

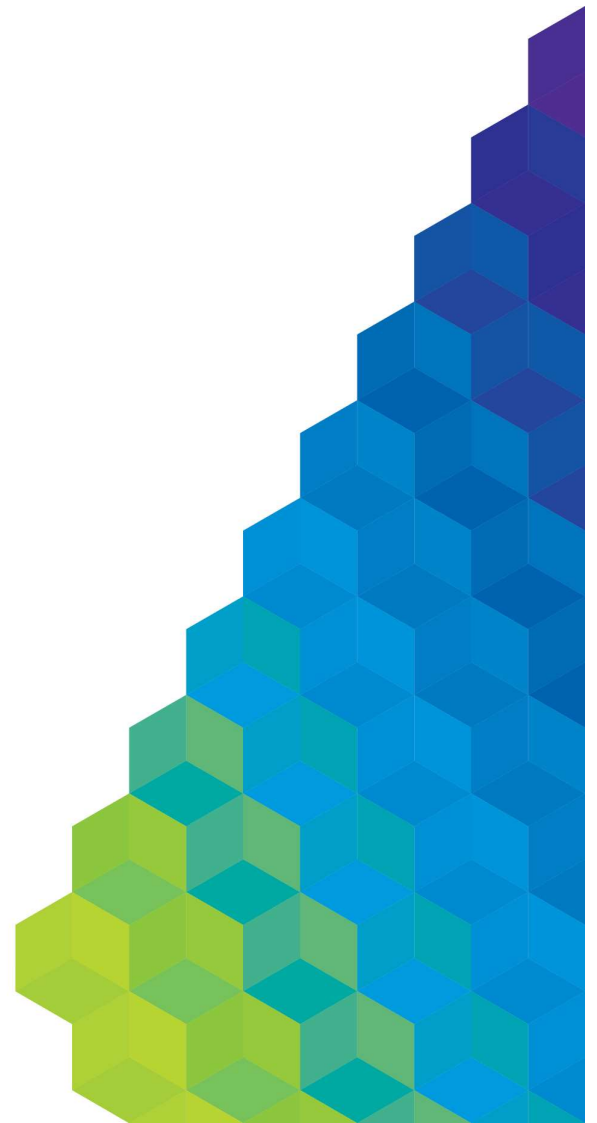


3G Modem Replacement Program

Regulatory Investment Test for Distribution

Final Project Assessment Report

Published May 2022



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1 Executive Summary

This Final Project Assessment Report (FPAR) has been prepared by AusNet Services in accordance with the requirements of NER clause 5.17.4 as the final step in the of the Regulatory Investment Test for Distribution (RIT-D) process for our 3G modem replacement program.

This report has been prepared following the publication of Notice of Determination (NOD) and with the submission of this NOD under clause 5.17.4(n), we are not required to submit a Draft Project Assessment Report, but rather proceed to clauses 5.17.4 (o) and (p), which states that AusNet Services must now submit our Final Project Assessment Report (FPAR) as soon as reasonably practical.

Telstra has advised AusNet Services of the decision to discontinue 3G services in June 2024. The purpose of this FPAR is to demonstrate that shutting down the 3G network will affect among other services; control and monitoring of the electricity Distribution network if an alternative is not found. This service closure will disrupt over 2,700 3G modems across our network that are part of our core communications infrastructure.

The identified need of this project is to ensure that communications functions of our network assets are maintained and that our Customer & Energy Operations Team (CEOT) can remotely monitor our assets without deploying field crews. Further, maintaining our communications assets will minimise Customer Minutes Off-Supply (CMOS) and support Distribution feeder automation.

The remote communications connection to pole-top devices saves time and the number of resources required to undertake planned and unplanned maintenance. During faults, it is estimated that our automated communication systems provide potential cost avoidance over \$20M per year across the feeders from 54 zone substations.

As part of this FPAR, AusNet Services conducted an options analysis to identify the preferred option for replacing our 3G modems. In accordance with clause 5.17.4(c) of the NER AusNet Services has determined that there are no credible non-network options in relation to the 3G Modem Replacement Program, and thus they have not been considered in our options analysis.

2 Introduction

The National Electricity Rules (NER) require AusNet Services to apply the Regulatory Investment Test for Distribution (RIT-D), prior to proceeding with capital projects that exceed \$6 million. The purpose of the RIT-D is to ensure that the preferred option maximises the net economic benefit to all those who produce, consume and transport electricity in the National Electricity Market.

