls. We are also proposing new roles for these parties to support competitive tendering. There is a risk that this could give them an opportunity to gain a competitive advantage in the tender process, favour their interests in decision-making, or benefit disproportionately from being appointed as a CATO.

4.2. Due to conflicts arising from the SO role, we think that if National Grid seeks to participate in any future competitive onshore tender, it will need to do so through a business that is sufficiently separated from the SO. We are considering the benefits of a range of measures, including legal, financial, physical, employee, managerial and information separation. In light of our ongoing work with the government on the future role of the SO, we will also consider what conflict mitigation measures would be needed should there be broader changes to the role of the SO.

4.3. We think that TO participation in competitive tenders would bring greater competitive pressure and therefore value for consumers. We propose that TOs or associated businesses should be able to bid in competitive tenders as long as any conflicts of interest or risks arising from their participation are appropriately addressed.



## Conflicts of interest and related risks

4.4. A successful and robust competitive process relies on confidence from all participants that they are being treated fairly and equally. There are three aspects to creating this confidence and achieving the objectives in chapter 1.

- There should be a **level playing field** for all participants. In other words, no party should have an unfair advantage over any other party.
- The arrangements to achieve this should be **transparent**, so that their effectiveness can be scrutinised and monitored over time.
- Any requirements should be **proportionate**, so that, as far as possible, they do not prevent legitimate activities or synergies between different functions.

4.5. Addressing conflicts of interest and related risks is important because if any participants have, or are reasonably seen to have, an unfair advantage over others, then the competitive tender process could be compromised. For example, if potential participants are discouraged from bidding because they think other bidders have a built-in advantage, it reduces the level of competitive pressure, ultimately reducing the savings for consumers.

### Conflicts from the SO's role

4.6. Our analysis of conflicts and mitigation measures builds on the conflict mitigation measures in the ITPR final conclusions, but recognises that new roles could create further conflicts of interest between the SO function and a National Grid business that seeks to participate in onshore transmission tenders. We think that the key conflicts of interest include:

- The SO will have a role in recommending strategic options to meet system needs through the NOA process. There is a risk that the SO could favour National Grid by supporting non-competed options within NGET's transmission area (which NGET would construct and own) or competed options outside NGET's transmission area (which a National Grid bidding businesses may bid to construct and own).
- The SO has access to sensitive system planning information through its role in the network planning process. There is a risk that a National Grid bidding business could gain access to this information either before or during the tender process, and gain an advantage over other participants.
- Where late CATO build is used, the SO will carry out preliminary works for tendered projects. In these cases it will also have a role in the tender process, for example by providing information and responding to

clarifications from participants. There is a risk that while completing the preliminary works or fulfilling its role during the tender process, it could favour a National Grid bidding business.

- Once the tender has been completed, there is a risk that the SO could provide preferential system operation treatment to NGET over the newly-appointed CATO. The CATO is also likely to give commercially sensitive information to the SO, and there is a risk that this could be used to the advantage of National Grid bidding businesses, such as when preparing bids for subsequent tenders.

### **Conflicts and risks from TO participation in onshore tenders**

4.7. Incumbent TOs' existing roles and status as price control funded network owners could create conflicts of interest or opportunities to gain an unfair advantage. We think the key conflicts of interest and related risks are:

- TOs could potentially gain an information advantage over other bidders where they have completed preliminary works for competed projects (eg for RIIO-T1 SWW projects that are tendered), or alternatively they may have an opportunity to favour themselves or associated competitive businesses when providing information in the tender process or interacting with a newly-appointed CATO within their transmission area.
- Onshore TOs receive revenue through the RIIO price control. We need to ensure that there are no opportunities for cross-subsidy or other undue financial advantages to be gained from TO participation in competitive tenders, and that costs incurred through the competitive tender process cannot be recovered through the price control.

4.8. As the regime develops we will continue to monitor whether other conflicts of interest arise, for example in relation to new entrants or existing CATOs or OFTOs.

### **Potential conflict mitigation measures**

4.9. We think that conflict mitigation measures should contain a mixture of:

- **obligations** – for example on sharing information as part of the tender process, or completing preliminary works in a particular way
- **prohibitions** on certain behaviours – such as favouring one party over another when making decisions
- **scrutiny** – for example from Ofgem or another impartial scrutiny body.

4.10. Conflicts of interest relating to competition can also be mitigated through requirements for separation between different functions of a licensee or different businesses within the same corporate group. There is a range of possible measures, including:

- information separation, through restrictions on information flows or requirements to have separate premises or IT systems
- restrictions on the activities of certain employees and transfers of employees between different functions of a business, or requirements for employees with certain roles to have separate incentives
- managerial separation, for example by requiring decisions to be taken independently or requiring independent directors
- legal separation, for example by having separate licences or companies
- financial separation, by requiring separate accounts or placing restrictions on cross-subsidies between businesses.

4.11. The appropriate combinations of measures above will depend on the roles and conflicts of interest that are being addressed. The arrangements needed for the SO are therefore likely to be different to those needed for TOs.

4.12. We welcome your views on the appropriate package of measures, and we will continue to work with the SO, incumbent TOs and other stakeholders to ensure that we create a level playing field for all participants. We anticipate consulting further on detailed measures as the regime develops.

## Appendix 1 – Consultation Responses and Questions

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1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.3. Responses should be received by 11 January 2016 and should be sent to:

James Norman  
Transmission Competition Policy  
9 Millbank, London, SW1P 3GE  
0207 901 7420  
[TransmissionCompetition@ofgem.gov.uk](mailto:TransmissionCompetition@ofgem.gov.uk)

1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website [www.ofgem.gov.uk](http://www.ofgem.gov.uk). Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

### **CHAPTER: Two**

**Question 1:** What are your views on the proposed detailed interpretations of new, separable and high value (the 'criteria')?

**Question 2:** Under what circumstances do you think asset transfer from an existing asset owner to a CATO would be required, recognising the principle that projects identified for tendering should be new?

**Question 3:** What are your views on our proposal that electrical separability should not be required at each interface, but that the SO can propose it to us if it thinks there is a cost-benefit justification based on system operability?

**Question 4:** What are your views on the suggested process and roles for identifying projects for tendering?

## Extending competition in electricity transmission: arrangements to introduce onshore tenders

- We have proposed specific roles for the SO – do you think there are any additional roles the SO could take on to support competition?
- What's the most appropriate way to ensure that the network options assessment (NOA) considers the widest range of network options, including those that would be tendered?

**Question 5:** What incentives and obligations should the SO and TOs have for undertaking preliminary works for tendered projects, and is there any value in considering a success fee incentive?

**Question 6:** Should CATOs pay for the preliminary works at the point of transfer?

### **CHAPTER: Three**

**Question 1:** What are your views on our proposed late CATO build tender model? Including:

- the basis of bids;
- the use of cost sharing factors; and
- what risks, if any, it would not be efficient for a CATO to manage during construction.

**Question 2:** What are your views on our proposed early CATO build tender model? Including:

- what tender specification would best facilitate innovative but deliverable bids; and
- how we can best manage cost uncertainty after the tender.

**Question 3:** Do you have any views on the best way to tender projects using high voltage direct current (HVDC) technology?

**Question 4:** Do you have any views on our proposal to prioritise late CATO build? Do you have any views on specific circumstances where early CATO build might lead to better outcomes than late CATO build?

**Question 5:** Do you have any views on how we could mitigate the risk of a CATO not being in place?

**Question 6:** What are your views on our proposed revenue package for CATOs? Including:

- the proposed duration of the revenue term, including how it links to the asset cost recovery period and whether operations and maintenance costs can be fixed over this period; and
- our proposed approach to indexation, refinancing and enabling new asset investment.

**Question 7:** What are your views on our proposed package of financial incentives for CATOs? Including:

- how we could structure an availability-based incentive to ensure CATOs operate their assets with a 'whole network' view;
- the proportion of a CATO's annual revenue that should be at risk; and
- whether there are circumstances under which 'payment on completion' would not be appropriate to incentivise timely asset delivery.

**Question 8:** Are there other types of incentives not covered in this chapter that you think should apply to CATOs?

**CHAPTER: Four**

**Question 1:** Are there any risks or conflicts of interest arising from the SO's role that we haven't identified?

**Question 2:** Are there any risks or conflicts of interest arising from the participation of incumbent onshore TOs that we haven't identified?

**Question 3:** Are there any additional conflicts of interest that we haven't identified?

**Question 4:** What measures do you think would be appropriate to mitigate the risks and conflicts of interest? What additional conflict mitigation measures would be needed if the SO takes on a broader role in supporting competition?

## Appendix 2 – Identifying projects for competition

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### Introduction

1.6. As summarised in chapter 2, we propose to tender brand new or complete replacement transmission infrastructure projects that are worth £100m or more. We also propose to give the SO additional roles through the NOA for identifying projects suitable for tendering, and for undertaking preliminary works for some projects. In this appendix we provide further detail on these areas, including additional rationale for our views.

### High value

1.7. We propose setting 'high value' at £100m and above in expected capex. We do not think there should be a maximum value for tendering. We also think that the threshold should be kept under review and we will revise it if necessary to ensure that tendering is used where it can bring benefits for consumers.

### Justification for £100m threshold

1.8. We have taken several considerations into account in determining what high value threshold to propose for onshore tendering.

1.9. The primary consideration has been to establish a threshold where we think the benefits of tendering will significantly outweigh the costs. There are several variables associated with this, such as the costs of setting up the tendering regime, the administrative costs of tendering individual projects, the potential savings that competition will bring, and the number and value of projects that will come forward. Our ITPR impact assessment set out some illustrative scenarios showing what level of savings may need to be achieved to outweigh costs.<sup>7</sup> The scenario analysis formed just one part of the ITPR impact assessment but showed that even with quite modest savings, consumers would be likely to benefit from the introduction of competitive tendering.

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<sup>7</sup> Ofgem, Integrated Transmission Planning and Regulation (ITPR) project: final conclusions, Impact Assessment – Supporting Document, 17 March 2015, [https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/itpr\\_final\\_conclusions\\_impact\\_assessment\\_publication\\_final.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/itpr_final_conclusions_impact_assessment_publication_final.pdf).

1.10. Demonstrating the potential costs and benefits of different high value thresholds can be illustrated through a series of scenarios, shown in figure 4. The scenarios below assess the impact of setting a threshold at different levels (£50m, £100m and £200m):

- if there is only ever one project that came forward for tendering, and
- if that project is exactly at the threshold level.

1.11. These are not necessarily realistic scenarios, but use conservative assumptions to illustrate higher risk scenarios for consumers. Should more or higher value projects be tendered, which we consider highly likely, costs can be minimised through economies of scale for administering tenders and bidding on them.

Figure 4: Scenario analysis of different tendering thresholds<sup>8</sup>

	Threshold at £50m and only one £50m project is tendered	Threshold at £100m and only one £100m project is tendered	Threshold at £200m and only one £200m project is tendered
<i>Set-up costs</i>	£3m	£3m	£3m
<i>Ofgem tender costs</i>	£0.5m	£1m	£2m
<i>Bidder costs</i>	£1m	£2m	£4m
<i>Total costs</i>	£4.5m	£6m	£9m
<i>Minimum savings required (percentage of asset value) so that benefits outweigh costs</i>	9%	6%	4.5%

1.12. Analysis completed by CEPA/BDO found that the first tender round for offshore transmission resulted in 14% savings when compared to relevant price control counterfactuals.<sup>9</sup> Therefore, there would be more risk to consumers of using a £50m

<sup>8</sup> Cost estimates are taken from our ITPR impact assessment. Ofgem tender costs were estimated at 1% of capex costs. Bidder costs were estimated at 2% of capex costs. Total costs do not account for costs that we have not quantified such as interface and SO costs. As noted in our ITPR impact assessment, we do not consider these costs to be significant, particularly as the cost estimates also do not account for costs that will be offset in other areas, such as our costs of assessing SWW submissions.

<sup>9</sup> This is expressed as a percentage of the net present value of the total tender revenue streams for tender round 1, whereas the scenarios above express estimated costs and



threshold, if tendering onshore achieves lower savings than it does offshore. Using a £100m threshold will mean that even under a conservative scenario, there is a strong likelihood that the savings will outweigh costs. A £200m threshold would mean an even stronger likelihood, but it would also mean that potential savings on tendering projects between £100m-£200m in value would be foregone.

1.13. Another consideration in setting the high value threshold is establishing a level that would attract competitive market interest from potential bidders. In response to our May open letter, many stakeholders thought that £100m was an appropriate threshold. Many respondents also indicated that there would be significant and competitive market interest in £100m+ investments and several indicated that they would bid for projects of this value. One respondent indicated it would prefer to start with £100m+ investments and then potentially add lower value ones as part of a portfolio. Another stakeholder supported a £100m threshold on the basis that bidder costs would initially be relatively high since knowledge and processes would be new, but that over time costs would decrease. Another respondent pointed out that most SWW projects are above £100m and since tendering will be limited to these projects during RIIO-T1, few projects would be omitted from tendering if a £100m threshold is used.

1.14. As noted above, some stakeholders consider that the threshold could be lower than £100m. We accept that there could be value in tendering projects below £100m. However, it would be less certain that the benefits would outweigh the costs. It is also possible that there wouldn't be as much bidder interest for lower value projects.

1.15. Other stakeholders consider a higher threshold would be more appropriate, in order to ensure the benefits of tendering outweigh the costs. We consider that the benefits are likely to significantly outweigh the costs at £100m, so a higher threshold would increase the risk that consumers miss out on potential savings.

1.16. One respondent considered that a £100m high value threshold would mean that more potential SWW projects in the transmission areas of Scottish Hydro Electric Transmission (SHE-T) and SP Transmission (SPT) could be tendered compared to those in NGET's transmission area. This is because the eligibility threshold for whether a project can be considered under the SWW mechanism varies by TO. For NGET, the SWW threshold is £500m, whereas SHE-T's threshold is £50m and SPT's is £100m. We note that the different SWW thresholds were proposed by the individual TOs, submitted to us in their RIIO-T1 business plans, consulted upon, and decided at RIIO-T1. We set out in our 2012 RIIO-T1 final proposals that SWW projects could be tendered, and our current proposals for tendering do not change that decision.

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required savings as a percentage of capital value. If the scenarios instead used net present value of the total tender revenue streams, which also include costs such as operations and maintenance and financing, the costs and required savings would be lower.

1.17. Balancing each of the above considerations, including stakeholder feedback, we propose to use a £100m threshold. We intend to keep the threshold under review.

