



DRAFT guidance note

Regulation of actionable ISP projects

December 2020

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1 Introduction and purpose

This guidance note provides information on how the Australian Energy Regulator (AER) will approach our regulatory assessment for actionable Integrated System Plan (ISP) projects under the economic regulatory framework set out in the National Electricity Rules (NER).¹ It includes our expectations of what transmission network service providers (TNSPs) should demonstrate to aid our assessment.²

Specifically, the guidance note covers:

- the CPA assessment process through which forecast expenditure for actionable ISP projects is typically assessed (section 2)
- how TNSPs can stage the regulatory process for actionable ISP projects, in some circumstances, by lodging multiple CPAs with the AER (section 3)
- the ex-post measures that may apply to capital expenditure (capex) forecasts that contain actionable ISP project costs (section 4).

The purpose of this guidance note is to improve predictability and transparency of the regulatory process for these large transmission projects, which appear to have greater uncertainty in their costs and benefits (compared to 'business as usual' projects). There is also limited precedent for both the AER and TNSPs in regulating and delivering projects of this size.³ As such, the guidance note seeks to support the efficient and timely delivery of actionable ISP projects, and to ensure consumers pay no more than necessary for these large transmission projects, consistent with the National Electricity Objective (NEO).⁴

This guidance note captures our existing expectations for TNSPs in preparing their CPAs, based on recent CPA processes for transmission projects. It also captures learnings from procuring and delivering large infrastructure projects in other sectors, and is consistent with standard practice for businesses that invest in large infrastructure projects. As such, we do not consider that meeting the expectations in this guidance note will impose additional regulatory or administrative burden on TNSPs.

This guidance note has been developed in accordance with the key NER requirements set out in the sections below, and will complement and support our existing guidelines that apply to transmission and/or distribution expenditure more generally.⁵ We note a key element of

¹ See NER, Chapter 6A. This is consistent with our role as the economic regulator, in determining the maximum amount of revenue network businesses can earn for regulated services over a given regulatory control period.

² These are highlighted in bold text throughout the guidance note for ease of reference.

³ See AER, *Work program letter to support the efficient delivery of large transmission projects*, November 2020.

⁴ That is, to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to: price, quality, safety and reliability and security of supply of electricity; and the reliability, safety and security of the national electricity system.

⁵ That is, the AER's Capital expenditure incentive guideline (November 2013), Expenditure forecast assessment guideline for transmission (November 2013) and Process guideline for contingent project applications (September 2007).

our regulatory assessment is the expenditure criteria⁶ in the NER—the efficient costs that a prudent operator would require to achieve the expenditure objectives,⁷ as well as a realistic expectation of the demand forecast and cost inputs required to achieve those objectives.

1.1 Application of the guidance note

This guidance note applies to TNSPs that propose forecast expenditure associated with actionable ISP projects after its publication date. We intend to update this guidance note periodically as we and TNSPs learn from the experiences of assessing and delivering actionable ISP projects, and will consult with stakeholders accordingly.

The expectations in this guidance note are not binding on TNSPs or the AER. We intend to follow this guidance note in conducting our CPA assessments and ex-post measures associated with actionable ISP projects, unless we consider there are good reasons not to. Where this is the case, we will be open and transparent, explaining any departure and our rationale for it, as well as considering any responses.

1.2 Interrelationships between guidance areas

The guidance in each section of this guidance note is interrelated and should be considered together. For example:

- The CPA guidance in section 2 sets out our expectations for TNSPs' CPAs, including the information we expect TNSPs to provide in order to demonstrate that appropriate risk management frameworks and governance arrangements have been put in place. Our ex-post measures guidance in section 4 is linked to this CPA guidance, as we will be informed by the extent to which the TNSP followed the CPA guidance when we conduct ex-post measures (where the capex allowance contains actionable ISP project costs).
- The CPA staging guidance in section 3 explains how TNSPs can lodge multiple CPAs with the AER for a single actionable ISP project. We expect each staged CPA to follow the guidance provided for CPAs generally in section 2. We also note that appropriate CPA staging can facilitate the CPA assessment process, where it demonstrates proportionate and proactive risk management, and effective procurement.

⁶ That is, the capital expenditure criteria and the operating expenditure criteria. See NER, clauses 6A.6.6(c), 6A.6.7(c).

⁷ Expenditure objectives refer to capital expenditure and operating expenditure objectives. These are set out in NER, clause 6A.6.6(a) and 6A.6.7(a).

2 Contingent project application process for actionable ISP projects

This section provides information on the key considerations for the AER when assessing CPAs for actionable ISP projects. We also outline the information we expect TNSPs to demonstrate in their CPAs.

Contingent projects are significant network augmentation projects that may arise during a regulatory control period, but the need and or timing of the project is uncertain. As such, we assess forecast expenditure for these projects outside the regular revenue determination process. Contingent projects are linked to unique investment drivers, which are defined by a 'trigger event'. For actionable ISP projects, TNSPs are able to rely on a trigger event set out in clause 5.16A.5 of the NER. Once the trigger event has been met, the TNSP can lodge a CPA with the AER, and the AER will assess the CPA to make a contingent project decision. This results in an adjustment of the TNSP's revenue allowance to reflect efficient and prudent forecast expenditure associated with the contingent project.

The purpose of this guidance is to:

- Provide TNSPs with more predictability and transparency about how we will assess CPAs for actionable ISP projects, in accordance with clause 6A.8.2(e) of the NER.
- Outline our expectations for how TNSPs can demonstrate that their forecast expenditure for actionable ISP projects is prudent and efficient, and the information that will inform our assessment. We have focused on our expectations in key areas where TNSPs should demonstrate their forecasts are reliable, and that the forecast expenditure is likely to be efficient, through appropriate market testing and proactive risk management.

This guidance is supplementary to our expenditure forecast assessment guideline for transmission,⁸ which is required under the NER, and our process guideline for contingent project applications⁹ (CPA Process Guideline). This guidance seeks to provide further clarification and detail on key areas covered in these guidelines, for actionable ISP projects.

We expect that TNSPs will follow this guidance in preparing their CPAs. Where a TNSP does not follow this guidance without explanation, we are less likely to be convinced that the forecast expenditure is efficient, prudent and realistic, and is therefore reasonably required for the purposes of the contingent project. This may result in us making an amendment to the TNSP's revenue determination that is less than what is sought in the CPA. Alternatively, we may ask the TNSP to demonstrate further information through a follow up information request. We may also ask the TNSP to undertake further activities to refine its cost estimates in accordance with any aspect of this guidance.

Appendix A sets out a summary of key information we expect TNSPs to include in their CPAs to demonstrate that they have adhered to the principles in this guidance.

⁸ See AER, *Better Regulation Expenditure Forecast Assessment Guideline for Electricity Transmission*, November 2013.

⁹ See AER, *Process guideline for contingent project applications under the National Electricity Rules (CPA Process Guideline)*, September 2007.

2.1 Key rule requirements

Our CPA Process Guideline sets out the NER requirements relating to contingent projects, which are largely contained in clause 6A.8.2.

For actionable ISP projects, TNSPs are able to rely on a trigger event set out in clause 5.16A.5 of the NER. This includes the completion of a regulatory investment test for transmission (RIT-T) and written confirmation from AEMO via the 'feedback loop'.¹⁰

2.2 Pre-lodgement stakeholder consultation

Our CPA Process Guideline notes that the pre-lodgement process is designed to assist TNSPs to lodge applications that comply with NER requirements. We consider this should include pre-lodgement engagement with stakeholders for actionable ISP projects.

We consider it is important that the TNSP consults with stakeholders in preparing a CPA for actionable ISP projects. Meaningful high quality early engagement, particularly with local community and consumer groups, can:

- Improve stakeholder and community understanding of the project's costs, benefits and risks. Given actionable ISP projects are significant in size and potentially complex, more stakeholders and communities may be impacted. As such, they may need more time and opportunity to ask questions about, and understand, these projects compared to business as usual projects.
- Provide greater opportunity for the project solution to be designed with the benefit of local community input.
- Facilitate understanding of community concerns, particularly of impacted stakeholders around the route selection. This helps the TNSP proactively identify and manage risk.
- Provide the TNSP with the opportunity to address or manage concerns raised and demonstrate how it has considered feedback.

Early engagement can therefore improve the quality of the CPA and the accuracy of the forecast project costs. For example, engaging with impacted communities to understand concerns can help the TNSP identify community risks associated with the project, and can impact the proposed route of a project. This, in turn, can have a material impact on the project's costs. We are more likely to reject, or take a different view of, a CPA if we consider insufficient stakeholder/community engagement has been undertaken.

We **expect** the TNSP to promote consumer confidence in the project. Affected consumers and consumer representatives should have the opportunity to ask questions about the proposed scope and costs of a project, particularly where they change significantly over time. The TNSP's engagement should meet the principles set out in the AER's Consumer Engagement Guideline for Network Service Providers.¹¹

- clear, accurate and timely

¹⁰ NER, clause 5.16A.5.

¹¹ See AER, *Consumer Engagement Guideline for Network Service Providers*, November 2013.

- accessible and inclusive
- transparent
- measurable.

In its CPA, we **expect** the TNSP to provide an overview that demonstrates how its engagement approach has satisfied these principles. This should include:

- Commencing consultation as early as is practicable in preparing the CPA, to provide stakeholders sufficient opportunity to understand the complexities of the project.
- Using engagement formats that are fit-for-purpose and meet stakeholder needs. This should include formats that promote iterative discussions, which better allow stakeholders to ask questions and receive prompt responses.
- Identifying and engaging with key stakeholders that are interested in and can impact/influence the project. For example:
 - consulting, and seeking a range of views from, relevant consumers and/or consumer representative groups or local community groups
 - identifying and engaging with (at least a sample of) impacted communities to understand any concerns with the project, particularly about the proposed route
 - using stakeholder engagement to identify and efficiently manage other key project risks, such as engagement with planning authorities to identify preliminary issues.
- Presenting the range of stakeholder views the TNSP has heard, and demonstrating that it has understood, considered and responded to these views.
- Ensuring the proposed solution has been informed by stakeholder feedback. For example, while the TNSP may not always be able to definitively confirm the route at this stage, it should demonstrate it has considered alternative route options, and that any route proposed in the CPA has been determined with regard to community feedback. The TNSP should also ensure it has been informed, and supported, by consumer views where the proposed solution (or any component of it) is above the minimum required to meet the identified need for the project described in the ISP.
- Keeping stakeholders informed of, and explaining, any significant changes in the project's scope and/or forecast costs from those provided at the RIT-T stage. The TNSP should demonstrate to stakeholders that these changes are in the long term interests of consumers, and respond to any concerns.

