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The Tribunal notes that the language associated with metrology, such as ‘parent’ and ‘child’, is potentially confusing for stakeholders who were not involved in the development of the regulatory framework. The Tribunal’s preference is for the Metrology Procedure to be rewritten in a way that is easier to understand. However, this is not a feasible option in the short term. The joint jurisdictional review in 2003 is the appropriate forum to address this issue.

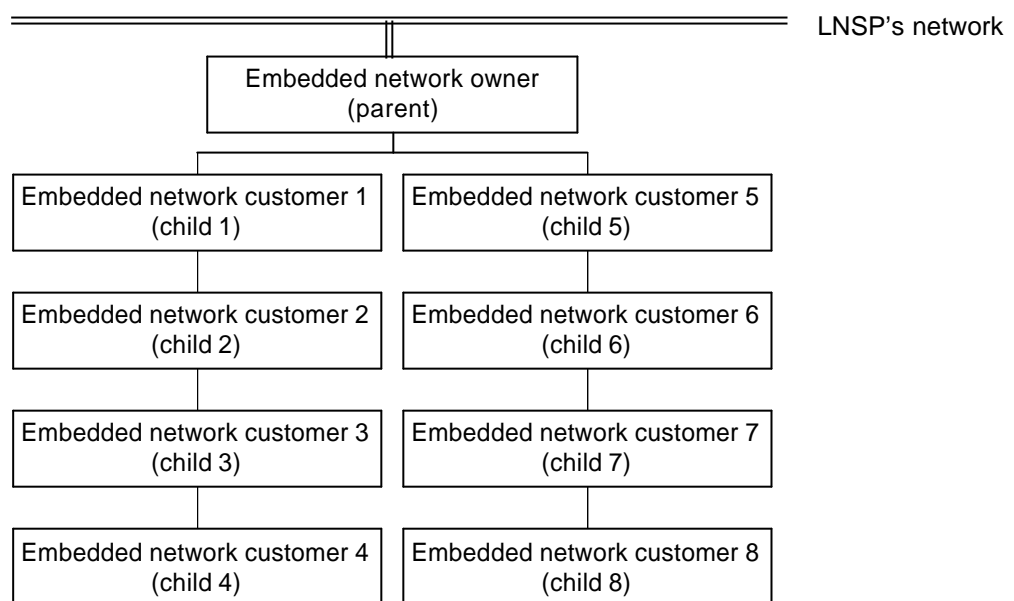


## 2 EMBEDDED NETWORKS

### 2.1 Broader policy context

An embedded network is a ‘network within a network’. It derives its power from the local electricity distributor’s network. Most embedded networks are privately owned and operated. (For the purposes of metrology, the local electricity distributor is referred to as the Local Network Service Provider or LNSP.) Examples of embedded networks include industrial sites, shopping centres, office towers, Sydney Airport, certain rural customers and also residential parks. Figure 2.1 depicts an embedded network.

**Figure 2.1 Embedded network**



Historically, the arrangements for electricity supply within embedded networks have been as follows:

- the embedded network owner (known as the ‘parent customer’) is a customer of an electricity retailer
- the embedded network owner supplies electricity to each customer located within the embedded network (known as the ‘child customer’).

The electricity retailer charges the parent customer for the electricity consumption of the entire embedded network. Then the parent customer charges each child customer for their usage, which is measured by an electricity meter. In this case, the child customer has no relationship with either the local electricity retailer or the LNSP (since the embedded network does not form a part of the LNSP’s network).

In accordance with the Government’s policy of full retail competition, customers within an embedded network now have the opportunity (in theory) to choose their retail supplier. This means that a child customer may choose to enter into a contract with a retail supplier of their choice, rather than being supplied by the embedded network owner.

At present, however, the various market procedures and rules (including the Metrology Procedure) do not easily accommodate the complexities of extending full retail competition to customers located in embedded networks.

The consultation paper proposed that certain aspects of the Metrology Procedure be modified in order to facilitate the introduction of full retail competition to customers located within embedded networks. The Tribunal's decisions in this review clarify how the Metrology Procedure should operate in embedded networks. However, a number of critical policy questions that are not covered by the Metrology Procedure will remain unanswered.

One such example relates to network charges for embedded networks. In the absence of a second-tier supply the parent pays network charges to the LNSP and the children pay network charges to the parent. There is no direct relationship between the 'child customer' and the retailer or LNSP. If a 'child customer' switches to a second tier retailer the current policy does not make clear who the 'child customer' is responsible for paying network charges to and who is responsible for collecting these charges. This is a policy matter that needs to be resolved but is beyond the scope of the Tribunal's powers.

The issue of payment for network services is particularly important in the context of deciding who should be the Responsible Person for customers located in an embedded network — see section 2.3.

Another example of these types of issues relates to residential parks – see Box 2.1.

### **Box 2.1 Residential parks**

Residential parks are a common type of embedded network. Electricity supply in residential parks is contentious because:

- quality of supply in residential parks is often lower than for customers that are directly connected to the LNSP's network
- residents may be required to pay the regulated retail tariff, however, many of the benefits that are available to directly connected customers are not available to residential park residents.

The Tribunal supports action to address these issues. However, reforms that are designed to promote switching among residential park residents are not likely to address these concerns. The Tribunal believes that the customer service standards that are currently being developed by the Department of Fair Trading are a more appropriate vehicle for addressing residents' concerns.<sup>9</sup>

At this time, no customers located in embedded networks have switched retailer in NSW. The Tribunal believes that further policy development is required to establish a workable framework for embedded networks. This is outside the scope of the Tribunal's responsibilities.

This chapter considers three key issues associated with embedded networks:

- section 2.2 considers the definition of an embedded network
- section 2.3 considers who should be the Responsible Person for customers located in an embedded network

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<sup>9</sup> The Department is currently developing a document entitled *Customer service standards for the re-supply of electricity to permanent residents of residential parks*.

- section 2.4 considers the circumstances in which embedded network customers should be required to install a new meter.

The consultation paper raised a number of other issues associated with embedded networks. However, they generated a relatively small amount of debate during the public consultation process. These issues are discussed in Chapter 5.

## 2.2 Definition of an embedded network

### 2.2.1 Background

At present, the Metrology Procedure defines an embedded network as:

... a distribution network in which end use customers are connected to a distribution network that is not owned, operated or controlled by a Local Network Service Provider (LNSP).<sup>10</sup>

A key determinant of whether an inset network is an ‘embedded network’ for the purposes of metrology is the need for subtractive metering.<sup>11</sup> ‘Subtractive metering’ occurs where the electricity usage of a customer can only be determined by subtracting the usage of a second customer from the total usage recorded by the first customer’s meter. Where subtractive metering exists, the parent customer<sup>12</sup> pays charges based on the incoming load less the child customer’s load.

#### *Draft Decision*

The Tribunal’s proposed definition in the Draft Report was:

**Embedded network** means a *distribution network* to which an end-use customer is connected, and where the *energy supplied* to the end-use customer (being a **child**) has also been registered by a *meter* used to record the consumption of another end-use customer (being a *parent*).

#### *Submissions to Draft Report*

The only response to the draft report came from the Ministry of Energy and Utilities (MEU). MEU did not object to the changes.

#### *What happens in Victoria?*

The ESC recently consulted on a similar change to the Victorian Metrology Procedure. In its submission, CitiPower proposed an alternative definition for an embedded network, which the ESC’s draft report proposes to adopt:

*Embedded network* means a *distribution system* to which end-user customers are connected that is not owned, operated or controlled by a *distributor* licensed by *the Office*, and where the *energy supplied* to the end-use customers (the *children*) which are connected to the

<sup>10</sup> NSW Metrology Procedure Version 1.3, Attachment 1.

<sup>11</sup> For the purposes of the Metrology Procedure, subtractive metering is only taken to occur if it is required for settlements between participants in the National Electricity Market. Consequently, an inset network should only be considered to be an embedded network —and therefore subject to the provisions of the Metrology Procedure— if a child customer has chosen to be supplied by a second tier retailer. (By definition, a second tier retailer for a child customer is a retailer that is different to the parent’s retailer).

<sup>12</sup> Or in wholesale market settlement terms, the parent customer’s retailer.

*embedded network*, has also been registered by a *meter* used to record the consumption of another end-use customer (the *parent*).

At the time of publishing this report the ESC had not finalised its review.

