New Reg: Towards Consumer-Centric Energy Network Regulation

AusNet Trial – AER Staff Guidance Note 5: Major Augex Projects 29 August 2018

To facilitate the process of negotiation between AusNet Services (AusNet) and its Customer Forum (Forum), AER staff will prepare guidance notes that set out the boundaries of the National Electricity Rules (NER) and the AER's guidelines for the topics in scope of the negotiation.

AER staffs' view on which topics should be in scope is set out in the second guidance note. This view recognised that the Forum has a limited time to familiarise itself with the issues, direct relevant customer research, and prepare itself for negotiations.

While AER staff will not be preparing guidance notes for those topics that are out of scope, the Forum may still consider and discuss other topics with AusNet's customers. We encourage such discussions and would be interested in customer preferences regarding those topics.

Overview

Augex is a category of capital expenditure (capex). Augex is capex that is typically triggered by a need to build or upgrade network assets to address changes in demand for distribution services, or to provide quality, reliability and security of supply, and the safety of the distribution system, in accordance with legislated requirements.[1] **Augex major projects** has been agreed to be in the scope of negotiation. New Augex will have a relatively small impact on the bills of AusNet's customers, but different Augex choices can affect customer experience, particularly in terms of reliability or safety.

Augex differs from replacement expenditure (Repex), which is typically incurred to address the deterioration of existing assets, where the assets will no longer be able to efficiently maintain their service performance. At times of high network demand growth, Augex might exceed Repex. However, that is not expected to be the case for AusNet's network over the 2021-25 regulatory period. Apart from the capex forecasted to meet new specific safety obligations (such as bushfire safety), AusNet forecasts its total Augex over the period to contribute about 8% of total capex, compared to about 30% for Repex.[2]

As with all categories of capex, dollar for dollar, Augex has a less direct and immediate impact on AusNet's revenue than opex.[3] While revenue is set to recover forecast opex in the year in which that opex is expected to be incurred, capex is recovered over the lifetime of the assets for which that capex is incurred. In the case of many traditional 'poles and wires' assets, that could be a few decades. Capex is recovered over time through:

- the depreciation of the value of the relevant assets
- the return on the depreciated value of those assets.

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1 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, p 18.

2 AusNet, *Capital expenditure, Presentations to the Customer Forum*, 7 June 2018, slide 9. Other categories of capex include: connections capex (which relates to the cost of connecting customers to the network), and non-network capex (for activities not directly associated with the network, such as information and communications technology, buildings and property, vehicles etc.).

3 AusNet's forecast opex is also in scope for negotiation. Refer: *AusNet Trial – AER Staff Guidance Note [x]: Opex*, [xxx] 2018.

AusNet's total forecast Augex is expected to have a relatively small impact on customer bills over the 2021-25 regulatory period. Additionally, AusNet is only proposing that the Forum negotiate a selected number of major Augex projects, not the total Augex spend.

Nonetheless, given the long asset lifetimes of many network assets, decisions made about major capex projects commissioned in the current regulatory period could affect regulated revenues for many regulatory periods to come. Perhaps more significantly, choices and decisions made about particular Augex projects can affect the risks faced by local customers and the local community in respect of reliability, safety and other factors. In particular, traditional network solutions for meeting and managing demand growth can have different cost/reliability trade-offs for local customers, compared to 'non-network' solutions involving demand management, local generation, and/or storage.

What is AusNet proposing?

AusNet has proposed two zone substation major augmentation projects for negotiation. AusNet considers that Augex projects involve price-reliability trade-offs, and the customer outcomes/benefits of different options can be tested through customer research.[4]

During the negotiation, AusNet intends seeking the Forum's agreement that AusNet has considered an appropriate range of options for each major Augex project, including non-network options, and that AusNet's preferred option is the right one. AusNet considers that the preferred option will depend on factors such as the balance between cost and reliability, the willingness of customers to consider project deferrals, and the design, availability and efficiency of non-network options involving customer participation or impacts (such as demand management/response and the control of home appliances).[5]

What are the boundaries of negotiation for major Augex projects?

The National Electricity Law (NEL) and the NER set out the regulatory framework for the AER's assessment of a distribution network service provider's (DNSP's) revenue proposal. As the AER cannot accept negotiated outcomes that are inconsistent with the NEL and NER, it is important the Forum is aware of the way the AER assesses capex as required by the NER.

It would also be useful for the Forum to be aware of the standard approaches we take to assessing capex once we have received a DNSP's revenue proposal, consistent with the NER. Although we may have some flexibility under the NER to take a different approach, we might not make a change if the reasons for doing so are not sufficiently persuasive.