On this last point, we encourage the TNSP to adopt consistent cost categories across the RIT-T and CPA stages for the project, where possible. This will assist stakeholders in comparing costs between the two stages in order to understand how they have evolved.

We will use a range of considerations to determine whether stakeholders have been genuinely engaged in the development of the TNSP's CPA. For example, we will consider

the nature of engagement, breadth and depth of engagement, and clearly evidenced impacts of the engagement.¹²

Example 1 provides a hypothetical example of meaningful pre-lodgement consultation and engagement with stakeholders on an actionable ISP project.

Example 1: Approach to pre-lodgement stakeholder consultation for an actionable ISP project

Two TNSPs lodge CPAs for an actionable ISP project to expand an interconnector from region A to region B, with forecast expenditure of \$2.0 billion. This contains an attachment that sets out a detailed overview of their stakeholder engagement process and outcomes. The overview contains the key areas that underpinned their stakeholder consultation and a timeline of different engagement activities, and includes:

- Stakeholder forums/workshops across both regions in which the interconnector is being built, with project updates. The TNSPs invited a range of stakeholders to these workshops, and this allowed them to keep stakeholders informed and gather a range of views on the project. From these workshops, the TNSPs identified that several stakeholders sought independent assurance on its project cost forecasts. The TNSPs considered this feedback and decided it was valuable to each invest in an independent assessment of their forecast costs, to promote stakeholder confidence in the project.
- Stakeholder engagement and oversight through the procurement process. The TNSPs presented an overview of their separate proposed procurement strategies and processes (including their tender evaluation frameworks) to key stakeholders, including some consumer groups, before releasing invitations to tender. This provided an opportunity for key stakeholders to raise any issues with the procurement documents and processes.
- Engagement with a sample of local communities and key stakeholders to identify route selection and other project risks. This included meetings with various councils, members of parliament and representative organisations (such as indigenous and environmental community groups) affected by the route selection. This allowed the TNSPs to understand local community concerns/priorities, and proactively identify and manage a number of risks around route selection and planning approvals.

The TNSPs' overview document also provided the AER with the key feedback received across the engagement activities, and a summary of the TNSPs' responses to each key question or concern. This includes areas (or outcomes) where the TNSPs' planning and design of the project was informed by their stakeholder engagement.

This is an example of the information that the TNSP can provide as part of their CPAs to demonstrate to the AER the stakeholder engagement activities it has undertaken, how it has sought to meet stakeholder needs, and how it has responded to issues and concerns raised

¹² This draws from our framework for considering consumer engagement—see table 7 of the AER, *Draft decision, Jemena distribution determination 2021-26, Overview*, September 2020, p. 43.

by stakeholders. A recent example of such a document is TransGrid's '[Stakeholder Engagement Overview Paper](#)', attached to its CPA for Project EnergyConnect.¹³

2.3 Early information sharing with the AER

As we note in our CPA Process Guideline, TNSPs are encouraged to exchange information with the AER before lodging their applications. This is useful for both TNSPs and the AER in ultimately satisfying the NER requirements.¹⁴

Given the cost and potential technical complexity of actionable ISP projects, keeping us informed helps us to understand the scope and key issues with the project ahead of CPA lodgement. This provides us with an opportunity to ask the TNSP questions to better understand the project and key issues. It also provides the TNSP with additional, early opportunities to explain to the AER the processes it has undertaken, how it has sought efficiencies in the design of the solution, and how it is governing the project.

We **expect** the TNSP to share early information with us on its CPA planning and preparation, in particular:

- The timeframes for both the project and the CPA process, and how they interact—it is important for us to understand how the project delivery schedule interacts with the regulatory approval process. Understanding these timing implications also helps us prepare for the CPA assessment given the truncated timeframes.
- Whether the TNSP intends to stage the regulatory process for the project by lodging multiple CPAs—if so, how many CPAs it intends to submit, and what part(s) of the project each CPA corresponds to (see guidance in section 3).
- The functional specifications the TNSP intends to provide to the market in commencing its tender process (see section 2.5.2).
- The TNSP's procurement process (see section 2.5). We expect the TNSP to keep us informed throughout the various stages of its procurement process. This helps us understand how the project cost estimates are evolving from those contained in the Project Assessment Conclusions Report delivered in the preceding RIT-T stage.
- Whether the TNSP's Board has committed to proceeding with the project (subject to the outcome of the CPA) and whether financing for the project has been obtained. This helps us understand what stage of development the project is in.

2.4 Project management and governance

Effective and transparent project governance and management practices are important to promote comprehensive risk planning and accountability, as well as proper oversight and efficient management of any cost overruns in project delivery.¹⁵ In demonstrating that these

¹³ See TransGrid, *Attachment A.2 - Stakeholder Engagement Overview Paper*, September 2020.

¹⁴ See AER, *CPA Process Guideline*, September 2007, section 3.1.

¹⁵ See Deloitte, *Capital projects: Project and risk management—Leading practices*, January 2016; PwC, *Managing capital projects through controls, processes and procedures*, 2014; PwC, *Six key ways to de-risk your infrastructure project*; KPMG, *Managing risk in the Australian construction industry*, May 2020; Grattan Institute, *Cost overruns in transport*

practices and controls are in place, TNSPs can increase the AER's confidence in the TNSP's ability to deliver actionable ISP projects efficiently and in line with their cost forecasts.

2.4.1 Project governance principles

In its application (or supporting submissions), we **expect** the TNSP to demonstrate that it has promoted the following principles through its project governance structures:

- clear definitions of roles and responsibilities, particularly around decision-makers and project management roles
- clear lines of accountability for key decisions, particularly around project risks and decisions that could result in cost overruns or delays—supported by meaningful audit trails and transparent project controls
- effective project controls to manage significant variations in scope, cost and/or risk profile—with fast and proactive management and escalation of issues, risks and/or disputes to the appropriate body or person for resolution
- regular review points and effective gateway decisions for decision-makers, combined with regular reporting around general project progress against budget and schedule
- formalised and transparent cross-functional arrangements that promote effective and efficient collaboration.

2.4.2 Project planning and management

We **expect** the TNSP to demonstrate that it has a project plan in place, containing the key components set out in Appendix A. The TNSP's plan should be supported by the following to demonstrate confidence the project will be delivered in line with the forecast costs:

- a robust procurement strategy (see section 2.5)
- the identification and assessment of all residual project risks the TNSP is seeking a cost allowance for in its CPA (see section 2.6)
- a risk management framework for all identified project risks (see section 2.6.3).

2.5 Procurement

TNSPs are likely to outsource the majority of the costs of constructing actionable ISP projects. We consider market testing, where conducted effectively, can drive efficiencies in cost forecasts and encourage third parties (contractors) to take on project risks they can control for a lower premium.

In its application (or supporting submissions), we **expect** the TNSP to demonstrate an overview of its tender process and evaluation for the project. This is in addition to providing the AER with visibility of its procurement activities (set out in section 2.3). Through its

infrastructure', October 2016; McKinsey & Company, 'A risk-management approach to a successful infrastructure project', November 2013; Australian Government Department of Infrastructure and Transport, 'Infrastructure Planning and Delivery: Best Practice Case Studies Volume 2', February 2012.

procurement strategy and processes, the TNSP should demonstrate that it has achieved value for money outcomes by considering and promoting the following principles:

- Maximise competition and contestability to the greatest extent possible, having regard to project circumstances and parameters (for example, timing and safety requirements).
- Ensure accountability commensurate with appropriate levels of authority and responsibility.
- Promote probity through the application of integrity, ethical behaviour, fairness and transparency in the conduct of the procurement processes, including ensuring defensibility of processes. This should involve:
 - providing uniform and transparent evaluation processes and procedures
 - ensuring all tenders are evaluated fairly
 - ensuring no tenderer is given an unfair advantage
 - considering the roles of evaluation panels or review teams.
- Leverage synergies with related work components or even other projects where synergies in scope exist or where risks can be diversified.

2.5.1 Procurement planning and preparation

We **expect** the TNSP to demonstrate that it has developed a procurement strategy and conducted procurement planning tasks, commensurate to the scale and complexity of the works. We consider that a procurement strategy and good planning can maximise the TNSP's opportunities for innovation, value and efficiency in its procurement arrangements.

Procurement planning tasks can include, for example:

- (a) market scanning and market sounding aimed at informing the procurement strategy and work packaging, as well as broadening the pool of potential suppliers
- (b) planning the procurement model structure and strategic work packaging choices against an assessment framework (including consideration of cost certainty, risk allocation, timeframes, potential synergies and other value drivers)
- (c) properly defining the work packages, including the interfaces between work packages
- (d) developing a tender evaluation framework
- (e) identifying key contractual issues specific to each component of work.

Case study 1 provides a real life example from the rail sector, where procurement planning tasks created benefits for a large rail project in Northern Queensland.

Case study 1: Townsville Eastern Access Rail Corridor—benefits of market sounding in developing a procurement strategy and plan in the rail sector

The Townsville Eastern Access Rail Corridor (TEARC) project is a proposed 8.3km rail freight line in Northern Queensland. Building Queensland (Queensland Government) undertook a market sounding process to seek market feedback on the project. The feedback

informed TEARC's procurement strategy through packaging and delivery model analyses.

This included obtaining feedback from participants on:

- package structure (single versus multiple packages, potential early works)
- market interest
- delivery models
- project interface risks.