### 2.2.2 Tribunal’s decision and reasons for its decision

***For the purposes of the Metrology Procedure, the Tribunal has decided to define an embedded network as follows:***

**Embedded network** means a *distribution network* to which an end-use customer is connected, and where the *energy supplied* to the end-use customer (being a *child*) has also been registered by a *meter* used to record the consumption of another end-use customer (being a *parent*).

**Note:** *Italicised terms are defined in Attachment 1 of the Metrology Procedure.*

The Tribunal has decided to adopt the definition proposed in the draft report, that is, a modified version of the CitiPower definition. The Tribunal believes that this definition, is technically sound and meets the objectives of the Code. As there were no comments arguing against the draft decision the Tribunal believes that it has adequately addressed the concerns raised in the submissions to the Consultation Paper.

## 2.3 Who should be the Responsible Person for customers within an embedded network?

### 2.3.1 Background

Under the National Electricity Code, the Responsible Person is the person that is responsible for ensuring that metering services (such as meter provision, meter reading and data entry) are provided for a customer. The NSW Government obtained a transitional derogation from the National Electricity Code (NEC) that makes the Local Network Service Provider (LNSP) exclusively the Responsible Person for customers who have switched retailers and consume less than 100 MWh per annum.<sup>13</sup>

However, since embedded networks may not necessarily be part of the LNSP’s network<sup>14</sup> it is not clear who should be the Responsible Person for customers within an embedded network when those customers switch to a second tier retailer.<sup>15</sup> Consequently, problems may arise if a customer located within an embedded network wishes to become second tier, because no-one would be responsible for their metering services.

#### *Draft Decision*

In the draft report the Tribunal proposed that the LNSP should be the Responsible Person.

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<sup>13</sup> The derogation applies until 1 July 2004. After that time, the Financially Responsible Market Participant will be the Responsible Person. (In this context, the Financially Responsible Market Participant means the customer’s retailer.)

<sup>14</sup> Where an embedded network is an exempt network, the embedded network is not part of the LNSP’s network. However, there are embedded networks in rural areas that are part of the LNSP’s network.

<sup>15</sup> The customer becomes second tier if he or she has elected to transfer to a retailer other than the local retailer. Under the CATS procedures, the local retailer of a customer within an embedded network is the retailer of the embedded network owner.

*Submissions to Draft Report*

<b>EnergyAustralia</b>	Reiterated its opposition to the proposal in the draft report. EnergyAustralia believe that the retailer of the second tier customer was the most appropriate organisation to be the <i>responsible person for that customer</i> . EnergyAustralia maintain that LNSPs have no commercial relationship with a ‘child customer’ in an embedded network within their local network area and this makes the collection and storage of data an unnecessary burden.
<b>MEU</b>	Supported the proposal in the draft report.
<b>EWON</b>	Also expressed support for the proposal in the draft report stating that they thought it would boost the opportunity for residential park tenants to participate in the competitive market.

*What happens in Victoria?*

This issue also arises in the Victorian Metrology Procedure. The ESC’s draft report proposes to make LNSPs the Responsible Person for child customers.

**2.3.2 Tribunal’s decision and reasons for its decision**

***The Tribunal has decided that, for the period of the exclusivity derogation, the LNSP should be the Responsible Person for any customers located within an embedded network that choose to switch to a second tier retailer and consume less than 100MWh per annum.***

***To give effect to the Tribunal’s decision, the following clause 1.2.5 has been inserted into the Metrology Procedure:***

*For the period (if any) during which the Local Network Service Providers are, pursuant to Chapter 9 of the Code, the exclusive Responsible Persons for types 5, 6 and 7 metering installations installed at a connection point consuming less than 100MWh per annum, the Responsible Person for the parent of an embedded network must be the Responsible Person for a child in that embedded network with a type 5, 6 or 7 metering installation installed at a connection point consuming less than 100MWh.*

The consultation paper and draft report proposed that the ambiguity over the Responsible Person be removed so that the Metrology Procedure is not an obstacle to switching by child customers. The two most logical candidates for the role are either the LNSP or the child’s retailer. The characteristics of each option are set out in Table 2.1.

**Table 2.1 Who should be the Responsible Person for child customers?**

	<b>Option 1 — The LNSP is the Responsible Person</b>	<b>Option 2 — The child customer’s retailer is the Responsible Person</b>
Supported by	Consultation paper, ESC	LNSPs
Costs borne by	The costs of providing metering services will be spread across all customers via network charges.	The retailer will incur the costs associated with the Responsible Person role, and will presumably pass these through to the child customer.
Advantages/ disadvantages	This approach maximises opportunities for child customers to churn, however, it also requires LNSPs to be responsible for metering services to be provided to persons that are not located on their network and with whom they may not have a contractual relationship.	This approach does not impose costs on LNSPs. However, the additional costs associated with metering services could be sufficient to deter child customers from switching.

LNSPs have argued that they should not be the Responsible Person for child customers because otherwise they may be forced to incur costs that they have no opportunity to recover. The Tribunal recognises these concerns, and requested the LNSPs to quantify the estimated costs associated with adopting the role in their submissions. However, this information was not forthcoming. The Tribunal notes that the unresolved issues in the broader policy framework could affect the extent to which LNSPs are able to recover costs in these circumstances (see section 2.1).

The Tribunal has decided that the LNSPs should be the Responsible Person because, in its view, this decision best meets the Code objectives for the Metrology Procedure. In particular, it meets the Code objectives to ‘promote an efficient market’ and to ‘minimise barriers to entry for competing retailers’. (The objectives are set out in section 1.1.)

The decision promotes an efficient market because LNSPs are better placed than retail suppliers to carry out the role. Metering services for small customers (other than child customers) are currently provided by the LNSPs. As a result of the derogation, retailers are not responsible for metering services for Types 5, 6, & 7 metering installations and consequently they do not have the knowledge or the processes that would allow them to carry out the role.

The Tribunal’s decision minimises barriers to entry for competing retailers because if the child customer’s retailer was required to be the Responsible Person, it would be very difficult for second tier retailers to offer commercially attractive packages due to the relatively small number of customers involved. The Tribunal considers the costs to LNSPs to be relatively small because to date no children in embedded residential park networks have churned.

Further, this approach avoids an unfair outcome for certain rural customers whose connection falls within the definition of an embedded network. In some parts of NSW, the meters for a number of customers located along a rural road are all linked to one meter at the beginning of the road. This technique (historically referred to as ‘master/slave’ metering) was adopted by LNSPs because it was more convenient for them. In all other respects such customers are treated exactly the same as other LNSP customers. Consequently, the Tribunal believes that these customers should not be required to pay extra for metering services.



## 2.4 Requirement to install a new meter

### 2.4.1 Background

The parent of an embedded network is charged for all electricity supplied to their embedded network (less the electricity supplied to child customers that have elected to transfer to a different retailer). The parent customer then charges each child customer that has not transferred to a different retailer.<sup>16</sup>

Windfall gains/losses could occur if the parent customer and the child customer have different types of meters. The relevant meter types in these circumstances are:

- **Type 5 meters**, which are interval meters that record the half hourly pattern of consumption of a customer.
- **Type 6 meters**, which are accumulation meters that only show the total energy consumed between meter reads. The customer's total consumption is then converted to half hourly data settlement by applying a load profile.

