AusNet

Distribution Bare Conductor Replacement

Regulatory Investment Test for Distribution

Draft Project Assessment Report

Friday, 14 October 2022

AusNet

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1. Executive summary

AusNet is a regulated Victorian Distribution Network Service Provider (DNSP) that supplies electrical distribution services to more than 745,000 customers. Our electricity distribution network covers eastern rural Victoria and the fringe of the northern and eastern Melbourne metropolitan area.

As expected by our customers and required by the various regulatory instruments that we operate under, AusNet aims to maintain service levels at the lowest possible cost to our customers. To achieve this, we develop forward looking plans that aim to maximise the present value of economic benefit to all those who produce, consume and transport electricity in the National Electricity Market (NEM).

Our planning approach includes the application of a probabilistic planning methodology, under which conditions often exist where some of the load cannot be supplied under rare but possible conditions, such as during extreme demand conditions or with a network element out of service. Where relevant, we also prepare, publish, and consult on a regulatory investment test for distribution (RIT-D), which further helps ensure all credible options are identified and considered, and the best option is selected.

This Draft Project Assessment Report (DPAR) is the second stage of the RIT-D consultation process in relation to the distribution bare conductor replacement project. The DPAR follows our earlier publication of a notice of determination in accordance with clause 5.17.4(d) of the National Electricity Rules (NER), which explained that there are no credible non-network options that could address the identified need relating to bare conductors.

This DPAR has been prepared by AusNet in accordance with the requirements of clause 5.17 of the NER. This DPAR complies with the requirements of Clause 5.17.4(j) of the NER, as detailed in section 7 of this document, and the AER's RIT - D application guidelines.

1.1. Identified Need

The condition of some distribution bare conductors may expose customers and the broader community to an increased risk of asset failure, potentially resulting in significant costs in terms of bushfire, adverse safety outcomes and unserved energy. The extent of these costs will depend on the risk and consequence of conductor failure, which in turn depends on the location of the conductors. The identified need is to mitigate these risks efficiently in accordance with our regulatory obligations and good industry practice.

1.2. Options considered and preferred option

The options considered in this DPAR are:

- 'Do nothing' or Business as Usual; and
- Planned replacement of bare conductors (proactive conductor replacement).

The project involves the proactive replacement of poor condition and high consequence conductors in the distribution network with new conductors on a like for like basis. There are no other credible options, as there is no other technology available to replace bare conductors. Our cost-benefit analysis has identified the optimal replacement volumes and net benefits, using sensitivity analysis and scenario testing. Based on this analysis, the optimal conductor replacement is 855km by 2026.

1.3. Consultation

In accordance with Clause 5.17.4(k) of the NER, we request submissions on the matters set out in this DPAR. Notification of this request for submissions will also be provided to Registered Participants, AEMO, non-network providers, interested parties and persons on our demand side engagement register as required by the NER.

Submissions should be sent to ritdconsultations@ausnetservices.com.au by 25 November 2022 and telephone enquiries can be directed to Auras Bugheanu on (03) 9695 6000. Submissions will be published on AusNet's website. If you do not wish to have your submission published, please clearly stipulate this at the time of lodging your submission.

2. Background

AusNet has 38,208km of bare overhead conductor installed across the electricity distribution network, which comprises over 400,000 spans of low voltage (LV), medium voltage (MV) and high voltage (HV) circuits. Conductors in the electricity distribution network transport electricity between zone substations, consumers and embedded generators. Their main function is to connect zone substations to electricity users and generators.

Conductor systems involve a range of conductor fittings with various functions, as follows:

- Spacers mitigate the risk of conductor clashing on long spans;
- armour rods protect the conductor against abrasion;
- vibration dampers prevent damage due to laminar wind induced forces;
- repair rods and compression splices address broken strands and conductor breakage; and
- tie wires and helical terminations connect conductors to insulators.

2.1. Asset population

There are 38,2081 km of bare overhead conductor across the entire distribution line network, which is composed of a mix of steel, aluminium and Cooper 1%. This conductor forms over 400,000 spans of low voltage (LV), medium voltage (MV) and high voltage (HV) circuits as shown in the figure below.