Building Queensland developed a market sounding methodology that recommended a two-stage process: one-on-one interviews and an optional written questionnaire. The substance of the market sounding differed depending on the type of stakeholder. Prior to the interviews, participants were provided with a briefing pack on the project.

Building Queensland found a strong interest from industry to participate in TEARC, but some participants noted the timing of comparable projects may marginally affect market capacity and bid prices. Some participants contemplated an early works package. Participants also noted the lack of scope for innovation in design under a construct-only package, with the majority of contractors therefore preferring a design and construct package. The participants also discussed allocation of risk.

This feedback informed Building Queensland's "development of a procurement strategy that addresses market interest and participation, delivers [value for money] and appropriately allocates and manages risk."¹⁶

2.5.2 Executing the procurement process

Efficient design of the solution

Market tendering can be an effective mechanism for identifying cost effective and efficient design and construction solutions. Through competitive bidding, the 'design and construct' market should incorporate efficiencies and innovation in the solution's design.

We **expect** the TNSP to demonstrate how it has sought or incentivised innovation in the design of the solution through the early stages of its tendering process. The TNSP's first invitation to tender should contain the functional specifications of the solution, in order to seek competitive and innovative design of the solution from the market. Then, in later tender stages, the TNSP can provide engineering specifications to the market in order to receive comparable cost estimates for the solution. We consider initiating the tender with functional specifications is important as it provides opportunities for changes and innovation in project scope, and therefore potential cost savings. Opportunities for this are limited once the designed solution has gone to market.

We also **expect** the TNSP to explain how it has arrived at the proposed design of the solution and why it considers the proposed design to be efficient. This should include an

¹⁶ Building Queensland, 'Townsville Eastern Access Rail Corridor Detailed Business Case', November 2017, Chapter 10.

explanation as to how the scope of the solution has evolved from the ISP and RIT-T stages (including where these changes are minor).

Example 2 provides a hypothetical example of a procurement process that starts with narrow technical specifications of the solution. It shows how opportunities for cost efficiencies would have increased if the process had started with functional specifications of the solution.

Example 2: Commencing a procurement process for an actionable ISP project with technical versus functional specifications of the solution

The AER is assessing a TNSP's CPA for an actionable ISP project to build a large renewable energy zone (REZ), with forecast expenditure of \$1.3 billion. The AER considers the TNSP's tender process may have restricted the extent to which bidders proposed more cost effective design solutions. Tenders proposed traditional towers and construction techniques because they were broadly constrained by the narrow technical specifications in the TNSP's request for tender documentation. In its final contingent project decision, the AER notes that a lower tendered amount may potentially have been achieved if the TNSP had incentivised tenderers to propose more innovative solutions.

If the TNSP had used functional specifications of the solution in the invitation to tender (rather than narrow technical specifications), it could have received an offer that proposed the use of alternative transmission tower design and/or alternative tower footprints.

In its final contingent project decision, the AER identifies that this would have reduced the overall costs of the actionable ISP project, and so would have been the efficient and prudent action for the TNSP to take and reflect in its forecast expenditure for the project. The AER takes this into consideration when determining whether the TNSP's forecast expenditure for the contingent project meets the capex criteria.

Maximising contractor competition

In order to promote competition, innovation and probity, we **expect** the TNSP's procurement processes to maximise responsiveness in the supplier market. The following are examples of the types of steps or considerations we would look for in assessing the extent to which the TNSP has done this:

- appropriate periods for tender responses, having regard to project complexity
- swift and clear responses to technical or commercial issues as they arise
- interactive sessions/'health checks'¹⁷ to facilitate tenderers' understanding of the scope and issues; test ideas/concepts; enable tenderers to advise of their requirements; and provide equal opportunity for tenderers to communicate with the TNSP

¹⁷ As employed by TransGrid for Project EnergyConnect; See also Infrastructure NSW, '*Infrastructure Investor Assurance Framework*', February 2020, section 3.3.1.

- staged tender process, for example, to conduct market sounding, seek initial proposals on the functional specifications for the solution, and subsequently provide engineering specifications and seek refined offers
- actions to promote innovative and cost effective bids, such as incentives for innovation and/or risk sharing, and genuine consideration of 'non-conforming' offers.

Case study 2 provides a real life example from the aviation sector, where a staged procurement process was executed to seek more information from industry.

Case study 2: OneSKY Australia program—benefits of executing a staged procurement process with industry interaction in the aviation IT industry

Under the OneSKY Australia program, Airservices is the lead agency for the joint procurement of a Civil Military Air Traffic Management System (CMATS). The Australian National Audit Office (ANAO) assessed whether the tender process resulted "in the transparent selection of a successful tender that provided the best whole-of-life value for money solution..."¹⁸

Whilst the ANAO considered there were other issues with the procurement governance and process, it did note "the success of the engagement approach" with industry. It found that Airservices and Defence generated market interest and maintained competitive pressure, including by running a two-stage tender process—a Request for Interest (RFI) followed by a Request for Tender (RFT).

The RFI sought to ascertain information from industry on a range of issues, including capability, technical risks and indicative cost information. Another key outcome of the RFI was to develop an overarching program schedule. The key conclusions of the RFI process included that industry had the capability and capacity to deliver the required work package, with a competitive market. The RFI also had the benefit of raising awareness of the procurement and generating interest from potential suppliers.

The RFI process did not restrict participation in the RFT stage. There was also direct engagement with industry via a supplier briefing and the release of a draft Joint Function and Performance Specification to test/validate key requirements with industry.

The ANAO also noted that "[a] Supplier Engagement Plan was developed to set out the strategy by which industry suppliers would be engaged throughout the procurement process. This document recorded the key engagement that had already occurred and set out the strategy to be employed from the period prior to the release of the joint RFT, through to contract execution."¹⁹

¹⁸ Australian National Audit Office, *Performance Audit Report - 'Conduct of the OneSKY Tender'*, 10 April 2017, available at: <https://www.anao.gov.au/work/performance-audit/conduct-onesky-tender>.

¹⁹ Australian National Audit Office, *Performance Audit Report - 'Conduct of the OneSKY Tender'*, 10 April 2017, available at: <https://www.anao.gov.au/work/performance-audit/conduct-onesky-tender>.

2.5.3 Developing appropriate contractual arrangements

We **expect** the TNSP to demonstrate it has considered the optimal contractual arrangements for the work packages. This arrangement, agreed between the TNSP and its contractors, should be consistent with the following principles:

- Risk is allocated to the party that is best placed to manage that risk.
- Objectives between the principal (TNSP) and agent (contractor) are aligned to the greatest extent possible, particularly incentives to:
 - seek efficiencies and/or innovation in delivery
 - seek timely resolution of unexpected issues as they arise.
- Innovative approaches and delivery systems, such as joint ventures, alliance contracting (gain/pain sharing arrangements), partnering, strategic alliances etc. should be pursued by the parties where measurable benefits are to be obtained.²⁰

We encourage the TNSP to also consider the following questions in developing the optimal contractual arrangements:²¹

- What level of oversight and input does the principal (TNSP) require to ensure efficient but swift micro-decisions in delivery, including mitigation of risks as they arise?
- Is there enough flexibility in the contractual arrangement to secure scope changes at a minimised cost? For example, if establishing a fixed-price contract, should the scope of works be expanded at the outset to avoid subsequent potential costly variations?
- Can more efficient risk allocation be achieved amongst a portfolio of projects between the TNSP and relevant contractor? Can the pre-existing relationship with the contractor be leveraged to diversify or mitigate risks?

This links to section 2.6.2, which considers the information TNSPs should provide in their CPA application to demonstrate how they have assessed project risks. This includes where they have transferred risks to contractors as part of the scope of works, and how they have assessed the risk premium proposed is prudent and efficient.

Example 3 provides a hypothetical example of different contractual arrangements can lead to different risk allocation outcomes, and highlights the need for transparency in the CPA.

Example 3: Transparency in risk allocation and contractual arrangements for an actionable ISP project

A TNSP has proposed outsourcing the design, construction and delivery of the actionable ISP project described in Example 2 (large REZ) to a third party engineering contractor. As a result of its tendering process, it proposes to enter into a contract with a single supplier to

²⁰ See HoustonKemp, 'Regulatory treatment of large, discrete electricity transmission investments: A report for the Australian Energy Regulator', 19 August 2020, section A1.4.

²¹ HoustonKemp, 'Regulatory treatment of large, discrete electricity transmission investments: A report for the Australian Energy Regulator', 19 August 2020, section A1.4.

undertake all the necessary works (and purchasing of materials and equipment) under a 'turn-key' fixed price design, engineering and construct contract.

In assessing the TNSP's CPA, the AER considers this a conservative approach to contracting as it transfers the majority of risk to the contractor. This provides cost certainty and reduces the risk of cost overruns in delivery for both the TNSP and consumers. However, it likely increases tendered costs because the contractor will bear procurement and construction risks, and some of these may be better able to be managed by the TNSP. For example, risks associated with managing the project interface with generators' connection assets, as well as obtaining necessary government/council approvals. Alternative contracting approaches may lower tendered costs but would potentially increase the TNSP's own costs (including overheads and contract management) and risk.

This contracting approach may be reasonable where it efficiently balances risk, such that the party most able to bear a specific risk incurs the costs. However, the AER's preliminary assessment of the TNSP's CPA is that they are unable to determine whether risk has been efficiently shared. This is because the AER is not able to identify the quantum of project risk held by the contractor, and its forecast costs for specific items and responsibilities. Therefore, the AER issues an information request asking the TNSP to provide further information on the project risks captured under the contractor's scope of work.

2.6 Project risks

The AER can accept a project risk allowance in its contingent project determination by assessing the residual risks identified by the TNSP, and associated cost estimates.²² As actionable ISP projects may face greater cost uncertainty, we consider it important that the TNSP comprehensively and transparently identifies and assesses the different project risks for which it is seeking a cost allowance. This will aid us in determining efficient and prudent expenditure associated with an actionable ISP project.