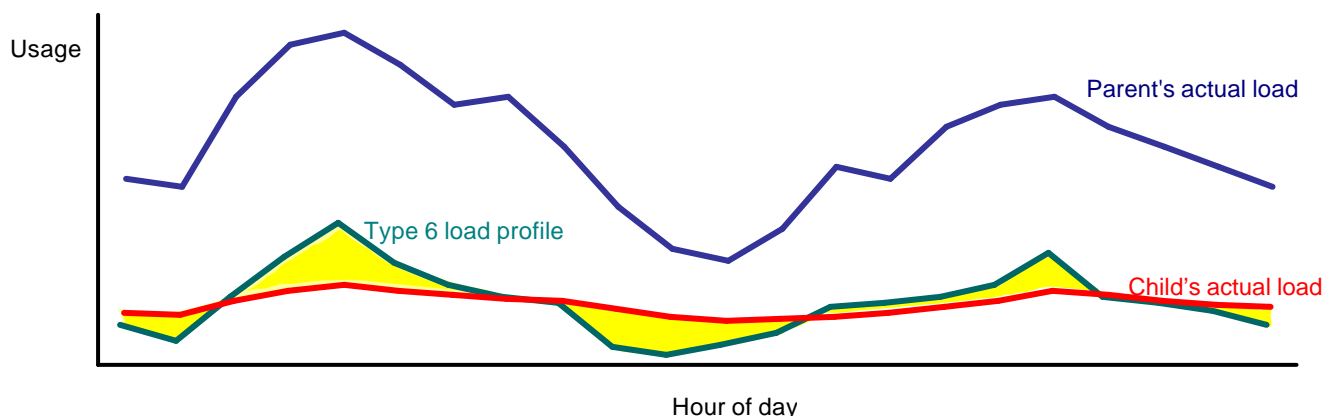
The windfall gains/losses arise because Type 6 meters are settled on the basis of a load profile, and Type 5 meters are not. For example, the parent customer could be required to pay for less electricity than they consumed if:

- the parent metering installation is Type 5 and
- the child metering installation is Type 6 and
- the child customer has a 'flatter'<sup>17</sup> consumption pattern than the load profile.

This scenario is depicted in Figure 2.2. The parent customer pays the difference between the child customer's actual bill (which is determined by the load profile) and the bill that the child customer would have paid if they had been charged in accordance with their actual usage.

**Figure 2.2 Effect of metering differences in embedded networks**

The shaded areas show the difference between the parent's actual usage and what they are assumed to have used.



<sup>16</sup> The *Electricity Supply Act 1995* (Section 72) regulates the amounts that can be charged by the parent in certain types of embedded networks. In general the parent may charge the amount the child would have been charged had they been a customer of the local retailer.

<sup>17</sup> 'Flatter' is used to refer to a half hour consumption pattern that will result in lower energy charges. 'Peakier' is used to refer to a half hour consumption pattern that will result in higher energy charges.

To prevent windfall gains/losses, the Metrology Procedures currently restricts the ability of a child customer to use a different type of meter to the parent customer. A child customer that switches must fall with in scenario 1 or 4 as described in Table 2.2 below.

**Table 2.2 Effect of different combinations of metering installations**

Scenario no.	1	2	3	4
Parent's meter type	Type 5	Type 5	Type 6	Type 6
Child's meter type	Type 5	Type 6	Type 5	Type 6
Impact on settlement	No impact	Windfall gain/loss.	Windfall gain/loss	No impact

If a child customer that wishes to switch falls within scenario 2 or 3, they must arrange to have the same type of metering installation as the parent customer. In most cases, this would involve the child customer installing a Type 5 meter. As it may be costly to install a new meter, this arrangement could potentially inhibit competition in the retail market.

Additionally, the current arrangements require a child customer to change their meter if the parent customer changes their type of meter subsequent to the child customer's transfer. As a result there is uncertainty for the child customer as to the costs that may be incurred.

The consultation paper proposed amendments to the Metrology Procedure that make it easier for the child customer to switch, by:

- only imposing restrictions on the type of meter that the child customer may use if the child customer is switching to a retailer other than the parent customer's retailer
- clarifying that the child customer is not required to change meter types if the parent customer decides to install a new meter subsequent to the child customer's transfer
- allowing the child customer to switch on the basis of a different meter type to the parent customer so long as it is the parent customer that caused the difference in metering installations to occur.

If this approach was adopted in certain circumstances, the Metrology Procedure would permit a combination of meters to fall within scenarios 2 and 3.

#### *Draft Decision*

In the draft report the Tribunal proposed that child customers should not be permitted to switch using a different meter to the parent.

#### *Submissions to Draft Report*

**EWON** Were supportive of 'child customers' not being liable for the cost of changing meters if the parent changes their meter.

**MEU** Are committed to developing competition by reducing impediments such as the cost of meters but are cognisant of the necessity for accuracy in settlement and billing and recognise that having matching meters is necessary.

**AIEW** Commented that the proposal in the draft report was overly onerous on children in embedded networks as some parents such as airports and remote mining

operations may have type 1, 2, 3 or 4 meters. AIEW proposed that the draft proposal be amended to provide that the 'child' must have the same meter functionality as the parent.

*What happens in Victoria?*

In some respects, Victoria and NSW have chosen to treat customers located within embedded networks differently. In Victoria, a child customer that wishes to switch is required to install interval meters both for themselves and (if the parent customer does not have one already) for the parent customer. This provision was included to eliminate the uncertainty for the child of the costs that may be incurred if a parent changes meter type subsequent to the child customer's transfer.

**2.4.2 Tribunal's decision and reasons for its decision**

***The Tribunal has decided that child customers should not be permitted to switch unless they have the same meter functionality as the parent.***

***To give effect to the Tribunal's decision, clause 2.2 of the Metrology Procedure has been deleted and replaced with the following:***

2.2.1 Should a *child* in an *embedded network* elect to purchase electricity from a *Retailer* other than the *parent's Retailer*, the *Responsible Person* must ensure that, at the time the *child* switches *Retailer* and at the cost of the *child*:

- (a) if the *parent* has an *interval meter* that is settled on the basis of *interval energy data*, the *child* must have a type 4 or type 5 *metering installation* that is settled on the basis of *interval energy data*;
- (b) if the *parent* has an *accumulation meter* or an *interval meter* that is settled on the basis of *accumulated energy data*, the *child* must have a type 6 *metering installation* or, if the *child* has an *interval meter*, that meter must be settled on the basis of *accumulated energy data*.

2.2.2 Where a *child* in an *embedded network* has switched *Retailer* in accordance with clause 2.2.1(b) and the *parent* subsequently:

- (a) installs an *interval meter* and elects to have its *meter* settled on the basis of *interval energy data*, or
- (b) elects to have its existing *interval meter* settled on the basis of *accumulated energy data* in accordance with clause 2.3.4; or
- (c) elects to have its existing *interval meter* settled on the basis of *interval energy data*;

the *Responsible Person* must ensure that, at the time the *parent* changes, and at the cost of the *parent*, the *child's metering installation* meets the requirements of paragraph (a) or (b) of clause 2.2.1, as applicable.

In response to concerns raised in the AIEW submission to the draft report the Tribunal has modified the proposal in its draft decision to simply require functional commonality. That is, should a 'child customer' wish to change retailer, it should install an interval meter if the parent has an interval meter. If the parent has an accumulation meter, the child may have either an accumulation meter, or an interval meter that is read as an accumulation meter.

If children within an embedded network switch retailer in compliance with the Metrology Procedure, and the parent wishes to change its meter from an accumulation meter to an interval meter, then the parent is responsible for the costs involved in ensuring that children with second tier retailers have meters that comply with this Metrology Procedure.

***[The Tribunal will ensure that the cost recovery provisions implicit in the new clause 2.2 of the Metrology Procedure are reflected in the other appropriate regulatory instruments.]***

### 3 PROFILE START DATE MISALIGNMENT

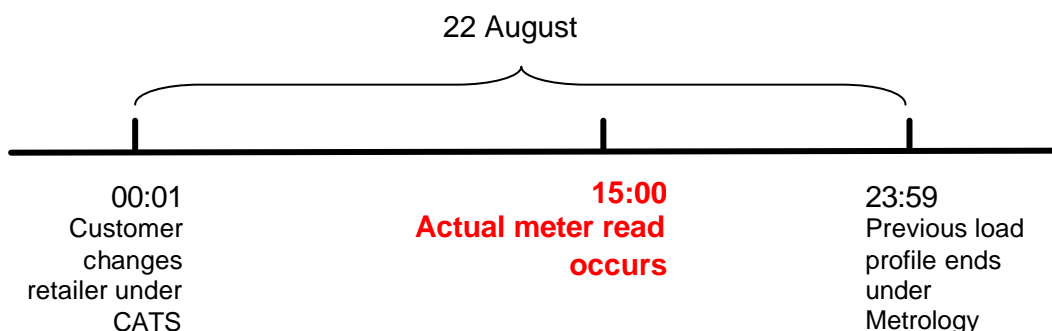
#### 3.1 Background

Settlements in the National Electricity Market (NEM) for customers with a Type 6 metering installation<sup>18</sup> are achieved by applying each customer's consumption data (obtained at meter reads) to the load profile of the relevant customer type for the period between meter reads. Under the Metrology Procedure, all meter reads are taken to have occurred at midnight at the end of the day on which the meter read occurred.

