



**Review of Victorian Distribution
Network Service Provider's Advanced
Metering Infrastructure Budget
Applications 2009-11**

**Prepared by ENERGEIA for the
Australian Energy Regulator**

July 2009

1 Executive Summary

The Australian Energy Regulator (AER) engaged Energeia Pty Ltd (Energeia) to undertake a review of Victorian Distribution Network Service Provider's (DNSPs) 2009-2011 budget proposals for Advanced Metering Infrastructure (AMI) against the regulatory criteria specified in the revised Order in Council (OIC).

Review Approach

Energeia's approach to meeting the AER's requirements as described in their Expression of Interest (EOI) was to:

- develop an appropriate approach to apply the regulatory tests,
- review each DNSP's budget proposal, and
- review each DNSP's responses to AER questions.

Based on the results of its initial review of the budget proposals, Energeia would:

- identify areas where the proposals may not meet the tests,
- suggest questions which may help clarify the area of concern, and
- if required, assist the AER in developing an alternative budget proposal.

Applying the Tests

Energeia's assessment of individual DNSP proposals against the relevant regulatory tests in the revised OIC was based on the approach outlined in the AER's Framework and Approach (AFA) paper.¹

All proposed costs were assessed against the scope test, 38% of costs were tested against the competitive tender test, and 62% of costs were assessed for their likelihood of being incurred and whether incurring them would require a substantial departure from a commercial standard by a reasonable business in the circumstances.

Where DNSP proposals did not contain sufficient information to determine whether they complied with all the regulatory tests, Energeia identified and categorised the specific areas of concern for further consideration.

Resolving Issues

Concerns were categorised according to the relevant test and their potential impact on the DNSP's proposal. Additional information and documentation which the AER could request from the DNSP was identified to help resolve each potential issue.

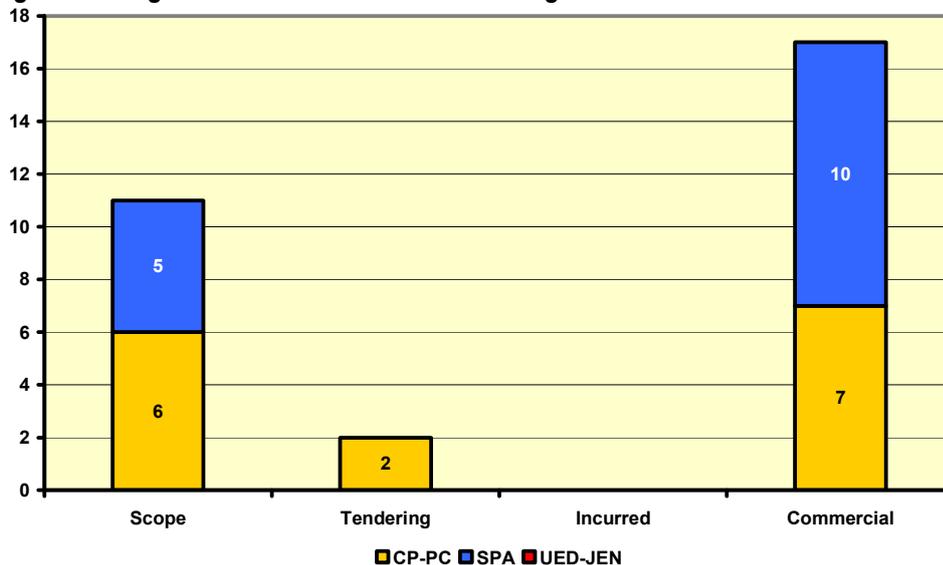
The following key issues were identified across the majority of DNSP proposals:

- Shared IT assets and infrastructure used for in-scope activities
- Requirements beyond the minimum specification for in-scope activities
- Joint tendering and related party contract costs
- Victoria's progressive specifications narrowing the supplier market
- Unclear internal non-contract cost development processes and assumptions

¹ Final Decision – Framework and approach paper Advanced metering infrastructure review 2009-11, AER, January 2009.

Figure 1 displays the number of significant issues identified during the initial review by test. The issue identification and resolution process was repeated following each DNSP response until all significant issues were adequately addressed to Energeia’s satisfaction.

Figure 1 – Significant issues identified during the review



Depth of Review

As it was not possible to review the thousands of pages of documentation each DNSP could provide in support of their proposal, Energeia took the relative significance of DNSP costs into consideration when determining the degree of review required under each test.

Energeia’s analysis of costs highlighted the significance of metering (57%), with IT (17%), communications and program (~12%) and customer costs (3%) representing significantly lower proportions of the total. Contract costs represented less than 30% of almost all cost categories, with metering the only exception at 44%. Within non-contract costs, IT and metering represented the lion’s share at 68% and 23%, respectively. The remaining non-contract costs categories were all 5% or less of the total.

Importantly, this analysis was used to help assess the sufficiency of Energeia’s review and DNSP’s supporting information only. The costs themselves were assessed against the relevant regulatory tests with the individual DNSP’s circumstances taken into account as appropriate.

Review Findings

Energeia reviewed 78 documents totalling approximately 1,500 pages from the DNSP’s in support of their budget applications. Of these, 28 documents totalling approximately 500 pages were submitted with the proposals, and 50 documents totalling approximately 1,000 pages were provided upon request in response to further investigation by Energeia and the AER.

Overall, DNSP AMI programs appeared to be relatively well documented with respect to the revised OIC requirements and good industry practice. Available program documentation included key scope, tendering and commercial decision making processes, governance arrangements, technology and vendor selection justifications, and cost estimating processes.

Based on its review of DNSP supplied information and the requirements of the AFA, Energeia has found the DNSP AMI budget proposals to generally comply with the regulatory tests in the revised OIC.

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2 Disclaimer

While all due care has been taken in the preparation of this report, in reaching its conclusions Energeia has relied upon regulatory guidance from the Australian Energy Regulator and information provided by the Distribution Network Service Providers, including third party consultants. To the extent these reliances have been made, Energeia does not guarantee or warrant the accuracy of this report. Furthermore, neither Energeia nor its Directors or employees will accept liability for any losses related to this report arising from these reliances. While this report may be made available to the public, no third party should use or rely on this report for any purpose.

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3 Background

The Victorian Government announced the rollout of Advanced Metering Infrastructure (AMI) for all customers consuming less than 160Mwh per annum in 2006. The Government subsequently decided that electricity distributors would be given an exclusive mandate to roll out the meters.

The regulatory arrangements relating to the rollout are set out in an August 2007 Order in Council (OIC) made under sections 15A and 46D of the Electricity Industry Act 2000 and an amending order made on 25 November 2008 (The 'revised order').

The revised order sets out the regulator's role and is the primary regulatory instrument which will guide the determination of prices for metering services.

The Australian Energy Regulator (AER) is required, under the revised order, to make a draft determination on the Distribution Network Service Provider's (DNSP's) AMI initial budget 2009-11 and charges applications for 2010-11. The AER has set a date of 31 July 2009 for release of the draft determination. A final determination will be made by 31 October 2009.

The revised order requires the AER to determine if the activities proposed by DNSPs to deliver AMI services over the period 2009-11 are required in order to deliver AMI services set out in each DNSP's AMI scope document. Although there is no efficient costs review of the distributors' budgets, the AER may nevertheless reject a budget application, or part thereof, if it determines that the activities, or part thereof, are not required to deliver AMI services, or that the costs will not be incurred by the DNSP to deliver those services, or that a reasonable commercial business would not commit to such expenditure if placed in the DNSPs' shoes.

A key feature of the regulatory approach is that the AER is required to ensure that DNSPs have undertaken competitive tenders for the AMI services to be delivered.

4 Overview

The AER engaged Energeia Pty Ltd (Energeia) to undertake a review of Victorian DNSPs' 2009-2011 budget proposals for AMI against the regulatory criteria outlined in Section 5.

Energeia's review evaluated DNSP supplied information and documentation against the regulatory criteria, working closely with the AER to resolve any information gaps. Given the voluminous documentation available for review, a risk based approach was used to help guide relative effort across the many test and proposal issues. The review covered 78 documents totalling approximately 1,500 pages and 35 significant issues.

This public report documents the approach and outcomes of Energeia's review of DNSP costs against the specified regulatory criteria.

5 Review Scope

The scope of Energeia’s engagement was to review:

- DNSP budget applications, and
- DNSP responses to the AER information spreadsheet

to assess whether the proposed costs past the following revised Order in Council² (OIC) tests:

- 5C.2 The Commission must approve the Submitted Budget unless the Commission establishes that the expenditure (or part thereof) that makes up the Total Opex and Capex for each year:
- (a) is for activities outside scope at the time of commitment to that expenditure and at the time of the determination; or
 - (b) is not prudent.

The test for scope is provided in *Clause 2 – Definitions* and *Schedule 2*³ of the revised OIC:

- “**scope**’ means the scope of activities:
- (a) set out in Schedule 2; or
 - (b) published pursuant to clause 14B as amended from time to time.’