It is important to note that we will not provide a project risk allowance that completely covers the eventuality of all consequential costs being incurred, as this assumes that each of these costs are guaranteed to eventuate and does not recognise their distribution or probability of occurrence. There are also project risks and efficiencies that lead to cost reductions, and these should be equally considered. Importantly, our contingent project determination is not intended to completely de-risk the project, as investment projects are inherently uncertain and financing arrangements account for this.

We also note that while it is important to proactively identify and manage project risks, it may not be efficient to fully identify and mitigate (or avoid or transfer) all project risks. It is efficient to accept some risks where the cost of mitigation measures exceeds the expected cost impact should the risk eventuate (taking into account the likelihood of this occurring).

²² In accordance with AER, *Expenditure forecast assessment guideline*, November 2013, p. 20.

2.6.1 Risk identification

In identifying the project risks to be evaluated as part of its CPA (through a cost allowance), we **expect** the TNSP to take into account the following guidance:

- It is only prudent to allow for residual risks that affect the cost of the project and cannot be efficiently transferred, avoided or mitigated²³ (or included in cost pass through events). Examples of risks that are generally reasonable to allow for include:
 - Risks that relate to a realistic latent condition with the site(s) (for example, encountering rock on the site). Such risks should be reasonably likely to exist given the nature and location of the proposed works, but still represent unknowns such that they are not included in the cost estimate as reasonably expected costs.
 - Risks associated with the actions or requirements of a third party that are not able to be governed by contractual arrangements with the TNSP, which means that the risk is not able to be addressed through enforcing contract terms (for example, council approval or conditions imposed by environmental regulators).
- Risk allowance would not be reasonably allowed for:
 - risks that are reasonably under, or should reasonably be under, the TNSP's control (for example, deficiencies in the TNSP's policies and procedures)
 - risks that would normally be managed by the TNSP as part of its business as usual practices within its overall portfolio of projects (for example, delays in appointing contractors)
 - risks that are, or should be, reasonably covered by contract terms (for example, contractor delay)
 - risks that are, or should be, covered by insurance (for example, fire or theft), or costs that are reasonably recoverable from third parties.

2.6.2 Risk cost assessment

In evaluating each residual project risk the TNSP is seeking an allowance for, it is important for the TNSP to define the risk identified, estimate the potential cost impacts (that is, the consequential costs), estimate the likelihood of occurrence of the consequential costs being incurred, and identify any mitigation/management strategies (see section 2.6.3).

We **expect** the TNSP's risk assessments to represent reasonable and realistic expectations of risks that could be realistically encountered. This includes:

- establishing consequence estimates that represent reasonable estimates of the efficient and prudent costs that may be incurred
- estimating realistic likelihoods of the consequential cost being incurred given the information available (what is known or what should reasonably be known) at the time of making the estimate

²³ See Deloitte, *Capital projects: Project and risk management—Leading practices*, January 2016, p. 12

- accounting for the presence of any controls or mitigations that exist, or should reasonably exist, given good industry practice.

We **expect** the TNSP to demonstrate the outcomes of each risk assessment, including:

- how it reached the proposed cost estimate, and relevant underpinning factors and assumptions
- whether the risk has a positive or negative impact (or both) on project costs
- why the risk cannot be efficiently mitigated, transferred or avoided
- that the risk is not covered in the cost pass through events listed in its current revenue determination.

Transparency of contractor risks

We **expect** the TNSP to explain where and why it has transferred risks to contractors as part of its scope of work. The TNSPs should explain how:

- Any risk premium it has paid, or proposes to pay, to its tenderers has been calculated. This includes the assumptions on which the tenderers risk premiums are based. The premiums include those that arise from the procurement process, as well as premiums built into the proposed contracts such as general allowances, provisional sums and specific contingencies.
- It is satisfied the risk allocation and risk premium is prudent, efficient and in the long term interests of consumers.

This information allows us to assess whether risks have been efficiently allocated to the parties best placed to manage them; and whether each risk has only been accounted for once in the CPA (either in the contractors' costs or the TNSP's own project costs). Example 3 highlights the outcomes of a CPA assessment where the TNSP has not provided sufficient visibility around contractor risks.

Example 4 provides a hypothetical example that compares two different approaches to risk assessment, to illustrate the approach that we expect TNSPs to adopt.

Example 4: Differences in approaches to project risk quantification and assessment for an actionable ISP project

Two TNSPs each lodge a CPA for the actionable ISP project described in Example 1 (large interconnector expansion between region A and region B).

The CPA from TNSP A includes a detailed 'risk register' that sets out each identified project risk that had not yet been allocated to its contracted costs. TNSP A has evaluated each risk item by estimating the likelihood of occurrence, mitigation strategies and range of potential cost impacts. It has assessed and quantified each risk using its expert judgement. It then applied a probabilistic approach (likelihood x consequence) to calculate the risk cost.

TNSP A's methodology and process for calculating its risk allowance is transparent to the AER, and is logical and well documented. Its use of probabilistic calculations should,

depending on the inputs and assumptions applied, result in an overall allowance that reasonably reflects the likelihood of the project risks occurring. While the AER's assessment identified some concerns with specific assumptions, the AER was satisfied that, overall, TNSP A's methodology is fit-for-purpose.

The CPA from TNSP B has also included additional forecast costs that relate to allowances for project risk and uncertainty. However, unlike TNSP A, TNSP B has not quantified the costs in a way that prudently reflects the nature of the risk. In particular, it has not consistently quantified the costs in a probabilistic way by assessing both the cost of the identified consequence and the likelihood of the cost being incurred.

The AER's assessment of TNSP B's forecast capex includes a detailed evaluation and probabilistic assessment of known risks. These known risks are associated with the proposed costs that reflect the stage of the project in the delivery cycle, and complexity of the works involved for a greenfield line project of that nature and scale. This results in an alternative forecast for these risk related costs that more reasonably reflect prudent and efficient costs.

2.6.3 Risk management

Section 2.6.1 notes that not all project risks need a separate allowance in the contingent project determination. Many project risks can be efficiently mitigated, transferred or avoided by the TNSP. We do not expect the TNSP to undertake the risk cost assessment set out in section 2.6.2 for these risks, as the cost assessment for managing²⁴ these risks will be captured elsewhere in the CPA.²⁵

However, as noted in section 2.4.2, we **expect** the TNSP to identify, establish and maintain a risk management framework for all project risks. This framework should:

- Identify and efficiently manage all foreseeable project risks (including as the project progresses). We consider efficient risk management involves balancing the cost of taking steps to mitigate a risk against the risk cost. Risks should only be mitigated, transferred or avoided where the cost of doing so is less than the costed impact of the risk eventuating (taking into account its likelihood).
- Establish risk monitoring and reporting policies and processes, in accordance with overarching governance arrangements (see section 2.4.1). This includes:
 - allocating clear ownership of key cost risks
 - risk monitoring and regular reporting to decision makers on key cost risks
 - strong project controls to manage cost and schedule overruns if and when risks are realised in delivery.

²⁴ Through mitigation, transference or avoidance strategies.

²⁵ For example, risks that are proposed to be transferred to a contractor will be assessed and competitively priced by the tenderers. We have clarified our expectations for TNSPs to provide transparent information on the transfer of risks and assumptions that have informed the contractors' pricing.

This would demonstrate the TNSP has proactively identified project risks, and developed strategies for monitoring and managing these risks. A robust risk management framework is important to increase the AER's confidence in the accuracy, efficiency and prudence of the TNSP's expenditure forecasts for actionable ISP projects.

In assessing the CPA, we will also consider whether the TNSP has conducted efficient preparatory and early works activities to better identify and manage project risks. For example, the TNSP may provide evidence of early engagement with authorities responsible for land, easement, cultural and environmental approvals, or geotechnical studies to establish ground conditions. Indeed, the TNSP is required to undertake preparatory activities for actionable ISP projects, as defined in the NER (this includes preliminary assessment of environmental and planning approvals).²⁶

Such preparatory and early works activities should inform the TNSP's risk assessments and risk management framework. Without these, greater project uncertainty will exist and the TNSP is more likely to encounter unforeseen project risks during delivery or seek additional risk premiums. However, in line with the principle outlined at the beginning of this section 2.6, there is a balance to be struck between the cost of identifying and mitigating project risks through early works activities, and the risk costs that are able to be avoided through better risk identification and management in the planning and design stage. If the actionable ISP project is particularly large, complex or uncertain, the benefits of early works activities will likely be more significant, and the TNSP may even choose to lodge a separate CPA for early works activities in accordance with the guidance in section 3.

Example 5 provides a hypothetical example illustrating how early works activities can result in more accurate cost forecasts and identify changes to the project scope that reduce costs.

Example 5: Using early works activities to identify and manage actionable ISP project risks

The TNSP's CPA for the actionable ISP project described in Example 2 include forecast capex for environmental offsets. That is, the TNSP will be required to offset the impact on native biodiversity from needing to clear land to construct new transmission power lines.

The TNSP undertook initial desktop studies, which identified a range of scenarios of environmental impact of the project along the proposed route, and their likely costs in terms of offsetting these impacts. It also identified an additional risk allowance to accommodate a hypothetical scenario in which the TNSP is required to clear the maximum amount of land available along the route.

The TNSP's initial estimates were conservative, and were intended to be replaced with more accurate estimates as they undertook field work and studies. The outcome of these surveys become available throughout the AER's CPA assessment, based on early works undertaken on the western section of the corridor. These surveys demonstrate that the expected environmental impacts were below even the lowest scenario considered by the TNSP.

²⁶ See NER, clause 5.22.6(d); and NER, clause 5.10.2 - under 'preparatory activities'.

These additional early works activities on route selection enable the TNSP to minimise the impact on native vegetation and species on the route at lowest cost. This included changing the route to minimise biodiversity and environmental impacts, by avoiding a certain location and aligning part of the route to existing infrastructure corridors and agricultural land.