Under NEMMCO's CATS procedure<sup>19</sup> a customer must be transferred on the date of an actual meter read. In contrast to the provisions of the Metrology Procedure, however, the transfer is taken to have occurred at the beginning of the day on which the actual meter read occurred.

Consequently there is a mismatch between the timing of the transfer and the timing of the application of the load profile. Figure 3.1 is a simplified depiction of misalignment between the Metrology Procedure and the CATS procedure.

**Figure 3.1 Effect of the profile start date misalignment (simplified)**



The consultation paper proposed that the Metrology Procedure be amended to make it consistent with the CATS procedure.

#### *Draft Decision*

In the draft report the Tribunal proposed that the Metrology Procedure be amended to make it consistent with the CATS procedure. That is that the customer transfers are considered to have taken place at the beginning of the day rather than the end of the day.

#### *Submissions to Draft Report*

**MEU** Supported the proposal in the draft report.

<sup>18</sup> Type 6 meters are accumulation meters that only record the total energy consumed between meter reads (which usually occur on a quarterly basis). The customer's total consumption is then converted to half hourly data settlement by applying a load profile.

<sup>19</sup> The CATS procedure sets out the processes for customers to be transferred between retailers in NEMMCO's central database. The central database is known as MSATS.

**Integral** Expressed its opposition on the basis of cost. However, Integral requested that, if the Tribunal was going to proceed with the draft decision that there be a six month moratorium on the change to allow Integral to get the necessary systems in place.

*What happens in Victoria?*

The ESC's Metrology Procedure is also inconsistent with CATS. Submissions to the ESC's consultation paper were all in favour of an approach that aligns with the CATS procedure (that is the profile commences/ends at the beginning of the day on which the actual meter read occurred). Consequently, the ESC supports an approach that aligns with the CATS procedure.<sup>20</sup>

### **3.2 Tribunal's decision and reasons for its decision**

***The Tribunal has decided that the profile start date in the Metrology Procedure shall be aligned with the CATS procedure.***

***To give effect to the Tribunal's decision, new definitions of 'start date' and 'end date' for the purposes of clause 3.2 of Schedule 10 will be included in a new Clause 4 in Schedule 10 of the Metrology Procedure. The new definitions will also apply to clauses 2.2.1 and 2.2.2 of Schedule 10.***

***To allow affected parties to make the necessary systems modifications these changes to the Metrology Procedure have been drafted to take effect from 1 July 2003, and provision has been made for the transition to the new start and end dates.***

#### **4. Start Dates and End Dates**

##### **4.1 Pre 1 July 2003:**

Subject to clause 4.3 of this Schedule 10, prior to 1 July 2003:

- (a) if the consumption energy data is an actual meter reading:
  - (i) the start date is 00.00 on the day after the previous meter reading;  
and
  - (ii) the end date is 23.59 on the current meter reading date; and
- (b) if the consumption energy data is an estimate:
  - (i) the start date is the latest of:
    - (A) 00.00 on the first day of the billing period;
    - (B) 00.00 on the previous meter reading date; and
    - (C) 00.00 on the first day on which the load becomes second tier;  
and

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<sup>20</sup> Essential Services Commission of Victoria, *Review of Victorian Electricity Industry Supply Metrology Procedure* (2002), pp 31-32.

- (ii) the end date is 23.59 on the last day of the billing period.

#### **4.2 Post – 1 July 2003**

Subject to clause 4.3 of this Schedule 10, with effect from 1 July 2003:

- (a) if the consumption energy data is an actual meter reading:
  - (i) the start date is 00.00 on the day of the previous meter reading; and
  - (ii) the end date is the end of the trading interval commencing at 23.30 on the day prior to the current meter reading date; and
- (b) if the consumption energy data is an estimate:
  - (i) the start date is the later of:
    - (A) 00.00 on the first day of the billing period;
    - (B) 00.00 on the previous meter reading date (whether actual or estimate); and
    - (C) 00.00 on the first day that the load becomes second tier; and
  - (ii) the end date is the earlier of:
    - (A) the end of the trading interval commencing at 23.30 on the last day of the billing period; and
    - (B) the end of the trading interval commencing at 23.30 on the estimate meter reading date.

#### **4.3 Transitional**

- (a) In respect of each relevant metering installation, the transitional period is the period in respect of which the 'start date' occurs before 1 July 2003 and the 'end date' occurs on or after 1 July 2003.
- (b) For the purposes of the transitional period for each relevant metering installation:
  - (i) the start date will be as defined in clause 4.1 of this Schedule 10; and
  - (ii) the end date will be as defined in clause 4.2 of this Schedule 10.

NEMMCO has indicated its systems cannot support different approaches between jurisdictions. Consequently, it is essential that the Tribunal and the ESC coordinate their approach.

The longer that the misalignment continues, the more expensive it will be to fix. This is because incorrectly entered transfers will need to be re-entered into MSATS. Consequently the Tribunal supports action as soon as practical, that is 1 July 2003.

The Tribunal considers that the amendment is consistent with the Code objective of technical soundness.





## 4 ADDITIONAL CONTROLLED LOAD PROFILE

### 4.1 Background

Some LNSPs offer customers the choice of a second form of off-peak tariff (known as OP2) that allows their power to come on for a limited period during the middle of the day in addition to at night. This form of controlled load has a different set of characteristics to traditional controlled load (OP1), which comes on only in the middle of the night. Currently there is a single load profile for OP1 and OP2. EnergyAustralia has requested that the Metrology Procedure be amended to allow for the 'peel off'<sup>21</sup> of a second controlled load profile.

#### *Draft Decision*

In its draft report the Tribunal stated that it had insufficient information on which to base a decision. The Tribunal repeated its request that the LNSPs provide cost/benefit analysis of the introduction of the proposed introduction of an additional control load profile (OP2).

#### *Submissions to Draft Report*

**EWON** Supported the need for a cost/benefit analysis prior to implementation to determine if gains exceed costs.

**Integral** Did not provide a detailed cost/benefit analysis but they did however state that they believed that the cross subsidy between OP1 and OP2 was less than 1 per cent and were therefore sceptical that the benefits would outweigh the costs.

**EnergyAustralia** Provided information that stated the incremental cost of an additional control load profile to them was ostensibly zero. Energy Australia calculated the benefits from the additional load profile to be \$3.6m over 10 years.

**AIEW** Whilst not documenting cost/benefit analysis AIEW believed that the cost of the additional control load profile would be miniscule and the benefit of the additional load profile would be that it would send the appropriate price signal.

At the public forum there was broad support for the introduction of an optional OP2 profile. Subsequent to the forum a small number of stakeholders have stated that the introduction of the OP2 profile on an optional rather than an across the board basis would be anti-competitive.

<sup>21</sup> The load profile for Type 6 customers is created by subtracting the energy used by customers with interval meters during each half hour period from the energy usage of the entire system. Therefore, the Type 6 load profile is the 'left over' energy after all energy usage that can be accounted for is accounted for. Introducing a new load profile effectively extracts a particular group of customers from the main mass of leftover energy. Consequently, the term 'peel off' is often used in this context.

*What happens in Victoria?*

This issue does not arise in Victoria, because they have chosen to only allow for one load profile for all Type 6 metering installations. In Victoria, therefore, there is no differentiation (for settlements purposes) between Type 6 customers on controlled load and Type 6 customers on standard tariffs.

## **4.2 Tribunal's decision and reasons for its decision**

***The Tribunal has decided to permit the use of an additional control load profile for Off-Peak 2 consumption on an optional basis. The choice of implementing this additional control load profile rests with each of the individual LNSPs.***

***To give effect to the Tribunal's decision, the Metrology Procedure has been amended in accordance with Attachment 1 to this report.***

At the round table forum, there was unanimous support for an approach whereby LNSPs can choose whether or not to implement a second controlled load profile. However the Tribunal notes that no second tier retailers were present at the round table forum, and some round table participants have subsequently expressed concerns with this approach. The essence of these concerns were that if the Tribunal allowed optional uptake of an OP2 profile then this may have anti-competitive implications that are not present if all LNSPs either have an OP2 profile or all LNSPs do not have an OP2 profile.

The Tribunal requested the LNSPs to provide cost/benefit analysis of the implementation of an OP2 profile with their submissions to the draft report.