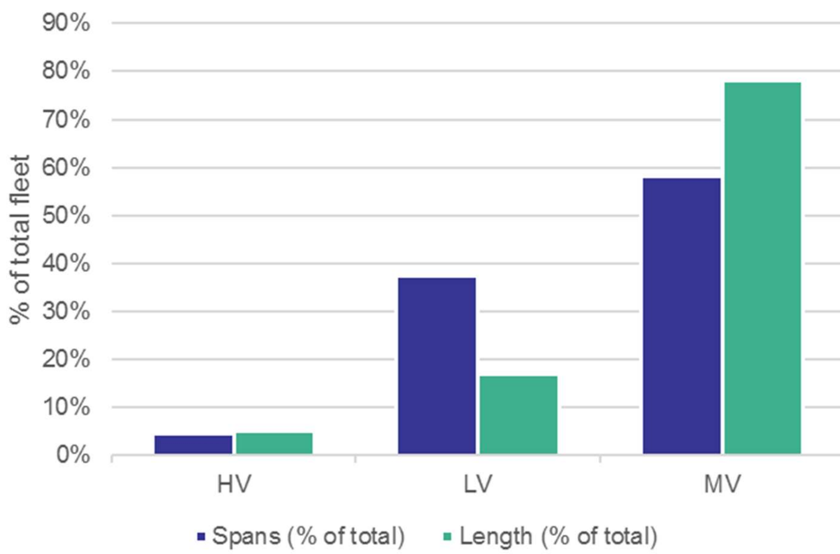

Figure 1: Bare conductor population by operating voltage

The figures below show the mix of conductor materials for high volage (HV) and medium voltage (MV) below, and then for low voltage (LV). The materials are:

- All Aluminium (AAC);
- Aluminium Clad Steel Reinforced (ACSR);
- Cooper (Cu);
- Steel; and
- Unknown.

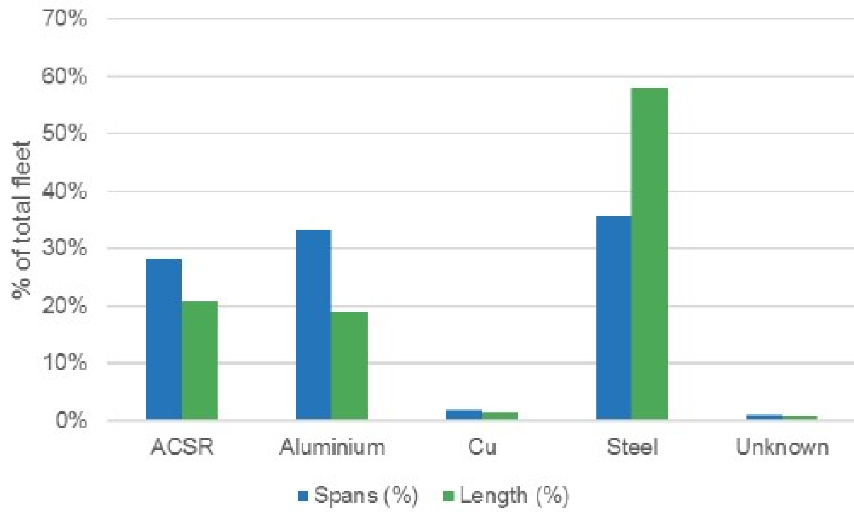

Figure 2: MV & HV bare conductor population by material

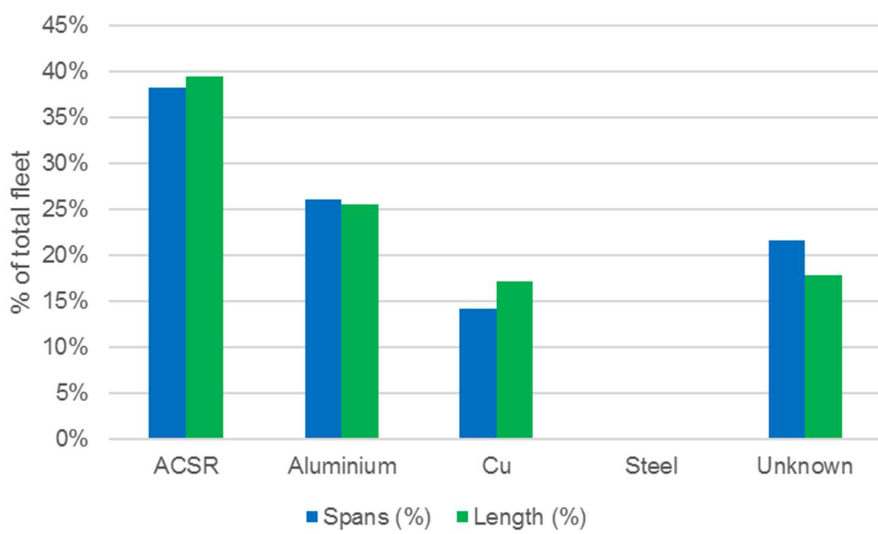

Figure 3: LV bare conductor population by material

2.2. Asset age

The age profile for bare conductors is shown in the figure below, which is based on the known and derived installation dates of the fleet of bare conductors. The peak population in the fifty to fifty-five age category is a key driver for future replacement programs.