### **Capex or whole life costs**

1.18. We consider that the high value threshold should be calculated using expected capex rather than whole life costs.<sup>10</sup> We think capex is an appropriate measure because it is relatively simple and straightforward to calculate and it is a reasonable proxy for whole life costs. Whole life costs may provide a more complete picture of the overall project costs, but they are relatively less certain, making it more difficult and complex to agree appropriate estimates. The majority of stakeholders supported using capex, while a minority thought whole life costs were more appropriate.

### **New and separable**

1.19. Most respondents to our open letter supported the principles we set out for new and separable. We consider that tendering projects that meet these parameters would mean that tendering is used for relatively straightforward and discrete transmission projects, which minimises the overall complexity of delivery by the CATO, and therefore reduces costs and maximises benefits to consumers.

1.20. For a project to be considered new and separable we propose that it should include the construction of transmission assets where:

- transmission assets don't currently exist, or where new transmission assets will completely replace existing ones, and
- ownership boundaries can be clearly delineated, so that it is clear who is responsible for each asset.

1.21. New and separable assets would therefore include one or more of:

- a brand new overhead line, cable or substation; or
- a complete replacement of an existing overhead line, cable or substation.

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<sup>10</sup> This is only for the purposes of determining whether the project meets the high value threshold for tendering. CATOs will be competitively selected to construct, own and operate transmission assets over a defined revenue period at a cost for these activities determined through the tender.

## **Completely or substantially new**

1.22. In our May open letter, we asked for views on the extent to which tendered assets should be completely new. Some stakeholders, as well as Jacobs, our technical advisers on this work, suggested that there may be value in defining the criterion as 'substantially new'. This was based on their view that there will always be interfaces between new assets and the existing transmission network, and that where such interfaces exist (for example at a substation), there may be value in ensuring those existing assets (in this case the relevant substation) are transferred to the CATO. Jacobs suggested that up to 15 per cent by capital value of existing transmission assets could be transferred to the CATO within a tendered project, and as such the project would still meet a 'substantially new' criterion. Respondents to our open letter were split on whether there should be the option for the scope of tendered assets to include some existing assets that may transfer to the CATO.

1.23. We think it is simpler and more efficient not to follow Jacobs' suggestion of including existing assets in the definition of new. We think this will help CATOs bid efficient costs as they will not have to take on responsibility for existing assets which may require significant maintenance or upgrading. We therefore don't propose to define new as 'substantially new' or include a percentage threshold of existing assets. We propose that existing asset owners would undertake any required work on their assets in order for new and separable assets taken forward by the CATO to connect to, and form part of, the NETS. If the CATO and TO agree that transferring assets would enable efficient construction and operation, they can agree to this on a commercial basis, as long as it complies with any licence obligations. We set out particular circumstances where asset transfer may be required in chapter 2.

## **Electrical separability**

1.24. We consider that there should be clear ownership and control boundaries between interfacing parties, but that electrical separability (eg the use of a circuit breaker at each interface) should not be a prerequisite for whether a project should be tendered. While electrical separability at each interface could provide benefits to asset operation, it also has a cost. If electrical separability at each interface is not the right design choice, we don't think it should be added for the sake of tendering, unless there are net financial benefits of doing so. We also don't think it's needed simply because there is another party operating part of the system, since ownership interfaces without electrical separability currently exist in the transmission system. Most respondents to our open letter supported this approach.

1.25. NGET noted in its response to our May open letter that it has concerns with being responsible for operating the transmission system where electrical separability did not exist between parties. Given this, and that some of the risks may arise case by case, we propose that it will be the SO's role to submit to us a cost-benefit analysis of the impact of introducing additional electrical separability for an interface that wouldn't already have it. Based on our assessment of the SO's case, we would determine whether to introduce additional electrical separability to the scope of the tender.

## **Electrical contiguity**

1.26. We propose that assets do not need to be directly and physically connected to one another (electrically contiguous) in order to be tendered. Many stakeholders supported this position in response to our May open letter. However, in determining what package of works goes out to tender, we think it is important that the works form a coherent combination from a delivery perspective. This means there needs to be a clear reason why certain works should be taken forward together, such as similar drivers for the works overall, or similar geography, technology or timing.

1.27. Some stakeholders were concerned that not requiring electrical contiguity could lead to increased fragmentation of the electricity system, and more interfaces between parties, which carries management costs. On the other hand, the network already has a number of TOs (including OFTOs) and DNOs, and these interfaces are managed. We expect licensees to work effectively together and that industry codes will have arrangements in place to ensure that interactions with new parties happen effectively and efficiently.

## **Approaches for applying the criteria**

1.28. In our May open letter we also sought views on what should happen if a project doesn't initially meet the criteria for tendering. We set out three alternative approaches:

- The first approach was a 'strict' application of the new and separable criteria. Here, if a project doesn't initially meet all aspects of the new and separable criteria, it wouldn't be tendered.
- The second approach was to re-examine the package of works to see if there are elements that could be identified as new, separable and high value, and appropriately carved out for tendering. For example, if a project contained some overhead line upgrades, as well as a new subsea cable and a new substation, the cable and substation could potentially be carved-out to form a new, separable and high value project.
- The third potential approach would be to more loosely define 'new' as 'substantially new', which would require some asset transfer from an incumbent owner to a CATO.

1.29. Most respondents supported the second and third approaches, with few supporting the strict approach.

1.30. We propose to use the second approach. Under this approach, the SO would assess whether there are aspects of the project that form a sensible package of works that meet the criteria and should be tendered. This should take into account overall deliverability, such as the location of the works, the anticipated timescales, and the relationship between the new assets and the existing network. Any elements or projects that don't meet the criteria would be taken forward by the incumbent TO.

1.31. We consider that the strict approach could result in potential new, separable and high value projects not being tendered, resulting in foregone benefits for consumers. Given our position on the definition of 'new', we do not think defining new as 'substantially new' is appropriate.

1.32. We will scrutinise the process throughout. This includes examining whether projects have been deliberately packaged to avoid meeting the criteria. In addition, through scrutiny of the annual NOA report, we expect to work with the SO and other parties to understand the reasoning for their recommendations on the criteria and may direct additional analysis where necessary.

## Identifying projects for tendering

1.33. We think that a robust and streamlined process that clearly and efficiently identifies projects for tendering will be in the interest of consumers. We propose to embed applying the criteria into the system planning processes already in use and being developed. In doing so, we will ultimately decide whether a particular project meets the criteria for tendering and whether it should proceed to tender.

1.34. Below we explain how we think projects should be identified for tendering, including how the criteria should be applied. We expect there to be an interim process for RIIO-T1 SWW projects that differs from the longer term process.

### RIIO-T1 SWW projects

1.35. We will consider whether to tender RIIO-T1 SWW projects after considering an incumbent TO's SWW submission. We recognise that, in addition to considering whether these projects are new, separable, and high value, we will also need to consider the effects of tendering projects where incumbent TOs have already undertaken pre-construction work.

1.36. After considering the SWW submission, we will set out:

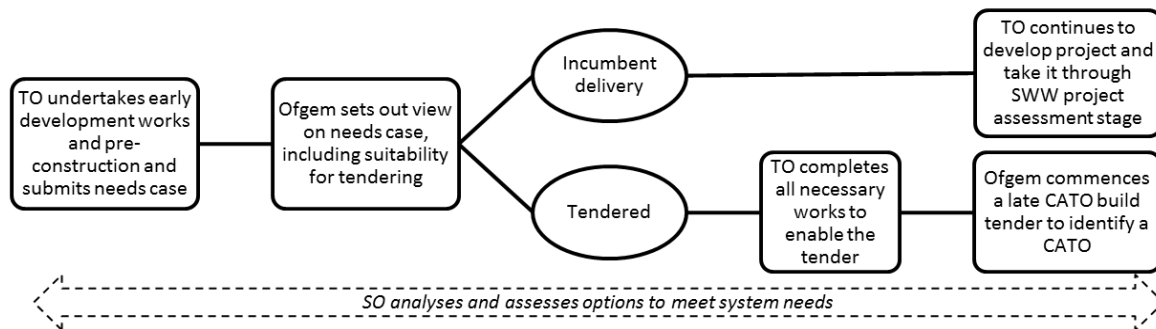
- our view on whether the project meets the criteria for tendering
- our view on how suitable the project is for tendering, taking into account the pre-construction work already undertaken by the incumbent TO and the effect of tendering on timing
- the next steps we expect the TO to take if the project is to be tendered, such as completing pre-construction activities and any further

## Extending competition in electricity transmission: arrangements to introduce onshore tenders

submissions needed before launching a tender (eg submission of a final needs case).<sup>11</sup>

1.37. Figure 5 sets out how we expect RIIO-T1 SWW projects to progress before a tender.

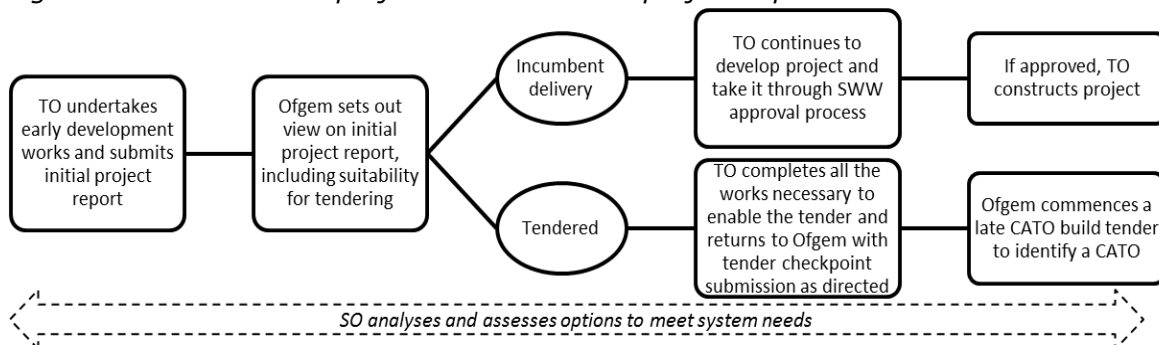
Figure 5: RIIO-T1 SWW projects without an initial project report



1.38. Prior to the TO submitting a needs case the SO will have assessed the options available to meet the specific system need. The SO will make a recommendation to the TO and Ofgem on which option best meets the need. The TO must include the SO's analysis in its needs case submission and if it is recommending a different solution explain why.

1.39. We are currently modifying the SWW guidance to include an initial project report stage for some projects. For any projects going through this new stage, we will set out our view at that stage on whether the project is suitable for tendering. We are in discussions with TOs on which projects will go through the initial project report process. Figure 6 outlines how this initial project report would interact with a decision to tender.

Figure 6: RIIO-T1 SWW projects with an initial project report



<sup>11</sup> For other roles and responsibilities of TOs and the SO during the tender process see appendix 3.

*Funding and obligations for the TO to complete necessary works*

1.40. Where RIIO-T1 projects are tendered, we expect the TO to transfer all necessary preliminary works undertaken on the project to the CATO. We expect this to include works such as surveys, assessments, designs, studies, site investigations and consents.

1.41. Where the transfer or sharing of preliminary works occurs, TOs should be no worse off than they would be under RIIO-T1. We will consider whether TOs should be additionally incentivised to ensure preliminary works are delivered on time and to a high standard. We would also enable the TO to recover costs that it may incur in supporting the tender process, such as the costs of preparing and maintaining information in a project data room or responding to bidder clarifications.

**Medium and longer term projects**

1.42. For projects that would begin construction after RIIO-T1, we set out in our ITPR conclusions that the SO will be responsible for (among other roles):

- identifying potential projects for tendering, and doing the early development works for those projects, such as analysing the capacity to be provided, technology choices and high level routeing
- recommending whether a project meets the criteria for tendering
- proposing to us whether there is a technical and economic need for the project to proceed.

1.43. We would scrutinise the SO's recommendations, and make the final decision on whether a project meets the criteria and should proceed to a tender. We recognise that some stakeholders have concerns about the conflicts that these roles could create. We consider such issues in chapter 4 and appendix 6.

1.44. The SO and TOs should both be identifying and considering options that would address system needs. Given its whole-of-system view, the SO is particularly well placed to identify and consider options that the TO hasn't put forward, including innovative solutions and those that meet the criteria for tendering. Following our ITPR conclusions to enhance the role of the SO it now has a responsibility to ensure a full range of options are considered.

1.45. The existing NOA process is outlined in figure 7. We intend to integrate the SO's roles in identifying, progressing and recommending projects for tendering into the NOA in due course. In each NOA report, we suggest that the SO should recommend which options it is analysing meet the criteria for tendering. The SO should also explain which options don't meet the criteria and why.

**Figure 7: The Network Options Assessment (NOA)**

Under its existing NOA responsibilities, the SO, in coordination with TOs and in consultation with other stakeholders:

- identifies the needs of the electricity transmission network and where additional interconnector capacity could be of value to GB consumers
- identifies and assesses options for meeting the future needs of the network and for new interconnection, recommending a preferred option
- leads the early development of certain offshore wider works.

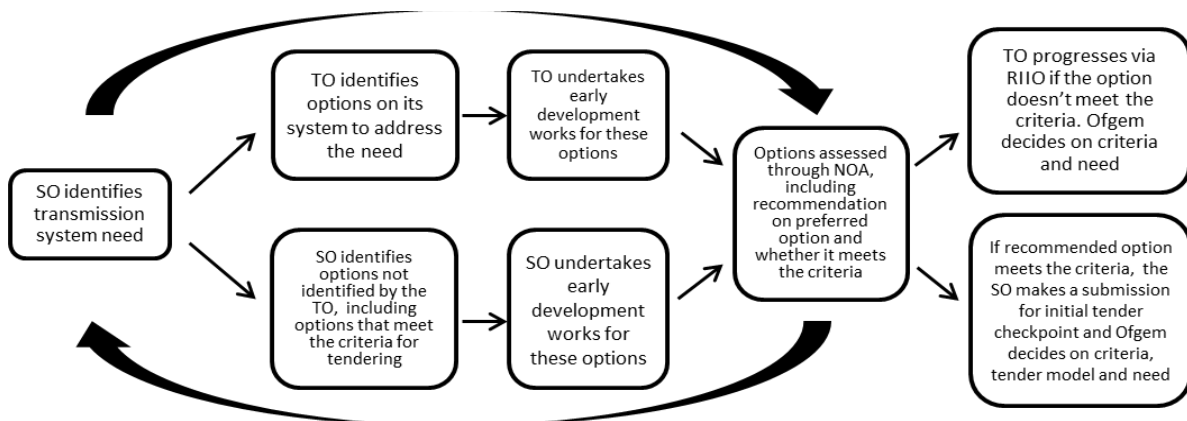
The NOA has a 10-year outlook, and will be updated annually. The first NOA report will be published in March 2016, and subsequent NOA reports will be published in January of each year.