Under clause 5.17.4(c) of the NER, AusNet Services determined that there are no credible non-network options for the 3G Modem Replacement Program. We therefore issued a NOD in accordance with clause 5.17.4(d) of the NER noting we would proceed with a network solution.

This Final Project Assessment Report (FPAR) has been prepared by AusNet Services and represents the final step in the application of the RIT-D to options ensuring the capability of AusNet Services assets to communicate reliability in regional and metro areas.

Communication is a key component of AusNet's business, with its importance increasing more as devices and systems become interconnected. Among other services AusNet Services uses the private TRIO radio network and Telstra's 3G wireless network for Supervisory Control and Data Acquisition (SCADA) communication. The 3G service is essential to ensure the link between SCADA master and remote devices located on pole tops and in instances zone substations.

The information from the remote devices is used to monitor and control the electricity network, support the Distribution feeder automation (DFA) application, and enable engineering access as a backup route for zone substations.

Telstra has advised AusNet Services of the decision to discontinue 3G services in June 2024. Shutting down the 3G network will affect control and monitoring of the electricity Distribution network if an alternative is not found.

According to the National Electricity Rules (NER) requirements, AusNet has initiated this RIT-D to replace the 2,700 3G modems that are impacted by this retirement of 3G across our network .

Section 99 explains how this FPAR complies with the requirements of clause 5.17.4(r) which this report is subject to.

2.1 Role of Report

AusNet has prepared this FPAR in accordance with the requirements of the NER under clauses 5.17.4 (j) and (r). The purpose of the FPAR is to:

- Describe the identified need AusNet is seeking to address, together with the assumptions used in identifying it
- Provide a description of each credible option assessed
- Quantify relevant costs and market benefits for each credible option
- Describe the methodologies used in quantifying each class of cost and market benefit
- Explain why AusNet has determined that classes of market benefits or costs do not apply to credible options
- Present the results of a net present value analysis of each credible option, including an explanation of results
- Identify the proposed preferred option.
- Provide the contact details for a suitably qualified staff member to whom queries on the report may be directed

This FPAR follows the NOD released in February 2022. The FPAR represents the final stage of the formal consultation process set out in the NER in relation to the application of the RIT-D as outlined in Appendix B. The entire RIT-D process is detailed in Appendix B.

2.2 Submissions on DPAR

Based on the NOD submitted and NER clause 5.17.4(d), only a Final Project Assessment Report (FPAR) was required as the project's capital cost falls below \$12 million.¹ Therefore, no submissions were received.

2.3 Contact Details for Queries

Any queries in relation to this RIT-D should be addressed to:

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Or email to: ritdconsultations@ausnetservices.com.au

¹ Per the AER and NER rules, as the capital cost is <\$12 million a DPAR is not required: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/cost-thresholds-review-for-the-regulatory-investment-tests-2021>

3 Background

Communication is a key component of AusNet's business, with its importance increasing more as devices and systems become interconnected. AusNet Services uses the private TRIO radio network and Telstra's 3G wireless network for Supervisory Control and Data Acquisition (SCADA) and engineering access communication.

The 3G service is essential to ensure the link between SCADA master and remote devices located on pole tops and some zone substations of the electricity distribution network. The connection with master stations is required by the Customer & Energy Operations Team (CEOT) for remote monitoring and control of the distribution network without the need for deploying field crews.

The information from the remote devices is used by the distribution feeder automation (DFA) application to minimise Customer-Minutes-off-Supply (CMOS) and the connection enables engineering access as a backup route for zone substations.

4 Identified need

Telstra has advised AusNet Services of the decision to discontinue 3G services in June 2024. Shutting down the 3G network will affect control and monitoring of the electricity distribution network if an alternative is not found. The current 3G modems utilised by AusNet Services across our metro and regional sites are not compatible with faster and more modern mobile services such as 4G and 5G.

The options available to replace the 3G modem include expanding the current TRIO network and/or upgrading to a new third party mobile wireless technology such as 4G or 5G.

The Asset Strategy Management AMS 20-81 recommends finding an alternative technology for the 3G network. The choice will depend on coverage and economic viability.

AusNet is setting out on a project to replace 2,700 3G modems in two discrete projects across metro and regional sites. There are 1,600 modems in regional sites and 1,100 in metro sites.