The tests for prudence are provided in Clause 5:

- 5C.3 For the purposes of clause 5C.2(b), expenditure is prudent and must be approved:
- (a) where that expenditure is a contract cost, unless the Commission establishes that the contract was not let in accordance with a competitive tender process; or
 - (b) where that expenditure:
 - (i) is not a contract cost; or
 - (ii) is a contract cost and the Commission establishes that the contract was not let in accordance with a competitive tender process,
 unless the Commission establishes that:
 - (iii) it is more likely than not that the expenditure will not be incurred; or
 - (iv) the expenditure will be incurred but incurring the expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

- 5C.4 For the purposes of clause 5C.3(b)(iv), the Commission must take into account and give fundamental weight to the matters referred to in clause 5I.8, with all necessary changes being made.

...

² Victoria Government Gazette, No. S 314, Victorian Government Printer, 25 November 2008

³ Schedule 2 is not reprinted here due to its length

- 5I.8 For the purposes of making a determination pursuant to paragraph 5I.7(b), the Commission shall take into account and give fundamental weight to:
- (a) the circumstances of the distributor;
 - (b) if the distributor did not directly incur the expenditure, the circumstances of the person that did incur it; and
 - (c) if the distributor did not directly manage the expenditure, the circumstances of the person that did manage it,
- at the time the commitment was made to incur or manage (as the case may be) the expenditure excess including:
- (d) the information available at that time;
 - (e) the nature of the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems;
 - (f) the nature of the rollout obligation;
- Note: See clause 14 and Schedule 1.
- (g) the state of the technology relevant to the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems;
 - (h) the risks inherent in a project of the type involving the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems;
 - (i) the market conditions relevant to the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems; and
 - (j) any metering regulatory obligation or requirement.

Where costs failed the regulatory tests, Energeia was to assist the AER with the development of a new Submitted Budget as follows:

- 5C.5 The Commission must make a draft determination approving or rejecting the Submitted Budget. If the Commission determines to reject the Submitted Budget:
- (a) the Commission must in its reasons state what new Submitted Budget it would determine to approve; and
 - (b) the distributor must within 20 business days make application to the Commission for approval of an amended Submitted Budget.
- - -
- 5C.8 In making a determination under clause 5C.5(a) or clause 5C.7 (as the case may be), the Commission's discretion is limited to stating the new Submitted Budget or determining an Approved Budget (as the case may be) that removes not more than the expenditure it has established under clause 5C.2 as being:
- (a) for activities outside scope at the time of commitment to that expenditure and at the time of the determination; or
 - (b) not prudent.

In addition, the review examined particular questions raised by the AER, as notified from time to time.

5.1 Out of Scope

- Assessment of the efficiency of DNSP's cost proposals
- Assessment of the performance of DNSP's AMI solutions against the minimum AMI specification

6 Review Approach

Energeia’s approach to satisfying the AER’s requirements as described in their Expression of Interest (EOI) was to:

- develop an appropriate approach to apply the regulatory tests,
- review each DNSP’s budget proposal, and
- review each DNSP’s responses to AER questions.

Based on the results of its initial review of the budget proposals, Energeia would:

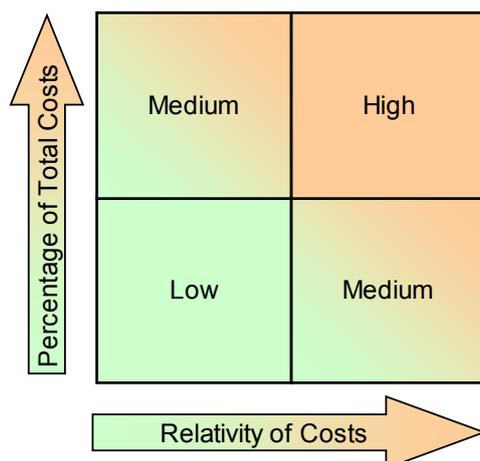
- identify areas where the proposals may not meet the tests,
- suggest questions which may help clarify the area of concern, and
- if required, assist the AER in developing an alternative budget proposal.

The following sections detail Energeia’s approach to reviewing and testing the proposals, including resolving any issues.

6.1 Depth

As it was not possible to review the thousands of pages of documentation each DNSP could provide in support of their proposal, Energeia took the relative significance of DNSP costs into consideration when determining the degree of review required under each test.

Figure 2 – Approach to Review Depth



Under this approach, a relatively more in-depth review is undertaken where costs are relatively greater (see Figure 2). This approach also aligned with Energeia’s expectation of greater DNSP support of costs where they represented a relatively greater share of the total, or were for items specific to the DNSP’s circumstances, and therefore likely to result in relatively higher costs.

Importantly, this approach was only used to guide review effort, and was not the only factor in determining which areas of the proposals would receive relatively greater scrutiny. Another important factor was the relative proportion of costs assessed under each tested. Tests covering a relatively greater proportion of total costs would be assessed in relatively greater depth.

This approach is not inconsistent with the AER’s position as described on page 28 of the AFA report:

The AER recognises that distributors have differences in the scope of activities they will be undertaking, for example due to differences in the starting point of each business with respect to the level of development of IT systems. The AER does not therefore intend to apply a ‘one size fits all’ approach to scope.

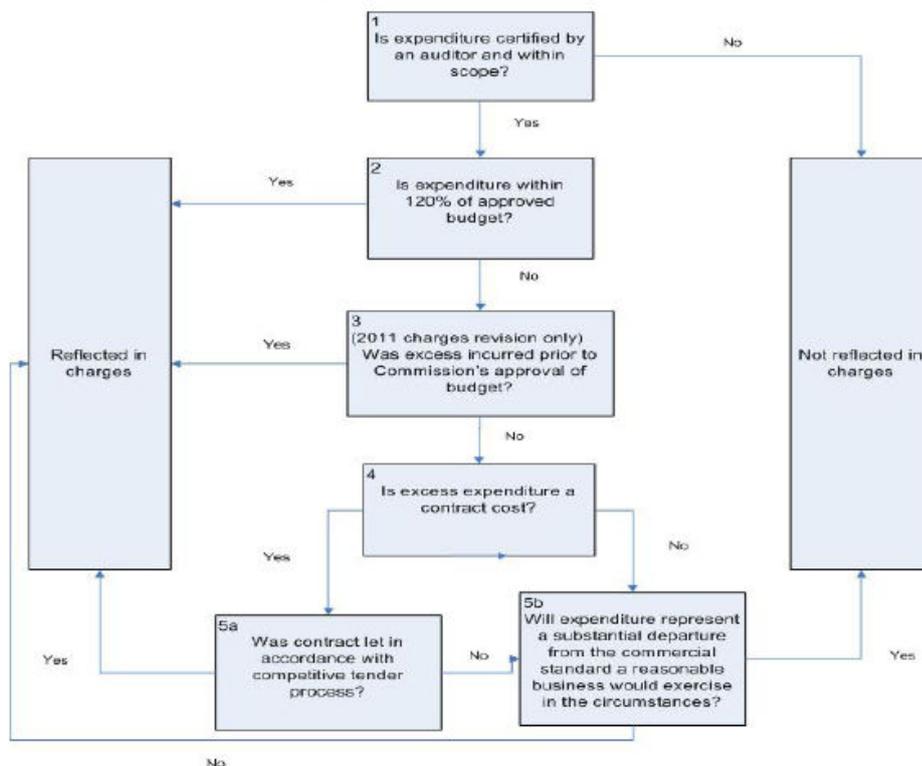
With respect to the comparison of expenditure between businesses, and potentially against other benchmarks as suggested by Origin, the AER does not intend to compare expenditure across businesses, or against benchmarks, broken down by scope line item, as part of the scope test.

Rather, this approach is used to help align review effort with costs and expected supporting information on an overall and cost category basis. The costs themselves were assessed against the relevant regulatory tests with the individual DNSP’s circumstances taken into account as appropriate.

6.2 Tests

Energeia’s based its approach to applying the regulatory tests on the AER’s Framework and Approach⁴ (AFA) and discussions with AER staff during the review. The testing steps and sequence involved are reflected in boxes 1, 4, 5a and 5b of the AER’s process illustration, reproduced in Figure 3.⁵

Figure 3 – Proposal testing process



⁴ Final Decision – Framework and approach paper Advanced metering infrastructure review 2009-11, AER, January 2009

⁵ The review did not include steps 2 and 3 as they are not applicable to the DNSP’s initial budget applications.

Energeia's approach to each test under the revised OIC is provided below.

6.2.1 Scope

The AFA, electricity distribution industry experience and AMI technical expertise were taken into consideration when applying the scoping criteria under Section 2.1 of the revised OIC:

“**scope**” means the scope of activities:
(a) set out in Schedule 2; or
(b) published pursuant to clause 14B
as amended from time to time.’

When reviewing DNSP proposals against these scoping tests, Energeia adopted the following approach per Section 2.5.2 the AFA (not necessarily in sequential order):

In establishing whether expenditure is within scope the AER will be applying the definition of scope in the revised Order. The AER agrees that the test is based on the definition and that Schedule 2 lists activities which are agreed to be inside or outside scope. Activities not on Schedule 2 may be within scope, or not, based on whether they are reasonably required for the provision of regulated services and to comply with a metering regulatory obligation or requirement.

...

It will apply this test by seeking to understand how the expenditure proposed relates to the activities being undertaken, and how these activities relate to the scope, based on the definition and having regard to Schedule 2.

...

In considering the matter of scope it is also necessary to take into account the relevant specifications for providing the services. For performance in excess of the minimum Victorian specifications, distributors will need to provide a separate cost/benefit analysis quantifying benefits to the distributor, retailers and end customers, and demonstrating why regulated tariffs should provide the revenue required.

