

Advanced Metering Infrastructure

2012-15 Budget and Charges Application

AER's Preliminary View on Amendments pursuant to the Australian Competition Tribunal's Orders

Supplementary Submission

Submitted 9 November 2012

Public version

Table of Contents

1 Introduction and Background	2
2 Mesh NIC Cards	3
2.1 Background	3
2.2 Cost information for Mesh NIC cards	4
2.3 Concluding comments on Mesh NIC card costs	6
Annexures	
Annexure 1: [C-I-C] Tender for Mesh NIC cards	

1 Introduction and Background

SP AusNet lodged a submission on 14 September 2012 in response to the document *AER Preliminary View: Advanced metering infrastructure review for SP AusNet’s 2012–15 budget and charges applications*. The AER Preliminary View sought to address the matters remitted by the Australian Competition Tribunal in Appeal by SPI Electricity Pty Ltd [2012] ACompT 1.

SP AusNet’s submission included a detailed reconsideration of the feasible AMI communications options on the basis of the AER’s proposed reconsideration date of 28 February 2011. SP AusNet’s reconsideration included quantitative and qualitative assessments of the options using information that was available two weeks prior to the reconsideration date. The earlier ‘cut off’ date recognises that major business decisions are subject to internal governance processes, which include endorsement by SP AusNet’s executive and Board.

SP AusNet’s submission relied on the expert opinion of KEMA. KEMA concluded that continuing with WiMAX would result in higher capital expenditure than the Mesh solution. However, the higher capital expenditure would be more than offset by lower operating expenditure and the avoidance of the transitional costs that would be incurred by SP AusNet in switching to Mesh. In reaching this conclusion, KEMA noted that its cost assessment and conclusion differed significantly from the Energeia Report, which had been commissioned by the AER.

There is a further matter that SP AusNet would like to comment on in this supplementary submission, which will be relevant to the AER’s review of KEMA’s analysis relating to the ***estimated costs of Mesh NIC Cards***.

2 Mesh NIC Cards

2.1 Background

On 5 June 2012, SP AusNet provided to the AER its Reconsideration Submission in respect of the matters remitted by the Australian Competition Tribunal in *Appeal by SPI Electricity Pty Ltd [2012] ACompT 1*.

On 13 August 2012, the AER provided the following documents to SP AusNet:

- 1 An AER paper titled *Preliminary View: Advanced metering infrastructure review SPI Electricity Pty Ltd, 2012-15 budget and charges applications* (AER Preliminary View); and
- 2 The Final Energeia Report and supporting model: *Review of SP AusNet’s WiMAX Related Expenditure*, August 2012 (Energeia Report).

The Energeia Report included the following commentary in relation to costs of Mesh NIC cards¹:

“SPA assumed in its reconsidered proposal that an average mesh NIC card cost of \$[C-I-C], but based on the mix of single and three-phase meters installed by 2015, and the NIC pricing available at the time, Energeia finds that the average price of the NIC should be \$[C-I-C]. This is a substantial difference in cost, with SPA’s estimate being 11% higher than Energeia’s.”

It is noted that the Energeia Report is not clearly expressed. However, the facts are as follows:

- SP AusNet assumed a Mesh NIC card cost of AUD\$[C-I-C], which was based on an estimated cost of US\$[C-I-C] for Mesh NIC cards for single-phase meters only. The exchange rate reflects the hedged exchange rate of 80 US cents to AUD\$1.
- The Energeia Report correctly recognised that the costs of Mesh NIC cards depends on the mix of single-phase and multi-phase meters across the population of meters in which the cards are to be installed.
- The Energeia Report made its own assumptions regarding the total costs of Mesh NIC cards based on an assumed cost for Mesh NIC cards for single-phase and multi-phase meters, and an estimated mix of those meters.
- The Energeia Report concluded that the average cost of Mesh NIC cards was AUD\$[C-I-C] compared to SP AusNet’s AUD\$[C-I-C]. In effect, although the Energeia Report had recognised the increased costs of Mesh NIC cards for multi-phase meters, it nevertheless concluded that the average cost of Mesh NIC cards was lower than SP AusNet’s estimates in June 2012.