National electricity objective

The NEL requires the AER to perform its economic regulatory functions in a manner that will, or is likely to, contribute to achieving the national electricity objective (NEO).[6] The NEO is:[7]

> … 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—
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> (a) price, quality, safety, reliability and security of supply of electricity; and
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> (b) the reliability, safety and security of the national electricity system.

The NEO is fundamentally an efficiency objective, where 'efficiency' is delivering electricity services to the level demanded by consumers in the long run at the lowest cost.[8]

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4 AusNet, *Augmentation expenditure, Presentations to the Customer Forum*, 7 June 2018, slides 8 and 26-27.

5 AusNet, *Augmentation expenditure, Presentations to the Customer Forum*, 7 June 2018, slides 26-28.

6 NEL, section 16(1)(a).

7 NEL, section 7.

8 AER, *Explanatory Statement, Expenditure Forecast Assessment Guideline*, November 2013, p 17.

NER requirements for capex assessment

When the AER makes a distribution determination, we must decide whether or not we are satisfied that the total capex (and opex) proposed by a DNSP reflects the relevant 'expenditure criteria' set out in the NER. These criteria are:[9]

- the efficient costs of achieving the 'expenditure objectives' in the NER[10]
- the cost that a prudent operator would require to achieve the expenditure objectives
- a realistic expectation of the demand forecast and cost inputs required to achieve the expenditure objectives.

We consider that the notion of efficient costs complements the costs that a prudent operator would require to achieve the expenditure objectives. 'Prudent' expenditure is that which reflects the best course of action, considering available alternatives. 'Efficient' expenditure results in the lowest cost to consumers over the long term. That is, prudent and efficient expenditure reflects the lowest long term cost to consumers for the most appropriate investment or activity required to achieve the expenditure objectives.[11]

When considering whether the DNSP's forecasts reasonably reflect the expenditure criteria, we must have regard to a number of capex (and opex) factors, including the extent to which the forecasts include expenditure to address the concerns of electricity consumers, as identified by the DNSP through its engagement with those consumers.[12]

If we are satisfied the forecasts meet the expenditure criteria, we must accept them. If we are not satisfied, then we must estimate forecasts that we are satisfied reasonably reflect the criteria.[13]

AER's standard approach for assessing Augex

The AER's standard approach to assessing DNSP capex proposals, including forecast Augex, is set out in the Expenditure Forecast Assessment Guideline.[14] We assess forecast capex proposals through a combination of 'top down' and 'bottom up' modelling of efficient expenditure. Our focus is on determining the prudent and efficient level of forecast capex. When we assess a capex proposal generally we will first verify the need for the expenditure. Then we will assess the efficiency of the proposed capex. This is likely to include consideration of the timing, scope, scale and level of expenditure associated with proposed projects.

Where a DNSP does not provide sufficient economic justification for its proposed expenditure, we will determine what we consider to be the efficient and prudent level of forecast capex. In assessing forecasts and determining what we consider to be efficient and prudent forecasts we may use a variety of analysis techniques to reach our views.[15]

When we assess Augex, we typically consider a DNSP's demand forecasts, the proposed projects and programs to meet forecast demand and the associated forecast capex.[16] We note, however, that the NER does not require us to assess individual projects.[17]

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9 NER, clause 6.5.7(c)(1), in respect of capex.

10 The expenditure objectives in the NER comprise capex and opex objectives. The capex objectives (NER, clause 6.5.7(a)) effectively require a DNSP's revenue proposal to include the total forecast capex for the forthcoming regulatory period that the DNSP considers is required to meet or manage expected demand, or maintain quality, reliability, security, and safety, consistent with any relevant regulatory obligations. The opex objectives (NER, clause 6.5.6(a)) set out equivalent provisions for opex.

11 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, pp 8-9.

12 NER, clause 6.5.7(e)(5A), in respect of capex.

13 NER, clauses 6.5.7(c)-(d) and 6.12.1(3), in respect of capex.

14 The NER (clause 6.2.8(a)(1)) requires the AER to publish this guideline, the current version of which is: AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013.

15 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, p 17.

16 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, p 19.

When considering the projects and programs proposed to meet forecast demand, and the associated forecast capex, we will likely have regard to:[18]

- the network constraints that require rectification due to demand forecasts, including those related to capacity (MVA) and voltage
- any regulatory investment test for distribution (RIT-D) undertaken by the DNSP in relation to the proposed works (see below)
- the options considered to meet the forecast demand, including non-network alternatives and demand side participation
- the previous methods used by the DNSP or other DNSPs to meet demand growth of a similar nature, and the costs associated with these works, bearing in mind that better approaches might have become available.