1.46. We will review and approve the NOA methodology, which sets out how the SO will annually undertake the NOA’s analysis and recommendations. We will also scrutinise the report. We will discuss the conclusions of the NOA report with the SO and may direct additional analysis where necessary.

1.47. Stakeholders will also have the opportunity to provide their views on the NOA report, including what options could and should meet system needs, and whether these options meet the criteria for tendering. We encourage stakeholders to take up this opportunity so that the widest possible range of options and views is considered.

1.48. Figure 8 shows a simplified NOA process with these roles integrated. We will set out more detail on this in due course.

*Figure 8: Simplified proposed pre-tender project identification process*





*Early development works*

1.49. The SO will be responsible for undertaking early development works for options not identified by the TO, including options that meet the criteria for tendering. These are the works necessary to be able to compare the option to alternative options, including the 'do nothing' option, in order to select a strategic option to progress.

1.50. We expect these works to mostly include desktop studies of the potential capacity needed, expected costs and high level technology choices. They may also include an initial environmental assessment and consultation with stakeholders.

1.51. Alongside this, the local incumbent TO may also be doing the early development works on other potential options. Interactions between the SO and TO in the early development phases should be efficiently managed. For example, for any public consultation on potential options, we would expect the SO and TO to work together to avoid duplication and to ensure consultees have a full picture of what is under consideration.

*Recommendation and decision on tendering, and the tender checkpoint process*

1.52. While the SO will be responsible through the NOA for recommending an option for development and recommending which projects meet the criteria for tendering, we will ultimately decide whether the criteria have been met and which tender model to use. We will also determine whether to run a tender based on whether we agree that there is a need for the reinforcement and therefore whether it is in consumers' interests for the project to proceed.

1.53. In order to give this effect, we suggest implementing a tender checkpoint process. This will help us determine, at various stages of a project's development, whether it should proceed. We expect our determinations would be based on similar principles as we use in SWW needs case analysis, such as justification for the project (including the proposed scope and timing), a cost-benefit analysis, and an explanation of how the proposed investment would best meet system requirements.

1.54. The initial tender checkpoint would be led by the SO. We suggest that, where in the SO's view a project meets the criteria:

- the SO would prepare and submit to us evidence on why the project meets the criteria
- the SO would also explain why there is a technical and economic need for the project.

1.55. The timing of this submission would be driven by the SO's analysis of when the assets are needed, and therefore when the preliminary works for the assets should begin.

1.56. At the initial tender checkpoint we would:

- determine whether the project meets the criteria for tendering
- determine whether there is a technical and economic need for the project
- determine what the economic and efficient scoping of a tender would involve and choose whether to apply early or late CATO build
- determine an indicative date to launch a tender.

1.57. There would be a further tender checkpoint, but when it takes place would depend on the tender model used. For late CATO build there would be a pre-tender checkpoint, and for early CATO build there would be a final tender checkpoint before the CATO launches construction. The purpose of these checkpoints would be to revisit the technical and economic need for the project to ensure it is still in the interest of consumers to progress. These checkpoints are described in appendices 3 and 4.

### **Generator connections**

1.58. Tendering will be limited to SWW projects during RIIO-T1 but for projects that start construction in RIIO-T2 and beyond, we will apply tendering to any onshore transmission assets, including those resulting from applications to connect to the GB transmission system (ie generator connections), where they are new, separable and high value. We expect that the SO will be responsible for identifying any such projects through the connections application process.

1.59. At the connection offer stage, we envisage the SO would indicate whether it considers the transmission construction works in the offer meet the criteria for tendering. When offers that meet the criteria are accepted, the SO would notify us of the project. We would then work with the SO and the generator to determine the timing for the tender and the roles and ongoing responsibilities for the SO and generator. We will consider these roles and responsibilities further once we have more information on potential generator connections that would meet the criteria.

1.60. We do not currently anticipate that there will be many generator connections that meet the high value criterion, so most will continue to be developed under current processes. However, we are keen to understand the potential project pipeline of transmission projects that might meet the criteria for tendering in more detail. In particular, during the implementation stage and before the SO's formal roles are implemented, we encourage stakeholders to get in touch with us if they are aware of future investments that may meet the criteria for tendering.

1.61. Under existing arrangements set out in the CUSC, in some circumstances a generator can choose to construct its transmission connection assets (which are sole-

user assets connecting the generator's system to the TO's transmission infrastructure) before handing them over to the incumbent TO. We are not proposing to change these arrangements for transmission assets that don't meet the criteria.

## **Role of the SO in preliminary works**

1.62. Where late CATO build is used for projects needed after RIIO-T1, the SO will carry out preliminary works and support the tender process. High-quality, efficient, transferable preliminary works delivered on time will be key to the success of the tender and the project. We therefore think it appropriate to ensure that the SO is appropriately structured, skilled, financed and incentivised to meet these requirements.

1.63. The SO has some natural incentive to carry out the preliminary works to a high standard and to deliver on time because it is responsible for operating the transmission system. But, as it will not construct or own the resulting infrastructure, it would not face the full consequences of late, low quality works or inefficient spending.

1.64. We therefore think there should be obligations and incentives on the SO, to ensure it does the preliminary works efficiently, to a high standard and on time.

## **Funding, obligations and incentives**

1.65. We intend to place obligations on the SO, through its licence, to carry out the preliminary works efficiently and to a high standard.

1.66. The SO should be able to recover its costs for doing the preliminary works. The funding could be provided upfront or it could be staged so that payments coincide with delivery of outputs. We would determine the level of funding for these works before they start, as well as any cost mechanisms for higher or lower than expected outturn costs.

1.67. In addition to the funding and obligations described above, we could further incentivise the SO through a one-off 'success fee' if the tender is successful, ie if we appoint a CATO. The success fee could incentivise the SO to do what it can to make sure the tender is successful, ie support the tender process efficiently and deliver the preliminary works on time and to a high standard.

1.68. The success fee would be paid to the SO, either capitalised into the SO's asset base or as a cash sum. We would pay the success fee when we appoint the CATO (before construction starts) because (i) it is a clear point that marks the responsibility for the project transferring to the CATO, (ii) the SO would be rewarded as soon as its role in the tender process has ended and (iii) appointment of the CATO is an objective measure of success.

1.69. If we were to adopt this approach, we could structure the success fee with a 'balanced scorecard' approach or with a simple binary success fee (where the SO would either get all the success fee for meeting all the requirements or none of the success fee, depending on whether the tender was successful). A balanced scorecard approach would allow us to consider various aspects of the quality and timeliness of the deliverables and link our assessment to the amount of success fee granted. For example, we could consider how well the SO supported the tender process and to what extent the quality of the preliminary works supported efficient bids. This approach would be more flexible than a simple binary success fee. On the other hand, a balanced scorecard could be more complex to implement and could be seen as being more subjective. To limit subjectivity, we would need to use clear criteria to assess the deliverables.

1.70. We have also considered a 'reflective returns' approach to structuring any success fee, where the size of the success fee could be a proportion of the savings made through the tender. This approach would be effective in aligning the incentives of the SO with those of the bidders but would need a counterfactual for each project to compare costs against, making it complicated to implement. We are not, therefore, proposing to implement a reflective returns approach but we may consider this option further in future, once we have run the first few tenders.

1.71. Following responses to this consultation, we will think more about which incentives we should use and how they should be structured.

### **Liability for preliminary works**

1.72. We do not expect there to be significant liability associated with preliminary works. Where there are liabilities associated with the preliminary works, we do not consider it appropriate to require the SO to provide indemnities to the CATO. Instead, where necessary and proportionate, we will consider using a licence mechanism to allow the CATO to recover any economic and efficient costs incurred due to problems with the preliminary works.

### **Transfer of preliminary works**

1.73. The SO will transfer the preliminary works to the CATO at the end of a tender so that the CATO is able to start constructing the transmission assets and can meet its licence obligations.

1.74. Given that we would fund the SO to carry out preliminary works, if the CATO pays the SO for these works, the SO will be funded twice. To avoid this, either (i) the CATO would pay for the works (at a value determined by us) and the SO would refund the money to consumers through TNUoS charges (see figure 9) or (ii) the CATO would not pay for the preliminary works (see figure 10).

Figure 9: Transfer of preliminary works with payment

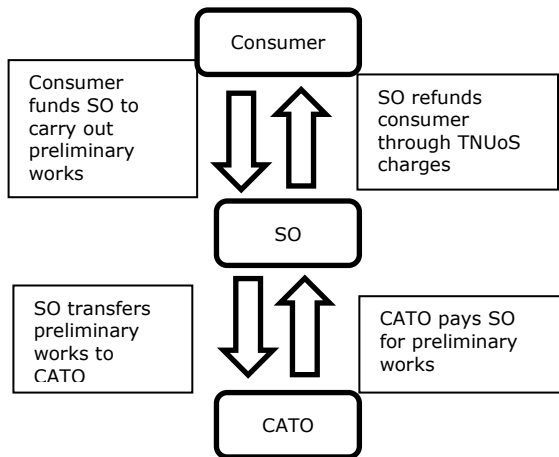
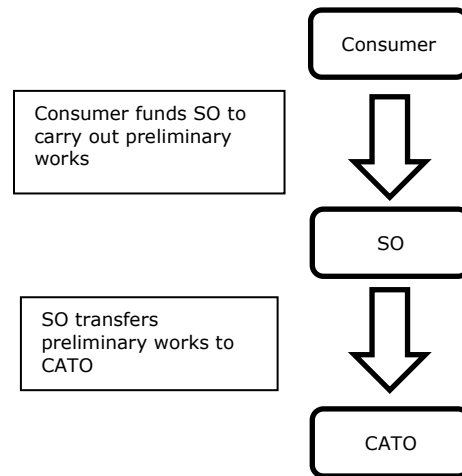


Figure 10: Transfer of preliminary works without payment



1.75. If the CATO pays for the preliminary works, the cost of the works would be included in the CATO’s revenue stream and spread over the economic life of the transmission assets, meaning that the cost would be shared across current and future consumers. However, the CATO would need to raise funding to pay for the preliminary works. The cost of financing this expenditure would increase its revenue stream slightly and would ultimately be paid for by consumers through transmission network use of system (TNUoS) charges. If the CATO does not pay for the works, current consumers would bear all of the costs of the preliminary works, whereas both current and future consumers would benefit from them.

1.76. Once the preliminary works are transferred to the CATO, the CATO will own them and could benefit from them if it sold them on. It could be argued that if the CATO could make a profit from these preliminary works, it should pay for them. If the CATO does not pay for preliminary works, we would however set the regulatory asset value (RAV) of the works as zero. This means that, from a regulatory perspective, the assets would have no monetary value.

## Appendix 3 – Late CATO build

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### Late CATO build tender design

#### High level construct

1.78. Under late CATO build, the successful bidder will be responsible for procurement, finance, construction, operation and maintenance of the transmission assets. Preliminary works would be completed by the SO<sup>12</sup> before being transferred to the CATO at the end of the tender.

1.79. Late CATO build has the potential to deliver benefits through the tender process by encouraging efficiencies in:

- procurement, including bringing new entrants into the supply chain for electricity transmission and alternative approaches to contract management
- construction, including parties taking different approaches to construction management and risk management
- finance, including bringing in new investors and using a range of different financial products to fund construction of transmission assets
- operations and maintenance, including different approaches to asset management over the asset lifecycle.

1.80. As we will be running the tender at a point in the project development process where there is considerable clarity on the required option, we think there is most value in getting bidders to propose fixed costs at the ITT stage of the tender.

#### Establishing project need and triggering a tender

1.81. We recognise that project need may change over time, in terms of whether a project is required and its necessary outputs. We currently have a process for SWW projects where we ensure need is established before we provide funding for construction. This helps to manage project uncertainty and ensure consumers do not pay for assets that are not needed. We propose to introduce tender checkpoints, mapped to key decision points in the project development lifecycle, to ensure that investment in the transmission network is required before progressing with the

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<sup>12</sup> For RIIO-T1 SWW projects incumbent TOs would complete preliminary works.

tender. The tender checkpoints will also help support an efficient tender process where bidders can be certain that a project being tendered will go ahead.

1.82. Details of the initial tender checkpoint are set out in appendix 2. For late CATO build there would then be a final tender checkpoint, later in the project development process. We expect it would occur around the point that the SO submits its planning or consent application for the project. A number of factors may have changed since the initial checkpoint, including ultimately whether the project is needed. The SO will prepare the needs case to be submitted to us and we expect this would involve revisiting information used as part of the NOA process where applicable. We expect at this checkpoint the SO would:

- confirm the status of the planning consent application (ie whether submitted or under examination) and preliminary works in general, including expected timescales for these to be ready to transfer to a CATO
- confirm the required delivery date for the project, including the main project drivers (eg new generation connecting) and how certain these are.

1.83. We would evaluate this information and confirm when the tender will start, if we are satisfied that the project is required. We would also confirm what we would expect the SO to do in order to support the tender process (eg populate a secure project data room).

### **Tender specification**

1.84. For late CATO build we propose that the tender specification is driven by the SO's requirements for the project. The SO would give us a tender specification as an output from the final tender checkpoint. We expect that the tender specification should be informed by:

- general system requirements, including for example any required boundary transfer capacity
- any relevant connection agreements, for example between the SO and generation or demand customers. This would include the capacity required for new or existing connections, as well as the location of connection points and interfaces
- the design requirements in the planning consent application. Specifically the details of route corridors and planning envelopes, including any requirements from the environmental statement
- other preliminary works, including early design works and surveys or system studies.

1.85. We expect that all this information would be made available to bidders to enable them to develop detailed designs, potentially through a secure project data room (as we use for offshore tenders).