2.7 Cost estimates

The TNSP's CPA is based on its forecast capex (and incremental operating expenditure (opex) associated with the actionable ISP project. This forecast is based on cost estimates that evolve throughout the project planning and development. Our contingent project determination is based on our assessment of the prudence and efficiency of the TNSP's forecast expenditure. As such, TNSPs' cost estimates need to have a sound basis and be informed by past experience where possible.

2.7.1 Basis of cost estimates

An important part of our CPA assessment is evaluating the basis of the cost estimates in the TNSP's forecast expenditure, to determine whether they are efficient and prudent.

We **expect** the TNSP to provide us with cost estimates that, to the greatest extent possible:

- Have a strong basis and are accompanied by supporting documentation—the TNSP should provide sufficient rationale/justification for the inclusion and estimate of each cost. This includes demonstrating how specific capex cost categories have been refined from the RIT-T decision, through the different procurement stages to CPA lodgement.
- Are not overly conservative—as discussed in section 2.6, the TNSP's cost estimates should be realistic, reflecting the likelihood of any contingencies occurring.
- Are trend-based—acknowledging that there is limited precedent to draw from given the large size of actionable ISP projects, we expect TNSPs to rely on historical costs where possible. We discuss the importance of TNSPs sharing learnings from other actionable ISP projects as they are completed in section 2.7.2.

This is more challenging when costs are not market tested. Tendering is an important tool for revealing efficient levels of costs for these large projects, particularly market-tested best and final offers. Key changes in costs are expected to arise as the TNSP progresses certain activities—particularly through finalisation of tendering, refinement of project risk and other construction cost estimates, and better estimates of environmental offsets and land costs.

We recognise that it may not be possible or efficient for all costs contained in a CPA to be fully tendered, including based on best and final offers from the market. Where this is the case, we expect the TNSP to demonstrate how its capex forecast otherwise reasonably reflects efficient and prudent costs.

2.7.2 Use of past project learnings

In preparing its capex forecasts for the project, we **expect** the TNSP to demonstrate how it has used data and learnings from completed actionable ISP projects to inform its expenditure forecasts.

Within the infrastructure sector, it is considered best practice to conduct post completion reviews and to share resultant learnings and data with the industry.²⁷ We encourage TNSPs to leverage such project data and learnings, including from their own and other TNSPs' past projects, to improve the quality of their CPA cost estimates.

2.7.3 Displacement of capital expenditure

Some contingent projects may overlap with, or displace, capex for other projects in the TNSP's works program. Where this is the case for an actionable ISP project, we **expect** the TNSP to demonstrate in its CPA, the extent to which the actionable ISP project reduces the need for capex on other projects in our revenue determination for the TNSP's current regulatory control period. This includes identifying the other projects (including even minor projects), under the revenue determination, for which the capex has been displaced.

Example 6 provides a hypothetical example illustrating how early works activities can result in more accurate cost forecasts and identify changes to the project scope that reduce costs.

Example 6: Actionable ISP project displacing the need for capex on another project in the TNSP's revenue determination

A TNSP's revenue determination included capex to replace sections of an existing transmission line. However, the ISP identified an actionable ISP project that is an augmentation solution on the same line, which was followed by a RIT-T to identify a preferred option for the project. This means that the previously approved replacement capex project is no longer required.

The TNSP identifies this in its CPA for the augmentation actionable ISP project. It refers to the previously approved replacement capex, and demonstrates how the need for the line replacement is now being met through the augmentation project. The AER's contingent project decision for the augmentation actionable ISP project takes account of the capex already allowed for the line replacement.

²⁷ See for example Infrastructure Australia, 'Assessment Framework for initiatives and projects to be included in the Infrastructure Priority List', March 2018, p. 38; Grattan Institute, 'The rise of megaprojects - counting the costs', November 2020, p. 37.

3 Staging contingent project applications for actionable ISP projects

This section provides information on how TNSPs can stage the regulatory process for actionable ISP projects by lodging multiple CPAs with the AER. Each CPA would correspond to a different component of the actionable ISP project.

The purpose of this guidance is to:

- Allow TNSPs to stage the regulatory process (in certain circumstances) to help reduce uncertainty associated with actionable ISP project costs and benefits, and to improve their expenditure forecasts. This could also aid our assessment of these forecasts in accordance with clause 6A.8.2(f) of the NER.
- Clarify some of the technical interactions between the ISP, the RIT-T, and staged CPAs.

This guidance is supplementary to the discussion of staging in the AER's cost benefit analysis guideline to make the ISP actionable.²⁸ The cost benefit analysis guideline discusses a different type of staging of projects from what is discussed in this guidance:

- **Directly staging a project**—a project can be broken down into different stages in the ISP or RIT-T to create option value, where subsequent stages only proceed under certain circumstances (this is the subject of the cost benefit analysis guidelines).
- **Staging the CPA process**—a project can be taken through the regulatory process in stages by breaking it down into multiple CPAs that are lodged with the AER one after another (this is the subject of this guidance).

Staged CPAs are already being applied in the case of HumeLink (an actionable ISP project led by TransGrid), following a letter agreement with the AER.²⁹ That letter forms the starting point for this guidance.

3.1 Key rule requirements

The following provisions in the NER are key provisions relevant to this guidance: clause 6A.8.2 (contingent projects) and clause 5.16A.5 (actionable ISP project trigger event).

3.2 Objectives of staging of CPAs

Staging of projects or CPAs can reduce the risk of actionable ISP projects and increase flexibility to respond to changing market conditions or project risks as they arise. This is because each stage can reveal important information about the project, reducing the uncertainty associated with its costs and/or benefits. As such, there can be benefits to staging CPAs for actionable ISP projects that are particularly large, complex or uncertain.

²⁸ See AER, *Cost benefit analysis guidelines: Guidelines to make the ISP actionable*, August 2020, section 3.4.2 and 4.4.

²⁹ See AER, *Application—Staged contingent application process*, October 2020 <<https://www.aer.gov.au/node/72755>>.

There are also challenges associated with staging CPAs. Breaking the regulatory process up into too many stages could make it harder to assess the project as a whole, which could result in duplication and/or scope creep. It could also result in excessive regulatory involvement in approving incremental project costs, which could undermine the effectiveness of our ex-ante incentive based regulatory framework, and result in a large regulatory burden for all stakeholders.

3.2.1 Staging CPAs for early works activities

There is evidence of the benefits of good planning and design work for large infrastructure projects. Investing time in the planning and design phase can help identify and quantify project risks, and enable innovative and cost effective design.³⁰ This leads to more reliable cost estimates and expenditure forecasts, and reduces the likelihood of cost overruns due to poor up-front planning.

Given this, there can be benefits, in some circumstances, of TNSPs lodging an early works CPA before lodging a CPA for a full actionable ISP project. For example, where an actionable ISP project is particularly large or uncertain (such as a greenfield project with a long and varied route). Under the current regulatory framework, TNSPs typically incur planning and design costs before lodging a CPA with the AER that contains the TNSP's forecast expenditure for the project. This means the AER will only assess the efficiency and prudence of that expenditure after it has been spent by the TNSP. One consequence of this may be that TNSPs will cut costs at the design and planning stage to ensure costs incurred are not later assessed as inefficient by the AER.

Lodging an early works CPA before lodging a CPA for a particularly large or uncertain actionable ISP project allows a separate process for approving efficient and prudent planning and design costs ex-ante.³¹ This would provide TNSPs with more revenue certainty, and would provide TNSPs, stakeholders and the AER with more information about the project before receiving the full project CPA. It should also lead to more reliable forecasts for the full project costs when the second CPA is lodged, than would otherwise be the case.

We note that staging CPAs in this way is not appropriate for all actionable ISP projects, and should be proportionate to project risk. For completeness, we also note that while early works can be beneficial for identifying project risks (which can reduce the likelihood of unforeseen risks arising during the construction phase), this does not imply early works should be used to mitigate all project risks. Efficient risk management involves TNSPs

³⁰ See Roads Australia, *Procurement Reform Report: Recommendations & Strategies*, September 2020, p. 15: 'The vast majority of costs are incurred during construction. So, allowing more time to design and plan makes sense. It would result in more accurate contract pricing, reduce working capital requirements, and reduce balance-sheet risks. More time in the design phase would enable consideration of a wider range of engineering solutions and stimulate innovation. It would also result in better identification of risk.' See McKinsey & Company, *A risk-management approach to a successful infrastructure project*, November 2013: 'many projects fail because of choices made in the early stages of development... A life-cycle risk-management approach involves making decisions using a risk-based perspective. Specifically in the earliest design and planning phases of a project, this may require a conscious effort to identify, assess, and, ideally, quantify the risks the project will be exposed to across its life cycle.'

³¹ Although we note some costs may still be incurred prior to the early works CPA being lodged.

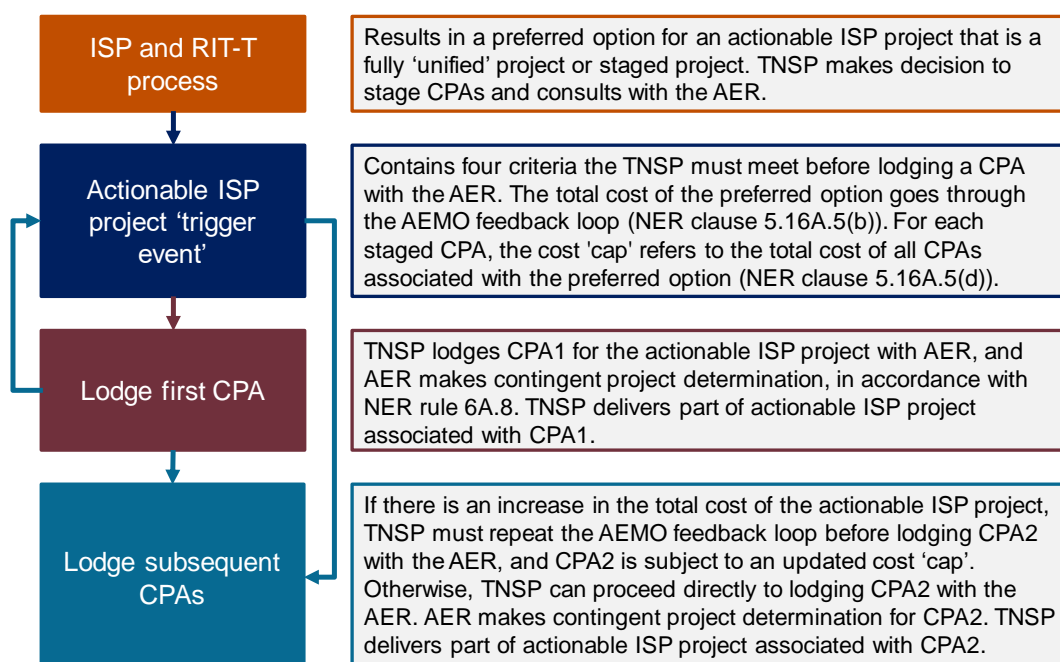
assessing identified project risks and deciding on an appropriate management strategy (that is, which risks to mitigate (partially or fully), transfer, accept or avoid).³²

3.3 Mechanics of the CPA staging process

When an actionable ISP project progresses through staged CPAs, there are some interactions between the ISP, RIT-T and CPA processes, which we clarify in this section.