¹ Energeia Report, page 29.

In KEMA’s report, lodged by SP AusNet in its submission dated 14 September 2012, the following approach was adopted in relation to the costs of Mesh NIC cards:

“Cost of RF Mesh NICs (\$[C-I-C] USD) – This cost is based on SP AusNet’s 2009 submission to the AER and reflects the information available to SP AusNet at February 2011 for the cost of NICs. Energeia have a slightly cheaper cost at \$[C-I-C] USD per RF NIC, which is based on other distributors in Victoria who would have benefited from economies of scale and therefore would expect to achieve a lower price. Energeia state that this is substantial difference in cost. In DNV KEMA’s modelling whilst this is a material impact the difference on the NPV is just over \$6m, so it will not fundamentally alter the business case. This includes the cost of a zigbee chip.”

It is evident from the above quotation that KEMA also adopted the US\$[C-I-C] assumption that SP AusNet had adopted in its June 2012 submission. As explained above, this cost estimate was for a single phase NIC card only, and therefore it did not account for the difference in the costs of Mesh NIC cards for single-phase and multi-phase meters.

After lodging the KEMA report, SP AusNet has identified further information in relation to the costs of Mesh NIC cards, which is set out below. SP AusNet requests that this information, which was available at the date of the reconsideration, should be adopted by the AER instead of the KEMA estimated costs for Mesh NIC cards.

2.2 Cost information for Mesh NIC cards

[C-I-C] provided the costs of both single-phase and multi-phase Mesh NIC cards to SP AusNet in March 2008 via a request-for-quotation. SP AusNet provided the AER with details of responses to this tender on 16 June 2009. [C-I-C]’s quotation, expressed in Australian dollars, using the March 2008 exchange rate, is provided as attachment 1. The [C-I-C] information is the most accurate information that SP AusNet had available to it as at 28 February 2011. A summary of the prices quoted by [C-I-C] is presented in the table below.

Table 1: Cost of Mesh NIC cards for single-phase and multi-phase AMI meters as per [C-I-C] tender response

	Single-phase	Multi-Phase
Comms card (AUD)	[C-I-C]	[C-I-C]
Zigbee (AUD)	[C-I-C]	[C-I-C]
Warranty (AUD)	[C-I-C]	[C-I-C]
Taxes	[C-I-C]	[C-I-C]
Total price (AUD)	[C-I-C]	[C-I-C]
Exchange rate (AUD\$: US\$)	[C-I-C]	[C-I-C]
Total price (US\$)	[C-I-C]	[C-I-C]

Source: [C-I-C], [C-I-C] Response, March 2008

AMI 2012-15 Charges and Budget Application – Supplementary Submission on AER’s Preliminary View

It should be noted that the quotation from [C-I-C] is expressed in Australian dollars. The prevailing exchange rate in March 2008 was 91 US cents to AUD\$1. Therefore, to convert the tender to the original US\$ amount, the quotation for single-phase and multi-phase Mesh NIC cards is multiplied by 0.91. There are two reasons why costs must be converted to US\$:

- KEMA’s model inputs the costs of Mesh NIC cards in US\$; and
- Subsequent to the March 2008 quotation, SP AusNet hedged its exchange rate for its US dollar purchases at a rate of 80 US cents per Australian dollar. Therefore, if SP AusNet decided to switch to the Mesh solution in February 2011, the applicable exchange rate would be SP AusNet’s hedged rate.

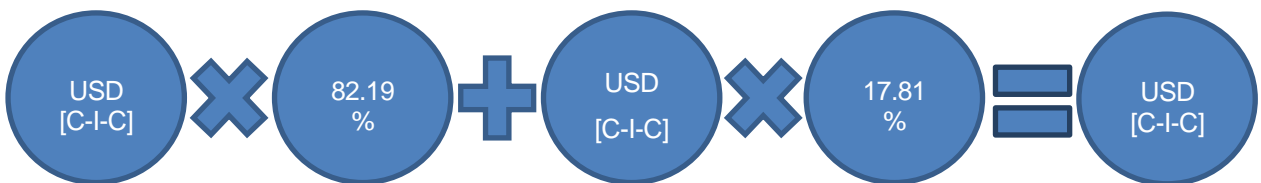
To convert the [C-I-C] prices to an average cost for Mesh NIC cards, the proportion of AMI meters to be deployed that are single-phase and multiphase needs to be calculated. As at February 2011, the date of the reconsideration, SP AusNet forecasts that 737,352 AMI meters would be deployed between 2009 and 2015. Of these meters, 82.19% (606,048 meters) are single-phase and 17.81% (131,304 meters) are multi-phase as shown in Table 2.