When considering this last paragraph on the review, Energeia would have regard to Clause 2.1 of the original OIC⁶ (not in sequential order):

“**Functionality Specification**” means the minimum State-wide functionality requirements and performance levels set out in sections 3 and 4, respectively, of the document entitled “Minimum AMI Functionality Specification (Victoria)” approved by the Minister and published on the Department’s website on 18 October 2007, as amended in accordance with clause 6 from time to time.

...

“**Service Levels Specification**” means the services and minimum service levels set out in section 4 of the document entitled “Minimum AMI Service Levels Specification (Victoria)” approved by the Minister and published on the Department’s website on 18 October 2007, as amended in accordance with clause 6 from time to time.

“**Specifications**” means the Functionality Specification and the Service Levels Specification.

...

⁶ Victoria Government Gazette, No. S 286, Victorian Government Printer, 12 November 2007

Subordinate Instrument provision	Title of Document	Matter in document
Clause 2.1, definition of “Functionality Specification”	Minimum AMI Functionality Specification (Victoria)	Sections 3 and 4
Clause 2.1, definition of “Service Levels Specification”	Minimum AMI Service Levels Specification (Victoria)	Section 4

While it is not directly referenced by the OIC, it is worth noting the following statement from Section 2 of the Minimum AMI Functional Specification, and Minimum AMI Service Levels Specifications, respectively:

The requirements in this specification apply to *AMI systems*. These requirements are minimum requirements only and do not limit the implementation of *AMI systems* that have functionality and performance that exceed the requirements of this specification.

The requirements in this specification apply to Distribution Network Service Providers (DNSPs) and retailers, as detailed for each defined service. These requirements are minimum requirements only and do not limit the agreement of service levels that exceed the requirements of this specification.

Costs were therefore assessed to be out of scope only where Energeia was able to relate them to activities agreed to be outside scope as defined in the relevant sections of Schedule 2 or as notified by the Minister under Section 14B.

Where *entire AMI systems* specifications were beyond the minimum specifications, Energeia requested a cost benefit analysis per AFA Section 2.5.2.⁷

Costs already incurred and signed off on by an external auditor per Section 5C.9 of the revised OIC (shown below) are automatically considered in-scope.

5C.9 For the purposes of clauses 5C.2(a) and 5C.8(a), actual expenditure included in an initial AMI budget period budget application or a revised initial AMI budget period budget application is for activities within scope if it is supported by an external auditor’s report, prepared and signed by that auditor, certifying that:

- (a) the expenditure incurred is for activities within scope at the time of commitment to that expenditure or at the time of the report; and
- (b) the expenditure has been incurred in the amount claimed.

⁷ Cost benefit analyses were also requested to demonstrate that a reasonable commercial standard had been met under the prudence tests for non-contract costs.

6.2.2 Contract Costs

The AFA was taken into account when applying the contract costs criteria under Sections 5C.3(a), 5C.3(b)(ii) and 5C.10 of the OIC:

5C.11 In this clause:

‘**Contract cost**’ means expenditure incurred pursuant to a contract entered into:

- (a) prior to the day on which a distributor made its initial AMI budget period budget application or subsequent AMI budget period budget application (as the case may be); or
- (b) if a revised initial AMI budget period budget application has been made by the distributor pursuant to clause 5B.3, prior to the day on which that application was made,

but does not include expenditure incurred pursuant to a variation of that contract where that variation is entered into or takes effect after that day.

Note: The competitive tender process need not be conducted by the distributor, nor need the contract be one that the distributor has entered into.

6.2.3 Competitive Tender

The AFA, industry procurement experience and technical expertise were taken into account when applying the competitive tender process criteria under Sections 5C.3(a), 5C.3(b)(ii) and 5C.10 of the OIC:

5C.3 For the purposes of clause 5C.2(b), expenditure is prudent and must be approved:

- (a) where that expenditure is a contract cost, unless the Commission establishes that the contract was not let in accordance with a competitive tender process; or
- (b) where that expenditure:
 - (i) is not a contract cost; or
 - (ii) is a contract cost and the Commission establishes that the contract was not let in accordance with a competitive tender process,
 unless the Commission establishes that:
 - (iii) it is more likely than not that the expenditure will not be incurred; or
 - (iv) the expenditure will be incurred but incurring the expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

...

5C.10 In making a determination in which the Commission establishes that a contract was not let in accordance with a competitive tender process, the Commission must have regard to:

- (a) the tender process for that contract;
- (b) whether there has been compliance with that process; and
- (c) where the Commission establishes that the request for tender unreasonably imposed conditions or requirements that prevented or discouraged the submission of any tender that was consistent with the selection criteria, that fact.

Energeia considered DNSP tendering strategies, processes, specifications, selection criteria and outcomes per Section 2.5.4 of the AFA when assessing whether contract costs were competitively tendered.⁸

⁸ Section 2.5.4 of the AFA is not reprinted here due to its length.

6.2.4 Costs Likely to be Incurred

AFA Section 2.5.5, electricity distribution industry experience and budget development expertise were taken into account when assessing whether it was more likely than not that non-contract expenditure would not be incurred under Section 5C.3(b)(iii) of the revised OIC.

Energeia's approach to applying this test is based on Section 2.5.5 of the AFA, which focused on identifying contingency costs which are unlikely to occur:

- where expenditure on a specific cost item is not likely to be incurred to any extent. For example, this might include a contingency amount which the regulator considers is not likely to eventuate

In addition, Energeia sought to apply this test by identifying inaccurate and unreliable cost estimating practices. Estimating processes, governance and assumptions were therefore also taken into consideration when applying this test, particularly where estimates were developed internally without a historical cost basis and little or no previous experience with the activity or technology.

6.2.5 Substantial Departure from a Commercial Standard

AFA Section 2.5.6, electricity distribution industry experience and commercial expertise were taken into account when assessing whether incurring a non-contract cost would involve a substantial departure from a commercial standard by a reasonable business in the circumstances under Section 51.8 of the revised OIC.

Energeia's approach to applying this test was to first determine the relevant circumstances through a review of DNSP documentation to identify the decision timeline with respect to each of the key circumstantial criteria listed in revised OIC Sections 51.8 subsection (d) through (j).

In considering the commercial standard required under this test, Energeia sought to relate the level of due diligence and governance supporting non-contract costs to the level of costs and risks involved. Relatively more due diligence and governance would be expected of a reasonable business for relatively greater costs or relatively higher risks.

6.3 Issues

DNSP proposals did not always contain sufficient information to determine whether they complied with all the regulatory tests. Energeia's approach in this circumstance was to identify specific areas of concern for further consideration by the AER.

Concerns were categorised according to the relevant test and their potential impact on the DNSP's proposal. Additional information and documentation which the AER could request from the DNSP was identified to help resolve each potential issue.

The issue identification and resolution process was repeated following each DNSP response until all significant issues were adequately addressed to Energeia's satisfaction.

7 Review Outcomes

7.1 Depth

Energeia reviewed a total of 78 documents provided by the DNSP's to the AER in support of their budget applications. Of these, 28 were submitted with the proposals themselves, and 50 were provided upon request in response to subsequent AER questions. The outcomes of the quantitative analysis undertaken to help guide the relative depth of the review is provided as Appendix 1.

DNSP AMI programs appeared to be relatively well documented with respect to the revised OIC requirements and good industry practice. Program documentation included key scope, tendering and commercial decision making processes; governance arrangements; technology and vendor selection justifications; and cost estimating processes.

Overall, Energeia reviewed and analysed approximately 1,500 pages in order to reach a reasonable degree of understanding regarding the DNSP's proposals within the context of the revised OIC and AER requirements.

7.2 Tests

The following sections summarise Energeia's assessment of DNSP proposed budget costs against each regulatory test. Public versions of the interim reports provided to the AER during the course of the individual DNSP budget proposal assessments are attached as Appendices 2 through 4.

7.2.1 Scope

All DNSP costs were assessed against the scoping criteria set forth in the revised OIC.

Documentation reviewed by Energeia to assess whether costs were related to out of scope activities included budget proposals, business requirements, functional specifications, technical specifications, tendering documentation and contract documentation.

All DNSPs related costs to in-scope activities in their proposals, albeit to varying degrees. The United Energy Distribution (UED) and Jemena Electricity Network (JEN) proposals were substantiated by a report from their shared service provider, Alinta Asset Management (AMA), which related costs to in-scope activities. The Citipower-Powercor (CP-PC) submissions were structured to related costs to in-scope activities. SP AusNet's submission provided a mapping table relating sections of their proposal to in-scope activities.

All DNSPs provided documentation of the governance process followed to manage scope variations.

Energeia initially identified 11 significant scoping issues with proposed DNSP costs. Key scope assessment issues included:

- **Shared assets or systems** – Schedule 2 of revised OIC identifies a very limited number of out of scope activities, including the provision, operation and maintenance of distribution IT systems, distribution assets, or for extending AMI for network control or operational purposes.

The Victorian Advanced Interval Metering Roll-Out (AIMRO) requirements will dramatically increase the data processing, interfacing and storage loads on enterprise IT infrastructure. Managing this impact will require major enhancements to existing, shared IT systems, and often a complete architectural overhaul. An example of a shared IT platform is mobile computing, which may need to be enhanced to support a highly reliable, two-way communications network to customer premises.