We summarise the process in Figure 1, for ease of reference.

Figure 1: Process for staging CPAs for actionable ISP projects



Source: AER analysis.

3.3.1 The ISP and RIT-T processes

AEMO, through the ISP process, identifies actionable ISP projects and associated identified needs. These actionable ISP projects are further assessed through the RIT-T process to ensure the full range of credible options (that meet the identified need) have been considered. Through the RIT-T process, the TNSP chooses a preferred option for an actionable ISP project that maximises net economic benefits across the market.

This preferred option may be a fully 'unified' project³³ or contain multiple stages. These can be further separated into staged CPAs if it is appropriate to do so based on the size, complexity and uncertainty of the project or project stages. However, given the challenges of staging described above, we **expect** the number of CPAs used for a given project to be

³² See Deloitte, *Capital projects: Project and risk management—Leading practices*, January 2016, p. 12.

³³ Noting that these actionable ISP projects can also be one stage of an overall 'project', where the other stage is a separate actionable ISP project. See AER, *Cost benefit analysis guidelines: Guidelines to make the ISP actionable*, August 2020, p. 39; where we explain that the stages associated with a given project can be incorporated into a single ISP project, or can be separated into multiple ISP projects, depending on their characteristics.

limited, and CPAs should not be used to seek regulatory approval of detailed project delivery matters. We consider CPA staging would usually contain two CPAs, where the first stage is early works and the second stage is the remainder of the project. However, there may be circumstances where appropriate CPA staging could look different from this.

We **expect** the TNSP to consult us on its CPA staging intentions (see section 2.3). Where the TNSP proposes to submit more than two CPAs for a given actionable ISP project, we will seek information from the TNSP on why this is appropriate and in the long term interests of consumers.

3.3.2 The post-RIT-T actionable ISP project trigger event

The TNSP is able to lodge a CPA for an actionable ISP project under rule 6A.8 of the NER if it meets the trigger event criteria set out in clause 5.16A.5 of the NER. The trigger event criteria include obtaining AEMO's written confirmation through the feedback loop that:

- NER, clause 5.16A.5(b)(1): the preferred option addresses the relevant identified need specified in the most recent ISP and aligns with the optimal development path referred to in the most recent ISP
- NER, clause 5.16A.5(b)(2): the cost of the preferred option does not change the status of the actionable ISP project as part of the optimal development path as updated in accordance with clause 5.22.15 where applicable.

For staged CPAs:

- the 'preferred option' referred to in clause 5.16A.5(b)(1) is the preferred option for the actionable ISP project chosen through the RIT-T process,³⁴ not a component of the project that corresponds to a staged CPA
- the 'cost' of the preferred option referred to in clause 5.16A.5(b)(2) is the cost of the preferred option for the actionable ISP project chosen through the RIT-T process,³⁵ not a component of the project that corresponds to a staged CPA.

AEMO therefore will make its decision under clause 5.16A.5(b) with respect to the total cost of the actionable ISP project chosen through the RIT-T process. However, we **expect** the TNSP to notify AEMO that the project will be progressed through staged CPAs, provide the number of CPAs to be submitted, and the proposed cost expected to be associated with each CPA. We also recommend that AEMO sets out this information from the TNSP in its written confirmation, for transparency purposes.

Another part of the trigger event links the cost in the CPA with the cost provided to AEMO for the feedback loop. Under clause 5.16A.5(d) of the NER, the TNSP must ensure that the cost of the preferred option set out in the CPA is no greater than the cost considered in AEMO's assessment in the feedback loop. For each staged CPA, this cost 'cap' refers to the total cost of all CPAs associated with the actionable ISP project. To complement this, we **expect**

³⁴ This may be one stage of the preferred option if the preferred option is a staged actionable ISP project.

³⁵ This may be one stage of the preferred option if the preferred option is a staged actionable ISP project.

that the cost for each staged CPA being lodged with the AER should not exceed the cost of that CPA indicated to AEMO and set out in its written confirmation.

3.3.3 The CPA process

When lodging staged CPAs with the AER, the TNSP is required to act in accordance with the provisions in rule 6A.8 of the NER, and we **expect** the TNSP to have regard to the CPA assessment guidance in section 2. This includes ensuring that the forecast total capex for each CPA meets the threshold referred to in clause 6A.8.1(b)(2)(iii) of the NER,³⁶ and contains the information required under clause 6A.8.2(b) of the NER.

Similarly, we will act in accordance with the provisions in rule 6A.8 of the NER and the CPA assessment guidance when assessing staged CPAs (subject to the considerations set out in section 1.1).

3.3.4 Subsequent CPAs

After the first CPA has gone through the regulatory process, the TNSP may commence a subsequent CPA. If the total cost of the actionable ISP project has increased from when the project first went through the feedback loop, then TNSPs are required to go back through the feedback loop process to confirm the increased total cost does not affect alignment of the project with the ISP optimal development path. In addition, clause 5.16A.4(n)(2) of the NER applies as normal—that is, if there is a material change in circumstances or an ISP update that affects the actionable ISP project, the TNSP may be required to re-apply the RIT-T.

Because of the cost 'cap' trigger event criterion in clause 5.16A.5(d) of the NER, the forecast expenditure in a subsequent CPA cannot exceed the total cost of the project less the actual costs of previous stages. The total cost in this instance is the total cost of the actionable ISP project considered by AEMO when it runs the feedback loop again for a subsequent CPA.

Once the actionable ISP project trigger event is met, the TNSP can lodge a subsequent CPA with the AER. As mentioned above, all subsequent CPAs must satisfy the threshold and information requirements in the NER. However, if information that is still relevant to a subsequent CPA has been provided in a previous CPA, the TNSP can refer to the information without having to re-submit the same information. We will also assess whether the scope of a subsequent CPA is consistent with the preferred option for the actionable ISP project identified in the RIT-T process.

If a subsequent stage does not proceed

There may be a number of reasons why the remainder of the project (a subsequent CPA) does not proceed after the first CPA is approved. For example, there may be a material change in circumstances that makes the project economically unviable, or the costs of the project may increase to a point that the project no longer passes the feedback loop.

³⁶ This states that the proposed contingent capital expenditure in a CPA must exceed exceeds either \$30 million or 5% of the value of the maximum allowed revenue for the relevant TNSP for the first year of the relevant regulatory control period (whichever is the larger amount).

In these circumstances, we **expect** the TNSP to treat the costs of the first stage of the project in line with its capitalisation policy and cost allocation methodology. These costs can be capitalised or expensed so long as the TNSP is consistent with its capitalisation policy and the opex/ capex incentives are relatively balanced.

In addition, we will not treat capex associated with the first CPA as inefficient or imprudent for the purposes of the roll forward of the regulatory asset base (RAB), under the ex-post measures in the NER,³⁷ solely because the remainder of the project did not proceed. In particular, if the TNSP's expenditure falls within the AER's contingent project decision, is based on arms-length contract terms and is consistent with the TNSP's standard capitalisation policies (and opex/capex incentives are relatively balanced), then it is unlikely to be a type of capex that would be excluded from the roll forward of the RAB under the NER.³⁸ For clarity, we do not consider capitalisation of the first CPA stage for an actionable ISP project, on its own, indicates unbalanced opex/capex incentives.

Example 7 provides a hypothetical example of the process for lodging staged CPAs.

Example 7: Mechanics of staged CPAs

This example is based on an ISP identified need to increase net economic benefits (including changes in network losses) in the NEM through relieving existing and forecast congestion on the transmission network between region A and region B. The ISP identifies an actionable ISP project to extend an interconnector between region A and region B.

The TNSP/RIT-T proponent then applies the RIT-T to assess a number of credible options to meet the identified need. It selects a preferred option to augment and extend the length of the interconnector, and use demand response to manage remaining network constraints. The extension of the interconnector is very large and traverses varied greenfield terrain.

Given the scale and risk associated with the project, the TNSP decides to use staged CPAs for the project. It develops and lodges an early works (or planning and design) CPA, and then intends to submit a subsequent CPA for the full project. The TNSP forecasts the early works activities will cost \$60 million (this includes some actual costs already incurred), and forecasts the full preferred option will cost \$1.5 billion.

The TNSP seeks written confirmation from AEMO through the feedback loop, and notifies AEMO that it intends to progress the actionable ISP project through a \$60 million CPA1, and subsequent \$1.5 billion CPA2. AEMO uses a total cost of \$1.56 billion (\$1.5 + \$0.06 billion) when performing the feedback loop, and provides written confirmation.

Once the other trigger event conditions in clause 5.16A.5 of the NER are met, the TNSP lodges CPA1 with the AER. The total forecast expenditure in the CPA is \$60 million, and the AER checks it is consistent with the CPA1 amount referenced in AEMO's feedback loop written confirmation. The AER assesses CPA1 and makes a contingent project decision for \$50 million. The TNSP ultimately spends \$40 million, finding efficiencies in the process.