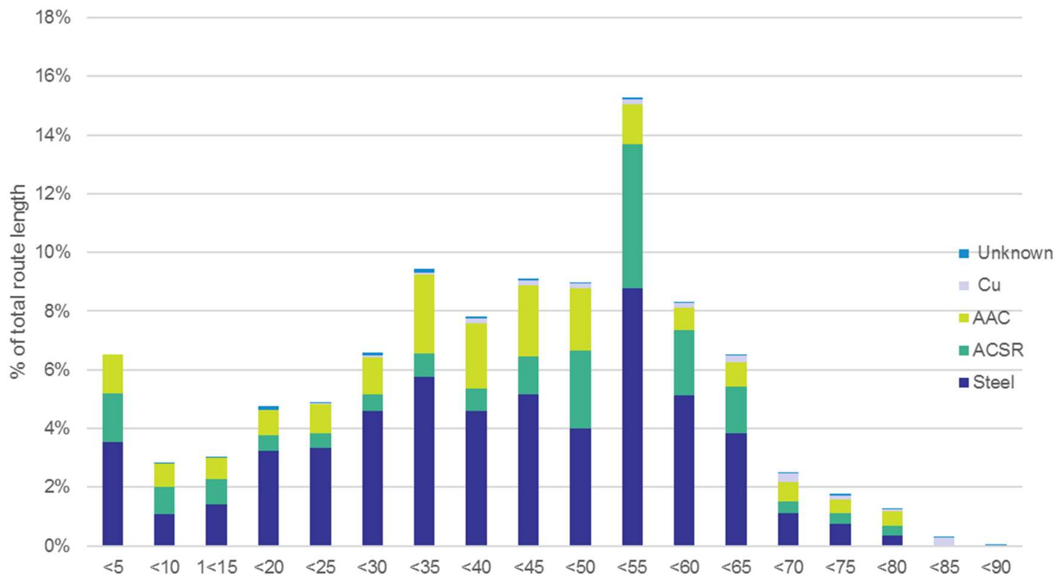

Figure 4: LV bare conductor population by material

2.3. Risk assessment methodology

A conductor failure is defined as a loss of any of the electrical or mechanical functions of the conductor systems and can result from several different failure mechanisms. Our risk assessment considers the following main failure mechanisms: corrosion, fatigue and vibration.

Machine Learning techniques have been applied to model asset health and assess the risk relating to the failure of bare distribution conductors. Machine Learning allows for a more granular evaluation of the probability of failure of assets and hence a more granular evaluation of asset risk, which facilitates more effective prioritisation of works. It also improves the predictability of defects, resulting in a smaller proportion of assets being identified as highest risk.

Our risk assessment has also been enhanced by destructive testing of bare steel conductor samples. It uses a Weibull probabilistic approach to update the residual life in medium corrosivity areas of the network.

Our risk assessment methodology considers the following for each conductor span:

- Probability of failure:
  - expected life of the asset in different corrosivity zones
  - calculate remaining service potential based on current conductor condition score
  - calculate probability of failure.
- Consequence of failure:
  - bushfire risk cost
  - value of unserved energy - product of VCR (value of customer reliability), EAR (energy at risk) and the MTTR (mean time to repair)
  - safety risk cost.
- Cost of replacement:
  - cost of replacement in today's $ value
  - cost of replacement NPV for each option considered
  - cumulated consequence and cost of replacement NPV for each option.
- Benefit of replacement:
  - calculated benefit NPV as a difference between the consequence NPV and cost of replacement NPV
  - calculated preferred option as a maximum NPV benefit across all considered options.

3. Identified need

The condition of some distribution bare conductors may expose customers and the broader community to an increased risk of asset failure, potentially resulting in significant costs in terms of bushfire, adverse safety outcomes and unserved energy. The extent of these costs will depend on the risk and consequence of conductor failure, which in turn depends on the location of the conductors. The identified need is to mitigate these risks efficiently in accordance with our regulatory obligations and good industry practice.

Conductors are an essential component of a safe and reliable distribution network. As such, conductors that are in poor condition must be replaced so that customers continue to receive the safe and reliable distribution services they expect. In September 2022, we published a notice of determination under clause 5.17.4(d) of the Rules, which explained that there are no credible non-network options.

Our assessment is that works are required to address the asset-related risks in accordance with our obligations under clause 5.2 of the Electricity Distribution Code, which requires us to meet reasonable customer expectations of supply reliability. Furthermore, we are required to manage risk “as far as practicable” in accordance with the Electricity Safety Act, which requires action to be taken to address the risks associated with conductors that are in poor condition.

4. Assumptions underpinning the identified need

The purpose of this chapter is to summarise the key input assumptions that underpin the identified need described in the previous chapter.