### **Tender stages & timings**

1.86. We consider that, in general, 18-24 months from launching a tender to appointing a CATO is practical, deliverable, and will allow enough time for bidders to prepare bids without tendering leading to delays in project development. Table 1 summarises our current thinking on the different tender stages:



Extending competition in electricity transmission: arrangements to introduce onshore tenders

Table 1: Tender stages and timings

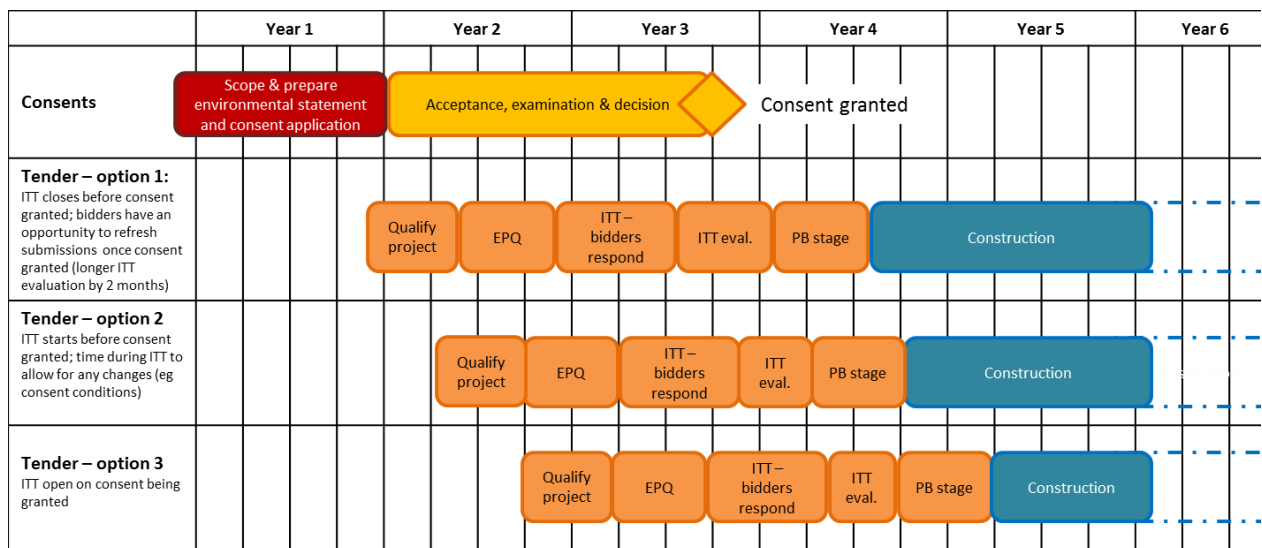
<b>Tender Stage</b>	<b>Description</b>	<b>Comments</b>
<b>Enhanced pre-qualification (EPQ)</b> <b>Duration: 3-6 months</b>	Opens the tender and enables us to shortlist bidders to be invited to tender. Focus on bidders' capabilities and suitability to construct, finance, own and operate transmission assets, including drawing on examples of previous relevant experience.	In general, our preference is to group projects together (eg into tender rounds) wherever possible as it results in less work for both us and bidders. We intend to consider further whether we can always use the same pre-qualification stage for different projects. There may be differences between projects which make this impractical.
<b>Invitation to tender (ITT) – bidders respond</b> <b>Duration: 6-8 months</b>	Allow shortlisted bidders (likely to be no more than 5) to compile detailed submissions in response to our ITT. Bidders would, at a minimum: undertake due diligence on the preliminary works; Complete detailed design work; Undertake supply chain engagement (eg with construction contractors and equipment manufacturers); Develop a robust and committed financial package, including firm costs for both debt and equity finance; Complete any financial modelling needed to submit a bid.	We think the best approach is for all supply chain procurement to be done by the CATO. Under this approach, shortlisted bidders would negotiate draft contracts with contractors and equipment manufacturers before submitting their bids at ITT. We expect this would include agreeing any manufacturing capacity required. We believe this will result in efficient procurement costs by applying competitive pressure to bidders to negotiate the best value for money.
<b>ITT – we evaluate</b> <b>Duration: 3-4 months</b>	We evaluate bids and select a preferred bidder.	We will detail the basis of bids and our evaluation in future consultations. Our initial view is that there would be a number of areas where we would look to ensure bidders meet certain minimum thresholds, and would base our decision on a combination of technical and financial proposals, including the robustness of these proposals.
<b>Preferred bidder (PB) stage</b> <b>Duration: c. 6months</b>	PB must satisfy us that they are ready to become the CATO. We expect that the PB would need to complete due diligence, agree transfer of preliminary works with the SO, and finalise supply chain/construction contracts and financing.	We want this stage to be as short as possible but anticipate that once we appoint a preferred bidder all parties may need around six months before we could appoint a CATO. We would also undertake any final due diligence on the required project outputs in case of any major changes (eg significant changes in generation background, like a large new generating station not going ahead).

### When to run a tender

1.87. The principal factor to determine when we run a tender would be the date that a project is required to be operational. We would also consider the interaction with the planning consent application submitted by the SO. Our initial view is that we would not start a tender process until a planning or consent application has been submitted, nor appoint a preferred bidder until planning consent is granted and all consent conditions known. We would also run tenders as late as possible in the project development process to maximise project certainty at the point of bids being submitted, without risking overall delay to when the assets would be operational. We think that running certain stages of the tender at the same time as the planning consent decision making process could minimise the risk of delays.

1.88. Our main consideration is when to run the ITT stage, as this is the point that bidders need certainty on what they are bidding for in order to do the detailed design work and supply chain engagement. Figure 11 below shows how we think our tender process could align with the process for obtaining planning consent:

Figure 11: How we might run a late CATO build tender alongside the SO obtaining planning consent<sup>13</sup>



<sup>13</sup> The below assumes a c18-month period for consent application examination and decision. These timings are prescribed in England and Wales for Development Consent Orders (DCO, required in England and Wales for most projects involving new overhead lines and other significant developments). In Scotland, a project would need consent under Section 37 of the Electricity Act. Timings for grant of Section 37 consent are less prescribed, but based on the Scottish Government’s published guidance we understand this may be similar to the period for a DCO. Timings for the work required before a consent application is submitted for examination and for construction will vary depending on the size and complexity of the project.

1.89. We currently consider that these options are indicative of what approach we might take, but that we would decide when to start a tender and run the ITT stage for any project at the final tender checkpoint. Our current preference would be to wait as late as possible before starting ITT to give bidders the greatest possible certainty on the planning consent application and any conditions. However, this may not in practice align with required project delivery dates. We also understand that not all projects will be subject to the consent examination timescales as prescribed by the DCO process, although in practice the overall lead time for planning consent examination and decision may be similar.

### **Transfer of preliminary works**

1.90. Under late CATO build, the SO will be responsible for all preliminary works and will transfer these to the CATO. Further details on payment and liabilities are in appendix 2. We understand, and are aware of stakeholders' concerns that, for some preliminary works, specifically around land access rights obtained by a licensee under the Electricity Act, it may not be possible to transfer certain rights from one party to another. We do not currently think that this would prevent us from using late CATO build, since a CATO, as a licensee, would ultimately have the same powers as other TOs to obtain any necessary land access rights. We are continuing to work with stakeholders to understand how best to structure late CATO build to result in the most efficient process for the SO to obtain and transfer preliminary works.<sup>14</sup>

### **Basis of bids and commencement of revenue**

1.91. We anticipate that bidders would be able to bid a fixed price for construction and operations at the ITT stage given the level of certainty over the project and its output requirement. However, we understand that there may be certain aspects for which it might not be economic for bidders to propose fully fixed costs at ITT. These may vary across different types of projects.

1.92. Our initial view is that we would consider allowing certain limited cost reopeners for risks during construction and operations that it would not be economic and efficient for a CATO to manage or for bidders to price into their bids at ITT. We will set out in future more detail on risk allocation during construction. We consider that a CATO, like other TOs, should be exposed to the risks that it is able to efficiently manage. We consider that some uncertain operational costs beyond a CATO's control, for example business rates, may be treated as pass through costs for CATOs, as they currently are for other TOs.

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<sup>14</sup> We will also consider the most efficient process for transfer of preliminary works from TOs to CATOs for RIIO-T1 SWW projects on a case-by-case basis.

1.93. Under RIIO-T1, TOs are subject to sharing factors where their actual costs to deliver specified outputs are higher or lower than expected. This incentivises them to deliver at a lower cost than set at the price control settlement by allowing the TO to keep a proportion of cost reductions. Likewise for any cost overruns, consumers are not exposed to the full additional cost, which is shared between the TO and consumers. We consider this arrangement works well, alongside an Information Quality Incentive, to ensure that TOs submit realistic cost estimates under RIIO, and that consumers also benefit from the incentive on TOs to outperform against their initial estimates.

1.94. For CATOs, our initial view is that competitive pressure during the tender would be sufficient to incentivise bidders to bid economic and efficient costs. We currently consider there is a risk that sharing factors being applied to any increase in construction or operational costs above the bid price could incentivise bidders to bid artificially low costs in the knowledge that a proportion of these could be recovered from consumers. This may distort the tender process or the incentives on CATOs to efficiently manage construction. We therefore think that allowing a limited number of cost reopeners for specific risks which CATOs cannot economically and efficiently manage would be a better approach.

1.95. We currently consider that, while a CATO's allowed revenue would be fixed during the tender, it would start to receive its revenue stream only once its assets are available for use. This could potentially be linked to the completion of commissioning and acceptance, or another construction milestone. We consider this further under *Delivery Incentives* in appendix 5.

### **Bid cost recovery**

1.96. We intend to recover our costs for running the tender process from the successful bidder. As a general principle we don't think that unsuccessful bidders should recover their costs of participating in a tender. We think that making only successful bidders' costs recoverable will encourage bidders to compete even more strongly to become the successful bidder. However, we think it is appropriate to have the option to allow all shortlisted bidders to recover a proportion of efficiently incurred ITT costs in certain circumstances. There may be times when we would not consider it efficient for shortlisted bidders to be exposed to the risk of project cancellation once ITT has commenced, as this might reduce the number of participants in future tenders and therefore the level of competitive pressure. This may apply where, for example, there is uncertainty over project need when we run a tender. We intend to consult further on the recovery of our costs and bidders' costs in future.

### **HVDC projects**

1.97. We understand that for projects which require HVDC technology there may be procurement challenges:

- There are variations in HVDC convertor station design (including physical size) from different manufacturers. It may be necessary for the party undertaking consenting (the SO under late CATO build) to partner with one manufacturer before consents can be obtained/applied for and before a CATO would be appointed in order to meet transmission asset delivery timescales. This may depend on the size of the 'envelope' (or set of agreed parameters and project impacts where a final design is not known) that the SO can get consent for. This would reduce the scope of competition but we would ensure any procurement done by the SO was economic and efficient.
- There are currently long lead times for both convertor stations and underground/subsea cables, driven by limited production capacity and high demand. We understand that there is currently no absolute certainty of securing a delivery date from a manufacturer until contracts are signed. Finalising contracts may rely on consents being secured or relevant generators making investment decisions, which in turn may impact on the date by which the CATO could ensure its project is operational.

1.98. We do not think that the above is sufficient to preclude an HVDC project from tendering. We consider that the introduction of competitive tendering has the potential to open up the supply chain to new participants and result in shorter lead times for equipment or construction, both of which could help to mitigate these issues. There is also the possibility of new entrants reducing construction timescales through different approaches to construction management. Moreover, there is no certainty that in the medium to long term these supply chain constraints will continue to apply as technology matures and the broader delivery landscape changes.

1.99. We consider that the challenge around equipment lead times would affect any HVDC project regardless of whether it were tendered or not. Under either route, certainty of project need and scope (eg through a planning consent decision or generation investment decision) would be a prerequisite to a TO or CATO securing investment and finalising procurement. We do not think that tendering would exacerbate these challenges.

1.100. Our initial view on convertor station design is that we may allow some flexibility under late CATO build to ensure the SO can progress necessary works efficiently. For example we could allow the SO, if required, to undertake procurement for a convertor station. While this would allow project development to progress, it could reduce the potential benefits for consumers through tendering, as it would limit the scope of procurement that bidders would do as part of the tender process.

### **CATO of last resort**

1.101. We will set out further details of how we expect CATO of last resort to work as we develop the regime. We currently envisage that a CATO of last resort mechanism would work in a similar way to OFTO of last resort.<sup>15</sup> OFTO of last resort works by transferring an OFTO's assets to an appropriate existing OFTO or TO following a direction from us, for a period of up to five years. OFTO of last resort applies if an OFTO is unable to continue its obligations during construction or operations, or we fail to appoint an OFTO through a tender.

1.102. Under late CATO build, we currently envisage that CATO of last resort would principally mitigate the risk of:

- A CATO being unable to continue its obligations during construction or operation: There are mechanisms that apply to TOs (including financial monitoring and special administration) that we consider should also apply to a CATO that mitigate the risk of financial distress and ultimately inability to continue. However we favour having a CATO of last resort mechanism as an additional safeguard.
- Failure of a late CATO build tender to appoint a successful bidder: While we expect healthy competition, there remains a possible risk of a tender either failing to appoint a CATO or a preferred bidder withdrawing before being appointed as the successful bidder. Under such circumstances we would expect to consider all regulatory options available at the time, depending on the particular reasons why there was no CATO in place. We would expect to have the option to appoint a reserve bidder or to re-run all or part of a tender, but there may be circumstances where this would not be feasible, for example to enable a project to complete within a certain period. A CATO of last resort mechanism would mitigate this risk.

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<sup>15</sup> For further details please see our current guidance on OFTO of last resort: <https://www.ofgem.gov.uk/ofgem-publications/50983/v04oftooflastresortq12014.pdf>

## Appendix 4 – Early CATO build

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### Early CATO build tender design

#### High level construct

1.103. Under early CATO build the CATO will be responsible for the design of the transmission assets and all preliminary works required in order to gain the necessary consents. The CATO will also be responsible for the procurement, financing, construction and ongoing operation and maintenance of the assets. We anticipate that the pre-tender process outlined in appendix 2 will identify any specific system parameters which a CATO would be required to comply with, such as system capacity and connection points.

1.104. Early CATO build has the potential to deliver competitive benefits by encouraging innovation and efficiencies in:

- system design, including introducing innovative and alternative technical solutions to meet identified system needs
- consenting requirements, including the optimisation of transmission cable routeing and stakeholder engagement
- procurement, including drawing new entrants into the supply chain and alternative approaches to contract management
- construction, including design optimisation to better manage deliverability and risk
- operations and maintenance, including design optimisation and alternative asset management approaches.

1.105. To support regulatory consistency and create a competitive bidding market we think that, as a general principle, early CATO build and late CATO build should be as similar as possible. However, given the additional uncertainties that bidders face under an early CATO build tender, we propose some differences, mainly in relation to when the CATO's revenue is fixed and when that revenue would commence.