While some or all of these systems and capabilities may be shared with distribution or unregulated activities now or in the future, DNSPs do not appear to have included additional costs in their proposals for capabilities beyond those normally found in modern IT infrastructure or to extend support for out of scope activities.

- **Better than minimum specifications** – Neither the minimum functional specification nor the minimum service level preclude DNSPs including costs for additional AMI functionality or higher service levels as long as they are not for out of scope activities.⁹

Although relatively limited, there were a number of examples of DNSPs specifying solution component or sub-component performance levels which appeared to be in excess of minimum specifications:

- Two element metering arrangements to support network tariffs,
- 100% disaster recovery redundancy to support 99% service availability specifications,
- Near real time IT processing requirements to meet performance specifications,
- Additional IT systems to support multiple vendors to manage risk,
- 100% of meters read within 25 minutes to meet performance specifications,
- 100% of connect / disconnects performed within 10 minutes to meet performance specifications,
- 100% of load control performed within 1 minute to meet performance specifications,
- Scalable communication technology to support future AMI functionality and transaction growth,
- 100% of supply limiting performed within 1 minute to meet performance specifications, and
- NMS availability of 99.9% to meet performance specifications.

Further review of each of these examples was undertaken to clarify whether any of these specifications were to support out of scope activities. In most cases, these specifications were specifically recommended and justified by independent technical experts.

Following reasonable confirmation that these requirements:

- were not to support out of scope activities,
- were not primary or significant selection criteria for any major cost category,
- may effectively address under-performance in other AMI system components (eg IT),
- could lower the costs of other AMI system components (eg IT), and
- were developed and approved in the course of an appropriately governed and robust due diligence process,

Energeia assessed these requirements as not being for out of scope activities.

Following the provision and review of additional information and documentation from the DNSPs, all significant issues were satisfactorily resolved.

Based on its review of DNSP provided documentation and supporting information, Energeia assessed proposed costs as being for in-scope activities.

⁹ There is no efficiency test of AIMRO costs as such, but a reasonable commercial standard must have been met by the DNSPs for non-contract costs (see further below).

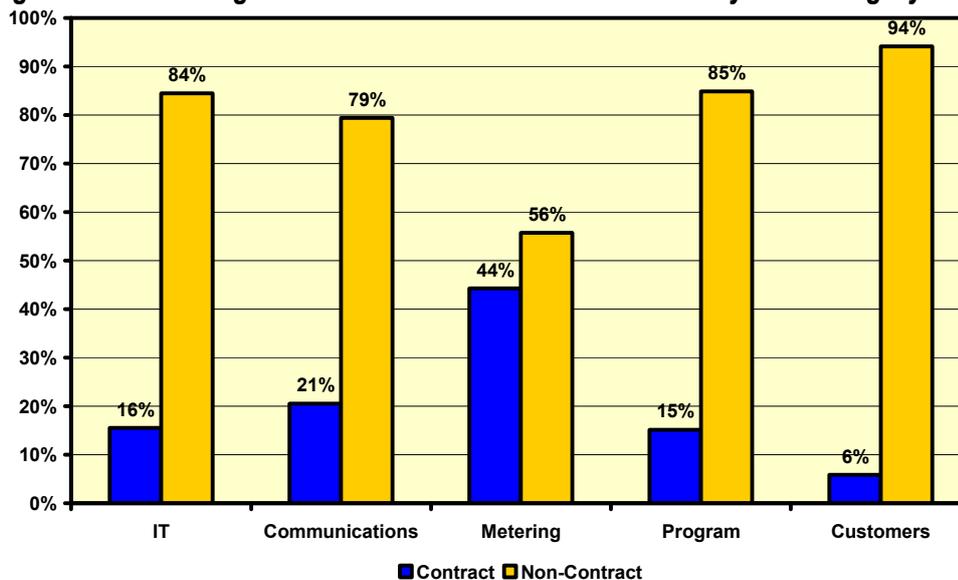
7.2.2 Prudence

All DNSP proposed costs were assessed against the prudence criteria set forth in the revised OIC.

The applicable regulatory tests for prudence vary according to whether expenditure was for contract or non-contract costs. In total, contract costs accounted for 38% of submitted costs, or approximately \$371 million, while non-contract costs accounted for 68% of submitted costs, or approximately \$786 million.¹⁰

The breakdown in budget costs by contract or non-contract status is shown in Figure 4 below.¹¹ The higher than average percentage of metering contract costs is most likely due to the long-lead times involved.

Figure 4 – Percentage of contract and non-contract costs by cost category



The level of DNSP contract costs as a percentage of total costs varied from a low of 6% to a high of 50%. Variation among DNSPs appeared to be driven by the level of outsourcing, the stage of the AMI tendering program and the sourcing strategy employed.

The majority of submitted costs were covered or were expected to be covered by a contract prior to the budget re-submission deadline. However, DNSP costs were assessed according to their status as defined by Section 5C.11 of the revised OIC.

7.2.3 Contract Costs

Energeia's assessment of contract costs against the regulatory tests for competitive tendering is provided below.

7.2.3.1 Competitive Tendering

38% of proposed costs, amounting to \$371 million over three years were assessed under this test. As these costs were skewed towards metering related costs, Energeia examined these costs in relatively greater depth.

¹⁰ All reported DNSP costs are taken from DNSP AER Information Templates.

¹¹ Metering costs include the MDM, communication costs include the NMS, program costs include everything not otherwise accounted for in customer, IT and communication cost categories.

Documentation reviewed by Energeia to assess accordance with a competitive tender process included procurement policies and tendering documentation, eg market assessments, technical specifications, assessment criteria, supplier submissions, assessment outcomes, procurement approvals and final contract language.

Two out of the five DNSPs referenced procurement program probity auditor reports within their proposals. Overall, the DNSPs were able to provide a high level of procurement documentation, covering tendering specifications, process, governance, selection criteria, and outcomes.

Energeia initially identified 2 significant tendering issues with proposed DNSP contract costs. Key tendering assessment issues included:

- **Related party and jointly tendered contract costs.** Four of the DNSPs awarded contracts to related parties. Four out of the five AMI program management contracts have been jointly managed by a related party of at least one of the distribution businesses. Related party costs were for program management and field installation services.

Additional information and documentation was requested to assess whether related party contract related costs were competitive. DNSPs have in each case provided independent expert reports attesting to the competitiveness of the costs agreed to in related party contracts.

- **Impact of progressive Victorian requirements.** The Victorian minimum functional, performance and service level specifications include some functionality and performance levels which are unique to Victoria. Not all international metering vendors may be willing to invest in adapting their metering products to the relatively small Victorian market.

Energeia examined metering tendering documentation for potentially uncompetitive functional or technical requirements. Tendering outcomes were considered in light of the impact of Victorian specifications on the market for metering supply services.

Following the provision and review of additional information and documentation from the DNSPs, all significant issues rated high or medium were satisfactorily resolved.

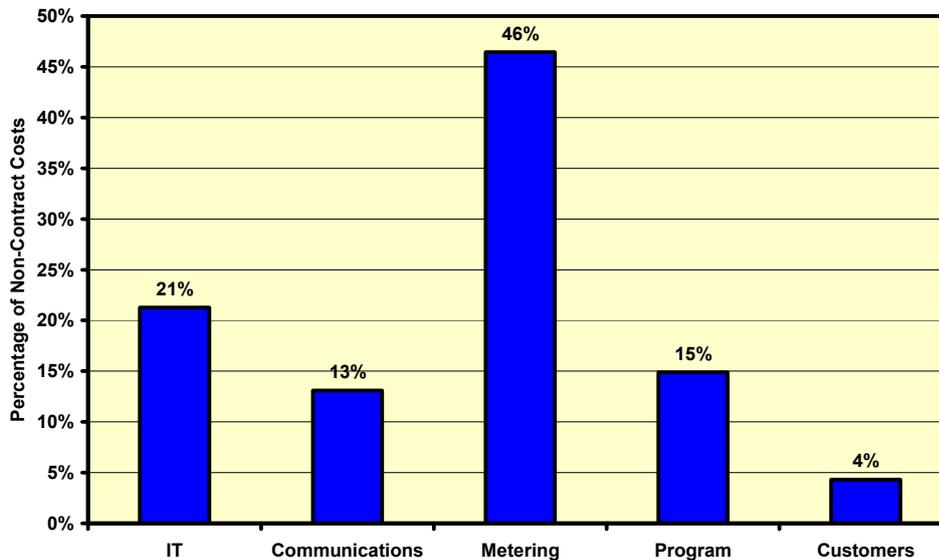
Based on its review of DNSP provided documentation and supporting information, Energeia assessed proposed contracts costs as being competitively tendered, except where indicated.

7.2.4 Non-Contract Costs

The percentage of total non-contract costs broken out by cost category is shown in Figure 5 below.¹² Although the metering costs are higher than other cost categories, the communication solution was a significant metering cost and decision driver. Energeia therefore focused relatively more effort reviewing communications and metering costs.

¹² Metering costs include the MDM, communication costs include the NMS, program costs include everything not otherwise accounted for in customer, IT and communication cost categories.

Figure 5 – Share of non-contract costs by cost category



Energeia’s assessment of \$786 million in non-contract costs against the two regulatory tests for non-contract costs is provided below.