4.1. Regulatory obligations

In addressing the identified need, we must satisfy our regulatory obligations, which we summarise below.

Clause 6.5.7 of the National Electricity Rules requires AusNet to only propose capital expenditure required to achieve each of the following:

(1) meet or manage the expected demand for standard control services over that period;

(2) comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;

(3) to the extent that there is no applicable regulatory obligation or requirement in relation to:

(i) quality, reliability or security of supply of standard control services; or

(ii) the reliability or security of the distribution system through the supply of standard control services

to the relevant extent:

(iii) maintain the quality, reliability and security of supply of standard control services, and

(iv) maintain the reliability and security of the distribution system through the supply of standard control services; and

(4) maintain the safety of the distribution system through the supply of standard control services.

Section 98(a) of the Electricity Safety Act requires AusNet to design, construct, operate, maintain and decommission its supply network to minimise as far as practicable:

(a) the hazards and risks to the safety of any person arising from the supply network; and

(b) the hazards and risks of damage to the property of any person arising from the supply network; and

(c) the bushfire danger arising from the supply network.

The Electricity Safety act defines 'practicable' to mean having regard to –

(a) severity of the hazard or risk in question; and

(b) state of knowledge about the hazard or risk and any ways of removing or mitigating the hazard or risk; and

(c) availability and suitability of ways to remove or mitigate the hazard or risk; and

(d) cost of removing or mitigating the hazard or risk.

Clause 3.1 of the Electricity Distribution Code requires AusNet to:

develop and implement plans for the acquisition, creation, maintenance, operation, refurbishment, repair and disposal of its distribution system assets and plans for the establishment and augmentation of transmission connections:

(i) to comply with the laws and other performance obligations which apply to the provision of distribution services including those contained in this Code;

(ii) to minimise the risks associated with the failure or reduced performance of assets; and

(iii) in a way which minimises costs to customers taking into account distribution losses.

Under clause 5.2 of the Electricity Distribution Code, AusNet:

must use best endeavours to meet targets required by the Price Determination and targets published under clause 5.1 and otherwise meet reasonable customer expectations of reliability of supply.

4.2. Asset condition

AMS 10-13 Condition Monitoring describes AusNet's strategy and approach to monitoring the condition of assets. Asset condition is measured with reference to an asset health index on a scale of C1 to C5. The condition scores are used to calculate the asset failure rates using the Weibull parameters determined for each asset class. The table below provides a description of the asset condition scores.

Table 1: Asset Condition Score and Remaining Service Potential

Condition Score	Condition	Condition Description
C1	Very Good	Initial service condition
C2	Good	Deterioration has minimal impact on asset performance. Minimal short term asset failure risk.
C3	Average	Functionally sound showing some wear with minor failures, but asset still functions safely at adequate level of service.
C4	Poor	Advanced deterioration – plant and components function but require a high level of maintenance to remain operational.
C5	Very Poor	Extreme deterioration approaching end of life with failure imminent.

Our conductor asset condition by material type is set out in the figure below.