5 Options Considered

This section provides descriptions of the two options AusNet Services has identified as part of its network planning activities to date.

AusNet Services has identified two network options that either replace the existing 3G modems on regional and metro sites by replacing them with a newer technology, or by expanding the existing private network services.

The options are summarised below.

Table 5-1 Options Considered

Option	
Business as Usual (BAU)	BAU implies continuing operations with the existing asset base. Modems will be replaced as needed in tandem with the shutdown of the 3G service.
Option 1 – Replace 3G modems with 4G/5G	This option requires the replacement of 2,700 3G modems to 4G/5G modems. These modems can be accommodated by multiple Mobile Network Operators, including Telstra. Asset Information Systems will also be updated
Option 2 – Expand TRIO Network	This option requires the expansion of the private TRIO radio network services to all 2,700 modems.

Under the BAU case If neither option is undertaken, communication between field devices and the master station will be lost. The implications are that the Network Operating Centre (CEOT) will lose visibility of the electrical network, the SCADA system will have limited operational capabilities, and the Distribution Feeder Automation (DFA) scheme will not operate optimally. It would then take about 3 months for an emergency project, with high premium resource costs, to replace the modems to reactivate the communication to field devices. Further, there is a possibility of increased outage durations when faults occur on the electricity Distribution network.

The option to expand the existing private radio network (TRIO) would be too costly and involve acquisition of additional mountain top sites, and radio licence applications. Most importantly, the process of land acquisition and building the infrastructure would not be completed in time for the deadline before 3G shutdown.

Given that Option 2 cannot be completed in time for the 3G shutdown, it was deemed that this Option would not be assessed. Therefore, Option 1 was deemed to be the only credible option for analysis.

6 Screening for non-network options

In applying the RIT-D, the relevant distributor is required to publish a non-network options report, to screen for potential non-network options, unless it reasonably determines that there are no credible non-network options. Where a distributor makes such a determination, it must publish a notice setting out the reasons for its determination, and any methodologies and assumptions applied in making that determination.

In accordance with clause 5.17.4(c) of the NER AusNet Services has determined that there are no credible non-network options in relation to the 3G Modem Replacement Program. Our reasoning for concluding that there are no feasible non-network solutions are:

- The communications assets provide a function which relates to system management and control, but they do not function with respect to moving load across our network. Thus, there is by definition no non-network option available to AusNet.

In accordance with the NER requirements, we also noted these reasons are not dependent on any particular assumptions or methodologies. The identified need must be satisfied because it is necessary for ensuring costs can be delivered at minimum cost, and that assets which are reaching the end of their useful life can be replaced without any disruption to services.

In this FPAR, AusNet Services confirms that the reasons provided in the NOD, published on 24 February 2022, for a network solution remain valid.

7 How the Options Have Been Assessed

This program will be delivered under two discrete projects covering our metro and regional sites. Each project will be costed independently to maximise any available efficiency in delivery and cost. For the purposes of our assessment the estimated costs associated with each Option has been aggregated with all costs for each credible option being measured against a 'business as usual' base case. Under this base case (business as usual), AusNet Services will utilise its assets until failure and replace them with a similar solution or upgrade them to newer services before the 3G service shutdown.

Capital expenditure forecasts for each credible option has been risk adjusted and considers corporate overheads and other capitalised expenses (such as interest during construction).

Given that market benefits have not been assessed (as they do not impact the preferred option), AusNet Services has determined the optimal option by considering which option is viable and least-cost, rather than through an analysis of which option yields the highest economic benefit.

The RIT-D analysis has been undertaken over a 10-year period. AusNet Services considers that a 10-year period takes into account the size, complexity and expected life of the relevant credible options.

Given that no non-network options have been found to be viable, the appropriate discount rate is the regulated cost of capital. As a result, AusNet Services has adopted a pre-tax WACC of 5.04% for the regional modem evaluation and 5.24% for the metro modem evaluation.

7.1 Approach to Cost Estimation

AusNet Services has estimated capital costs by considering the scope of works necessary under each credible option together with costing experience from previous projects of a similar nature. Where possible, AusNet Services has also estimated capital costs for each credible option using supplier quotes or other pricing information. Below, we detail specific considerations AusNet Services has made in the capital cost build-up:

The BAU capital expenditure was developed based on AusNet Services Repex model which uses conditional probability of failure and survival rates to estimate unplanned replacement costs.