7.2.5 Incurring Costs

All non-contract costs were assessed against the regulatory criteria for determining whether they were more likely than not to be incurred. The review also sought to identify inaccurate or unreliable cost estimation processes.

Documentation reviewed by Energeia to assess the likelihood of costs being incurred included technical, commercial and tendering documentation.

The AFA identified the potential for contingency costs to be excluded given the 20% cost contingency mechanism included under revised OIC. Four out of the five distribution businesses explicitly stated that contingencies had not been included in their proposals. A few minor examples of contingencies were identified but not investigated further given the relatively minor values involved.

Most non-contract costs were estimated using tendering outcomes that had not yet achieved a signed contract. Furthermore, most DNSPs expressed an intention to resubmit budget costs as allowed under the revised OIC. Overall, this provided Energeia with a relatively high level of confidence in the likelihood of these costs being incurred.

Energeia did not identify any significant issues with DNSP proposed non-contract costs regarding their likelihood of being incurred. Key non-contract cost assessment issues included:

- **Unclear cost estimation process** – There was not always a clear mapping of internally versus externally provided non-contract cost estimates.

The processes used to generate internal non-contract costs were not always defined, equity raising costs being a notable exception. However, it is understood that most of the internally generated costs were based upon actual historical costs, and were therefore assessed as being reasonably reliable.

- **Inconsistent cost assumptions** – A number of assumptions regarding some relatively minor non-contract costs varied between DNSPs. This resulted in some DNSPs including the following costs while other DNSPs excluded them, but explicitly referenced the assumption in their proposal:

- Customer engagement costs, which may depend on the level of government communication
- Customer pricing trials, which may depend on government coordination

These costs were identified to the AER for further discussion with the Victorian government.

Based on its review of DNSP provided documentation and supporting information, Energeia assessed non-contract costs as being more likely than not to be incurred.

7.2.6 Commercial Standard

All non-contract costs were assessed against the regulatory criteria for determining whether incurring them would involve a substantial departure from a commercial standard by a reasonable business in the circumstances. This test is a key restraint on DNSP's increasing costs beyond reasonable levels for in-scope activities in the absence of a competitive tender process.

Assessing whether a reasonable commercial standard had been substantially departed from required Energeia to review the specific circumstances of the proposed costs, including contemporary documentation supporting the proposed expenditure, and the approval documentation itself.

Energeia initially identified 17 significant issues with proposed DNSP non-contract costs meeting a reasonable commercial standard. The majority of these related to DNSP requirements beyond those in Victoria's minimum functional, performance and service level specifications (see Section 2.1).

While non-contract costs represented the majority of costs in all DNSP proposals, they were generally subject to the due diligence and governance of significant procurement programs. Therefore, a reasonable commercial standard was able to be demonstrated for all major technology, sourcing and vendor decisions through extensive technical, governance and commercial documentation.¹³

Following reasonable confirmation that these requirements:

- were not primary or significant selection criteria for any major cost category,
- may effectively address under-performance in other AMI system components (eg IT),
- could lower the costs of other AMI system components (eg IT),
- were developed and approved in the course of an appropriately governed due diligence process,

Energeia assessed these requirements as not necessarily resulting in significantly higher costs overall, and that if they did, that incurring them would not represent a substantial departure from a reasonable commercial standard in the circumstances.

Following the provision and review of additional information and documentation from the DNSPs, all significant issues were satisfactorily resolved.

Based on its review of DNSP provided documentation and supporting information, Energeia assessed that incurring proposed non-contract costs would not present a substantial departure from a commercial standard by a reasonable business in the circumstances.

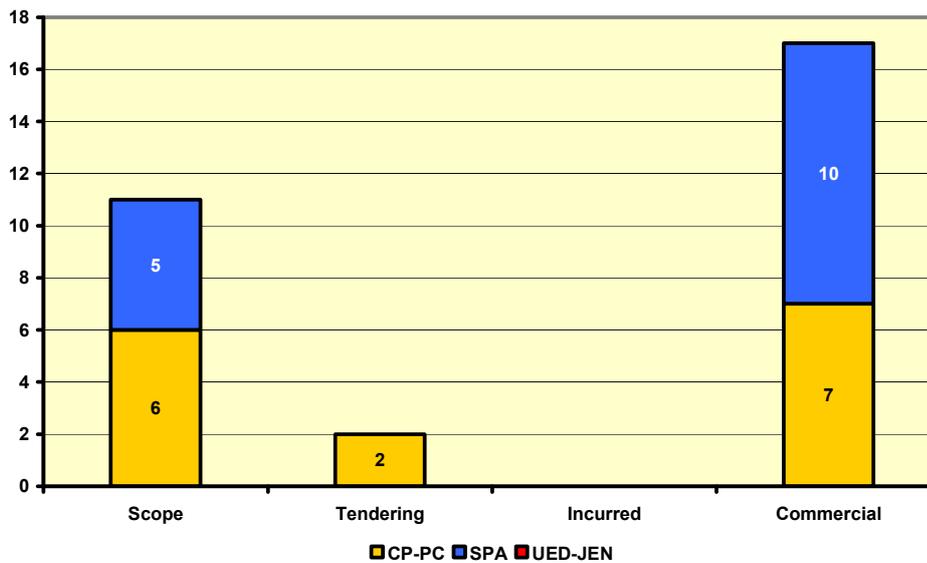
¹³ The specific criteria were outlined in Section 7.2.1

7.3 Issues

During the course of reviewing, analysing and evaluating DNSP proposals, Energeia identified over 30 significant issues. The number of significant issues identified for each DNSP’s proposal ranged from a low or 0 to a high of 15.

Figure 6 gives the breakdown of significant issues identified during Energeia’s initial review of DNSP budget proposals. The relatively high proportion of non-contract costs and the challenge of the reasonable commercial standard assessment drove the relatively high number of issues in this category.

Figure 6 – Significant issues identified during review by DNSP



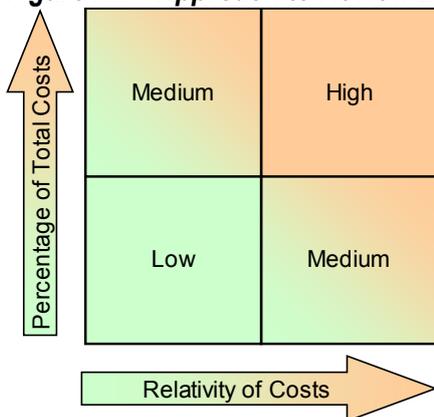
Documents requested to resolve issues identified during the initial review were provided in a timely fashion by the DNSPs. All types of requested documentation, including technical reports, consultant reports, tendering documentation, steering committee minutes and Board meeting minutes were provided upon request.

Energeia reviewed over 50 additional documents totalling approximately 1,000 pages during its investigation of significant issues.

Appendix 1 – Cost Category Analysis

As stated in Section 4.1, it would not be reasonable to review the thousands of pages of documentation each DNSP could provide in support of their proposal, Energeia therefore took the significance of DNSP costs into consideration when determining the degree of review required.

Figure A1 – Approach to Review Depth



Under this approach, a relatively more in-depth review is undertaken where costs are relatively greater (see Figure 1A). This approach also aligned with Energeia’s expectation of greater DNSP support of costs where they represented a relatively greater share of the total, or were for items specific to the DNSP’s circumstances, and therefore likely to result in relatively higher costs.

Importantly, this approach is only used to guide review effort, and is not the only factor in determining which areas of the proposals would receive relatively greater scrutiny. Another important factor is the relative proportion of costs assessed under each tested. Tests covering a relatively greater proportion of total costs would be assessed in relatively greater depth.

The results of Energeia’s analysis of cost relativities are shown below.

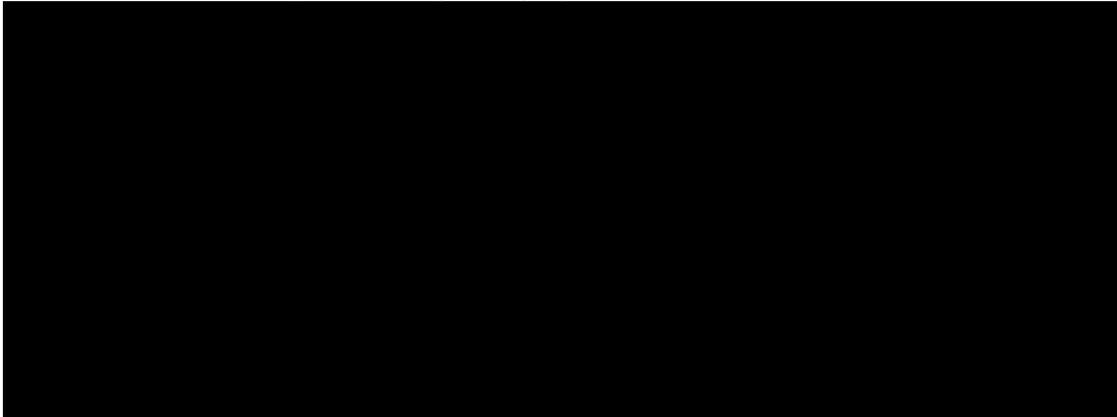
Cost Categorisation

Energeia first grouped costs provided in the AER templates into primary, secondary and tertiary categories, as shown in Table A1.¹⁴ Costs for JEN and UED had to be re-structured to include in this analysis due to their non-standard layout.¹⁵

¹⁴ All reported DNSP costs are taken from DNSP AER Information Templates.