#### Establishing project need and triggering a tender

1.106. As with late CATO build, we recognise that a project may change over time, both in terms of need and scope. We therefore propose to include tender checkpoints

during the project development process to ensure that investment in the network is required before consumers are exposed to additional costs.

1.107. After the initial tender checkpoint (details of which are set out in appendix 2) we would expect to set out any additional requirements on the SO prior to commencing the tender, such as populating the project data room, putting together a tender specification and confirming an indicative start date for the tender.

1.108. For early CATO build there would then be a final checkpoint, following completion of the preliminary works by the CATO. A number of factors may have changed since the tender, including proposed project cost and overall need, and the checkpoint would allow us to evaluate these. The CATO would prepare the information to be submitted to us and would be expected to:

- submit the finalised design specification and revised project cost, including proposed construction and operations costs
- provide detailed justification for project need, including any changes to the system design that may have arisen since the tender
- subject to our agreement at the checkpoint, undertake a debt funding competition and finalise the financing arrangements for the construction and operation period.

1.109. Construction would commence following our evaluation and final confirmation of the above.

### **When to run a tender**

1.110. We have considered the best point in the project development process to run early CATO build tenders. Our preference is to have an early CATO build model that starts after the NOA process has identified a preferred option. We consider that this is the most appropriate time to start the tender process for two reasons:

- i. We want the SO to lead the identification of system needs and assess options to meet these needs. This is why we have implemented the NOA process. We consider it important that this process becomes established and has an opportunity to produce good outcomes, including innovative solutions to system needs, by enhancing the SO's role in system planning. We therefore do not think it would be appropriate to start an early CATO build tender at a stage in project development before a preferred solution has been identified through the NOA.
- ii. Starting a tender before a preferred option has been identified or project need established would mean there would be significant uncertainty



during the tender process. The project may not be required, or may not be required in the form that bidders propose during the tender. While these are risks with early CATO build in general, we consider that they are exacerbated by running a tender before the NOA, given the additional uncertainty. We think uncertainty has the potential to discourage potential bidders from participating which would limit the effectiveness of competition.

1.111. As with late CATO build, the principal factor in determining when to run a tender would be the date that a project is required to be operational. Our initial view is that tenders would commence shortly after the initial tender checkpoint, but we will need to consider the most appropriate timing for projects on a case by case basis. Our current expectation is that an early CATO build tender would start around seven to nine years prior to the identified required operational date for the project, to maximise project certainty at the point of the tender without restricting the time allowed for the CATO to undertake all necessary activities to construct the transmission assets.

### **Tender specification**

1.112. We consider that early CATO build will deliver the greatest benefit where the tender specification provides bidders with significant opportunity to deliver the broadest range of potential innovative design and technical solutions. However, the early CATO build tender will take place after the preferred solution has been identified through the NOA process. As such, we would not expect this high level system planning to be replicated by the early CATO build tender process.

1.113. For early CATO build we therefore propose that the tender specification is driven by the SO's identified system need and the output of the NOA process. We expect that this process would identify the system requirements that all bids would be expected to adhere to, and would inform the tender specification by providing:

- specific project parameters, such as capacity, connection points and technology preferences
- high-level environmental, consenting and deliverability studies
- the optimum delivery window.

### **Tender stages & timings**

1.114. Table 2 below summarises our current view of how the tender process could work. The proposals are based on allowing bidders sufficient time to develop robust submissions, whilst also ensuring that tendering does not result in project delays.

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1.115. Table 2: Tender stages and timings for early CATO build

<b>Tender Stage</b>	<b>Description</b>	<b>Comments</b>
<b>Enhanced pre-qualification (EPQ)</b> <b>Duration: 3-6 months</b>	Launch the tender and shortlist bidders to be invited to tender. Focus on bidders' capabilities and suitability to design a robust and consentable transmission system, as well as to construct, finance, own and operate transmission assets. Likely to include drawing upon examples of previous relevant experience.	As with late CATO build, we intend to consider further whether we can use the same pre-qualification stage for different projects.
<b>Invitation to tender (ITT) – bidders respond</b> <b>Duration: 6-9 months</b>	Allow shortlisted bidders to compile detailed submissions in response to our ITT. We expect that bidders' submissions would include: a fully-specified transmission system and optimised cable route; a detailed and robust plans for securing the necessary consents for the submitted system; proposals for how the CATO will manage suppliers and other key stakeholders, including approach to procurement; and costs in relation to preliminary works, construction and operations, and financing, as set out in table 3.	Under early CATO build, all bidders will be expected to undertake early engagement with the supply chain in order to develop their tender submission to a sufficient standard.  We expect that this will involve early identification of manufacturer capacity and any potential system equipment delivery bottlenecks.
<b>ITT – we evaluate</b> <b>Duration: 3-5 months</b>	We would evaluate bids and select a preferred bidder.	We will detail the basis of bids and our approach to evaluation in future consultations. Our initial view is that our evaluation would consider a combination of technical and managerial capability, system deliverability, indicative financial proposals and the robustness of these proposals. We would base our decision on a combination of technical and financial proposals, to determine the most economically advantageous tender.
<b>Preferred bidder (PB) stage</b> <b>Duration: up to 4 months</b>	The preferred bidder must satisfy us that it is ready to become the CATO. We expect that the preferred bidder would have to undertake certain due diligence activities prior to us appointing the CATO.	We want this stage to be as short as possible and do not anticipate lengthy work to be required before we could appoint a CATO.

## Basis of bids

1.116. While early CATO build has the potential to unlock innovation in initial project design and approaches to obtaining planning consent, we would also be running a tender at a relatively early point in the project development process when there may be significant uncertainty over a project. Given this uncertainty, we do not consider that asking for fully fixed cost bids would lead to economic and efficient outcomes. We think fixed cost bids would result in either: a) bidders putting high contingencies into their bids to account for uncertainty, which may not be required, thus exposing consumers to unnecessary costs, or b) bidders being exposed to potentially unmanageable cost increases following the tender, which may mean they are unable to deliver the assets, or unable to deliver at their proposed costs. We therefore think that bidders should bid a proposed design, with fixed costs for preliminary works and a 'best indicative cost' for construction and operations. We think that fixing costs where practical will ensure consumers benefit from competitive pressure on costs in these areas.

1.117. Table 3 below outlines our initial views on the principal cost areas under early CATO build:

*Table 3: Cost areas under early CATO build tenders*

<b>Area</b>	<b>Initial view</b>	<b>Comments</b>
<b>Preliminary works costs</b>	Bidders would bid <b>fixed costs</b> to undertake all preliminary works in line with their proposed design.	In identifying a proposed design we think bidders would be able to accurately identify the required cost of completing all preliminary works. As these works would commence following the tender and take place within a defined time period we think that bidders would be able to bid fixed costs at the ITT stage. We would expect the costs bid for preliminary works would include all relevant costs (eg including any financing costs for these works).
<b>Construction and operations costs</b>	Bidders would bid a <b>'best indicative cost'</b> for the construction and operation of their proposed design, including <b>fixed unit costs</b> for the main components or cost items.	<p>We expect bidders to bid a proposed design at the ITT stage and for this design to be costed for both capex and opex. We consider that one of the benefits of early CATO build is that bidders may be able to optimise lifecycle costs (ie consider solutions that require low capex but high opex). We therefore think that bidders' 'best indicative cost' should include both capex and opex elements.</p> <p>In putting together their 'best indicative cost', we would expect bidders to engage with the supply chain during the tender to determine indicative unit costs, as well as to provide indicative construction and operations management costs. This is the cost we would expect a bidder to be able to deliver the assets for if there were no changes to the proposed design following the tender. We would expect to consider these best indicative costs as part of our tender evaluation.</p> <p>As part of this process we would also expect bidders to</p>

		propose indicative costs which would provide a baseline if any design changes were required. We would expect to also consider these costs as part of our tender evaluation.
<b>Finance (debt and equity)</b>	Bidders would bid a <b>fixed return on equity</b> , a <b>fixed gearing</b> , an <b>indicative cost of debt</b> and a proposed approach to securing debt funding for construction and operations.	Bidders would be asked to propose a fixed return on equity at this stage of the project and a proposed financial structure, including a fixed level of gearing. However, we consider that finalising the terms of debt funding would not be economic and efficient given the potential for the project scope to change during the preliminary works period. As such we think that bidders could provide an indicative cost of debt during the tender, along with their approach to ensuring that they obtain an economic and efficient cost of debt once construction and operations costs are finalised. We expect that this would include the bidder's approach to running a debt funding competition.  We would expect the bid return on equity to be consistent for the whole project (ie preliminary works as well as construction and operations).

1.118. In general, we think that project cost will be a less significant element of our bid evaluation under early CATO build than under late CATO build. Our initial view is that we would evaluate cost alongside a range of other factors, including project deliverability, skills and capabilities of bidders, and bidders' expected approaches to managing the project development process (eg managing planning consent).

*Revenue stream commencement*

1.119. We expect bidders to bid two revenue streams comprising the cost elements in table 3 – one for undertaking preliminary works and another for construction and operations. The later revenue stream would be indicative until project design and outputs could be finalised, which we expect would take place at the final tender checkpoint (ie once planning consent is in place and just before construction begins). We would assess any cost variations at the final tender checkpoint and finalise the CATO's revenue stream at that point, as described below.

1.120. As with late CATO build we consider that, while a CATO's allowed revenue for construction and operations would be finalised before construction begins, it would not start to receive its revenue stream for these cost elements until its assets were available for use.

1.121. There would however potentially be a long period between a CATO doing preliminary works and completing construction (eg a minimum of five to seven years), so we do not consider it would be efficient for CATOs to carry these costs for that period. We therefore think that it makes sense to pay CATOs for preliminary works when they are doing them.

1.122. In practice this would probably mean splitting a CATO's revenue stream into a 'preliminary works' phase and then a 'construction and operations' phase. The preliminary works costs would be paid as a separate revenue stream until all preliminary works are complete. We would need to decide whether the CATO's preliminary works revenue would be paid upfront or whether it could be staged to link payment to the delivery of outputs.

### **Managing project changes**

1.123. We consider that there are two primary sources of project uncertainty at the time we appoint a CATO, which may lead to later cost changes:

- the drivers for the project (ie affecting the actual outputs that must be delivered): this could impact on the CATO's proposed design
- the planning consent process: this may require a CATO to change its proposed design and routeing.

#### *Changes to project need and outputs*

1.124. As we would be running a tender a number of years (eg seven to nine) before a project is required, there may be changes to the required project outputs before construction begins. This could be driven by, for example, changes in the generation background or to demand connections, including the number of connections or the performance requirements for a CATO's assets. A change to outputs would potentially impact on the CATO's proposed design put forward during the tender. We do not think CATOs should bear the risk of any cost increases through the required project outputs changing due to matters outside of their control. Nor do we think consumers should bear the risk of paying the originally proposed costs for projects that decrease in scope and value after the tender.

1.125. We therefore think that there should be a mechanism to allow project construction and operations costs to vary from those bid. This mechanism would allow CATOs to recover any additional economic and efficient proposed capex and opex resulting from a change in outputs, but would also ensure that consumers are not exposed to unnecessary capex and opex costs where project outputs change (ie there could be a decrease or an increase to a CATO's revenue stream). The mechanism could use the indicative costs bid during the tender as the basis for fixing revised capex and opex costs, which would ensure we maximise the benefits of competition. We also think it would be fair to allow CATOs to make a return on any additional investment, in line with the return on equity that they bid. In order to ensure capex and opex are fixed at the most appropriate point, we would undertake this assessment of costs at the final tender checkpoint, once there is certainty over the required outputs.

1.126. We recognise that there is a risk that project need changes over time to such an extent that the project is no longer required. We consider that if project need fell

away entirely, we would not award a CATO any funding for construction and operations at the final tender checkpoint. We think this is an important safeguard to ensure that consumers do not bear the cost of investment that is not required.

#### *Changes through the planning consent process*

1.127. We understand that the process of obtaining planning consent for a project, specifically for a project involving overhead lines, can lead to changes to a project's design. There is a significant amount of community and stakeholder engagement that TOs have to undertake, both formally and informally as part of the consenting process, which influences the routeing and design that is proposed as part of a planning consent application. Under early CATO build we expect bidders would undertake analysis of the environmental impact of their designs while putting together their bids during the tender, however much of the detailed surveys, environmental studies and engagement would take place after we appoint a CATO.

1.128. Our initial preference is therefore to have a mechanism that allows a CATO to recover additional economic and efficient proposed capex and opex costs that result from changes imposed through the planning consent process. This could be similar to the mechanism for changes to project need and outputs.

1.129. However, we also think that consumers should not be exposed to additional costs where a CATO's initial project proposal was not deliverable and therefore needs to change as a result of the planning consent process. To mitigate this risk we would consider deliverability of designs as part of our evaluation of the tender (as set out earlier); however, we also think that there may be a role for financial incentives to encourage the CATO to adhere, as far as reasonably possible, to the designs and costs originally bid.

1.130. We think this could work by, for example, allowing a CATO to recover additional proposed capex or opex costs, where this increased cost is the result of design changes through the planning consent process, in return for a lower return on equity than originally bid. If we used this approach, we would also allow a CATO to keep a proportion of any costs saved if it could beat its original bid revenue. As with changes driven by project outputs, we would assess costs at the final tender checkpoint. We think that this approach would ensure that a CATO continues to develop the project at the most economic and efficient cost.

#### *Securing debt finance*

1.131. As set out in table 3, given the potential uncertainty during the tender over capex and opex costs for a project, we do not consider it efficient to ask bidders to fix the debt element of their financing package until there is greater project cost certainty. We think that the final tender checkpoint, once project costs are finalised prior to construction, would be the most sensible point for a CATO to secure debt finance for the project. We think this process may work best by a CATO running a debt funding competition to ensure it can access the lowest cost of finance available at the time.

### **Mitigating the risk of a CATO not being in place**

1.132. We consider mitigating the risk of a CATO not being in place may be best achieved by different mechanisms depending on when in the project development process the risk materialises. Under early CATO build, we envisage that a CATO of last resort mechanism should be available to mitigate the risk of a CATO being unable to continue its obligations during construction or operation. We will set out further details of how we expect the CATO of last resort mechanism to work as we develop the regime.