The credible options costs are based on direct capital expenditure costs from suppliers and modelling risk adjustments. These risk adjustments are based on a review of inherent and contingent risks that were modelled using @risk, which is a risk management software. Applicable risks modelled in @risk are identified from internal risk workshops with stakeholders, where their likelihood and impacts are assessed. The risks considered include:

- Feasibility and funding
- Planning and environmental
- Community
- Design
- Delivery
- Commercial
- Operations & Maintenance
- Licensing
- Political

7.2 Market Benefits

The regulatory investment test for Distribution requires the RIT-D proponent to consider whether each credible option could deliver relevant classes of market benefits as set out in clause 5.17.1(c)(4) of the NER.

In the table below, we outline each of the market benefits listed in clause 5.17.1(c)(4).

Table 7-1: Market Benefits

Class of Market Benefit	Analysis
<i>(i) changes in voluntary load curtailment;</i>	<i>Not relevant as this asset has no impact on load and is communications driven</i>
<i>(ii) changes in involuntary load shedding and customer interruptions caused by network outages, using a reasonable forecast of the value of electricity to customers;</i>	<i>Not relevant as this asset has no impact on load and is communications driven</i>
<i>(iii) changes in costs for parties, other than the RIT-D proponent, due to differences in:</i>	
<i>(A) the timing of new plant;</i>	<i>Cost differentials only impact the RIT-D proponent</i>
<i>(B) capital costs; and</i>	
<i>(C) the operating and maintenance costs;</i>	
<i>(iv) differences in the timing of expenditure;</i>	<i>Timing for option 2 excludes it as a viable option.</i>
<i>(v) changes in load transfer capacity and the capacity of Embedded Generators to take up load;</i>	<i>Not relevant as this asset has no impact on load and is communications driven</i>
<i>(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;</i>	<i>Not relevant as this asset has no impact on load and is communications driven</i>
<i>(vii) changes in electrical energy losses; and</i>	<i>Not relevant as this asset has no impact on load and is communications driven</i>
<i>(viii) any other class of market benefit determined to be relevant by the AER.</i>	<i>Not relevant as this asset has no impact on load and is communications driven</i>

In our assessment, the market benefits listed in the table above with respect to NER clause 5.17.1(c)(4) are not relevant to the selection of the preferred option. As such, it is not necessary to either quantify these benefits or set out the methodologies that could be used to quantify them as required by clause 5.17.4(j)(7) of the NER.

The approach adopted in this report is therefore to select the lowest cost scope of work that is capable of maintaining the link between SCADA master and remote devices located on pole tops and the impacted zone substations.

By taking this approach, the proposed expenditure will maximise the present value of the net economic benefit to all those that produce, consume and transport electricity in the National Electricity Market, in accordance with clause 5.17.1(b) of the NER.

8 Option assessment, preferred option and proposed expenditure

8.1 Credible options

As set out in Section 6 and our NOD under clause 5.17.4(d) of the NER, there are no credible non-network options. Additionally, there is no feasible 'do nothing' option, as this would result in AusNet Services losing a core piece of its communications systems.

AusNet Services identified one credible network option that is capable of ensuring the communication between SCADA master and remote devices located on pole tops and several zone substations of the electricity Distribution network.

As explained in the Section 8.2, Option 1 is the lowest cost of the two options and is more likely to be delivered in the required timeframes compared to the BAU case where assets are only replaced when they reach failure.

On the basis of the above assessment, Option 1 is the preferred option as it provides the least cost solution to the identified need. This conclusion is evident from the information presented in the present value calculations presented in the next section.

8.2 Net present value for each credible option

Clause 5.17.4(j)(9) of the NER requires AusNet Services to provide a net present value analysis of each credible option and an accompanying explanatory statement. The credible options to be assessed are:

- BAU replacement at asset failure
- Option 1: Replacement of the modems with 4G/5G compatible modems

The calculation of the present value (PV) for each credible option is set out in the table below.

Table 8-1: 3G Modem Present value of each credible option, nominal \$'000²

Cost (PV \$,000)	Capex	Opex	PV Cost Relative to BAU
BAU	\$12,869	Nil	
Option 1	\$9,627	Nil	

Source: AusNet Services, includes management reserve and capitalised overheads³

The RIT-D requires the preferred option to be the credible option that maximises the present value of the net economic benefit to all those who produce, consume and transport electricity in the NEM.