¹⁵ Energeia was unable to reconcile the UED-JEN information templates with their proposal, but the variation was minor and therefore deemed to be immaterial.

Table A1 – Total Costs per DNSP by Category



The primary and secondary categories were chosen for their alignment with the DNSP cost proposals and supporting documentation. As DNSPs had generally broken their programs and proposals into program, communications, IT, metering and customer work streams, these were used as the primary categories. Tertiary categories were taken directly from the template line item description.

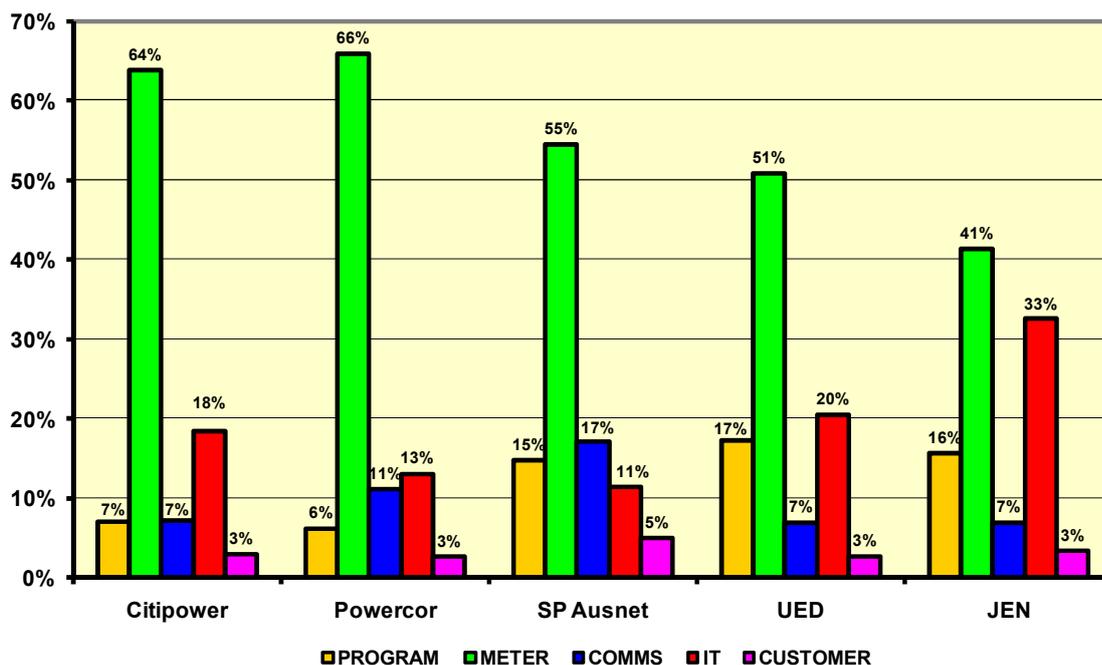
All related hardware, software, equipment or service costs were aggregated across the relevant secondary category. For example, metering installation costs were included in the metering category, and network installation costs were included in the communications category. All remaining miscellaneous costs, such as management, change management and industry participation were attributed to the program category.

These categorisations were developed to help guide the review, and are not intended to be definitive or used for other purposes.

Costs as a Percentage of the DNSP’s Total

The primary cost categories were then analysed for each DNSP to determine their share of the total proposal. The results of this analysis are shown in Figure A2 below.

Figure A2 – Costs as a Percentage of the Total by DNSP



Metering costs were the highest and customer costs the lowest cost category for all DNSPs. IT costs were the second highest for UED, JEN, Powercor and Citipower, and the second lowest for SP AusNet. Program related costs were the second lowest for Citipower and Powercor, and the third lowest for the other DNSPs.

Cost Normalisation by Customer

As a guide to the appropriate level of review within sub-categories, Energeia analysed secondary cost categories across the industry. The costs were normalised by DNSP customer numbers to represent the relative expenditure per customer by each DNSP. Alternative normalisation approaches were considered, such as the number of meters, but these were rejected in favour of the customer based approach.

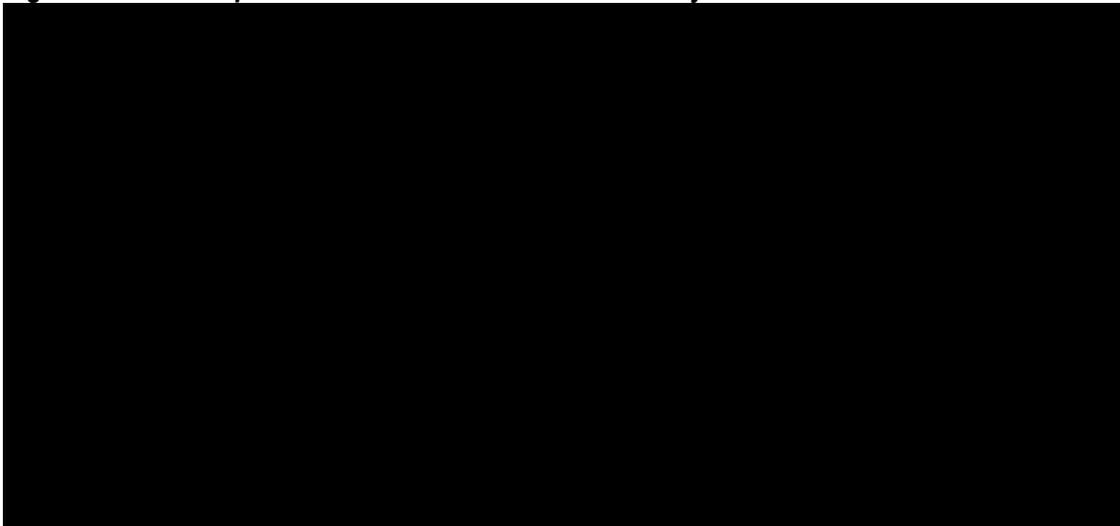
It is important to note the impact of customer normalisation on DNSPs with relatively fewer customers. These DNSPs have fewer customers to apportion fixed costs, which can be relatively higher for program and IT categories than metering, customer and communications. JEN and Citipower have approximately less than half the number of customers of UED and SP AusNet, and roughly less than one third of the customers of Powercor. That being said, some JEN and Citipower costs were shared with JEN and Powercor, respectively.

Costs Relative to the Industry

The secondary cost categories were then analysed to identify where normalised expenditure was high relative to the industry. The results of this analysis are shown in Figure A3 below. Yellow is used to indicate where normalised costs were considered to be significantly higher than the industry.

Energeia notes the potential impact of the relatively short three year cost comparison on costs comprised of relatively high CAPEX and relatively low OPEX. The impact of a lower operating cost structure would tend to reduce relative costs over time. This issue was highlighted for communications solutions in the proposals.

Figure A3 – Costs per Customer Relative to the Industry



Using these relativities as a guide, Energeia sought to reconcile significantly higher normalised expenditure with the DNSP's proposal. Additional information was requested where Energeia was unable to explain the relatively higher costs per customer for a given secondary cost category.

Again, this analysis was used to help assess the sufficiency of Energeia's review and DNSP's supporting information only. The costs themselves were assessed against the relevant regulatory tests with the individual DNSP's circumstances taken into account as appropriate.

Appendix 2 – Citipower and Powercor

Review Outcomes

Citipower and Powercor (CP-PC) were reviewed together as they share a common owner, a common IT back-office and a common AMI deployment approach. They have submitted two, virtually identical reports. Significant variations are commented upon where relevant.

All key processes are documented and formally controlled. Most key process outcomes have been reviewed by independent expert reports or audits:

Key Process	Documented	Governance	Assessed
Scope management	Yes	Formal	No
Solution selection	Yes	Formal	Expert
Competitive tendering	Yes	Formal	Auditor
Non-contract cost estimating	Yes	Formal	No
Commercial decision making	Yes	Formal	No

Overall, the CP-PC proposal and supporting appendices are of a high quality and appear to be the result of a comprehensive and thorough due diligence program:

- The tendering process followed is well documented and supported by an independent auditor's report.
- The approach used to determine the communications and IT solutions is supported by detailed reports from independent technical experts.
- A significant risk, security, is addressed in an independent technical expert's report.

Tests

The following key issues were observed during the initial review of the CP-PC Proposal against the regulatory tests.

Scope

While there does not appear to be a material risk of significant out of scope costs included in this proposal, there were examples of better than minimum specifications, such as 1 minute interval data, near-real time IT processing capabilities and fully redundant disaster recovery arrangements. The replacement of a distribution asset analysis application appears to be out of scope.

Further information is requested to help resolve these potential scope issues.

Competitive Tendering

The tendering documentation, approach and audit appear to meet the requirements of the revised OIC. The related party contracts between CP-PC and CHED Services and between CHED Services and Powercor Network Services do not appear to meet the competitive tendering tests under the revised OIC.

Further information is requested to assess whether these costs are prudent, and if not, what the appropriate adjustment might be under Section 5C.8 of the revised OIC.

Incurring Costs

The majority of non-contract costs in the CP-PC proposal were derived from tendering outcomes. Where tenders were incomplete, costs were generally based on the average of the short listed vendors.