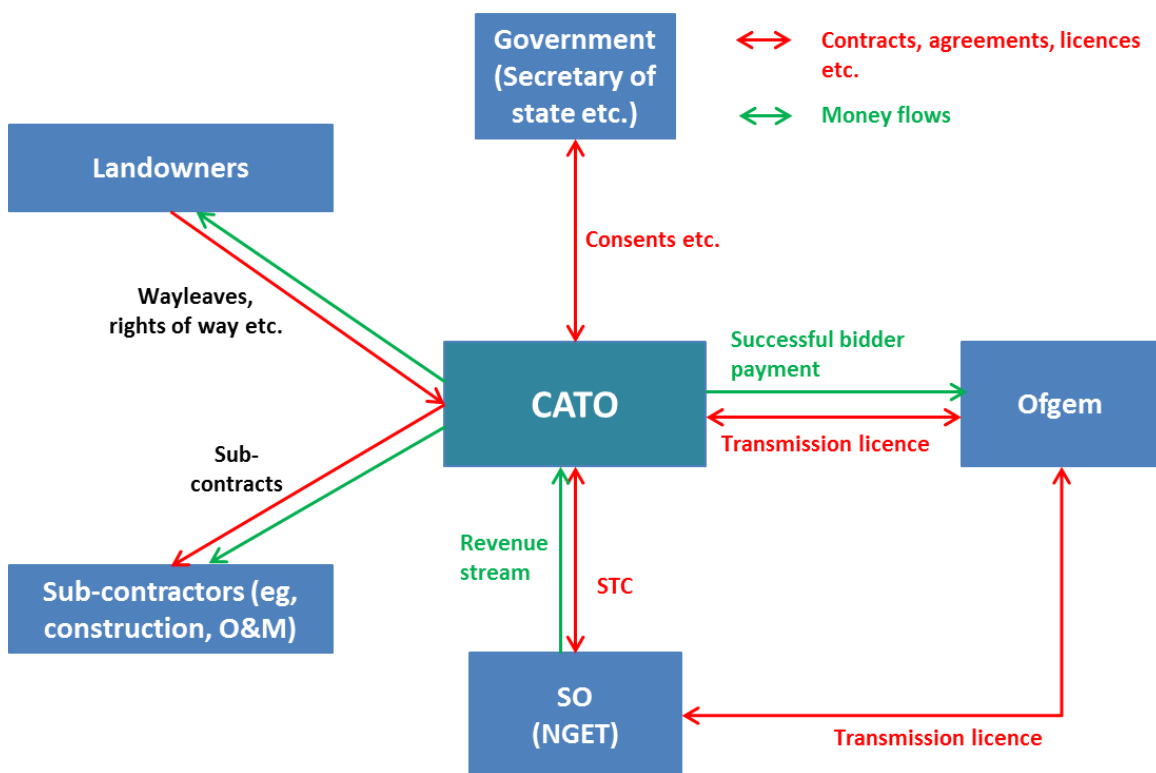
1.133. In the event that an early CATO build tender fails to appoint a CATO, or that the appointed CATO is unable to continue with its obligations during the development of the preliminary works, a CATO of last resort mechanism may not be the most appropriate mitigation measure. In such circumstances we would expect to consider all regulatory options available at the time, depending on the particular reasons why there was no CATO in place. We will set out further details of how we expect such scenarios to be treated as we develop the regime.

## Appendix 5 – Market offering

### High level construct

1.134. CATOs will be regulated under the existing framework for electricity transmission, with specific obligations and incentives that reflect their role within the GB transmission system. Figure 12 below summarises this commercial and regulatory structure.


Figure 12: High level CATO regulatory structure



1.135. At a high level, we expect that CATOs will:

- have a transmission licence granted by us, and be subject to the obligations therein
- receive annual revenue from transmission system users via the SO in return for building, maintaining and operating their assets
- be a party to the System Operator-Transmission Owner Code (STC), and adhere to its procedures and requirements





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- procure any necessary sub-contracts for construction work, operations and maintenance
- comply with the conditions of relevant planning or environmental consents, in addition to other legislation, including health and safety.

## Regulatory construct for TO revenue

1.136. We currently use two different approaches to determine the allowed annual revenue for TOs:

- For onshore electricity transmission, incumbent TOs are regulated under the RIIO framework. RIIO establishes the annual allowed revenue of TOs using a series of building blocks, including the RAV, allowed levels of investment expenditure, and a vanilla weighted average cost of capital. Under the RIIO approach, the price control arrangements are subject to a major review every eight years. We consider this approach to be appropriate where TOs own a large portfolio of assets of various ages and types, and where investment is required on an ongoing basis to ensure TOs are able to deliver energy to consumers.
- OFTOs receive an annual tender revenue stream which they bid during the tender process. They include all of their required capex and opex, as well as financing costs, within the revenue stream they bid. Rather than us setting the allowed revenue, bidders compete with each other on what their costs need to be to make up their revenue stream. We evaluate bids and appoint an OFTO. Once appointed, an OFTO's revenue stream is fixed for a period of 20 years, without any periodic review. We consider this approach to be appropriate for relatively discrete projects that are new and separable from the rest of the transmission network and where little significant additional investment is likely to be required. We can also ensure that the benefits from tendering are locked-in for the whole 20-year term.

1.137. Table 4 provides further details of some of the principal elements of our regulatory approach onshore and offshore, which we discuss further in this document in relation to CATOs:

## Extending competition in electricity transmission: arrangements to introduce onshore tenders

Table 4: Current regulatory frameworks

Area	Why it matters	RIIO-T1	OFTOs
Duration of fixed revenue term	The duration of the period for which the TO receives its fixed revenue allowance will affect the potential for tendering to deliver consumer benefits. It will determine who wants to bid, so affects the potential range of bidders, as well as how long the benefits for consumers realised through the competitive process are locked in for.	Incumbent TOs are subject to the RIIO-T1 price control so do not bid a fixed revenue stream over a certain period. Under RIIO, TOs' allowed revenue is remodelled annually and subject to a full price control review every eight years.	OFTOs currently receive a 20-year revenue term through their licence. While this aligns with the expected economic life of the windfarms they connect (and who pay for the majority of the OFTOs' allowed revenue), it was also a decision made to allow bidders to access a range of financing options.
Asset life and cost recovery	New assets need to be paid for over a certain period of time. The period over which TOs recover their costs to build new assets has an impact on consumers as it affects how much they pay in any given year for the network. As electricity transmission assets tend to have a long design life, it is important to strike the right balance between existing and future consumers paying for network investment.	New assets onshore are currently depreciated over 45 years on a straight line basis (ie the same amount of cost is paid off every year for 45 years). Before implementing RIIO-T1 we decided that 45 years should be the useful economic life of new assets onshore.	Offshore transmission assets are fully depreciated over 20 years. This aligns with the expected life of offshore windfarms, and is consistent with the principle established for offshore transmission whereby offshore generators pay for the majority of the costs of offshore transmission assets.
Indexation	Indexing revenue with respect to inflation allows network operators additional revenue to reflect a general increase in costs, including for wages of staff and other operational costs, and potentially debt financing. We consider that not allowing indexation would potentially result in TOs seeking contingencies, hedging against the impact of increasing costs, or being exposed to unmanageable inflation risk that might result in financial distress.	Incumbent TOs' allowed annual revenue is fully linked to changes in RPI. Revenue allowances are modelled in a constant price base and forecast/true-up indexation factors are applied to the modelled values.	OFTOs bid the proportion of their revenue stream that they want to index to RPI. We assess bids over the whole revenue term at present value (using assumptions about inflation and discount rates) to determine what is the best deal for consumers.
Debt finance costs	The cost of debt financing that bidders can achieve when bidding for a project is influenced by a range of factors, including underlying market conditions at the time of the tender and the perceived risk profile of the project. Funders generally put a premium on debt that they lend before or during construction. Where bidders fix financing costs upfront, there is the	Incumbent TOs' pre-tax cost of debt is set at the start of the RIIO price control period and updated annually in line with a trailing average of two iBoxx indices for sterling corporate bonds. Market movements in the cost of debt are therefore taken into account. The pre-tax cost of debt value set at the start of	OFTOs secure debt financing at licence grant and financial close for the duration of the revenue term in relation to a specific project. To mitigate the risk of OFTOs being able to achieve windfall gains through refinancing, there is a 'gain share' mechanism in the OFTO licence. This shares the benefit of any debt refinancing

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	potential to secure better financing terms once construction is complete and the assets are proven.	the price control period reflects a number of financeability factors including the risk profile attributed to the sector.	50-50 between consumers (through a revenue stream reduction) and the OFTO.
New asset investment	While CATOs will own and operate relatively discrete assets, there may be a requirement for investment in new assets during the revenue term. We consider that this could arise through, for example, a new generator connection or an upgrade to enable better system operation following changes elsewhere on the network. Any work required that does not meet the criteria set out in appendix 2 could not be tendered.	Incumbent TOs, when required to invest in their assets, propose this in their price control business plans. Once we agree that investment is required, they then construct assets when required and the 'slow money' component of new investment is added to their regulatory asset value. The price control design incorporates uncertainty mechanisms in relation to investment decisions that might be raised during the price control period.	OFTOs have a licence obligation to facilitate the connection of incremental capacity up to 20% of the original capex for their assets. This would cover a scenario where, for example, an offshore generator requested additional transmission entry capacity. During the tender we ask bidders to confirm that they will be able to raise the finance to fund the construction of any incremental capacity. There is a licence mechanism to adjust the OFTO's revenue.
Incentivising operational performance	TOs need to ensure their assets are available for use by network users. In practice, this involves TOs undertaking a range of activities, including scheduled maintenance, network monitoring and responding to any faults or issues when they arise.	Incumbent TOs' principal reliability incentive is based on energy not supplied to customers (ie the actual impact of any outage based on system conditions at the time). This means that incumbent TOs are financially penalised for any energy that they fail to supply to demand customers. TOs' exposure to the risk of underperformance is capped at 3% of annual allowed revenue.	OFTOs have an availability incentive, with rewards for overperformance and penalties for underperformance, against an annual availability target, rather than actual power flows. This means that OFTOs are penalised for any planned or unplanned unavailability on all or part of their assets. OFTO exposure to the risk of unavailability is capped at 10% of annual revenue.
Incentivising timely asset delivery	Timely delivery of new assets is imperative to the effective operation of the system. If projects are delayed, there are impacts on network users, for example to generators by not being able to export power.	Incumbent TOs are subject to incentives around the delivery of new assets. Under SWW, for example, we agree with TOs the years in which required capex enters the TO's RAV. If a TO fails to deliver the required outputs on time, we may decide this constitutes a breach of its licence and could potentially impose a financial penalty for this late delivery. There are both financial and reputational incentives to deliver on time.	OFTOs (under OFTO build) would not receive their allowed revenue stream until their assets are available for use by the system operator. Revenue stream commencement is tied to the achievement of electrical milestones under the commissioning programme agreed between the OFTO, offshore generator and SO. This provides a strong incentive to deliver assets within agreed timescales.

1.138. Our initial preference is to apply a tender revenue stream based approach to CATOs. We consider that this will deliver best value to consumers by locking in the benefits of tendering for the whole period that a CATO is expected to own and operate the assets. We also consider that this approach is best for the new and separable assets that CATOs will be responsible for and that this approach supports a wide range of bidding strategies and sources of finance, which may encourage innovation.

## Options considered for CATOs

### Regulated revenue

#### *Duration of revenue term*

1.139. We have considered a range of both short and long duration revenue terms:

- We consider that short duration terms (eg less than 20 years) may be too short for certain types of investors to want to bid for a project, which might limit the potential benefits of competition. It may also limit the potential sources of debt finance, resulting in less scope for financial innovation to deliver consumer benefits. Further, this may not be a long enough period for effective competition on the cost of equity as equity investors may be prepared to lower their expected returns for assured returns over a longer period.
- We consider that long duration terms (eg over 30 years) may also limit the potential financing options, for example by excluding certain types of institutional lenders, and also limit the potential for innovation. Long revenue terms also have the potential to raise the cost of debt financing, given the step-up margins that lenders would be likely to apply to debt being repaid over a longer period. It may not therefore be economic to fix financing over this period, which would result in either contingencies being built into bids or a need to re-open the revenue stream during the revenue term (and therefore it not really being 'fixed').

1.140. Our initial view is that 25 years may be the optimum period over which to fix a CATO's annual revenue stream. Taking into account CEPA's work published alongside this consultation, a 25-year revenue term would allow bidders to access a broad range of financing options which we consider would lead to efficient outcomes in terms of supporting financial innovation and ultimately lowering costs for consumers. Moreover, as we think the revenue term should start on completion of construction, we need to consider the potential duration of the construction period as well as the duration of the revenue term itself. This is because CATOs would have to raise debt during the construction period (ie before the revenue term begins) which would make the overall period they hold the debt last longer than the revenue term itself. As we understand from CEPA that obtaining debt finance for a period of over 30 years may limit the options open to a CATO, this would allow projects with a

construction period of up to five years to be able to access a broad range of financing.

1.141. We also understand that a 25-year revenue term would be at the upper end of the period over which bidders would be able to fix operations and maintenance costs when bidding. We recognise that there may be circumstances under which it is not economic and efficient for CATOs to fix opex for the full 25 years - for example, where relatively novel technology is being used. For cap and floor interconnector projects we proposed allowing an opex reopener after a pre-determined period to reflect these circumstances and mitigate the risk to consumers and interconnector developers of cost changes. However, we consider that there is a risk that including this type of mechanism for CATOs might incentivise bidders to bid unrealistically low opex during the tender and look to use a reopener to increase these costs later. While we would scrutinise any increases, this would not fully mitigate the risk. We intend to provide further details once we have received your views on the duration of the fixed revenue term.

#### *Asset life, cost recovery and arrangements at the end of revenue term*

1.142. Assets have a design life, a technical life (the life of an asset from commissioning until it falls below minimum technical and/or safety performance levels); and an economic life (the life it is expected to be active on the network). We expect for CATOs the design life would be determined by bidders during the tender, possibly based on the tender specification. Through good maintenance and management, their assets' technical life may exceed this original design life. The economic life of an asset will not be longer than its technical life, but may be shorter depending on the need for a project. While need can be uncertain, in most instances for onshore electricity transmission we expect assets would be needed for longer than the 25 years we currently propose for a CATO's revenue term. The mismatch between asset lives means that for CATOs we need to think about:

- the duration over which consumers pay for the cost of new investment, including to what extent costs are borne by existing and future consumers
- the condition in which we would expect a CATO to maintain its assets up to the end of the revenue term
- what would happen with the assets at the end of the revenue term.