Given that no market benefits have been quantified as they do not impact the preferred option, AusNet Services notes that the least-cost option is the option that will maximise economic benefits as it is the most efficient. Considering this, Option 1 is the most efficient option for both the metro and regional 3G modem replacements.

Option 1 produces a cost saving of \$3.2 million in PV terms when considering the replacement of both the metro and regional modems.

² The discount rate used for the purpose of calculating the present value is a pre-tax rate, using parameter values consistent with the regulated cost of capital in the AER's most recent draft decision for our Distribution network

³ DD-0004278 Metro 3G Modem Replacement & 0009921 Regional 3G modem Replacement - Business Case Evaluation

8.3 Preferred option, timing and scope of capital works

Based on the analysis in Section 8.2, Option 1 is the preferred option for both the metro and regional modem replacements. In the sub-sections below, we detail the:

- Required scope of work for each project
- Indicative timings for various milestones to be achieved
- Timing of capital expenditure for Option 1 against the BAU case.

8.3.1 Scope of Work

At each site, communications works will include but is not limited to the design, procurement, installation and modification of the following (including cabling):

Modem quantities for the respective projects

- Regional – Install new modems at sites (1,600 3G modems)
- Metro – Install new modems at sites (1,100 3G modems)

Scope Items applicable to both projects

- Modem installation and commissioning (at each 3G modem site)
- Remove existing antenna
- Remove existing modem
- Install new antenna
- Test and commission new modems
- Update applicable asset management databases
- Confirm modem location details and update SAP
- Reconfigure Victorian Network Switching Centre (VNSC) head-end servers if necessary
- Reconfigure Rowville Control Centre (ROCC) head-end servers if necessary

8.3.2 Timing of Projects

The planning, building and close of the 3G modem replacement program has been split into metro and regional programs for efficiency purposes. We detail their timelines below.

Table 8-2 Project Timelines

Milestone	Regional	Metro
Approval of Stage Gate 2	13/05/2021	13/10/2020
Approval of Business Case	24/12/2021	22/01/2021
Approval of RIT	14/06/2022	
Construction Commencement	1/08/2022	1/08/2022
Commissioning Readiness Complete	29/12/2023	29/12/2023
Project Completion	29/03/2023	29/03/2023

8.3.3 Capital Expenditure Timelines for Preferred Options vs Business as Usual

Metro

Figure 8-1 below provides an illustration of the present value cost for the credible options identified for the replacement of metro modems. The overall capital expenditure under the BAU case is approximately \$1 million more than “Replace Modems” option.

Analysis of investment options (\$'000 - Present Value)	Capex	Opex	Total Financial Costs	Potential Costs	Other Economic Costs & (Benefits)	Total PV Cost	PV Cost Ratio (compared to BAU)	Financial outcome (in present value terms) - compared to BAU - excl non cash costs and benefits
BAU	5,954.8	-	5,954.8	-	-	5,954.8	1.00	
Replace Modems	4,584.8	-	4,584.8	-	-	4,584.8	0.77	Excluding Economic costs and benefits this Option spends \$1m less Capex compared to BAU ✓
Option 2	-	-	-	-	-	-	-	

Figure 8-1 Metro Options PV Cost

Regional

Figure 8-2 below provides an illustration of the present value cost for the credible options identified for the replacement of regional modems. The overall capital expenditure under the BAU case is approximately \$2 million more than Option 1.

Analysis of investment options (\$'000 - Present Value)	Capex	Opex	Total Financial Costs	Potential Costs	Other Economic Costs & (Benefits)	Total PV Cost	PV Cost Ratio (compared to BAU)	Financial outcome (in present value terms) - compared to BAU - excl non cash costs and benefits
BAU	6,914.2	-	6,914.2	-	-	6,914.2	1.00	
Option 1	5,041.8	-	5,041.8	-	-	5,041.8	0.73	Excluding Economic costs and benefits, this Option spends \$2m less Capex compared to BAU ✓
Option 2	-	-	-	-	-	-	-	

Figure 8-2 Regional Options Capex Timings

8.4 Indicative capital and operating expenditure

The total capital expenditure for the preferred option for the replacement of metro and regional modems is \$4.85 million and \$5.50 million respectively. Below in Table 8-2 and Table 8-4 we provide the breakdown of the costs for the two projects.