While Energeia notes the potential for significant variation in tender responses, CP-PC's non-contract costs were nonetheless assessed as being more likely than not to be incurred as the lowest cost tender is not necessarily more successful in these circumstances.¹⁶

Commercial Standard

The comprehensive and high quality documentation supporting the budget proposal provides comfort that incurring the proposed non-contract costs would not represent a substantial deviation from a commercial standard by a reasonable business in the circumstance.

Further supporting documentation is requested for metering, communications and IT costs associated with specifications potentially in excess of the minimum specification.

Issues

The key issues identified during the initial review of the CP-PC proposal were:

- **Use of joint tendering and related party contracts** – The related party decision is supported by Board sign-off and an audit against specified Board requirements by an independent consultant. There did not appear to be support for the joint tendering approach as required by the AFA, nor was there confirmation that the Board requirements were consistent with those of the AFA.
- **Unclear commercial process for non-contract costs** – The cost development process appears to largely rely on tendering process outcomes. There is insufficient support of key procurement decisions such as outsourcing versus insourcing, or the decision to require a multi-vendor NMS.
- **Better than minimum specifications** – There are a number of examples where reported performance (eg complete network meter read in 1 hour) and business requirements (eg one minute interval data, two element metering) appear in excess of the minimum specification. It is therefore not clear that costs are only for in-scope or commercially justified capabilities.

The following reference documents are believed to be the most important to review given their expected role in addressing the key issues identified above:

- Documentation supporting Board approval of the related party contracts. In particular, whether a review against the AER requirements was undertaken.
- Documentation supporting the joint tendering approach.
- CHED Services RFP Part B: Scope of Works – Technology and Network Design. This documentation may help address concerns of over-specified performance, eg 1 minute interval data collection.
- Independent technical expert's IT architecture report supporting the near-real time operational requirement, and the 100% disaster recovery capacity requirement.
- Justification for the distribution asset analysis application on page 42 of the proposal, which appears to be for an out of scope, distribution based activity.

Additional Investigation

Following consultation with the AER, CP-PC were requested to address the following significant issues:

- Near-real time IT platform solution may not meet the scope or reasonable commercial standard tests.

¹⁶ Value for money is normally a more important factor for these types of procurements.

- Fully redundant Disaster Recovery solution may not meet the scope or reasonable commercial standard tests.
- Related party contracts do not meet the competitive tender test and may not meet the reasonable commercial standard test.
- Metering and communications costs may not meet the scope or reasonable commercial standard tests.
- Use of two element AMI metering may not meet the commercial standard test.
- Installation of a distribution asset monitoring application may not meet the scope test or reasonable commercial standard test.

In response, CP-PC provided additional documentation and information. Energeia's summary of the additional information, and its impact on the assessment of the issue is reported below.

Near-real Time IT Platform

The requirement for a near-real time IT platform is driven by the AMI minimum functional specification of performance levels for up to 2% of the operational metering population for six transaction classes (ie special reads, load control, read settings, alter settings, read logs, connect-disconnect) combined with the 99% minimum availability service level specification.

The analysis was undertaken by an independent technical expert, and assumed that there would be twelve events per year, each subject to 1/12th of the total annual downtime limit.¹⁷ The requirement for a near-real time solution appears to have originally been driven by the need for the IT solution to cater for up to 12% of transactions per day under the disaster response scenario while continuing to meet all minimum performance specifications.

This analysis was revisited following the de-scoping of minimum service levels to 2 transactions (remote reading, connect-disconnect) during the rollout period. While there was a relaxation in some of the technical specifications, the requirement for a near-real time IT solution was retained.

Although it may be unlikely that transactions totalling 12% of the operational metering population will ever be sent on any given day, or that it will correlate with an AMI IT platform outage, the use of these assumptions is based on the AMI minimum functionality specification, developed by an independent technical expert and accepted by CHED Services. The costs are therefore found to have met a reasonable commercial standard under the circumstances.

Fully Redundant Disaster Recovery

The requirement for a 100% redundant Disaster Recovery solution is based on the 99% availability requirement in the AMI minimum specification. The analysis was undertaken by an independent technical expert, and assumed that there would be twelve events per year, each subject to 1/12th of the total annual downtime limit. Recovering from this scenario required full redundancy.

Although it may be unlikely that there will be one major AMI IT outage per month, this scenario was developed by an independent technical expert, accepted by CHED Services are therefore found to have met a reasonable commercial standard.

Related party management and service fees

The CP-PC proposal includes costs for general management and project management by their common solution provider, CHED Services, and a field installation margin for Powercor's unregulated business,

¹⁷ The minimum service levels specification states that hardware and software availability is to be measured over a calendar year.

Powercor Network Services. Energeia's review of these costs followed the AER's approach outlined in Section 2.5.4 of the AFA document.

While the CHED Services and Powercor Network Services related costs met the test for being contract costs, they did not meet the test for competitive tendering under Sections 5C.3(a) and 5C.10, and may therefore be determined by the AER to not be prudent under Section 5C.2(b) and subject to adjustment by the AER under Section 5C.2 of the revised OIC:

- 5C.8 In making a determination under clause 5C.5(a) or clause 5C.7 (as the case may be), the Commission's discretion is limited to stating the new Submitted Budget or determining an Approved Budget (as the case may be) that removes not more than the expenditure it has established under clause 5C.2 as being:
- (a) for activities outside scope at the time of commitment to that expenditure and at the time of the determination; or
 - (b) not prudent.

The CHED Services AMI services agreement was assessed by an independent consultant against the Board's requirements, which included competitive contract terms and pricing. The independent consultant found the contract included commercial terms and referenced an earlier report by a different independent consultant for the commerciality of the management fees.

Replacing the related contract fees and margins with alternatively sourced cost estimates would most likely rely on a similar methodology and reach a similar result. Therefore, Energeia did not recommend changes to the estimated costs for related party fees or margins.

Metering and Communications Specifications

CP-PC provided documentation from their Technology RFP and Field Installation RFI. The Technology RFP contained the following the specifications in excess of the minimum specification:

- Single phase, two element metering.
- Interval metering programmability from 30 to 1 minute intervals.
- NMS solution availability 99.9% on a 24/7 basis.

The first item is dealt with elsewhere in this report.

The second item could result in significantly greater costs to the communications and IT solution as it would represent up to a thirty fold increase in data traffic, processing and storage. The independent technical report provided as an appendix to the CP-PC proposal noted that the preferred communications solutions were unlikely to meet this requirement. It was not clear which in-scope activity required 1 minute interval data.

While it is possible that additional network costs were incurred to support this capability through specification of additional high gain antennas and Wide Area Network (WAN) interface points to increase last mile communications throughput, the risk is believed to be low given the limited unlicensed spectrum bandwidth available to meet the minimum specification.

The third item, while above the minimum specification, is not likely to result in significant additional costs as it is understood to be less onerous than of the telecommunications industry, which is the main market for these systems.

Distribution Asset Application

The Distribution Asset Application is being replaced due to the change in metering systems required to support the AIMRO. The original application was bundled with the old metering application. The costs were therefore required to maintain an existing functionality which was no longer supported by shared IT systems.

These costs were therefore related, albeit indirectly, to the provision of IT systems, an in-scope activity.

Use of Two Element Metering

CP-PC provided their hot-water load control strategy to support two element metering costs as being in scope and to a reasonable commercial standard. The strategy demonstrated the Networks benefits of controlling hot-water, but did not contain analysis demonstrating the commerciality of a two element metering solution relative to other AMI based alternatives.

Energeia assessed the two element metering as being for in-scope activities given its role in supporting network tariffs. Energeia could not adequately assess whether a commercial standard had been met due to the lack of supplied commercial analysis of metering alternatives, but the risk was deemed to be low based on the author's experience with tariff migration costs and complexities during interval meter rollouts.

Appendix 3 – United Energy Distribution and Jemena Electricity Networks

Review Outcomes

United Energy Distribution (UED) and Jemena Electricity Networks (JEN) were reviewed together as they shared a common service provider and a common AMI deployment solution. They have submitted two reports, but they are virtually identical. Significant variations are commented upon where relevant.

All key processes are documented and formally controlled. Most key process outcomes were reviewed by independent expert reports or audits:

Key Process	Documented	Governance	Assessed
Scope management	Yes	Formal	Expert
Solution selection	Yes	Formal	Expert
Competitive tendering	Yes	Formal	Auditor
Non-contract cost estimating	Yes	Formal	No
Commercial decision making	Yes	Formal	No

Overall, the UED-JEN proposal and supporting appendices are of a high quality and appear to be the result of a comprehensive and thorough due diligence program.

- Potential issues with joint tendering and non-competitively tendered program management services are satisfactorily addressed and estimated joint solution synergies are provided in the proposal.
- Non-contract costs are supported by robust tendering process outputs.
- Key cost assumptions are documented, including tariff re-assignment and government-led customer education.

Tests

The following key issues were observed during the initial review of the UED-JEN Proposal against the regulatory tests.

Scope

Overall, there does not appear to be a material risk of significant out of scope costs included in this proposal. Although very little technical detail was provided with the proposal, it did reference an independent review by a technical expert that found the “AMI and IT technology solutions chosen were appropriate for the initial and future requirements of the Victorian mandate.”

No further information has been requested.

Competitive Tendering

The program management fees associated with the related party contract with Alinta Asset Management (AMA) do not meet the competitive test. Energeia notes that an independent technical expert found that the program management costs paid to AMA were reasonable.