Table 2: Meter rollout forecast

Meter rollout forecast	2009	2010	2011	2012	2013	2014	2015	2009-15
Single phase single element	4,227	71,878	142,803	50,999	12,609	13,033	13,389	308,937
Single phase two element with contactor	-	-	45,703	217,749	33,659	-	-	297,111
Multiphase	-	-	39,710	33,662	7,410	1,616	1,648	84,046
Multiphase with contactor	-	-	3,718	34,575	4,896	36	36	43,261
Multiphase CT connected	-	-	56	3,730	94	58	59	3,998
TOTAL	4,227	1,878	231,990	340,715	58,668	14,742	15,131	737,352

SP AusNet’s forecast of single phase and multi-phase meters differs only marginally from that assumed in the Energeia Report. However, the Energeia Report utilised information that only became available after the reconsideration date. For this reason, the above information should be adopted by the AER.

To derive the weighted average cost of the single-phase and multi-phase Mesh NIC cards, the tendered prices expressed in US\$ are multiplied by the respective proportions of meters rolled out, and then added together. As illustrated below, this produces a weighted average Mesh NIC card cost of US\$[C-I-C].



2.3 Concluding comments on Mesh NIC card costs

The weighted average price of Mesh NIC cards at the reconsideration date, using the best available information, is US\$[C-I-C] compared to KEMA’s assumption of US\$[C-I-C].

These updated estimates of Mesh NIC card costs further widen the difference between the costs of the Mesh and WiMAX solutions. SP AusNet requests that the AER takes account of the additional costs in its review of SP AusNet’s submission of 14 September 2012 in response to the document *AER Preliminary View: Advanced metering infrastructure review for SP AusNet’s 2012–15 budget and charges applications*. As already explained, that submission included a report from KEMA which adopted a cost estimate for Mesh NIC cards of US\$[C-I-C]. KEMA’s estimate of US\$[C-I-C] did not reflect the available tendered costs from [C-I-C], which convert to an average cost of US\$[C-I-C].

When SP AusNet applies the updated average cost of Mesh NIC cards to the KEMA model, the total net present cost of the Mesh solution increases from AUD\$48.6 million over 15 years to AUD\$58.2 million.² This is an increase of AUD\$9.6 million.

The \$9.6 million increase in the present value cost assessment comprises the following elements:

- Capital expenditure for ‘RF Mesh NICs’ increases from AUD\$47.5 million to AUD\$53.4 million, which is an increase of AUD\$5.9 million;
- Switching costs for ‘Mesh NICs for Meters fitted with No Comms Cards’ increases from AUD\$16.6 million to AUD\$18.3 million, which is an increase of AUD\$1.7 million; and
- ‘Replacement of WiMAX NICs’ increases from AUD\$25.9 million to AUD\$27.9 million, resulting in an increase of AUD\$2.0 million.

These data are summarised in the table below.

Table 3: Impact of updated costs for Mesh NIC cards

Cost areas affected	NPV impact (\$ M in PV terms over 15 years at Feb 2011)
Capital expenditure for RF Mesh NICs	5.9
Switching Costs (New NIC Cards)	1.7
Switching Costs (replacement NIC Cards)	2.0
Total costs	9.6

² This change to the KEMA model is applied by changing cell D11 in the ‘PARS’ worksheet to \$[C-I-C]. This parameter change affects the NPV calculation in cell G2 in the same worksheet.

Annexure 1: [C-I-C] Tender for Mesh NIC cards

[C-I-C]