For DNSPs to demonstrate that their revenue proposal is efficient and prudent, we would generally expect the proposal to demonstrate the overall forecast expenditure, in this case Augex, will result in the lowest sustainable cost (in present value terms) to maintain, or meet the legal obligations of the DNSP in respect of, quality, reliability, security and safety.[19] However, what consumers want and are prepared to pay for, whether in terms of reliability or some other element, may assist in showing what is consistent with the NEO's overall efficiency objective. The Australian Energy Market Commission (AEMC) has observed that the more confident the AER can be that consumer concerns have been taken into account, the more likely the AER can be satisfied that a proposal reflects efficient costs.[20]

If there is robust evidence which demonstrates that consumers value a more expensive option for achieving the expenditure objectives, and are prepared to pay for that, it might be that a prudent and efficient operator would choose that option.[21] In determining what weight to give to evidence obtained through a DNSP's consumer engagement, such as a consumer willingness to pay study, the AER would likely consider:

- how that evidence was collected,
- how relevant and up-to-date it is, and
- whether it is likely to reliably reflect the views of the DNSP's customer base over the long term.

If a higher cost option to meet the expenditure objectives is robustly supported by the evidence the Forum has assessed, then the AER would still seek to confirm that the associated forecast expenditure reflects the lowest sustainable cost to consumers for that preferred option.

The AER would also want to confirm that any forecast expenditure in the revenue proposal would not be recovered under the service target performance incentive scheme (STPIS), or offset by future cost savings, because to allow that expenditure would be 'double counting'. STPIS rewards expenditure incurred during the regulatory period that delivers reliability of supply improvements which users value, by applying the 'value of consumer reliability' (VCR). However, STPIS only covers a limited set of service quality metrics which predominantly relate to reliability. There could be ways a DNSP could improve the quality of network services that would not be measured and rewarded by the STPIS.

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17 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, p 16.

18 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, pp 19-20.

19 AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, p 17.

20 For example: AEMC, *Rule Determination, National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012*, 29 November 2012, p 101.

21 For example: AEMC, *Rule Determination, National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012*, 29 November 2012, p 115.

What other factors might be useful for the Forum to consider?

AusNet has noted that the negotiation stage with the Forum is in advance of the formal 'RIT-D' process for the Augex projects.[22] The 'RIT-D' process is the regulatory investment test for distribution.[23] Typically, DNSPs must apply the RIT-D test for all Augex projects expected to cost more than $5 million. The RIT-D process occurs throughout the regulatory period, not just as part of preparing a revenue proposal for submission to the AER prior to the beginning of that period.

The RIT-D requires the DNSP to identify the need for an investment, and a set of credible network and non-network options for addressing that need. Each option must be ranked according to its net electricity market benefit, assessed over a range of reasonable scenarios. The DNSP must consult widely with stakeholders on those options throughout the RIT-D process, including potentially affected customers.[24]

Ultimately, the major Augex projects proposed by AusNet as part of its revenue proposal are likely to be subject to the RIT-D process, and stakeholders will have an opportunity to comment on whether the RIT-D process was satisfactory. The AER has a potential compliance role if there is a dispute about that process.[25]

What might the Forum potentially focus on?

The Forum could form a view about the local price-reliability trade-offs (or any other trade-offs) associated with various options for implementing the specific major Augex projects proposed by AusNet. That view could be supported by relevant research on customer preferences.

It might be worth the Forum recognising that there can be a tendency for DNSPs to not be 'technology neutral', and to favour traditional network solutions over non-network solutions. For instance, demand management and other non-network options are sometimes referred to as 'investment deferral'. Referring to them in this way might imply that the non-network alternative is not an investment, and that the network capex build is inevitable, which might not be the case.

We also note that, although it might result in some increased risk to reliability in the short term, if there is uncertainty in the relevant information, taking a 'wait and see' approach might have a significant 'option value'.[26] Better information might become available in the future. For instance, it might be uncertain whether forecast demand growth will eventuate. Or the costs of technology involved in non-network solutions (e.g., batteries) might be expected to reduce in the future, but at an unknown rate.

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22 AusNet, *Augmentation expenditure, Presentations to the Customer Forum*, 7 June 2018, slides 26-28.

23 The RIT-D test is described in: AER, *Regulatory Investment Test for Distribution, Application Guidelines*, 18 September 2017.

24 AER, *Regulatory Investment Test for Distribution, Application Guidelines*, 18 September 2017, pp 4-5, 7 and 11.

25 We note that disputes may be raised where an individual has the potential to suffer a "material and adverse National Electricity Market impact" (NER, clause 5.15.1). However, disputes may not be raised about issues which relate to an individual's personal detriment or property rights (NER, clause 5.17.5(b)(2)).

26 The RIT-D test requires that the 'option value' of a particular investment to be taken into account in considering potential market benefits.