Whilst the Tribunal was disappointed with the level of response to its request for cost benefit analysis the Tribunal still investigated the possible anticompetitive implications of possibly still allowing LNSPs to unilaterally adopt an OP2 profile.

It was suggested that it was anticompetitive for a retailer to have customers across the road from each other in different LNSPs areas on significantly different tariffs because one of the LNSPs has an OP2 profile and the other does not. The Tribunal does not believe there are any anticompetitive implications as all retailers in the same LNSPs area are in the same position.

Similarly the Tribunal believes that there is only the possibility for a minor increase in the amount of data needed to be handled by retailers if some LNSPs adopt the additional profile and others do not. Therefore there is only a minor increase in the administration costs for retailers and this is unlikely to be a barrier to entry for retailers.

As a result, whilst the Tribunal was disappointed with the LNSPs responses to the request for cost/benefit information the Tribunal can see no other impediment to allowing the uptake of an OP2 profile on an optional basis by the LNSPs.

## 5 OTHER ISSUES

### 5.1 Meter reading frequency

#### 5.1.1 Background

At present, the NSW Metrology Procedure requires Type 5 and Type 6 metering installations to be read 'at least once every *lock down period*'.

The term 'lock down period' relates to a variable period that is set in NEMMCO's central system. At the end of the 'lock down period', the net system load profile for a particular billing period is finalised. It is important that meter data is forwarded to NEMMCO by the end of the lock down period so that the load profile is based on accurate data.

The meter reading frequency in the Metrology Procedure was set to correspond with the lock down period because the duration of the lock down period was unknown when the Metrology Procedure was originally drafted. Now that the lock down period has been finalised (at a period of 15 to 17 weeks), the consultation paper proposed that the meter reading frequency be changed to 'at least once every *fourteen (14) weeks*' so that the performance measure is based on a fixed period of time rather than a variable period of time.

#### *Draft Decision*

**In the draft report the Tribunal proposed to change the meter reading frequency from once every lockdown period to once every fourteen weeks.**

#### *Submissions to Draft Report*

**MEU** Were the only respondents to the draft report. MEU supported the Tribunal's draft decision.

#### *What happens in Victoria?*

The Victorian Metrology Procedure requires meters to be read 'at least once every *fourteen (14) weeks*'.

#### 5.1.2 Tribunal's decision and reasons for its decision

***The Tribunal has decided that meter reading frequency must be at least once every fourteen weeks.***

***To give effect to the Tribunal's decision, clauses 3.2.1(b) and 3.2.3(b) of the Metrology Procedure have been amended as follows:***

- 3.2.1(b) [The Responsible Person must] ensure that interval energy data is collected from the meters/associated data loggers representing at least 90% of estimated total consumption... at a frequency which is at least once every fourteen (14) weeks; and

- 3.2.3(b) [The Responsible Person must,] for controlled loads<sup>22</sup>, ensure that accumulated energy data is collected from meters representing at least 90% of estimated total consumption... at a frequency which is at least once every fourteen (14) weeks; and

***The definition of 'lock down period' has been deleted from the Metrology Procedure.***

There were no submissions objecting to the proposal in the draft report and this decision meets the Code objectives, in particular the objective of promoting an efficient market. It is also consistent with the Victorian Metrology Procedure.

## **5.2 Requirements relating to inventory tables**

### **5.2.1 Background**

In order to charge customers for Type 7 (unmetered supply) metering installations such as street lights, LNSPs develop:

- load tables that record the characteristics of each type of device
- inventory tables that record the number of each type of device
- on/off tables which indicate the period during which the device is switched on.

They then calculate the load profile based on these tables.

The Metrology Procedure currently requires LNSPs to update their inventory tables 'on a timely basis'. The consultation paper proposed an amendment so that:

- inventory tables are maintained on at least a monthly basis
- inventory tables relating to past periods cannot be adjusted unless the Financially Responsible Market Participant (i.e. the customer's retailer), the Local Retailer (i.e. the standard retailer) and the LNSP agree to the adjustment.

#### *Draft Decision*

In the draft report the Tribunal proposed that:

- inventory tables should be updated monthly
- the Responsible Person would be prohibited from changing inventory tables retrospectively without agreement.

#### *Submissions to Draft Report*

**MEU** Supported the draft decision.

**AIEW** Agreed that the inventory tables be updated on a monthly basis but also believed that this was of little value if the Market Operations Rules were not changed so that the same obligations applied to first tier Unmetered Load Inventory Tables.

**Integral** Agreed that the inventory tables should be updated monthly but thought that the inability to alter past tables without agreement provided a disincentive to update

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<sup>22</sup> The Metrology Procedure provides that the meter reading frequency for Type 6 metering installations other than controlled loads is once every 28 weeks.

inventory tables where the total inventory load will increase. Integral also believe that restricting the updating of inventory tables will lead to breaches of the National Electricity Code as it is a Code requirement to adjust inventory tables where the error is greater than 1.5 times the allowable error.

#### *What happens in Victoria?*

The ESC has amended its Metrology Procedure in a manner that is similar to the change proposed in the draft report.

### **5.2.2 Tribunal's decision and reasons for its decision**

***The Tribunal has decided that LNSPs shall be: (a) required to update their inventory tables on a monthly basis and (b) prohibited from changing inventory tables that relate to past periods without agreement between the parties unless a retrospective change is required under clause 7.9.5 of the National Electricity Code.***

***To give effect to the Tribunal's decision, Schedule 11 clause 2.3(d) and Schedule 11 clause 3.3(d) of the Metrology Procedure have been replaced with:***

Each Responsible Person must use its reasonable endeavours to update the Inventory Table for the NMIs for which it is responsible, on at least a monthly basis for any additions, deletions and modifications to ensure that the accuracy requirements in clause 3.8.7 of this Metrology Procedure are met. Such additions, deletions or modifications to the Inventory Table may only be made on a retrospective basis where:

- (i) agreed by the Responsible Person and the affected Code Participants; or
- (ii) necessary to comply with clause 7.9.5 of the Code.

The Responsible Person must communicate any material changes to the Inventory Table to the affected Code Participants and the relevant end-use customer.

With the exception of streetlights, it is generally the customer, not the LNSP, who is involved in installing new assets. Consequently, LNSPs have argued that:

- if an inventory table is not up to date, it is because the customer has not provided up to date information and
- if there is a ban on retrospective adjustments, customers will have an incentive to not inform the LNSP when they install new assets.

LNSPs suggest that the changes the Tribunal proposed in the Draft Report should only apply in cases where the LNSP is the owner of the inventory.

The Tribunal notes that under section 68 of *Electricity Supply Act 1995*, it is an offence to connect an electrical installation to an LNSP's distribution system unless authorised to do so by the LNSP.

The Tribunal considers that the most appropriate instrument for LNSPs to require customers to comply with their obligation to provide inventory information is the contract between the unmetered supply customer and the business.<sup>23</sup> The Tribunal notes that Integral has already taken action to amend its Customer Connection Contracts accordingly. The contractual approach allows recourse to a dispute resolution mechanism.

The Tribunal notes the comments from MEU and AIEW. The Tribunal accepted the argument put forward by Integral. The intention of the requirement to gain agreement of the market participants before amending past inventory tables was to reduce the proliferation of updates to past inventory load tables that were for trivial amounts. To accomplish this but not prevent significant changes to load tables the Tribunal has amended its draft decision to allow retrospective changes where required under the Code.

### *Related issue — sample testing*

The Unmetered Supply Working Group<sup>24</sup> has identified an error in the Metrology Procedure. In order to rectify this error, the [Tribunal has amended clauses 2.3\(a\) and 3.3\(a\) of Schedule 11 from:](#)

...for each NMI, a separate Inventory Table is required that identifies each device type which forms part of the NMI load ...

to:

...for each Responsible Person, a separate Inventory Table is required that identifies, for each NMI for which it is responsible, each device type which forms part of the load ...

This change removes the unintended requirement to test all NMIs.

## **5.3 Requirements for meter testing and inspections**

### **5.3.1 Guidelines for testing and inspections**

#### *Background*

The guidelines governing the testing and inspecting of certain meters are set out in the Metrology Procedure. The Metrology Procedure is currently drafted so that the new Australian Standard (which has now been approved) will supersede the existing guidelines at such time as the new Australian Standard has been published.