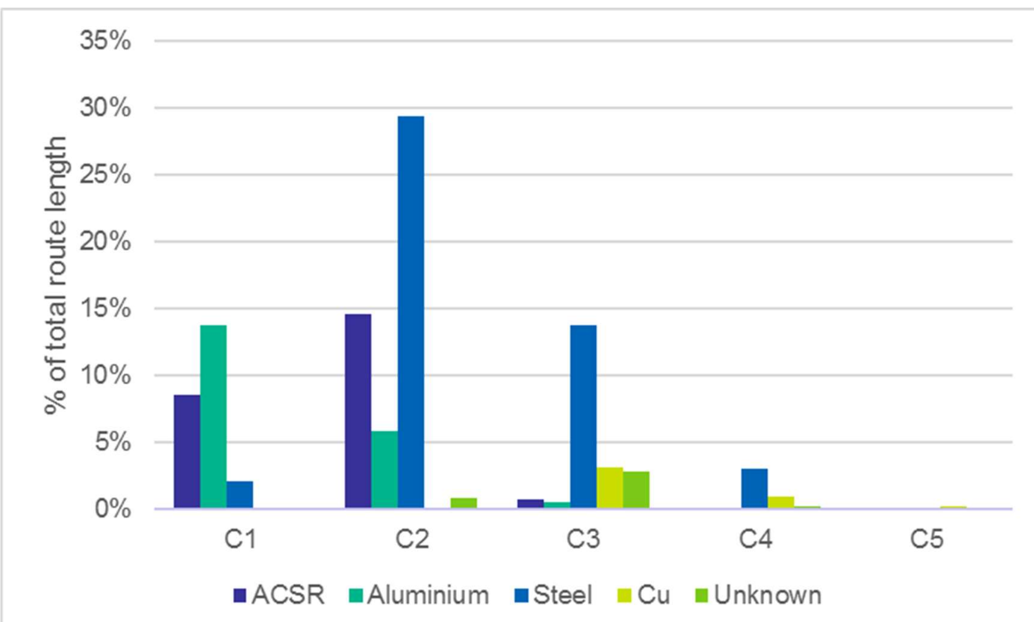

Figure 5: Asset condition by material type

5. Potential Credible Options

This section outlines the potential options that have been considered to address the identified need, and summarises the key works and costs associated with implementing these options. In subsequent analysis some of these options have been found not to be credible but are nevertheless included here for completeness.

(1) Do Nothing (counterfactual); and

(2) Pro-active conductor replacement.

5.1. Option 1: Do Nothing

The Do Nothing (counterfactual) option assumes that AusNet would not undertake any investment, outside of the normal operational and maintenance processes. The Do Nothing (counterfactual) option establishes the base level of risk and provides a basis for comparing other credible options.

Whilst the direct capital costs of this option are zero, the continued exposure to residual risks means that this option has significant risk costs associated with it. In relation to conductors, 'do nothing' is not a credible option.

5.2. Options 2: Proactive conductor replacement

This option involves the pro-active replacement of poor condition and high consequence conductors in the distribution network with new conductors on a like for like basis. The nature of the risks associated with conductor failure means that this option will be superior to Option 1. The key issue in relation to this option is to determine the optimal volume and timing of conductor replacements to deliver the maximum benefit to electricity consumers and the broader community.

This option is the preferred option. The optimal volume and timing of conductor replacements is addressed in the next section.

6. Economic assessment of the credible options

6.1. Market benefit

The regulatory investment test for distribution requires the RIT-D proponent to consider whether each credible option provides the classes of market benefits described in clause 5.17.1(c)(4) of the Rules. To address this requirement, the table below discusses our approach to each of the market benefits listed in clause 5.17.1(c)(4) in assessing the credible options to address the identified need relating to the proactive replacement of poor condition and high consequence conductors in the distribution network.

Table 2: Analysis of Market Benefits

Class of Market Benefit	Analysis
(i) changes in voluntary load curtailment;	The options are not expected to lead to changes in voluntary load curtailment.
(ii) changes in involuntary load shedding and customer interruptions caused by network outages, using a reasonable forecast of the value of electricity to customers;	The options are expected to have an impact on involuntary load shedding, although the identified need relates to asset condition. AusNet applies probabilistic planning techniques to assess the expected cost of unserved energy for each option.
(iii) changes in costs for parties, other than the RIT-D proponent, due to differences in: *(A) the timing of new plant;* *(B) capital costs; and* *(C) the operating and maintenance costs;*	There is no impact on other parties.
(iv) differences in the timing of expenditure;	This project will not result in changes in the timing of other expenditure.
(v) changes in load transfer capacity and the capacity of Embedded Generators to take up load;	This project will not impact on the capacity of Embedded Generators to take up load.
(vi) any additional option value (where this value has not already been included in the other classes of market benefits) gained or foregone from implementing the credible option with respect to the likely future investment needs of the National Electricity Market;	This project will not impact the option value in respect to likely future investment needs of the NEM.
(vii) changes in electrical energy losses; and	This project will not result in changes to electrical energy losses.
(viii) any other class of market benefit determined to be relevant by the AER.	We do not consider any other class of market benefit as relevant to the selection of the preferred option.

6.2. Methodology

The purpose of this section is to provide a high-level explanation of our methodology for identifying the preferred option. As a general principle, it is important that the methodology takes account of the identified need and the factors that are likely to influence the choice of the preferred option. As such, the methodology is not a 'one size fits all' approach, but one that is tailored for the particular circumstances under consideration.

The identified need for this project can be described in terms of two types of risk:

- supply risk, where an asset failure may lead to a loss of supply to customers; and
- non-supply risk, which captures the potential consequences of an asset failure, which may include safety, bushfire risk and environmental costs, in addition to damage to adjacent assets or property.

In relation to supply risk, we adopt a probabilistic planning methodology which considers the likelihood and severity of critical network conditions and outages. The expected annual cost to customers associated with supply risk is calculated by multiplying the expected unserved energy (the expected energy not supplied based on the probability of the supply constraint occurring in a year) by the value of customer reliability (VCR).

In relation to non-supply risks, our approach monetises this risk by multiplying the following parameter estimates:

- the probability of asset failure;
- the cost of consequence of the asset failure;
- the likelihood of the consequence given the failure has occurred; and
- the number of assets to which the analysis relates.