Table 8-3: Summary of Capital expenditure requirements Metro Modem Replacement, \$'000

	FY21	FY22	FY23	Total
Design	266.7	136.0	-	402.7
Internal Labour	148.8	354.2	-	503.0
Materials	-	561.0	-	561.0
Plant & Equipment	-	50.2	-	50.2
Contracts	-	2,526.5	-	2,526.5
Risk	-	243.1	-	243.1
Total Direct Capex	415.5	3,871.0	-	4,286.5
Total Capex⁴				4,852.0

Source: AusNet Services⁵

⁴ Total Capex includes capitalised finance charges and overheads

⁵ DD-0004278 Metro 3G Modem Replacement & 0009921 Regional 3G modem Replacement - Business Case Evaluation

Table 8-4: Summary of capital expenditure requirements Regional Modem Replacement, \$'000

	FY22	FY23	FY24	Total
Design	-	163.2	-	163.2
Internal Labour	57.0	334.6	192.9	584.5
Materials	-	545.1	278.0	823.1
Plant & Equipment	-	41.8	21.3	63.1
Contracts	-	1,723.6	879.0	2,602.6
Risk	-	201.0	205.0	406.1
Total Direct Capex	57.0	3,009.0	1,603.0	4,642.6
Total Capex⁶				5,500.5

Source: AusNet Services⁷

No operating expenditure is required for the metro and regional modem replacements under the preferred option.

9 Satisfaction of the RIT-D and Next Steps

In accordance with clause 5.17.4(j)(11)(iv) of the NER, we certify the proposed preferred option satisfies the RIT-D. The table below shows where the requirements of this report have been met in the appropriate section.

Table 9-1: Compliance with regulatory requirements

Requirement	Section
5.17.4(j) The Final Project Assessment Report must include the following:	See clause 5.17.4(r) below.
(1) a description of the identified need for the investment;	Section 2
(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 2 explains why reliability corrective action is required. No assumptions apply in relation to the identified need.
(3) if applicable, a summary of, and commentary on, the submissions on the non-network options report;	Not applicable as no non-network options were identified and therefore no report was published.
(4) a description of each credible option assessed;	Section 3
(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 5

⁶ Total Capex includes capitalised finance charges and overheads

⁷ DD-0004278 Metro 3G Modem Replacement & 0009921 Regional 3G modem Replacement - Business Case Evaluation

3G Modem Replacement Program - RIT-D

Requirement	Section
(6) a quantification of each applicable cost for each credible option, including a breakdown of operating and capital expenditure;	Section 6
(7) a detailed description of the methodologies used in quantifying each class of cost and market benefit;	Section 5
(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 5
(9) the results of a net present value analysis of each credible option and accompanying explanatory statements regarding the results;	Section 6.2
(10) the identification of the proposed preferred option;	Section 6.3
(11) for the proposed preferred option, the RIT-D proponent must provide:	
(i) details of the technical characteristics;	Section 6.3 and Appendix
(ii) the estimated construction timetable and commissioning date (where relevant);	Section 6.3 and 6.4
(iii) the indicative capital and operating cost (where relevant);	Section 6.3 and 6.4
(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;	AusNet Services.
(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
5.17.4(o) As soon as practicable after the end of the consultation period on the draft project assessment report, the RIT-D proponent must, having regard to any submissions received on the draft project assessment report, publish a final project assessment report.	As explained in Section 1, no submissions were received in relation to the DPAR as this was not required under NER clause 5.17.4(d).
5.17.4(p) If the RIT-D project is exempt from the draft project assessment report stage under paragraph (n), the RIT-D proponent must publish the final project assessment report as soon as practicable after the publication of the notice under paragraph (d).	This document serves as the publication of the Final Project Assessment Report
5.17.4(q) At the same time as publishing the final project assessment report, a RIT-D proponent that is a Distribution Network Service Provider must notify persons on its demand side engagement register of the report's publication.	Noted.