#### Asset cost recovery period

1.143. For CATOs we have considered two options around asset cost recovery:

- **Cost recovery over the same period as the revenue term:** CATOs would therefore depreciate assets fully over the revenue term (ie over 25 years). We understand that this may allow bidders to consider a broad

range of financing options which might lead to low financing costs through innovative approaches and strong competition. However, it would involve recovering costs from consumers over a shorter period than currently applies under RIIO-T1, so current consumers may pay more and future consumers less for the assets. It may also not align with the assets' useful economic life, as the need for the assets is likely in excess of 25 years.

- **Cost recovery over the same period as other new onshore transmission assets:** CATOs would depreciate their assets over the same period as other new onshore assets (currently 45 years under RIIO-T1). We would have to set a regulatory residual value that bidders would assume applied to the assets at the end of the revenue term (ie a proportion of their bid capex). This would mean a consistent approach to the cost recovery period for all new onshore transmission assets and may also better align with the assets' useful economic life in most circumstances. However, we understand that this approach may require CATOs to use a bullet (or non-amortising) bond to finance part of construction, which could limit financing options and potentially drive up financing costs as a result. We also expect that the regulatory treatment of residual costs would have to be clear in order to allow CATOs to secure debt finance for this portion of the costs.

1.144. We expect that, in general, CATOs will own and operate onshore transmission assets with similar design, technical and economic lives to those owned by incumbent TOs, although there may be project specific differences (eg different technologies or projects addressing different needs). As such our preferred general policy is to have a consistent cost recovery period for all new onshore transmission assets, unless there is a clear justification to do otherwise. Under RIIO-T1, the cost recovery period is currently 45 years which reflects our view of the economic life of assets at the time of the last price control settlement. However, we are interested in hearing from stakeholders about whether this approach would impact on the financeability of projects.

#### Asset condition at the end of the revenue term

1.145. We consider that CATOs should have a clear expectation of the required condition of their assets at the expiry of the revenue term. This would ensure they can adopt an approach to operations and maintenance that ensures their assets have an appropriate technical life. We consider that this would benefit consumers by achieving an efficient allocation of costs and potentially also preventing unnecessary capex if assets are maintained below required standards. We think that, as a minimum, there should be clearly defined parameters, for example set out in the CATO licence, to outline the required condition of the assets at the end of the revenue term.

1.146. We also think that, to be effective, any obligation on asset condition may need to be supported by a financial incentive. For example, one approach would be an incentive, such as a performance bond, whereby a certain portion of a CATO's

revenue in the final year(s) could be made contingent on the assets meeting the required standard. An alternative approach might be to consider how to adapt the current Network Output Measures that TOs have and apply asset health based incentives to CATOs. We plan to set out further details on what types of incentives may apply in future.

#### Arrangements on expiry of the revenue term

1.147. As set out above, if we adopt a consistent cost recovery period for all new onshore transmission assets (currently 45 years) a CATO would receive a residual value payment at the end of the 25-year revenue term. The source of this payment, and therefore the specifics of how future consumers would pay for the non-depreciated asset value, would depend on what happens to the assets on the expiry of the CATO's revenue term. There are four main options for what to do with a CATO's assets at this point:

- **Retender** – we could run another tender and appoint a new CATO to take over the assets
- **Extend the revenue term** – we could extend the CATO's revenue term for another fixed period
- **Transfer** – we could transfer the assets (at a price that we determine) to an incumbent TO, or potentially another CATO, increasing the TO's revenue accordingly; or
- **Decommission** – in the event that the assets are no longer required, we could require the CATO to decommission the assets.

1.148. We do not intend to decide what will happen with the assets at the end of the revenue term until nearer the time. It is likely that the transmission network will change significantly over the next few decades and we do not consider it appropriate to set expectations now for decisions that would be better taken in future.

*Indexation of revenue*

1.149. Table 5 below sets out the four options we think could apply for CATOs:

*Table 5: Indexation options*

Option	Description	Comments
No indexation of revenue	No indexation to inflation. CATO therefore bears the risk of cost increases.	Bidders would have to make assumptions about inflation over the duration of the revenue term and reflect this in their bid revenue stream. Even in doing so, having no indexation of revenues would potentially result in CATOs being exposed to unmanageable inflation risk. It would also potentially put off investors looking for index linked returns on equity (common across regulated utilities) thus limiting competition.
Fully indexed revenue stream	100% of a CATO's revenue stream would be linked to changes in inflation, irrespective of which elements of the revenue stream a bidder needs to be indexed (eg which costs are indexed linked).	In practice, as bidders model inflation dependent cashflows over a fixed period they would have to make assumptions about inflation and protect themselves against changes by buying derivatives in the form of inflation swaps. This adds cost that may not be efficient. Moreover, there is a risk of overindexing revenue in that bidders may offer a lower initial tender revenue stream value on the assumption that inflation will increase this in later years above their actual increase in costs and allow them to repay debt and earn a return on equity.
Partially indexed revenue stream; proportion determined by Ofgem	We would determine either for specific projects or for all CATOs what proportion of their revenue should be indexed.	While this may in theory prevent over- or underindexation, there is no certainty the value set by us would reflect the efficient level of indexation for any particular bidder – we expect bidders to have different approaches. There is therefore still a risk of overindexing, or underindexing.
Partially indexed revenue stream; proportion determined by bidders	Bidders would propose the proportion of revenue to be indexed to inflation.	This should allow bidders to decide, depending on their approach, what proportion of their revenue stream it is efficient for them to index. We think competitive pressure should drive efficient indexation approaches, ensuring that only the costs that need to be linked to inflation are, and avoid either over- or underindexation. However this approach would make our evaluation of bids more complex and our evaluation criteria would need to consider the robustness of bidders' approaches.

1.150. Our current preference is to have a partially indexed revenue stream with the proportion indexed determined by bidders. We consider that this would be the most economic and efficient option as it best utilises the competitive process to help avoid the risk of over- or underindexation.

1.151. In our open letter published on 14 October 2015, we are seeking interested parties' views on moving from RPI to CPI as an inflation index applicable to future



OFTO and interconnector licences. We will use the views expressed in response to our open letter to consider which index is most appropriate for future CATO projects.

#### *Debt refinancing*

1.152. We consider that there is the potential for CATOs to make debt refinancing gains, given that the risk profile of their assets will likely change following construction. We consider that for CATOs there are two principal options:

- **Including a gain share mechanism** – this would allow consumers to benefit from any refinancing gains. However, it may potentially reduce investor appetite in bidding, particularly for the initial tenders. It could also result in higher initial bids if bidders would otherwise factor refinancing gains into their proposed financial structure.
- **Not including a gain share mechanism** – this would potentially help to broaden the appeal of CATOs to potential investors as there may be an opportunity to make additional gains through refinancing. Moreover, it could result in lower initial bids if bidders assume future refinancing gains when bidding. However, there would be no certainty bidders would do this, and consumers may therefore not be able to share the benefits of any refinancing.

1.153. Our initial view is that a gain share mechanism is the most appropriate way to ensure consumers benefit from any CATO refinancing during the fixed revenue term. It would ensure that CATOs are incentivised to refinance debt if it will result in cost savings, while also allowing a proportion of the benefit to pass back to consumers through a lower revenue stream.

1.154. Refinancing as we describe it here would apply specifically to bank debt in project financed structures which we consider may be used by bidders, although other financial structures are possible. We are not considering a refinancing pain share mechanism as we think that consumers should not have to pay for any losses incurred by a CATO as a result of refinancing.

#### *New asset investment during the revenue term*

1.155. We consider that there are two principal options to enable new investment on, or connected to, a CATO's assets (where the additional new investment does not meet the criteria for tendering):

- **CATOs could be required to undertake this work** through a licence condition and mechanism to add to their allowed revenue. As with OFTOs, we would determine whether their proposed costs are economic and efficient and use the tender to ensure CATOs would be able to raise the required funds. We would need to consider what cost threshold (eg

as a percentage of total capex or an absolute number) CATOs would be required to provide.

- The nearest **incumbent TO could undertake the work** with the RIIO price control treatment handled through an uncertainty mechanism. This would either require a new licence mechanism or, if applicable, could be included in the design of the RIIO-T2 price control.

1.156. Our initial view is that it would be most economic and efficient for a CATO to undertake this work. We consider that incumbent TOs undertaking work that affects a CATO's assets would create an unnecessary interface between the TO and CATO. The criteria for tendering are designed to minimise the potential for interfaces between a CATO and other network operators; we consider that it would be inconsistent to adopt a different approach for new investment required on CATOs' assets that does not meet the criteria.

## Incentives

### *Operational performance*

1.157. We have considered, at a high level, how the following two types of operational incentives could apply to CATOs. Further details can be found in CEPA's analysis:

- **Energy not supplied.** This could function more or less as for incumbent TOs, with CATOs being penalised for any energy not supplied to customers as a result of outages on their assets above an annual threshold. This may be beneficial where, for example, CATOs connect multiple generation and demand customers. However, it would not obviously apply where a CATO only connects generation and does not supply demand customers. This may not make it applicable to all CATOs. Moreover, it may expose CATOs to actual power flows which could be influenced by the actions of an adjacent network operator. We would have to consider how to structure this incentive to ensure that CATOs were only penalised for actions within their control.
- **Availability-based incentive.** Like for OFTOs, this could involve a relatively simple annual availability target with incentives and penalties for over- or underperformance. We would need to consider how best to structure the incentive to drive the right behaviour (for example through weighting the incentive against capacity as we do for OFTOs) or otherwise ensure CATOs are incentivised to make operational decisions in the interest of users and other network operators. An availability-based incentive has the benefit of being within a CATO's control – ie the CATO is only penalised if its assets are unavailable.

1.158. Our initial view is that an availability-based performance incentive for CATOs, with bonuses for overperformance and penalties for underperformance against an availability target, may be the most appropriate incentive mechanism. We do not currently consider that energy not supplied would be appropriate for all CATOs, as the incentive would only work where CATOs supply demand customers. Moreover, we do not consider that the tendered assets would necessarily have the same breadth of flexibility in operations that incumbent TOs have (ie multiple routes to deliver power to demand customers), reducing the options for a CATO to prevent energy not being supplied. However, we recognise that CATOs will potentially own assets that may be interdependent with those of other onshore TOs, and potentially also where a number of different generators and demand customers rely on their availability. As such we will consider further how an availability incentive could be best constructed and whether there is likely to be value for consumers in potentially combining a primarily availability-based incentive with additional incentives for energy not supplied, or a similar mechanism.

1.159. We consider that, regardless of the mechanism used to incentivise asset availability and reliability, the percentage of a CATO’s annual revenue at risk as a result of underperformance should be capped, consistent with all current TOs’ incentives. Our initial view is that a 10% cap on annual revenue at risk (similar to that for OFTOs) may be appropriate given the need to incentivise CATOs to maintain asset availability against their overall risk profile.

*Timely delivery incentives*

1.160. Table 6 below sets out three options we have considered to incentivise timely asset delivery:

*Table 6: Timely asset delivery incentives*

Option	Description	Comments
Payment only on completion	We incentivise a CATO to complete construction by only allowing its revenue stream to start when its assets are available for use.	As CATOs would be required to fund various obligations, including debt repayments, we consider that this would act as a strong incentive to complete on time. This approach is also simpler from a regulatory perspective as it avoids complex incentive mechanisms. However, we understand that this may add to the risk profile of a project for investors, particularly where the construction period (and therefore the period before which a CATO could repay any of the money it is borrowing) would be particularly long.
Payment during construction with specific financial incentives to deliver on	We would start the full revenue stream when we appoint a CATO then, for example, apply financial penalties for late delivery and/or incentives for early	We consider that this option might be more attractive to potential investors as it may reduce a project’s risk profile and allow cashflows to start during construction. However, the strength of the incentive to complete would be considerably weaker than payment on completion and the presence of a potential

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time	asset delivery.	financial penalty for late delivery might somewhat offset the benefit of the lower risk profile.
Milestone related payments or a gradual 'step-up' in the revenue stream during construction	We would start with a small amount of revenue on appointment and then increase this on the achievement of certain milestones, with the full revenue stream being payable on completion of the assets.	This would allow limited cashflow during construction while potentially maintaining a strong financial incentive to complete the assets by a given date (eg by making the step-up for completion a very significant portion of the overall revenue stream). However, this option would potentially be complex to implement and also more complex for bidders to account for when profiling project cash flows.

1.161. Our initial view is that the most effective incentive for timely delivery is payment on completion, ie for a CATO's revenue stream (and revenue term) to start once the assets are available for use. We think this is the strongest incentive for a CATO to complete construction within the required time and would therefore mitigate the risk of delivery being delayed. We also consider that, compared to other options where some or all of the revenue stream is paid before completion, using a simple payment on completion incentive avoids creating complexity. This complexity could arise through, for example, working out how to treat operational performance incentives during construction, or having to put in place additional incentive mechanisms to ensure CATOs deliver assets on time. We do not currently consider that any additional delivery incentives or any financial penalties in the event of late delivery would be efficient or necessary to ensure completion of construction. Rather, these would likely result in an increase in delivery risk for CATOs, which in turn may lead to higher contingencies or financing costs.

1.162. For certain projects where the construction period is estimated to be long we may consider milestone related payments instead of full payment on completion. CEPA have indicated that a construction period longer than five years may significantly increase the risk profile of a project and raise the cost of capital. We do not currently consider that many projects would have such a long construction period.

### *Other incentives and obligations*

1.163. We will consider further how applicable all current incentives and obligations in place for both incumbent TOs and OFTOs might be to CATOs. We have considered, and asked CEPA to analyse, the possible introduction of financial incentives to minimise transmission losses and to incentivise innovation during the tender.

1.164. We understand that the most cost effective way to control transmission losses is through the design of the transmission assets. This would include initial design decisions like routing and siting of equipment, as well as detailed electrical design parameters like the type and capacity of electrical equipment used. We think that reducing losses should be an important consideration in the design of the

transmission assets, alongside other relevant factors that impact cost including, for example, system reliability. We would therefore evaluate losses and their impact on costs over the life of the assets in determining the preferred bidder as part of both early and late CATO build tenders. We do not consider that a financial incentive to reduce losses during operations would be efficient or necessary.

1.165. Winning a tender should be sufficient incentive for bidders to innovate and drive down costs. We currently ask bidders for offshore tenders to outline what innovation they would bring if they were successful and consider this as part of the bid evaluation process. We will consider how we can adapt that approach for CATOs. We expect that CATOs, like all other TOs, would be able to participate in the Network Innovation Competition (NIC). OFTOs have already brought innovation proposals forward through the NIC and been awarded funding.