The purpose of the cost benefit analysis that underpins the RIT-D assessment is to determine whether there is a cost-effective option to mitigate the supply and non-supply risks (the aggregate 'risk-cost'). To be cost-effective, the reduction in the aggregate risk-cost that an option is expected to provide must exceed the cost of implementing that option. The preferred option provides greatest expected net benefit, expressed in present value terms.

In the absence of remedial action,

Figure 6 shows how the aggregate risk-cost will typically increase as the risk of asset failure and energy at risk increase over time. The optimal timing of the preferred option occurs when the annualised capital cost of that option (or the operating cost for a non-network option) is equal to the aggregate risk-cost.

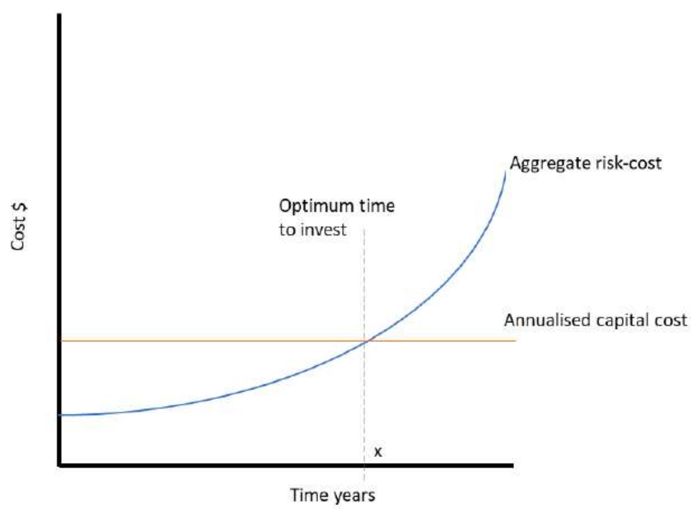

Figure 6: Increasing risk-cost over time and optimal project timing[1]

In effect, the preferred option delivers the lowest total cost to customers, which is the sum of the cost of implementing that option and any residual risk-cost. The identification of the preferred option is complicated by the fact that the future is uncertain and that various input parameters are 'best estimates' rather than known values. Therefore, the RIT-D analysis must be conducted in the face of uncertainty.

1 This figure is reproduced from the AER's Industry practice application note, Asset replacement planning, January 2019, figure 8. This figure assumes that the option eliminates the aggregate risk-cost in full, which may not be the case.

To address uncertainty in our assessment of the credible options, we use sensitivity analysis and scenario analysis in our cost benefit assessment. As recommended by the AER's application guidelines, we use sensitivity analysis to assist in determining an appropriate set of reasonable scenarios.[2] The relationship between sensitivity analysis and scenarios is best explained by the AER's practice note:[3]

> *Scenarios should be constructed to express a reasonable set of internally consistent possible future states of the world. Each scenario enables consideration of the prudent and efficient investment option (or set of options) that deliver the service levels required in that scenario at the most efficient long run service cost consistent with the National Electricity Objective (NEO).*
>
> *Sensitivity analysis enables understanding of which input values (variables) are the most determinant in selecting the preferred option (or set of options). By understanding the sensitivity of the options model to the input values a greater focus can be placed on refining and evidencing the key input values. Generally the more sensitive the model output is to a key input value, the more value there is in refining and evidencing the associated assumptions and choice of value.*
>
> *Scenario and sensitivity analyses should be used to demonstrate that the proposed solution is robust for a reasonable range of futures and for a reasonable range of positive and negative variations in key input assumptions. NSPs should explain the rationale for the selection of the key input assumptions and the variations applied to the analysis.*

In applying sensitivities and scenarios to our cost benefit assessment, we have regard to the particular circumstances to ensure that the approach is appropriate. Where our analysis shows that an option is clearly preferred, we will not undertake further testing. This approach is consistent with clause 5.17.1(c)(2) of the Rules, which states that the RIT–D must not require a level of analysis that is disproportionate to the scale and likely impact of each credible option considered.

In preparing the RIT-D, we have also had regard to AEMO's 2021 Inputs, Assumptions and Scenarios Report and its 2022 Integrated System Plan (ISP). We note that the scenarios adopted by AEMO are focused particularly on the matters that are relevant to major transmission investments, rather than distribution investments of the type considered in this report. Accordingly, we have adopted an approach that is appropriate to the specific circumstances described in this report relating to the identified need and the credible options.

Specifically, in relation to the identified need for relating to conductors in poor condition, it is evident that the proactive replacement of these assets is appropriate given the unacceptable risks of the 'do nothing' option. In addition, the absence of any alternative technological solution means that this RIT-D should focus on the optimal volume and timing of the conductor replacements.