³⁷ See AER, *Capital expenditure incentive guideline*, November 2013, section 4. Also see NER, clause 6A.14.2 (b) and S6A.2.2A.

³⁸ See AER, *Capital expenditure incentive guideline*, November 2013, p. 13; and NER, clause S6A.2.2A.

Table 1: Expenditure associated with CPA1 lodgement and delivery

Stage	Early TNSP estimate	TNSP forecast in CPA	AER decision	Actual expenditure
CPA1		\$0.06 billion	\$0.05 billion	\$0.04 billion
CPA2	\$1.5 billion			

Source: AER analysis.

In conducting the early works planning and design activities, the TNSP identifies a number of environmental risks that lead it to shift its route selection to avoid indigenous heritage sites and other protected areas. However, it also identifies a number of design efficiencies that reduce costs. Overall, the forecast cost of the project increases to \$1.9 billion (this is the forecast cost associated with CPA2, and does not include the early works costs).

Because the cost of the subsequent stage has increased, the TNSP must provide updated information to AEMO to repeat the feedback loop before it can lodge CPA2. The TNSP, in its reasonable opinion, does not consider the change in costs a material change in circumstances, because the project remains the preferred option under the RIT-T rules. AEMO uses a total cost of \$1.94 billion (\$1.9 + \$0.04 billion)³⁹ when performing the feedback loop, and provides written confirmation.

The TNSP then lodges CPA2 with the AER. The total forecast expenditure in the CPA is \$1.9 billion. With the \$40 million spent on CPA1, the CPA2 reaches the cost cap set out in clause 5.16A.5(d) of the NER, but does not exceed it (the cost cap is \$1.94 billion, less the \$0.04 billion already allocated to and spent on CPA1). The AER assesses the CPA2 and makes a contingent project decision for \$1.85 billion.

Table 2: Expenditure associated with CPA2 lodgement and delivery

Stage	Early TNSP estimate	TNSP forecast in CPA	AER decision	Actual expenditure
CPA1		\$0.06 billion	\$0.05 billion	\$0.04 billion
CPA2	\$1.5 billion	\$1.9 billion	\$1.85 billion	

Source: AER analysis.

³⁹ This includes the \$40 million actual costs associated with the early works CPA, and \$1.9 billion associated with CPA2.

4 Ex-post measures relevant to actionable ISP projects

This section provides information on how the AER will conduct ex-post measures when a capex forecast includes an actionable ISP project.

Every time we make a transmission revenue determination, we must include an ex-post statement on the efficiency and prudence of all capex that is to be rolled into the TNSP's RAB. We may also exclude certain types of capex from being included in the roll forward of the RAB. We call this full process an ex-post review, and we note that it assesses the implementation of capex projects (as opposed to re-visiting the ex-ante determination). This is one of the tools we can use to protect consumers from paying for inefficient capex.

The purpose of this guidance is to clarify how we will conduct ex-post reviews when a capex forecast contains actionable ISP project costs. This aims to provide greater predictability so TNSPs have a clearer understanding about how we will form a view on costs that may, and may not, be excluded from the RAB in an ex-post review.

This guidance is supplementary to the AER's capital expenditure incentive guideline, which is required under the NER and provides guidance on ex-post measures for all distribution and transmission capex.⁴⁰ This guidance clarifies and provides detail on what is already in the capital expenditure incentive guideline, and is focussed on actionable ISP projects.

4.1 Key rule requirements

Clause 6A.14.2(b) and S6A.2.2A of the NER set out ex post measures for incentivising efficient and prudent capex during a regulatory control period. These measures are intended to be applied by the AER in a manner consistent with the capex incentive objective set out in clause 6A.5A(a) of the NER.⁴¹

4.2 Objectives of ex-post reviews

Consistent with the capital expenditure incentive guideline, the objective of:⁴²

- the ex post statement of efficiency and prudence is to provide information about the efficiency and prudence, or otherwise, of capex to be included in the RAB
- excluding certain types of capex from the RAB is to help ensure network users only pay for capex associated with providing network services which reasonably reflects the capex criteria.

⁴⁰ See AER, *Capital expenditure incentive guideline*, November 2013, section 4.

⁴¹ That is, to ensure that, where the value of a RAB is subject to adjustment in accordance with the NER, the only capex that is included in an adjustment that increases the value of that RAB is capex that reasonably reflects the capital expenditure criteria (set out in clause 6A.6.7(c) of the NER).

⁴² AER, *Capital expenditure incentive guideline*, November 2013, p. 13.

The economic regulatory framework set out in chapter 6A of the NER is focussed on ex-ante incentives to promote efficient project delivery and capex. Ex-ante capex incentives such as the capital expenditure incentive scheme (CESS) and our approach to depreciation promote efficient and prudent capex without the need for ongoing regulatory intervention.⁴³ Further, cost pass through provisions allow for TNSPs to recover efficient costs associated with certain events outside of their reasonable control, subject to the materiality threshold being met.⁴⁴ As such, the ex-post review is a 'last resort' check and incentive to promote efficient and prudent capex—the AER would only exclude clear cases of capex that is not efficient or prudent from the roll forward of the RAB. This will require clear evidence or documentation.

We also consider that conducting an ex-post statement at each revenue determination is a way to transparently facilitate continuous learning and improvement of TNSP capex patterns and drivers to inform our ex-ante assessments.

This is consistent with the AEMC's final rule determination for the rule change that introduced the ex post review into the NER, which states:⁴⁵

- “The approach to be taken is intended to encourage the AER to develop and apply ex ante incentives to reveal the efficient level of capex (including timing of expenditure), so that the review of efficiency of past capex is a last resort option. It would not be desirable that an ex post review becomes the only or main means of ensuring efficient levels of capex. Indeed, the ability to reduce the capex rolled into the RAB is intended for obvious cases of inefficiency, and not as the main means of achieving efficient levels of capex.”
- “The Commission considered the obligation to make a public statement on the efficiency or otherwise of what is going into the RAB may be useful in terms of providing information and analysis to consumers and their representatives. Undertaking the review itself could be considered beneficial as a complement to ex ante reviews of capex.”

4.3 Ex-post review process

The two-stage ex-post review process is set out in section 4.3 of the capital expenditure incentives guideline, and summarised in Figure 2.⁴⁶ This process applies to the TNSP's total capex allowance for the previous regulatory control period, although we have the flexibility to focus on individual projects within that allowance (such as actionable ISP projects).⁴⁷ We also note that in undertaking an ex-post review, we can only take into account information and analysis that the TNSP could reasonably be expected to have considered or undertaken at the time that it undertook the relevant capex.⁴⁸

⁴³ See AER, *Capital expenditure incentive guideline*, November 2013, section 2, 3.

⁴⁴ See AEMC, *Rule determination: National Electricity Amendment (Cost pass through arrangements for Network Service Providers) Rule 2012*, August 2012, p. i.

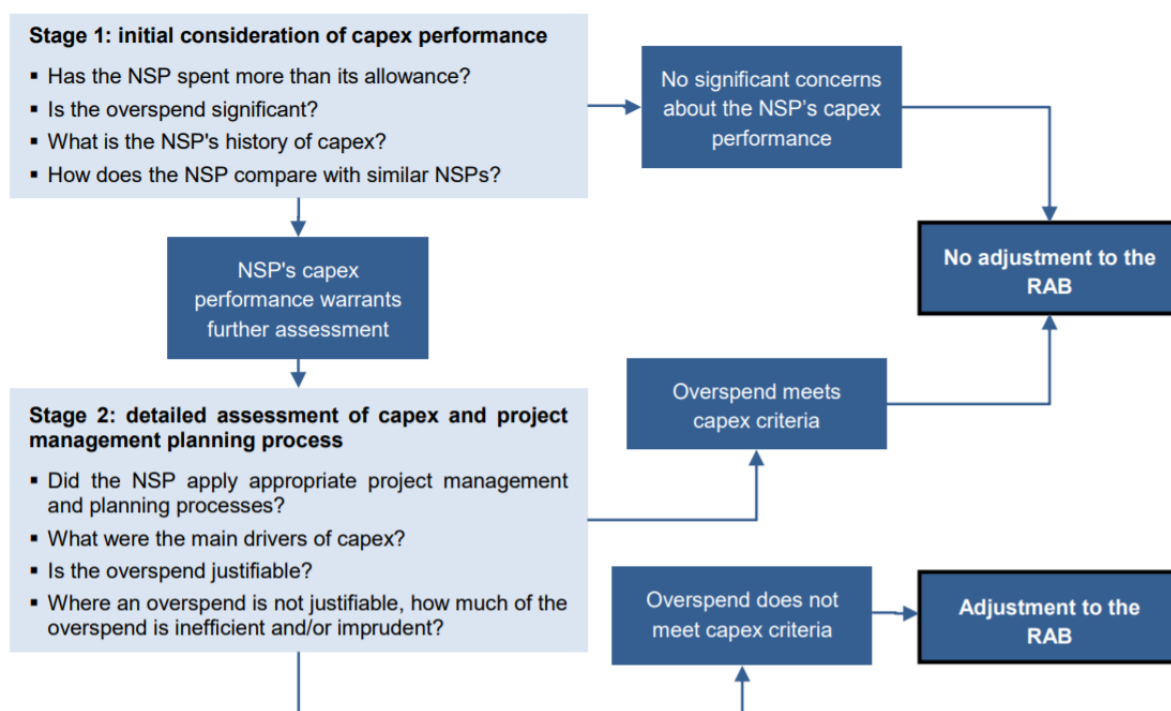
⁴⁵ AEMC, *Rule determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, November 2012, pp. 125, 133-134

⁴⁶ AER, *Capital expenditure incentive guideline*, November 2013, section 4.3.

⁴⁷ The rule provides us with the flexibility to undertake ex-post reviews in the manner we consider appropriate. See AEMC, *Rule determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, November 2012, p. 145.