The consultation paper proposed that the new Australian Standard not immediately be incorporated into the Metrology Procedure because NEMMCO and other stakeholders have expressed reservations about it.

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<sup>23</sup> Under the proposed approach, Customer Connection Contracts could be amended to include a condition that obliges the customer to inform the LNSP about changes to inventory tables in a timely manner.

<sup>24</sup> The Unmetered Supply Working Group was established by NSW Treasury in its role as Metrology Co-ordinator to facilitate the implementation of competition among unmetered supply customers.

*Draft Decision*

In the draft report the Tribunal indicated that it would replace clause 2.4.3 of the Metrology Procedure with:

When the Australian Standard “AS1284 Part 13: In-service compliance testing” has been published, the asset management plan referred to in clause 2.4.4 must include, as a minimum, the requirements of that standard.

A change was also proposed to clause 2.4.2 of the Metrology Procedure.

*Submissions to Draft Report*

**MEU** Supported the draft decision.

*What happens in Victoria?*

The ESC’s consultation paper raised the issue of guidelines for testing and inspections. A number of Victorian participants expressed their continuing reservations about certain aspects of the new Australian Standard.<sup>25</sup>

Consequently, the ESC’s draft report proposes to require asset management plans to include, as a *minimum*, the requirements of the new Australian Standard. The approach is intended to incorporate the strengths of the new Australian Standard into the Metrology Procedure whilst retaining flexibility.

**5.3.2 The Tribunal’s decision and reasons for its decision**

***The Tribunal has decided that LNSPs shall adopt as a minimum the requirements of the Australian Standard.***

***To give effect to this decision, clause 2.4.2 of the Metrology Procedure has been replaced with:***

Clauses 2.4.3 to 2.4.11 (inclusive) are to be regarded as the asset management strategy guidelines for the whole-current (direct connected) *meters* for the purposes of schedule 7.3 of the Code.

***In addition, clause 2.4.3 of the Metrology Procedure has been replaced with:***

When the Australian Standard “AS1284 Part 13: In-service compliance testing” has been published, the asset management plan referred to in clause 2.4.4 must include, as a minimum, the requirements of that standard.

The Victorian approach appears to effectively reconcile stakeholders’ differing views about the Australian Standard. It is consistent with Integral’s proposition that the Australian Standard be adopted whilst not preventing LNSPs from taking actions that are beyond the requirements of the Australian Standard if they so wish.

<sup>25</sup> For instance, Email Metering expressed concerns relating to the treatment of meters that are shown to be below the required standard, and issues associated with the evaluation of low load accuracy.

### 5.3.3 Actions in the event of non-compliance with the testing and inspections requirements

#### *Background*

The Code requires certain actions to be taken if meter testing and inspection reveals that a metering installation does not meet requirements. The consultation paper proposed that the Metrology Procedure should be amended to make the Responsible Person responsible for such actions for Types 5, 6 and 7 metering installations.

#### *Draft Decision*

In the draft report the Tribunal proposed that the Metrology Procedure be amended so that the Responsible Person is required to take action in the event of non-compliance. Metering data is required to be substituted where there is an error of more than 1.5 times the accuracy permitted.

#### *Submissions to Draft Report*

**MEU** Supported the draft decision.

**EWON** Believe that historical data should be used to determine when the faults occur otherwise they supported the draft decision

#### *What happens in Victoria?*

The ESC's draft report proposes that the Metrology Procedure should be amended to make the Responsible Person responsible for such actions for Types 5, 6 and 7 metering installations.

### 5.3.4 The Tribunal's decision and reasons for its decision

***The Tribunal has decided that the Responsible Person shall be required to take action in the event of non-compliance.***

***To give effect to this decision, the Tribunal has added the following actions in event of non-conformance to each of Schedules 1, 2, 3, 4 and 5 of the Metrology Procedure:***

Requirement	Metrology Coordinator Decision/Comment
If a metering installation test, inspection or audit demonstrates errors in excess of those permitted by the Code and the time at which that error arose is not known, the error is deemed to have occurred at a time half way between the time of the most recent test or inspection which demonstrated that the metering installation, or the meter family to which the meter of the metering installation belongs, complied with the relevant accuracy requirement and the time when the error was detected.	Decision based on clause 7.9.5(a)
If a test or audit of a <i>metering installation</i> demonstrates an error of measurement of less than 1.5 times the error permitted by this the Code, no <i>substitution</i> of readings is required unless in NEMMCO's reasonable opinion a particular party would be significantly affected if no <i>substitution</i> were made.	Decision based on clause 7.9.5(b)



***Consequential changes have also been made to clauses 3.8.9 and 3.9.12 of the Metrology Procedure.***

The Code requires NEMMCO to take certain actions if meter testing and inspection reveals that a metering installation does not meet requirements. It does not make clear, however, whether NEMMCO's obligation extends to all metering installations or only Types 1-4.

The Metrology Procedure requires the Responsible Person, the LNSP, to ensure that testing and inspections are carried out in relation to Types 5, 6 & 7 metering installations. Arguably, therefore, the Responsible Person should also be the one to take action in the event of non-compliance.

In the Tribunal's view, the final decision is consistent with the Code objective of promoting an efficient market.

Were the draft decision being applied to the billing of customers then stakeholder concerns about equity would be valid. However, the Metrology Procedure only relates to settlements within the NEM. The issue of billing is dealt with in the *Electricity Supply Regulations (Section 36)*.

## **5.4 Tariffs for customers with sample meters**

### **5.4.1 Background**

Load profiles for Type 6 (accumulation) metering installations are developed by installing Type 5 (interval) metering installations for a random sample of customers. These customers with sample meters may currently be charged as if they were Type 5 customers. However, since this could affect their consumption patterns, the consultation paper proposed that sample customers be charged on the basis of accumulation data (despite the fact that more detailed information is available).

#### *Draft Decision*

**The Tribunal proposed that customers with sample meters should be charged on the basis of accumulation data.**

#### *Submissions to Draft Report*

**MEU** Supported the draft decision.

**EWON** Supported the draft decision.

**AIEW** Also supported the draft decision although AIEW did not want to exclude these meters being read as interval meters if a time of day tariff were introduced.

#### *What happens in Victoria?*

This issue does not arise in Victoria, because they have chosen not to allow for 'peel-off' of the Type 6 load profiles. Sample meters are not required, as the Type 6 load profile is the market load profile minus the energy usage of customers with Types 1-5 & 7 metering installations.

## 5.4.2 Tribunal's decision and reasons for its decision

***The Tribunal has decided that customers with sample meters shall be charged on the basis of accumulation data.***

***To give effect to the Tribunal's decision, clause 2.3.7 has been added to the Metrology Procedure:***

*The Responsible Person must ensure that the energy consumed and measured by a meter, which is a sample interval meter installed for the purposes of calculating a Controlled Load Profile, is settled in the wholesale electricity market on the basis of a metering installation type 6.*

***For consistency, the words "subject to clause 2.3.7" have been added at the beginning of clauses 2.3.2 and 2.3.3 of the Metrology Procedure.***

The point of having sample meters is to estimate the consumption patterns of customers who are not facing time-of-use tariffs. To charge customers who have sample meters by time-of-use means that these customers only become representative of customers with type 5 meters and not representative of customers with type 6 accumulation meters, which is the sole purpose of sample meters.

There is nothing in the Metrology procedures that precludes people with sample meters being charged as time-of-use customers in the future as suggested by AIEW. However this would require the consent of the customer, the cessation of that customers data being used in estimating a Type 6 load profile, and, all other things being equal, the need for one additional sample meter to be installed at another premise.

## 5.5 Other embedded network issues

### 5.5.1 Definition of parent, child, master, slave

#### *Background*

The Metrology Procedure currently has the following usage:

- The terms parent and child refer to metering points where the parent is the point at which energy enters the embedded network another distribution network, and child refers to points within the embedded network.
- The terms master and slave refer to metering installations where the master records the total consumption, including information pertaining to each slave.

The terms master and slave have been used historically to describe a form of metering that is used predominantly in rural areas of New South Wales, where the metering installations that are used along a rural road and all linked to one metering installation at the beginning of the road. For the purposes of the Metrology Procedure and MSATS, these are referred to as the parent and child. This is clarified in the definitions in the Metrology Procedure.