3G Modem Replacement Program - RIT-D

Requirement	Section
5.17.4(r) The final project assessment report must set out: <ul style="list-style-type: none"> (1) if a draft project assessment report was prepared: <ul style="list-style-type: none"> (i) the matters detailed in that report as required under paragraph (j); and (ii) a summary of any submissions received on the draft project assessment report and the RIT-D proponent's response to each such submission; and (2) if no draft project assessment report was prepared, the matters specified in paragraph (j). 	See response to clause 5.17.4 (j) completed above.

Below, we discuss the next steps involved for AusNet as part of this FPAR:

- As the preferred option identified in this report has an estimated capital cost of less than \$24 million,⁸ AusNet Services may choose not to publish this FPAR and incorporate it as part of its Distribution Annual Planning Report per NER clause 5.17.4 (s).
- Should AusNet publish this FPAR, then within 30 days of the date of publication under NER clauses 5.17.5 (c) and (d) a party may dispute the findings of this FPAR. The party must give a formal dispute notice to AusNet Services and inform the AER of the grounds of the dispute.
- Within 40 days of receipt of this notice, the AER must make a determination on the dispute notice. In instances, an additional 60 days may be provided based on the complexity of the issues raised.
- If the AER does not choose to reject the dispute notice, then under NER clauses 5.17.5 (d)(3i) and (g) the AER may only make a determination if AusNet Services has not correctly applied the RIT-D process or has made an error in its calculations.

⁸ See threshold for FPAR <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/cost-thresholds-review-for-the-regulatory-investment-tests-2021>