6.3. Key variables and assumptions

Table 3 below lists the key variables and assumptions applied in the economic assessment, which are essential inputs to our methodology described above. The table also sets out the upper and lower bounds of the range of forecasts adopted for each of these variables. As explained above, the lower bound and upper bound estimates are used to undertake sensitivity testing and scenario analysis. The detailed results of this modelling are provided in section 6.4.

Table 3: Key variables and assumptions ($M)

Variable / assumption	Lower bound	Central estimate	Upper bound
Demand forecasts	5% reduction in central estimate of annual growth rate	Forecast average annual growth rate	5% increase in central estimate of annual growth rate
Safety cost	Central Estimate	Value of statistical life of $4.5 million[4]	Central estimate
Safety cost Disproportionate Factor	Central estimate	Generally 3, applied in accordance with Ausnet's risk management framework	Central estimate
Option cost	15% reduction in central estimate	In-house cost estimates using detailed and high-level project scopes	15% increase in central estimate
Real discount rate per annum	4.0%	6.44%	9%

2 AER, Application guidelines, Regulatory investment test for distribution, December 2018, page 42.
3 AER, Asset replacement planning, January 2019, page 36.
4 Best Practice Regulation Guidance Note Value of statistical life, December 2014, escalated, refer to model 'Inputs – Global' tab.

Variable / assumption	Lower bound	Central estimate	Upper bound
Probability of asset failure	25% reduction in central estimate	Machine learning algorithms assign probabilities of failure to conductors, as explained in section 2.3	25% increase in central estimate

6.4. Cost benefit analysis

The economic analysis presented below assesses the optimal conductor replacement volume under the central case, and then if we vary the input assumptions: demand; the cost of each option; the discount rate; and risk of asset failure. This analysis shows that the central case involves an optimal replacement volume of 855km by 2026, delivering a net benefit of $140.7 million compared to the 'do nothing' option. The finding, together with the sensitivity analysis is presented in the table below.

Table 4: Optimal volumes and net present values for Central Case and sensitivity analysis

	Central Case	High demand	Low demand	High option cost	Low option cost	High discount rate	Low discount rate	High failure rate	Low failure rate
Optimal Volume	855 km	926 km	785 km	670 km	1,124 km	638 km	1,399 km	1,229 km	517 km
NPV	$140.7m	$149.3m	$132.0m	$135.9m	$145.7m	$143.1m	$138.9m	$184.3m	$97.8m

Source: AusNet

The sensitivity analysis shows that the optimal replacement volume varies from a low of 517 km to a high of 1,399 km for the period to 2026. The net benefit reported in the above table relates to the replacement of 855 km for each of the sensitivities. Therefore, under a low asset failure assumption, the NPV of replacing 855 km of conductors reduces from the central case of $140.7 million to $97.8 million. Conversely, the NPV resulting from the replacement of 855 km of conductors by 2026 will increase to $184.3 million if the failure rate is higher than our central estimate.

The above analysis provides comfort that the proposed conductor replacement volume of 855 km by 2026 achieves a net benefit under a range of different sensitivities. It therefore supports the proposition that the prudent and efficient approach is to replace 855 km by 2026, consistent with the central case. We have also conducted scenario analysis to further test this proposition, applying the definitions set out below.

Table 5: Definition of reasonable scenarios

Scenario	Probability of failure	Option Cost	Forecast Demand	VCR	Discount rate
Central Case	Central estimate	Central estimate	Central estimate	Central estimate	Central estimate
Low demand	Central estimate	Central estimate	Lower bound	Central estimate	Central estimate
Weak economic growth	Central estimate	Lower bound	Lower bound	Central estimate	Lower bound
High demand	Central estimate	Upper bound	Upper bound	Central estimate	Upper bound

Table 6 below provides a brief description of each scenario.

Table 6: Guide to scenarios

Scenario	Description
Central Case	This scenario adopts the central estimate for each variable in the economic assessment. It represents the most likely outcome.
Low demand	This scenario represents low demand driven by an increase in distributed energy resources. We have retained the other parameters at their central estimates, noting that the scenario is not driven by weak economic growth.
Weak economic growth	This scenario reflects weak economic growth, possibly due to the continuing impact of COVID-19. It has lower costs of delivering the option, lower demand and a lower discount rate
High demand	This scenario represents an economic rebound and continuing supply side issues. It is characterised by higher costs of delivering the option, higher demand and an upper bound discount rate.

The table below shows the optimal conductor replacement volume ranges from a low of 546 km under the high demand scenario and a high of 1,624 km under the weak economic growth scenario. The scenario analysis supports the adoption of the central case, which produces a net benefit of $140.7 million. The scenario analysis shows that the net benefit from replacing 855 km by 2026 ranges from a low of $132.0 million to a high of $147.5 million.