#### *Draft Decision*

**The Tribunal proposed definitions for *parent* and *child*. The Tribunal also proposed to remove references to *master* and *slave* from the Metrology Procedure.**

*Submissions to Draft Report*

**MEU** Does not object to the revised definitions on the basis that the Tribunal can confirm that the proposed amendments do not have unintended problematic effects elsewhere in the Metrology Procedures.

*What happens in Victoria?*

Victoria uses the following definitions for parent and child:

- **Parent** means a *metering point* in an *embedded network* to which *child(ren)* are connected. The *parent* may be connected to another *embedded network* or to the *distribution network* of an *LNSP*.
- **Child** means a *metering point* in an *embedded network* which is connected to a *parent*.

The Victorian Metrology Procedure does not refer to master and slave, because Victorian distributors have not used the metering technique that creates a requirement for the terms.

**5.5.2 Tribunal's decision and reasons for its decision**

***The Tribunal has decided that the Metrology Procedure shall define 'parent' and 'child' as follows:***

***Parent*** means ***a metering point in an embedded network*** where the *energy* that passes through the *metering point* is apportioned to more than one end-use customer, and that apportionment is made through the use of one or more *child's metering installation(s)* and the *parent's metering installation*.

***Child*** means a *metering point* in an *embedded network* which is connected to a *parent*.

***The definitions of 'master metering installation' and 'slave metering installation' have been omitted from the Metrology Procedure.***

***The Tribunal has also made a minor amendment to Schedule 10 in order to remove a reference to a 'slave metering installation'.***

The Tribunal concurs with NEMMCO's view that the terms 'master' and 'slave' should be omitted from the Metrology Procedure. The Tribunal also supports NEMMCO's proposal relating to the definition of a parent, however, some changes have been made in the interests of simplicity.

The Tribunal sought advice from its metrology consultant and is of the opinion that these changes have no unintended consequences elsewhere in the procedures.

**5.5.3 Who should have access to energy data for settlements purposes?***Background*

The energy data recorded by the parent meter 'double-counts' the energy recorded by the child meter. For settlements purposes, the energy measured at both parent and child NMI's must be forwarded to NEMMCO's central system. In order to find out how much energy the parent customer's retailer should be charged for in the wholesale market, it is necessary to subtract the usage of any second tier child customers. This subtraction is done in NEMMCO's MSATS system.

As the parent customer and child customer may have different, competing retailers, a question arises as to who should be responsible for deducting the child customer's energy data from the parent customer's energy data for billing purposes.

#### *Draft Decision*

**The Tribunal proposed in its draft report that the Responsible Person be required to ensure that the parent's Financially Responsible Market Participant has access to the energy data of all child NMIs within the embedded network.**

#### *Submissions to Draft Report*

**MEU** Supported the draft proposal.

#### *What happens in Victoria?*

The Victorian and New South Wales draft reports both propose similar outcomes.

### **5.5.4 Tribunal's decision and reasons for its decision**

***The Tribunal has decided that the Responsible Person be required to ensure that the parent's Financially Responsible Market Participant has access to the energy data of all child NMIs within the embedded network.***

***To give effect to the Tribunal's decision, clause 3.7.1 of the Metrology Procedure has been replaced with:***

Where the Responsible Person is not the Financially Responsible Market Participant, the Responsible Person must ensure that access is provided for a Financially Responsible Market Participant to energy data in the metering installation database for each metering installation which is installed in relation to a connection point that relates to the Financially Responsible Market Participant's NEMMCO account statements.

The amendment is consistent with clause 7.7(a)(1) of the Code and also with the ESC's draft decision.

## **5.6 Estimated reads**

### **5.6.1 Definition of estimated reads**

#### *Background*

If it is inappropriate or impossible to obtain an actual meter reading, it is possible under the Metrology Procedure for an *estimate* of a customer's energy usage to be entered into NEMMCO's central database.

If the customer has a Type 5 meter (an interval meter), the customer's actual usage at the time of estimate read is able to be ascertained at the next meter read. This can occur because the Type 5 meter records the customer's usage for each half hour interval. If the actual energy usage is used to replace the original estimate then a substitution occurs — the substitute read replaces the estimated read.

On the other hand, if the customer has a Type 6 meter (an accumulation meter), then there is no way of finding out what the customer's actual usage was at the time of the estimated read. In this case, there is no way of replacing the estimate with more accurate information, and the estimate is treated as permanent. In the context of the Metrology Procedure, this means that an *estimated read* of a Type 6 metering installation is treated as a *substituted read*.

The current definition of an estimated read in the Metrology Procedure fails to clearly make this distinction. The consultation paper proposed that the definition be amended in order to remove an error and also to more clearly reflect the intention of the Metrology Procedure.

#### *Draft Decision*

The Tribunal's draft decision was to replace the definition of estimated read in the Metrology Procedure with:

... estimated read means an estimate used in lieu of a meter reading, where permitted in accordance with clause 3.2.9 of this Metrology Procedure. An estimated read of a type 5 metering installation is treated as an estimation for the purposes of this Metrology Procedure whilst an estimated read of a type 6 metering installation is treated as a substitution for the purposes of this Metrology Procedure.

#### *Submissions to Draft Report*

**MEU** Supported the draft report in relation to the definition of estimated reads.

#### *What happens in Victoria?*

The Victorian Metrology Procedure already includes a definition of an estimated read that is identical to the definition proposed in the consultation paper.

### **5.6.2 Tribunal's decision and reasons for its decision**

#### ***The Tribunal has adopted the following definition of an estimated read:***

**...estimated read** means an *estimate* used in lieu of a *meter* reading, where permitted in accordance with clause 3.2.9 of this *Metrology Procedure*. An *estimated read* of a type 5 *metering installation* is treated as an *estimation* for the purposes of this *Metrology Procedure* whilst an *estimated read* of a type 6 *metering installation* is treated as a *substitution* for the purposes of this *Metrology Procedure*.

No party has expressed opposition to the proposed change. It is also consistent with the Victorian Metrology Procedure. The Tribunal has decided to proceed with the draft decision.

### **5.6.3 Introduction of additional 'substitution type' for Type 6 metering installations**

#### *Background*

Situations where it may be necessary to substitute energy data include:

- where a meter is found to be inaccurate
- where the person who is supposed to read the meter is unable to get access and so an estimate is used.

The Metrology Procedure sets out the approved techniques for substituting energy data ('substitution types'). The consultation paper proposed that a new approved technique be added for Type 6 metering installations. The new approved technique would permit previously substituted energy data to be changed (within a certain time frame), so long as the Financially Responsible Market Participant (ie, the customer's retailer), the Local Retailer (ie, the standard retailer) and the LNSP all agree that the original substitute data was incorrect. This type of substitution is currently allowed for Type 5 metering installations.

### *Draft Decision*

The Tribunal's draft decision was to not introduce an additional substitution type at this time. The Tribunal may reconsider the issue if the CATS procedures change to allow transfers on the basis of estimated reads.

### *Submissions to Draft Report*

**MEU** Does not object to the draft decision in relation to the additional 'substitution type', however the MEU notes that the new 'substitution type' was recently introduced in Victoria. As a result, the decision to not make a similar change entrenches an inconsistency between the two jurisdictions

### *What happens in Victoria?*

The Victorian Metrology Procedure already includes the additional substitution type for Type 6 metering installations.

## **5.6.4 Tribunal's decision and reasons for its decision**

***The Tribunal does not intend to introduce an additional substitution type at this time. However, it may reconsider the issue if the CATS procedures change to allow transfers on the basis of estimated reads.***

The key arguments in favour of the addition of a new substitution type for Type 6 metering installations are that:

- the extra complexity already exists for Type 5 metering installations and
- the new substitution type could potentially be used to resolve problems in the case of a gross error.

On the other hand it creates unnecessary extra complexity, and that it generates costs associated with updating participants' systems. The Tribunal is not convinced that there are clear benefits from adopting the change at this time, since it would impose costs without any corresponding advantage in terms of promoting the Code objectives.

## **5.7 Threshold for requirement to install a Type 5 metering installation**

### **5.7.1 Background**

The NSW Metrology Procedure requires small retail customers that consume between 100 MWh per annum and 160 MWh per annum (and who switch suppliers) to install a Type 5 metering installation.

This issue was not addressed in the consultation paper, however, AGL commented on it in its submission to the issues paper stating that they believed that the NSW requirement for customers consuming above 100MWh of electricity per year to have an interval meter was a barrier to competition in the 100 to 160 MWh cohort.