Appendix – Technical characteristics and Others

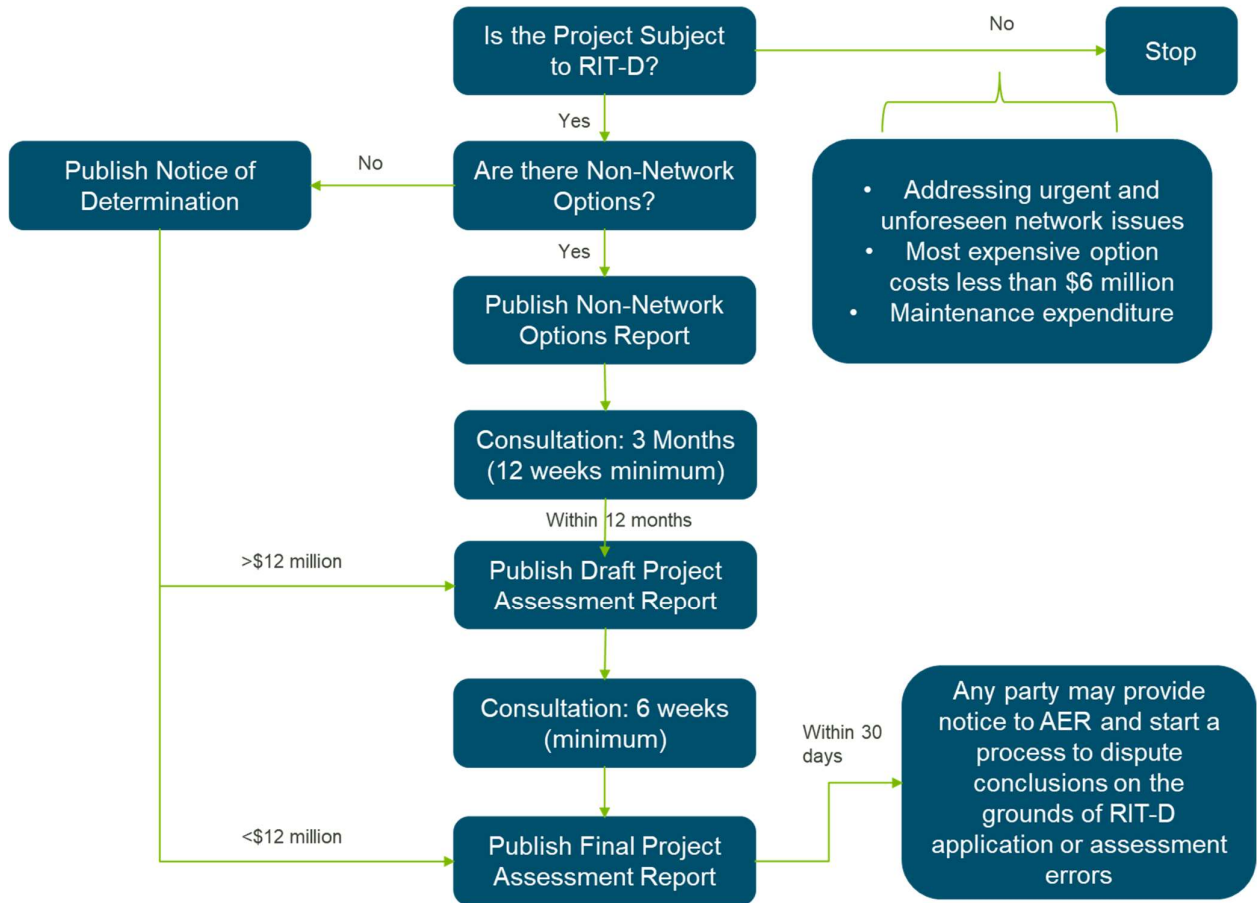
Summary of scope of work

At each site, communications works will include but is not limited to the design, procurement, and installation/modification of the following (including cabling):

- Modem installation and commissioning (at each 3G Modem site)
- Remove existing antenna
- Remove existing modem
- Install new antenna
- Install new modem at regional sites (1,600 3G modems)
- Install new modem at metro sites (1,100 3G modems)
- Test and commission new modem
- Update applicable asset management databases
- Confirm modem location details and update SAP
- Reconfigure Victorian Network Switching Centre (VNSC) head-end servers if necessary
- Reconfigure Rowville Control Centre (ROCC) head-end servers if necessary

Overview of Regulatory Process

The Figure below summarises the RIT-D process AusNet Services is required to follow.



Source: [Australian Energy Regulator RIT-D Guidelines⁹](https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/cost-thresholds-review-for-the-regulatory-investment-tests-2021)

⁹ Updated based on latest cost thresholds - <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/cost-thresholds-review-for-the-regulatory-investment-tests-2021>

Business as Usual Repex Model Methodology

Metro Project

Output for Appendix

Period		1	2	3	4	5
Conditional Probability of Failure	$P(t)$	9.5%	8.6%	81.9%	0.0%	0.0%
Survival Probability		90.5%	81.9%	0.0%	0.0%	0.0%
Unplanned Replacement Cost	A	\$5,791				
Emergency Opex Cost	B	\$0				
Cost of Unserved Energy	C	\$0				
Safety	D	\$0				
Regulatory Compliance	E	\$0				
Write down values	F	\$0				
Increased maintenance	G	\$0				
Unplanned Replacement Cost	$P(t) \times A$	\$551	\$499	\$4,741	\$0	\$0
Emergency Opex Cost	$P(t) \times B$	\$0	\$0	\$0	\$0	\$0
Other Event Cost						
Cost of Unserved Energy	$P(t) \times C$	\$0	\$0	\$0	\$0	\$0
Safety	$P(t) \times D$	\$0	\$0	\$0	\$0	\$0
Regulatory Compliance	$P(t) \times E$	\$0	\$0	\$0	\$0	\$0
Write down values	$P(t) \times F$	\$0	\$0	\$0	\$0	\$0
Increased maintenance	$P(t) \times G$	\$0	\$0	\$0	\$0	\$0

Regional Project

Output for Appendix

Period		1	2	3	4	5
Conditional Probability of Failure	$P(t)$	6.4%	6.0%	87.5%	0.0%	0.0%
Survival Probability		93.6%	87.5%	0.0%	0.0%	0.0%
Unplanned Replacement Cost	A	\$6,632				
Emergency Opex Cost	B	\$0				
Cost of Unserved Energy	C	\$0				
Safety	D	\$0				
Regulatory Compliance	E	\$0				
Write down values	F	\$0				
Increased maintenance	G	\$0				
Unplanned Replacement Cost	$P(t) \times A$	\$428	\$400	\$5,804	\$0	\$0
Emergency Opex Cost	$P(t) \times B$	\$0	\$0	\$0	\$0	\$0
Other Event Cost						
Cost of Unserved Energy	$P(t) \times C$	\$0	\$0	\$0	\$0	\$0
Safety	$P(t) \times D$	\$0	\$0	\$0	\$0	\$0
Regulatory Compliance	$P(t) \times E$	\$0	\$0	\$0	\$0	\$0
Write down values	$P(t) \times F$	\$0	\$0	\$0	\$0	\$0
Increased maintenance	$P(t) \times G$	\$0	\$0	\$0	\$0	\$0