#### *Industry codes*

1.166. We expect that CATOs, like all other TOs, will be a party to the STC. We also expect that similar arrangements for construction that apply to OFTOs (for OFTO build) could apply to CATOs. This would involve a CATO entering into a construction agreement with the SO, under the STC, which would include details such as the asset specifications and construction programme.

1.167. We expect that other arrangements, for example around providing security for construction costs which apply to OFTOs, may also apply to CATOs. OFTOs are required to provide security for a proportion of construction costs, either through a credit rating or another specified security arrangement. We also expect that CATOs would adhere to STC procedures which exist, in part, to manage interactions between all TOs and the SO. We will consider further what changes may be required to the STC and its procedures to accommodate CATOs.

## Appendix 6 – Further detail on managing conflicts

1.168. In chapter 4 we set out our thinking on the conflicts of interest and related risks that are created for the competitive tender process by the role of the SO and the participation of incumbent onshore TOs. Here we set out further detail on the risks and conflicts of interest, the potential mitigation measures and existing requirements on the SO.

1.169. It should be noted that conflicts of interest can occur and be acted upon at various stages of the project development and tender process, from options assessment through to the tender itself and operation of the network. When identifying conflicts we have also indicated when the issue might arise, as this is relevant to how the conflict is then mitigated.

### Further detail on conflicts from the SO’s role

1.170. The role of the SO could create conflicts of interest or opportunities to favour either NGET or relevant associated bidding businesses. The table below shows more detail on the potential conflicts and risks, and indicates who the beneficiary of the conflict might be and at what point the issues might arise.

1.171. Note that we have distinguished between NGET’s SO function and its TO function, and ‘NG bidding business’ refers to any business within National Grid that seeks to participate in onshore tenders.

When?	Beneficiary	Description
Pre-tender	NGET TO	Favouring non-competed options in NGET’s transmission area (eg through the NOA process or through application of the criteria).
	NG bidding business	Favouring competed options outside NGET’s transmission area (eg through the NOA process or through application of the criteria).
	NG bidding business	If the SO does preliminary works, completing them in a way that favours its associated bidding businesses.
	NG bidding business	Sharing information (eg on system needs, or on preliminary works, if these are done by the SO) with associated bidding businesses that isn’t shared with other bidders.
During the tender process	NG bidding business	Sharing information (eg on system needs, or on preliminary works, if these are done by the SO) with associated bidding businesses that isn’t shared with other bidders.

	NG bidding business	In its role during the tender process (eg responding to clarifications) either favouring its associated bidding businesses or disadvantaging other bidders.
	NG bidding business	Sharing confidential information from other bidders (eg on commercial agreements such as the TOCA) with its associated bidding businesses.
During operation	NGET TO	Providing preferential system operation treatment to the TO (eg on TO/CATO interfaces and treatment of outages).
	NG bidding business	Sharing confidential information (eg on commercial agreements at connection points) with its associated bidding businesses.

### Further detail on conflicts and risks from the TOs' roles

1.172. The table below sets out our thinking on the possible conflicts of interest arising from the participation of incumbent TOs or associated bidding businesses.

When?	Beneficiary	Description
Pre-tender	Bidding business	If TOs complete preliminary works for SWW projects and these projects are then subject to a competitive tender, then: <ul style="list-style-type: none"> <li>the TO could complete the preliminary works in a way that favours the bidding business</li> <li>the associated bidding business may be able to gain an informational advantage over other participants.</li> </ul>
During the tender process	Bidding business	If TOs have completed preliminary works for SWW projects, and these projects are then subject to a competitive tender, the associated bidding business may be able to gain an advantage over other participants (eg the TO could favour its associated bidding business when providing information or responding to clarifications).
During operation	TO or Bidding Business	If a TO or associated bidding business becomes a CATO it will receive a revenue stream as described in chapter 3. We need to ensure that there are no opportunities for costs incurred in the competitive process to be recovered through the price control.
	Bidding business	The TO could favour its associated bidding business when contracting at interface points or entering into commercial agreements.

## Potential conflict mitigation measures

1.173. Within each category of conflict mitigation measures, there is a range of options. The appropriate option depends on how severe the conflict is and, correspondingly, how stringent the measures need to be.

1.174. The final package of conflict mitigation measures will include scrutiny from Ofgem and potentially other stakeholders. Here we concentrate only on possible separation measures.

1.175. **Information measures** – these measures help to mitigate conflicts related to sharing sensitive information, such as between the SO and an associated bidding business, or a TO that has completed preliminary works and an associated bidding business. Possible requirements range from restrictions on sharing specific information to prohibitions on sharing any information between certain parties unless specifically allowed.

1.176. **Physical and IT measures** – information measures can be supplemented by requirements on the physical location and IT access of people carrying out particular functions. Possible requirements range from requirements for separate offices within a building and protected computer folders to requirements for entirely separate premises and IT systems.

1.177. **Employee measures** – requirements for certain employees to be separated also help to prevent the flow of sensitive information and reduce the risk of one party being favoured over another. This could include prohibitions on employees working on onshore competitive tenders also working on other areas, or on employees with access to sensitive information working on compiling bids. Restrictions on transfers between business functions may also be required to implement these types of measures, while requirements for some employees to have separate pay and bonus structures could also help to reduce incentives to favour one party over another.

1.178. **Managerial measures** – to prevent any parties that have opportunities to favour their associated bidding businesses from doing so, it may be necessary to require separate management, for example through separate decision making boards or separate representation on the board of the parent company.

1.179. **Legal measures** – legal separation can help to implement other measures and ensure transparency. Options within this category range from different functions within a company being regulated under different licences through to a requirement for different functions to be carried out by separate companies with the same parent owner.

1.180. **Financial measures** – these measures help to prevent cross-subsidies and reduce any incentives to favour one party over another. They range from requirements not to cross-subsidise and obligations to provide separate regulatory



accounts to requirements for separate statutory accounts and strong financial business separation between companies.

## Existing requirements on the SO

1.181. NGET's transmission licence already contains obligations, restrictions on activities and requirements for ringfencing of sensitive information and separation between NGET and "relevant other competitive businesses". These have been put in place to mitigate conflicts of interest in relation to the offshore transmission regime and the enhanced SO role implemented through our ITPR project. Additional requirements apply in relation to the SO's role in Electricity Market Reform.<sup>16</sup>

1.182. We recently made modifications to NGET's licence to implement the conclusions of the ITPR project.<sup>17</sup> These modifications will take effect from 2 November 2015.<sup>18</sup> Following the modification, special condition 2O<sup>19</sup> will place the following key obligations and requirements on NGET:

- In performing its Relevant System Planning Activities,<sup>20</sup> NGET must ensure that neither NGET nor any associated businesses obtains an unfair commercial advantage.
- NGET must carry out its activities separately from Relevant Other Competitive Businesses.<sup>21</sup>
- NGET must maintain a code of conduct governing the disclosure of Relevant System Planning Information, and ensure that information received through the SO's enhanced roles is not inappropriately disclosed outside of NGET's SO business.

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<sup>16</sup> See special condition 2N of NGET's electricity transmission licence.


<sup>17</sup> Decision on licence modifications to enhance the role of the System Operator: <https://www.ofgem.gov.uk/publications-and-updates/decision-licence-modifications-enhance-role-system-operator>

<sup>18</sup> Notice under section 11A(2) of the Electricity Act 1989 – Modifications to National Grid Electricity Transmission Plc's Special Licence Conditions. [https://www.ofgem.gov.uk/sites/default/files/docs/2015/09/nget\\_special\\_notice\\_signed\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/09/nget_special_notice_signed_0.pdf)

<sup>19</sup> The new special condition 2O replaces the existing conditions relating to offshore transmission (special conditions 2D and 2E), and incorporates the relevant obligations.

<sup>20</sup> As defined in special condition 1A of NGET's transmission licence. Includes activities related to undertaking the new NOA.

<sup>21</sup> As defined in special condition 1A of NGET's transmission licence. Includes the businesses of (a) participating in, or intending to participate in a tender for an offshore transmission licence, (b) being an Offshore Transmission Owner (OFTO), (c) undertaking carbon capture and storage activities, or (d) owning and/or operating an entity participating, or intending to participate in, activities which require a licence under section 6(1)(e) of the Electricity Act 1989 (the operation of an electricity interconnector).



## Extending competition in electricity transmission: arrangements to introduce onshore tenders

- NGET must produce and publish a compliance statement, appoint an independent compliance officer, appoint a responsible director to oversee the compliance officer and NGET's overall compliance, and produce and publish an annual report on the previous year's compliance.

1.183. The licence sets out conditions that must be met for the separation of NGET and Relevant Other Competitive Businesses:

- Legal separation – NGET and competitive businesses must be separate corporate entities. NGET may not have any control over the competitive businesses, and must maintain separate accounts.
- Employee and board separation – there must be separation between the people involved in the management and operation of NGET and competitive businesses.<sup>22</sup> This extends as far as the board of directors.
- Physical separation – there must be arrangements in place restricting access to premises, equipment, facilities or property used for the management or operation of NGET.
- IT separation – NGET must ensure that the systems for recording, processing and storing data related to the management or operation of NGET cannot be accessed by competitive businesses.

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<sup>22</sup> There are some exclusions related to the provision of shared services or de minimis business.

## Appendix 7 – Summary of responses to open letter on criteria

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1.184. In May 2015 we published an open letter setting out our thoughts on the criteria used to identify projects suitable for competitive tendering. Alongside our letter we published a technical report by Jacobs, an engineering firm, detailing their considerations on extending competition in transmission. We used their advice to inform our views expressed in the letter. We asked for feedback on the proposals from stakeholders.

1.185. We received 19 responses, some of which were confidential.<sup>23</sup> We have taken respondents' views into consideration, and these are reflected in chapter 2 and appendix 2. A summary of the main trends identified in the non-confidential responses we received is below.

### **Stakeholder views on high value**

1.186. We sought views on setting the high value threshold at £100m and using capex as the basis for this. Most respondents supported £100m as the high value threshold. Some respondents said they would like to see more justification for the £100m figure. A few respondents believed the threshold to be too high, while a few others thought it would be too low. Some noted that projects less than this value could be useful in building up a portfolio of projects for a CATO. More respondents thought a capex approach to be suitable for calculating the high value criterion than those supporting a whole life approach. Some of those respondents who indicated a preference for capex also noted that whole life costs would be more appropriate for bid assessment during the actual CATO tender process.

### **Stakeholder views on new and separable**

1.187. The letter presented some potential principles to use when considering if a project is new and separable. These principles set out that new and separable should include projects where transmission assets don't currently exist or where the new assets would completely replace existing ones. The criteria should also include projects where the ownership boundaries can be identified under industry codes and standards. The letter proposed that this should not preclude works that made use of existing land and route corridors, or works where modifications may be required on existing transmission assets. Most respondents supported these principles, and many believed asset transfer of existing transmission assets could work where this is

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<sup>23</sup> The non-confidential responses are published on our website: <https://www.ofgem.gov.uk/publications-and-updates/criteria-onshore-transmission-competitive-tendering>

beneficial to the project. Some respondents noted their opposition to any asset transfer.

1.188. Jacobs' report suggested that electrical separability and contiguity should not be a prerequisite under the new and separable criteria, however it noted the benefits that each may bring to simplifying interfaces and clarifying operational responsibilities. We asked stakeholders for views on the importance of electrical separability and contiguity, and asked for any alternative approaches to electrical separability.

1.189. Most respondents thought that electrical separability was not necessary. It could have benefits, but could only be justified if the design of the system warranted its inclusion, for example for safety reasons. Some responded that ownership boundaries are more important, with one respondent noting that there may be cases where transferring existing assets could simplify the commercial and ownership boundaries. Those respondents who wanted electrical separability highlighted the need to be clear where accountability lies, due to the impacts on a neighbouring TO's system during network maintenance or during faults.

1.190. The majority of respondents also felt that electrical contiguity was not a necessity, but some noted the potential benefits it would have in reducing the number of interactions with other TOs. Some respondents noted that a non-contiguous project would require clearly defined boundaries and that this may be simpler under projects with a single driver. Some respondents noted that non-contiguous assets could be formed into groups for tendering based on the project driver or technology.

### **Stakeholder views on approaches for applying the criteria**

1.191. The letter outlined three approaches for how to treat projects that met the high value threshold but did not meet the new and separable criteria. Approach 1 was to apply the criteria strictly to an entire project. Approach 2 was to repackage the works if an entire project did not meet the criteria, carving out an element or elements that met the criteria, leaving the remainder to incumbent delivery. Approach 3 was to transfer existing transmission assets to a CATO (with a value of up to 25% of the project value), in order to make a project new and separable.

1.192. Respondents were split between the three approaches. Not many preferred Approach 1, but those who did noted its simplicity, with one respondent noting this removed uncertainty around treatment of future projects. A common reason given for discounting Approach 1 was the potential to unnecessarily limit the range of projects available. Respondents preferring Approach 2 did so for a range of reasons, including the potential to minimise asset transfer, and the ability to accommodate the complexity of real projects. One respondent noted that a transparent and predefined repackaging process would be needed to mitigate the risk of TOs retaining more of a project than necessary. Some noted the increased potential for operational risks due to more complex interfacing with incumbent TOs' assets if only the new assets are carved out. Asset transfer in Approach 3 was regarded as a

sensible option for some projects by many respondents. Comments around Approach 3 highlighted the need for predefined criteria and processes to apply to identify any assets for transfer, with one respondent noting that it should be Ofgem who manages this. One respondent questioned how the risk and responsibility for failure of transferred assets would be managed, and its impact on CATO revenue. Many responses acknowledged that the approaches may have to vary depending on the specifics of the project, and that application of the criteria might be needed on a project-by-project basis.

1.193. Some respondents proposed to apply other criteria to projects, such as deliverability, criticality to the network and producing value for consumers. Some proposed that these should supplement the initial criteria, providing a more project-focused analysis of the suitability for competition. Some respondents brought up their concerns that competition would lead to delays in delivery of RIIO-T1 SWW projects, as well as any future projects.

### **Other comments from stakeholders**

1.194. Generator connections were also raised, with a few respondents wishing to bring this within scope even if the cost fell under the £100m proposed threshold. One respondent noted the potential for a lack of flexibility in the capacity or design of a generator connection if the connection is tendered too early in the associated generator's development cycle.

1.195. Some respondents noted that appointing new TOs could lead to the fragmentation of the onshore network, noting implications for operation, security and safety.

## Appendix 8 - Feedback Questionnaire

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1.196. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.197. Please send your comments to:

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