The AMI program tendering documentation, approach and audit appear to comply with the terms of the revised OIC and AFA. However, no auditor’s report was provided confirming compliance.

No further information has been requested.

Incurring Costs

Most non-contract costs were assessed as being accurate and robust and therefore expected to be incurred. Possible exceptions include the estimate for self-insurance and capital raising costs, which were relatively minor and therefore deemed to be insignificant.

No further information has been requested.

Commercial Standard

The high quality proposal and robust program governance provide comfort that a reasonable commercial standard has been met during the budget development process.

Although not considered a major issue given the independent expert's finding, the significant number of IT replacements would otherwise require additional documentation to demonstrate due diligence.

No further information has been requested.

Issues

The relatively minor issues with the reviewed proposal were:

- **Equity raising costs not based on current, industry specific benchmarks** – The cited justification for cost estimates are based on 2006 and 2007 data from different industries. Recent changes in capital markets and industry specific benchmarks may be more accurate and reliable.
- **Commercial justification for some non-contract IT costs unclear** – The decision to replace existing, often bespoke, systems with SAP is not sufficiently justified in the proposal, except in the case of CIS, which is referenced back to the integration service provider assessment.
- **Quantitative data is not provided in AER templates** – The spreadsheets do appear to follow the AER information requirements in most cases. Some assumptions have had to be made to compare costs against industry averages, particularly around IT hardware and some OPEX costs.

Although there were no major issues, additional information could be requested in support of:

- Equity raising cost estimates,
- IT system replacement costs, and
- Reconciling costs with the AER template categories.

Additional Investigation

Following discussions with the AER, it was agreed that the relatively minor issues identified did not warrant further investigation of the UED-JEN proposal.

Appendix 4 – SP AusNet

Review Outcomes

Energeia’s review of SP AusNet’s budget proposal included their previously submitted AMI Revised Pricing Proposal (September 2008) and AMI Reference Documentation (September 2008).

All key processes are documented and formally controlled. Only one key process outcome was reviewed by an independent expert report or audit:

Key Process	Documented	Governance	Assessed
Scope management	Yes	Formal	No
Solution selection	Yes	Formal	Expert
Competitive tendering	Yes	Formal	No
Non-contract cost estimating	Yes	Formal	No
Commercial decision making	Yes	Formal	No

Overall, SP AusNet’s proposal was of a high quality and appears to be the result of a comprehensive and thorough due diligence program:

- Contract tendering processes are adequately documented but the tenders are mostly incomplete.
- Non-contract costs are supported by tendering outputs wherever possible.
- Requirements for performance above the minimum functional specification were reasonably supported.
- The decision to select WiMax as the primary communications solution was comprehensively documented and reasonably support.

Tests

The following key issues were observed during the initial review of the SP AusNet Proposal against the regulatory tests.

Scope

The SP AusNet proposal includes a detailed mapping of costs against scope criteria. A number of better than minimum AMI specifications were identified, including requirements for:

- Two element metering arrangements,
- Additional IT systems to support multiple vendors,
- 100% of meters read within 25 minutes,
- 100% of connect / disconnects performed within 10 minutes,
- 100% of load control performed within 1 minute,
- 100% of supply limiting performed within 1 minute,
- Scalable communication technology, and
- NMS availability of 99.9%.

Further information was requested to confirm these requirements were not for out of scope activities.

Competitive Tendering

There were very few contract costs in SP AusNet's proposal, though they did signal their intention to sign contracts for most costs. A high level procurement policy document, a detailed RFT tendering process document and a description of the tendering process outcomes were included in the proposal.

Although the tendering process had not been concluded and actual contracts were not yet available for review, Energeia assessed the tendering process undertaken to date to be reasonably competitive.

No further information was requested.

Incurring Costs

SP AusNet based their non-contract costs on tendering outcomes wherever possible and existing work practices and cost structures where the services or technologies are familiar to the business. While SP AusNet's proposal is not clear as to which submitted costs are based on which approach, Energeia assessed both approaches as being reasonably accurate and robust.

There were a few contingencies identified in cost build-ups when comparing communications technologies, but these were relatively minor and therefore not assessed to be material.

No further information was requested.

Commercial Standard

SP AusNet's approach to developing business requirements, assessing technical options, and developing technical specifications and tendering documentation demonstrated that a reasonable commercial standard has been generally met.

However, the decision to select WiMax as the preferred communications solution and the relatively large number of better than minimum specifications identified during the initial review were not sufficiently supported in the budget proposal.

Further information was requested to support key business and technical requirements and the WiMax based communication solution.

Issues

The following key issues were identified during the initial review:

- **A significant number of better than minimum specifications.** Business and technical requirements which appear to be above the minimum AMI specification primarily impact metering and communication solutions. This is particularly significant given metering and communications are the two largest cost categories in SP AusNet's proposal at 55% and 17% of the total, respectively.
- **Costs for assets and systems that could be used to support out of scope activities.** While Energeia recognises that any scalable communication or IT solution could be used to support out of scope activities, WiMax is understood to have significant potential in this regard. It is therefore critical that associated costs are demonstrably in-scope and do not represent a substantial departure from a commercial standard by a reasonable business in the circumstances.

The following documents are believed to be useful given their role in justifying major cost categories:

- Technical assessments, technical specifications and tendering documentation, including selection criteria, supporting SP AusNet's metering and IT solutions.

- The process followed by SP AusNet that resulted in their selection of WiMax, particularly their technology and commercial assessment processes, their tendering specifications, selection criteria and approval documentation, and documentation of compliance with their system of governance.

Additional Information Review

Following consultation with the AER, SP AusNet was requested to address the following significant issues:

- Communications and metering requirements above the minimum performance specification may not meet the scope test or commercial standard test.
- Use of two element AMI metering may not meet the commercial standard test.
- WiMax costs may not meet the scope test or commercial standard test.

In response, SP AusNet provided around 200 documents detailing the process, assessment, specifications and governance supporting their Metering, Communications and IT solutions.

Better than Minimum Performance Requirements

Following an extensive review of SP AusNet's communications options analysis, technical specifications and RFT evaluation documentation (where available), Energeia has satisfied itself that the business and technical requirements in question:

- Have not been included to support out of scope activities,
- Have not been a primary or significant selection criteria for any major cost category,
- May effectively address under-performance in other AMI system components, such as IT,
- Do not appear to significantly contribute to overall AMI solution costs,
- Were in many cases recommended by independent technical experts under the circumstances, and
- Were developed and approved in the course of a significant due diligence process.

These requirements were therefore assessed as not being out of scope and as not substantially departing from a reasonable commercial standard in the circumstances.

Two Element Metering

SP AusNet provided a cost benefit analysis based as required under Section 2.5.3 of the AFA which included mostly unquantified benefits. Energeia reviewed the quantified costs and benefits and found them to be reasonable. However, the cost differential between a two element meter and the single element alternative used by SP AusNet was significantly lower than expected.

Based on SP AusNet's provision of a positive cost benefit analysis and Energeia's industry knowledge of the risks involved in rationalising tariffs during an interval meter rollout, the two element metering expenditure was assessed as reasonably meeting the prudency test for non-contract costs.

This assessment would be supported by additional documentation showing the two element metering solution was considered and approved by the AMI steering committee or as appropriate.

WiMax as the Primary Communications Solution

SP AusNet's additional supporting documentation satisfactorily addressed Energeia's major concerns:

- **Selection criteria focused on the revised OIC scoping criteria** – Technology options analysis appears to be based on the revised OIC criteria and technical criteria that do not appear to out of

scope. The final technology decision's emphasis on strategic business options, which was a secondary selection criterion, represented reasonable commercial behaviour in the circumstances.

Technical fit and total cost of ownership were the primary selection criteria. Energeia notes that some of the technical criteria were above the minimum standard. However, some of these were required to support the overall AMI system performance levels by providing the IT solution with additional processing time and thereby lower IT solution related costs. Key technical decision criteria which SP AusNet viewed as favouring WiMax included the maturity of network planning tools and security.

- **Options analysis considered a wide range of communication solution alternatives** – The options considered during the initial options analysis were wide ranging. While WiMax was preferred following the initial options analysis, SP AusNet continued to monitor and invest in maintaining an alternative communications solution fall-back plan. SP AusNet considered the costs and benefits of various design, build, own and operate scenarios in their decision making process.
- **WiMax solution was not over-specified to support out of scope activities** – Bandwidth requirements were fit to the AMI communications profile and the solution design was dimensioned to maximise AMI coverage, not throughput or to support additional, out of scope activities.

Better than minimum specification of some functionality such as interval meter reading was required to support overall AMI system performance by providing the IT solution with additional processing time and thereby lower IT solution related costs.

- **WiMax's total costs of ownership was not significantly more than Mesh** – SP AusNet's commercial analysis, which was based on independent experts and supplier reports, concluded that the total cost of ownership between the two preferred communications (WiMax and mesh radio) solutions was expected to be about the same. Relatively higher communications CAPEX for WiMax was expected to be offset by relatively lower OPEX.
- **The decision to select WiMax was appropriately considered and approved** – SP AusNet's decision to adopt WiMax as the primary communications solution decision was reviewed and approved by the AMI Steering Committee, and ultimately the Board. There is sufficient documentation demonstrating that these bodies were involved in the decision making process, and that they were provided with a high level of information upon which to base their decisions.