⁴⁸ NER, clause S6A.2.2A(h)(2).

Figure 2: Staged process for ex post review



Source: AER, Capital expenditure incentive guideline, November 2013, p. 14.

When a TNSP's total capex allowance contains capex associated with an actionable ISP project, this guidance will apply to the ex-post review process. In considering the key questions for stage one and/or two of the process, we will have regard to whether the TNSP followed the CPA guidance in section 2. This includes having regard to whether the TNSP:

- Actively monitored the actionable ISP project and notified stakeholders and AEMO of any material cost overruns, and any other material changes in their cost forecasts or expectations for the project.
- Delivered the actionable ISP project in accordance with project governance structures, and project and risk management plans/processes demonstrated in its CPA (see section 2.4 and 2.6.3).⁴⁹ We recognise efficient outturn project costs can differ from estimated costs, and some risks may eventuate that are unforeseen⁵⁰ or are larger than expected or costed for at the time of the CPA. However, we **expect** the TNSP to proactively identify project risks and allocate appropriate management strategies to the risks⁵¹ (particularly during planning and design). We also **expect** the TNSP to set up and follow processes for monitoring and reporting on risks as the project is delivered.

⁴⁹ Noting these are likely to be updated during project delivery as new information arises and circumstances change. We also note governance and project and risk management are already referenced in AER, *Capital expenditure incentive guideline*, November 2013, p. 15.

⁵⁰ This does not include risks that are captured in cost pass through events specified in the TNSP's revenue determination.

⁵¹ We note that risk management does not mean fully mitigating all risks. Risks can be managed through avoidance, transference, mitigation (to varying degrees) or acceptance. See Deloitte, *Capital projects: Project and risk management—Leading practices*, January 2016, p. 12.

- Controlled and minimised any cost overruns through project controls and other processes demonstrated in its CPA (see section 2.4 and 2.6.3).⁵² This includes the TNSP anticipating material cost overruns, and satisfying itself that it was efficient and prudent to incur the cost overrun on the actionable ISP project, or incur an overspend on its total capex allowance in the context of its full capex program.⁵³ We **expect** appropriate governance to be applied to TNSP decision making on material cost overruns for actionable ISP projects.

For completeness, in demonstrating their adherence to project and risk management frameworks and controls set out in their CPAs, we **expect** the TNSP to show how its actions and processes led to efficient and prudent outcomes. For example, by providing information on how their project control processes minimised a cost overrun, and justifying the efficiency of incurring the overrun in the context of finding efficiencies elsewhere.

Example 8 provides a hypothetical example of how a TNSP could demonstrate the prudence and efficiency of a cost overrun on an actionable ISP project that led to an overspend on its total capex allowance.

Example 8: Unforeseen cost overrun on an actionable ISP project

This example is based on an actionable ISP project with efficient and prudent forecast capex of \$1.2 billion in the AER's CPA decision.

In the TNSP's CPA, the TNSP demonstrated efficient and prudent costs that the AER included in the TNSP's adjusted revenue under the NER CPA provisions. In its application, the TNSP also demonstrated efficient and prudent risk management plans, paired with clear governance arrangements, monitoring and reporting processes, and project controls for cost and time overruns. In forming its cost estimates, the TNSP proactively and transparently identified a number of project risks, and sought a risk allowance for residual project risks.

During execution of the project, a major dispute arose with the local community over a section of the transmission line route, which was unforeseen at the CPA stage, despite earlier community engagement. The risk of project delays and resulting cost overruns was identified and estimated at \$135 million by the project team, and this was reported through the TNSP's established processes and governance arrangements.

The project governance body considered various options to manage the risk of realising the estimated cost overrun, including attempting to resolve the dispute along the original route, and major re-routing of the line to avoid the area being disputed by the community. It also

⁵² Noting these are likely to be updated during project delivery as new information arises and circumstances change. We also note project delivery controls are already referenced in AER, *Capital expenditure incentive guideline*, November 2013, p. 15. The Grattan Institute reported that 'it is important that budgeting, reporting and contingency management practices are designed to minimise the cost of cost overruns when they occur.' See Grattan Institute, *Cost overruns in transport infrastructure*, October 2016, p. 39.

⁵³ For example, the AEMC's ex-post review rule determination referenced the importance of re-prioritising and deferring capex when cost overruns are identified. See AEMC, *Rule determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, November 2012, p. 135.

considered options to defer, cancel or reduce the scope of the project (having regard to cancellation costs and the benefits of delivering the project) or other projects in its capex program. The project governance body decided the minimum cost option was strong engagement to achieve some community acceptance combined with some line route deviations to avoid the most contentious areas. It also considered it prudent to defer two discretionary capex projects in its program that were in the very early planning and design stages. Ultimately, the TNSP overspent its capex allowance by \$60 million over the regulatory control period and was unable to recover the additional costs incurred through other mechanisms (for example, a cost pass-through, insurance, etc.).

During the AER's ex-post review process, it identified this overspend and considered it significant in stage 1. During stage 2 of the process, the TNSP was able to demonstrate that:

- the overspend did not occur as a result of any action or failure of action by the TNSP, and the cost overrun on the actionable ISP project was reasonably unforeseen
- it had followed the CPA guidance and put in place appropriate governance arrangements and project controls/actions to minimise the cost overrun
- it had reasonably assessed the available options in managing the cost overrun for the actionable ISP project (and consequently, the overspend against the capex allowance), and that the cost incurred was efficient and prudent.

In its ex-post statement, the AER considered the TNSP's overspend against its capex allowance was efficient and prudent, and rolled the capex into the RAB.

4.4 Exclusion of capex from the RAB

As set out in section 4.4 of the capital expenditure incentives guideline, there are three cases in which we may exclude capex from the RAB.⁵⁴

1. When a TNSP has spent more than its capex allowance, the amount of capex above the allowance that does not reasonably reflect the capex criteria can be excluded from the RAB. For completeness, this means we can only exclude capex up to the amount of the overspend (the total capex incurred less the total capex allowance).
2. Where there is an inflated related party margin (that is, the margin refers to arrangements that do not reflect arm's length terms), the inflated portion of the margin can be excluded from the RAB—see section 4.4.2 of the capital expenditure incentives guideline for more information.
3. Where a change to a TNSP's capitalisation policy has led to opex being capitalised, the capitalised opex can be excluded from the RAB—see section 4.4.1 of the capital expenditure incentives guideline for more information.

Our decision on whether to exclude capex from the RAB will be informed by any assessment we undertake in the ex-post review, and other requirements of the NER. We note that at

⁵⁴ AER, *Capital expenditure incentive guideline*, November 2013, section 4.4.

each ex-post review, we can only exclude capex from the RAB over a particular 'review period' set out in clause S6A.2.2A(a1) of the NER. That is:

- the previous regulatory control period (excluding the last two regulatory years of that previous regulatory control period); and
- the last two regulatory years of the regulatory control period preceding the previous regulatory control period.

This means if we exclude any of the above categories of capex for an actionable ISP project, this capex will not be included in the RAB for years 1, 2 and 3. For capex in years 4 and 5, we will make the adjustment to the RAB one regulatory control period later. At this time we will take into account the amount of capex that was included in the RAB previously, and the net present value (NPV) adjustment required to ensure the NSP does not retain any revenue through the RAB from capex that does not meet the capex criteria.

4.5 Ex-post statement

As set out in section 4.5 of the capital expenditure incentives guideline⁵⁵, each of our revenue determinations must include an ex post statement on the efficiency and prudence of all capex to be rolled into the RAB from the previous regulatory control period.⁵⁶

In making an ex-post statement in relation to a capex allowance that included capex associated with an actionable ISP project, we will draw on the ex post review process outlined above. We will also report key information about the project, including:⁵⁷

- the progression of cost estimates from the ISP, RIT-T, CPA, to actual project costs
- reporting the key drivers of any cost overrun on an actionable ISP project, and how these were identified and managed by the TNSP
- estimated and actual project start and completion dates
- any material changes to the scope of the project, and the reasons for the changes
- whether some or all of the expenditure on the project was deferred (intra- or inter-period) and the reasons for deferral.

Consistent with the intent of the ex-post review outlined above, reporting this information will provide transparency to stakeholders, particularly consumers and their representatives, on the nature of actionable ISP project expenditure. It will also facilitate continuous learning and improvement to complement and improve TNSP forecasts and our ex-ante assessments of future actionable ISP projects. These benefits of post-completion data are well recognised.⁵⁸

⁵⁵ See AER, *Capital expenditure incentive guideline*, November 2013, section 4.5.

⁵⁶ The period for the ex post statement is the regulatory control period. This differs from the ex post exclusion period.

⁵⁷ Subject to confidentiality restrictions.

⁵⁸ The Grattan Institute cites a number of sources in its report: Grattan Institute, *The rise of megaprojects: Counting the costs*, November 2020, pp. 37-41.

Appendix A: Quick reference guide – information list for CPAs for actionable ISP projects

To assist TNSPs, we provide a summary of key information TNSPs are expected to include in their CPAs to demonstrate that they have adhered to the principles in this guidance:

- Overview of stakeholder engagement approach and feedback received

Project governance

- Project governance structures, including key roles, accountabilities and responsibilities
- Project (including risk) reporting, monitoring and evaluation arrangements
- Any supporting assurance arrangements

Project plans

- High level delivery schedule, with key milestones and timeframes
- Key dependencies and decision points for the project
- Project resourcing and capability arrangements
- Risk management framework and plan
- Established arrangements for post completion project review

Procurement strategy, processes and outcomes

- Overview of procurement strategy, including scope of work packages
- Tender Evaluation Plan(s), including roles and responsibilities of evaluation team
- Overview of procurement process, including summary of activities and timeline
- Outcomes of procurement activities
- Tender Evaluation and Probity Report(s)

Risk assessment

- Detailed risk register containing identifiable projects risks, and:
 - summary of mitigation (within reasonable efforts) for the relevant risks
 - assessment summary for each unmitigated risk
- Detailed risk register containing the risks captured in contractors' scope of works