*Draft Decision*

***The Tribunal proposed not to form a position on this matter.***

*Submissions to Draft Report*

MEU Supports the draft decision.

*What happens in Victoria?*

In Victoria (and South Australia), customers that consume between 100 MWh per annum and 160 MWh per annum (and who switch suppliers) are not required to purchase a Type 5 metering installation if they wish to switch.

### **5.7.2 Tribunal's decision and reasons for its decision**

***The Tribunal does not intend to amend the threshold for interval meters at this time.***

The threshold of 100 MWh per year reflects the tranches for the implementation of retail contestability. Prior to 1 January 2002, all customers using in excess of 100 MWh per year of electricity had choice of electricity retailer. These customers were required to install interval meters. The Metrology Procedure reflects the situation at the time that the Metrology Procedure came into force.

The NSW Metrology Procedure also reflects the outcome of a lengthy consultation process. To change the requirements at this point could be perceived to be unfair towards customers that have already been required to invest in a Type 5 meter.





## ATTACHMENT 1 CHANGES TO METROLOGY PROCEDURE — ADDITIONAL CONTROLLED LOAD PROFILE

The Tribunal has made a number of amendments to the Metrology Procedure in order to implement its decision relating to an additional controlled load profile (see section 4.2 of this report).

### Change 1 Revise Schedule 10, clause 2.1

Clause 2.1 details requirements relating to profile preparation services for controlled load. The Tribunal has rewritten the clause as follows:

In accordance with clause 3.10.2 of this *Metrology Procedure*, *Controlled Load Profile(s) (CLP)* for each *profile area* must be estimated by NEMMCO using *interval energy data* from a sample (or samples) of *controlled load interval meters*.

The sample *meters*, which will be installed by the NSW *LNSPs*, must be a type 5 *metering installation*. Two *NMIs* may need to be allocated to each sample *meter*.

- one *NMI* must be used for the *interval energy data* from the sample *meter* that is used to estimate the *CLP* in accordance with this clause 2.1; and
- a second *NMI* must be used to transfer the consumption energy data to which the *CLP* is applied in accordance with clause 2.2 of this Schedule 10.

#### 2.1.1 One Controlled Load Profile

- (a) There shall be at least one *CLP* in each *profile area*. An *LNSP* may choose to introduce a second *CLP* in its *profile area*.
- (b) If the *LNSP* chooses not to introduce a second *CLP*, one (1) *CLP* must be calculated for all *controlled loads* in a *profile area*, which is based on a sample of *controlled load interval meters*.
- (c) For each half hourly *trading interval*, the *CLP* must be calculated by *profile area* as follows:

*CLP* for a *profile area* for a *trading interval j*

$$= \sum_{n=1}^N (\text{sample meter load in trading interval } j)_n * (\text{weighting factor})_n$$

**where:**

*n* represents the set of sample *NMI*'s in the *profile area*

Weighting factor is the weighting factor associated with the *NMI*.

### 2.1.2 Two Controlled Load Profiles

- (a) If the *LNSP* chooses to introduce a second *CLP*, it must provide a written notice advising of the commencement date of the second *CLP* to:
- the *Metrology Coordinator*
  - *NEMMCO* and
  - all *Retailers*.
- (b) The commencement date must be at least six (6) months after the date of the notice.
- (c) From the commencement date, two (2) *CLPs* must be calculated for the profile area:
- one for *controlled loads* in the *profile area* based on a sample of *controlled load interval meters* on the controlled load 1 network tariff; and
  - one for *controlled loads* in the *profile area* based on a sample of *controlled load interval meters* on the controlled load 2 network tariff.

For each half hourly *trading interval*, the *Controlled Load Profiles* must be calculated by *profile area* as follows:

#### **CLP for loads on the controlled load 1 network tariff**

*CLP*<sub>1</sub> for a *profile area* for a *trading interval j*

$$= \sum_{n=1}^N (\text{load for sample } \textit{meter} \text{ on the controlled load 1 network tariff in } \textit{trading interval j})_n \\ * (\text{weighting factor})_n$$

**where:**

*n* represents the set of sample *NMI*'s on the controlled load 1 network tariff, in the *profile area*

Weighting factor is the weighting factor associated with the *NMI*

#### **CLP for loads on the controlled load 2 network tariff**

*CLP*<sub>2</sub> for a *profile area* for a *trading interval j*

$$= \sum_{m=1}^M (\text{load for sample } \textit{meter} \text{ on the controlled load 2 network tariff in } \textit{trading interval j})_m \\ * (\text{weighting factor})_m$$

**where:**

*m* represents the set of sample *NMI*'s on the controlled load 2 network tariff, in the *profile area*

Weighting factor is the weighting factor associated with the *NMI*.

## Change 2 Revise Schedule 10, clause 2.2

Clause 2.2 details requirements relating to basic meter profilers for controlled load. The Tribunal has rewritten the clause as follows:

In accordance with clause 3.10.1 of this *Metrology Procedure*, NEMMCO must apply the appropriate *CLP*, for the *profile area* to which the *NMI* is *connected*, to the *consumption energy data* for all *first tier* and *second tier controlled loads*, in order to obtain *trading interval energy data*.

### 2.2.1 One controlled load profile

For *NMIs* in a *profile area* with one *CLP*, the *CLP* must be applied as follows:

Half hourly *energy data* for *trading interval j* for a *NMI data stream*

$$= \text{Consumption energy data between start date and end date} * \frac{CLP_j}{\sum_{i=startdate}^{end\ date} CLP_i}$$

where

$CLP_j$  = the calculated *Controlled Load Profile energy* for *trading interval j*

$\sum_{i=startdate}^{end\ date} CLP_i$  = the sum of *Controlled Load Profile energy* between the start date and the

end date; and

“start date” and “end date” have the meanings given in clause 4 of this Schedule 10.

### 2.2.2 Two controlled load profiles

In a *profile area* where the LNSP has chosen to introduce a second *CLP*, the *CLPs* shall be applied as follows:

- (a) *Loads* on the controlled load 1 network tariff ( $CLP_1$ ) must be applied to the *consumption energy data* for all *first tier* and *second tier controlled loads*, which are on the controlled load 1 network tariff:

Half hourly *energy data* for *trading interval j* for a *NMI data stream* on the controlled load 1 network tariff

$$= \text{Consumption energy data between start date and end date} * \frac{CLP_{1j}}{\sum_{i=startdate}^{end\ date} CLP_{1i}}$$

where:

$CLP_{1j}$  = the calculated  $CLP_1$  *energy* for *trading interval j*

$\sum_{i=startdate}^{end\ date} CLP_{1i}$  = the sum of the  $CLP_1$  *energy* between the start date and the end date

“start date” and “end date” have the meanings given in clause 4 of this Schedule 10.

- (b) *Loads on the controlled load 2 network tariff (CLP<sub>2</sub>) must be applied to the consumption energy data for all first tier and second tier controlled loads, which are on the controlled load 2 network tariff:*

Half hourly *energy data for trading interval j for a NMI data stream on the controlled load 2 network tariff*

$$= \text{Consumption energy data between start date and end date} * \frac{CLP_{2j}}{\sum_{i=startdate}^{enddate} CLP_{2i}}$$

where:

$CLP_{2j}$  = the calculated  $CLP_2$  energy for trading interval  $j$

$\sum_{i=startdate}^{enddate} CLP_{2i}$  = the sum of the  $CLP_2$  energy between the start date and the end date; and

“start date” and “end date” have the meanings given in clause 4 of this Schedule 10.

### Change 3 Consequential changes

As a consequence of the Tribunal’s changes to the Metrology Procedures the follow clauses are also amended. Specifically

- “Controlled Load Profile” is replaced with “Controlled Load Profile(s)” in clauses 3.2.1, 3.2.2 and 3.10.6(a)
- “Controlled Load Profile” is replaced with “a Controlled Load Profile” in clause 2.3.6.
- clause 3.10.2 is be changed to:

*NEMMCO must prepare Controlled Load Profile(s) (CLP) for each profile area in accordance with Schedule 10 clause 2.1 and apply the CLP(s) by profile area to the consumption energy data from the applicable first tier controlled load accumulation meters and from the applicable second tier controlled load type 6 metering installations in accordance with Schedule 10 clause 2.2 to produce trading interval data.*