Table 7: Net benefit for each scenario ($M)

	Central case	Low demand	Weak economic growth	High demand
Optimal volume	855 km	785 km	1,624 km	546 km
NPV	$140.7m	$132.0m	$135.7m	$147.5m

Source: AusNet

6.5. Preferred option

Our preferred option is to the proactive replacement of 855 km poor condition and high consequence conductors in the distribution network with new conductors on a like for like basis by 2026. This project will deliver the distribution line bare conductor proactive replacement program in accordance with AMS 20-52. In addition to these works, other tasks to be undertaken include:

- Line Survey, design, design review, producing drawings and publishing;
- Outage planning;
- Creation, coordination, and completion of the project through SAP, including work order creation; and
- Updating our asset data base and master data records – SAP, SDME and DOMS.

This option is expected to maximise the present value of the net economic benefit to all those who produce, consume and transport electricity in the NEM.

6.6. Capital and operating costs of the preferred option

The direct capital expenditure is $50.9 million (nominal). The principal capital expenditure elements, expressed in nominal terms, are:

- Design and internal labour, $8.62 million;
- Materials, $4.12 million;
- Plant and equipment, 0.16 million;
- Contracts, $34.16 million; and
- Meter costs, $2.34 million.

The remaining costs relate to overheads and an allowance for risk.

For the purposes of this RIT-D, it is assumed that the operating expenditure is unchanged from the 'BAU' costs.

In relation to the timetable for completing the works, we expect the replacement program to commence on 01/04/2023 and the project In-service date is expected to be 30/06/2026.

7. Satisfaction of the RIT-D

In accordance with clause 5.17.4(j)(11)(iv) of the Rules, we certify that the proposed option satisfies the regulatory investment test for distribution. The table below shows how each of these requirements have been met by the relevant section of this report.

Table 8: Compliance with regulatory requirements

Requirement		Section
5.17.4(j) The draft project assessment report must include the following:		
(1)	a description of the identified need for the investment;	Section 3.
(2)	the assumptions used in identifying the identified need (including, in the case of proposed reliability corrective action, reasons that the RIT-D proponent considers reliability corrective action is necessary);	Section 4.
(3)	if applicable, a summary of, and commentary on, the submissions on the non-network options report;	Not applicable.
(4)	a description of each credible option assessed;	Section 5.
(5)	where a Distribution Network Service Provider has quantified market benefits in accordance with clause 5.17.1(d), a quantification of each applicable market benefit for each credible option;	Section 6.4.
(6)	a quantification of each applicable cost for each credible option, including a breakdown of operating and capital expenditure;	Sections 5 and 6.4.
(7)	a detailed description of the methodologies used in quantifying each class of cost and market benefit;	Section 6.2.
(8)	where relevant, the reasons why the RIT-D proponent has determined that a class or classes of market benefits or costs do not apply to a credible option;	Section 6.1.
(9)	the results of a net present value analysis of each credible option and accompanying explanatory statements regarding the results;	Section 6.4.
(10)	the identification of the proposed preferred option;	Section 1.1 and 6.5.
(11)	for the proposed preferred option, the RIT-D proponent must provide:	
(i)	details of the technical characteristics;	Section 6.5.
(ii)	the estimated construction timetable and commissioning date (where relevant);	Section 6.6.
(iii)	the indicative capital and operating cost (where relevant);	Section 6.6.
(iv)	a statement and accompanying detailed analysis that the proposed preferred option satisfies the regulatory investment test for distribution; and	Section 7, including this table.
(v)	if the proposed preferred option is for reliability corrective action and that option has a proponent, the name of the proponent;	Not applicable.
(12)	contact details for a suitably qualified staff member of the RIT-D proponent to whom queries on the draft report may be directed.	Section 1.3.

	Requirement	Section
5.17.4(k)	The RIT-D proponent must publish a request for submissions on the matters set out in the draft project assessment report, including the proposed preferred option, from: (1) Registered Participants, AEMO, non-network providers and interested parties; and (2) if the RIT-D proponent is a Distribution Network Service Provider, persons on its demand side engagement register.	Section 1.3.
5.17.4(l)	If the proposed preferred option has the potential to, or is likely to, have an adverse impact on the quality of service experienced by consumers of electricity, including: (1) anticipated changes in voluntary load curtailment by consumers of electricity; or (2) anticipated changes in involuntary load shedding and customer interruptions caused by network outages, then the RIT-D proponent must consult directly with those affected customers in accordance with a process reasonably determined by the RIT-D proponent.	Not applicable.
5.17.4(m)	The consultation period on the draft project assessment report must not be less than six weeks from the publication of the report.	Section 1.3.

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