Notice of Review of Initial Metrology Procedures

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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National Electricity Code Report NCR-9

May 2002

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TABLE OF CONTENTS

NSW Treasury - Proposed changes to the NSW Metrology Procedure - Types 5, 6 and 7 Metering Installations

1 BACKGROUND

On 1 January 2002, the Tribunal became the Metrology Coordinator for NSW. As Metrology Coordinator, the Tribunal is responsible for the administration of a Metrology Procedure under the National Electricity Code (Code). The Metrology Procedure applies where a customer chooses to take their electricity supply from a retailer under a negotiated supply contract. The Metrology Procedure describes how metering data is read, delivered and used in the wholesale market settlement process for retail customers whose consumption is less than 160MWh per annum.

NSW Treasury, acting in the role of Metrology Coordinator, wrote and published the Metrology Procedures prior to 1 January 2002. As Metrology Coordinator, the Tribunal may review or amend the procedures. However, under the Code the Tribunal is to review the Metrology Procedures within six months of becoming Metrology Coordinator. In undertaking the review, the Tribunal must use the Code Consultation Procedures (see Clause 8.9 of the Code – reproduced in Attachment 1).

The Code requires the Tribunal to assess the initial metrology procedures against the following objectives:

1. the promotion of an efficient market
2. the avoidance of unreasonable discrimination between Market Participants
3. minimisation of the barriers to entry for competing retailers
4. technical soundness and economic efficiency.

2 REVIEW OF METROLOGY PROCEDURES

The Tribunal proposes to undertake its review of the initial procedures. As part of its review the Tribunal will consider a number of changes that NSW Treasury has proposed. Treasury's proposed changes are attached to this notice.

The proposed changes to the Metrology Procedure relate to the following matters:

- clarifying and simplifying metering arrangements in embedded networks
- preservation of the integrity of sample meter data for controlled loads
- meter reading frequency
- definition of estimated reads
- addition of a substitution type for type 6 meters
- changes to the inventory table
- allowing for the Metrology Coordinator to agree to more than one Controlled Load Profile per profile area
- clarification of the end date for application of a profile.

3 SUBMISSIONS

The Tribunal invites submissions from interested parties. In particular, the Tribunal seeks comments on the Metrology Procedures against the four objectives detailed earlier and whether there are any parts of the Metrology Procedures that fail to meet these objectives. The Tribunal also seeks comments on the proposed changes submitted by NSW Treasury.

There is no standard format for preparation of submissions. However, copies of longer submissions should also be provided on computer disk. The Tribunal must receive submissions no later than **1 July 2002**. Submissions may be delivered to Level 2, 44 Market Street, SYDNEY, emailed to ipart@ipart.nsw.gov.au or sent to "Review of Metrology Procedures" PO BOX Q290, QVB Post Office NSW 1230.

Once the Tribunal has registered submissions, copies of submissions will be available from the Tribunal's office or from its website (www.ipart.nsw.gov.au). All submissions for which confidentiality is not claimed will be made available for public inspection at the Tribunal's offices and via the Tribunal's website.

4 REVIEW PROCESS

A written submission may state whether a meeting (or public forum) is necessary or desirable in connection with the matter under consultation, and if so, the reasons why such meeting is necessary or desirable. If the Tribunal is satisfied that a meeting (or public forum) is necessary, all Code participants and those who have made submissions will be invited to attend.

5 FUTURE REVIEW

The Code requires that the Metrology Coordinators in each Jurisdiction undertake a joint review of the Metrology Procedures in 2003. This would be a more appropriate time to consider complex issues, like profiling.

Any questions or enquiries regarding this review should be directed to Michael Seery (9290 8421) or Craig Nalder (9290 8449).

Thomas G Parry
Chairman

ATTACHMENT 1 CODE CONSULTATION PROCEDURES (CODE S8.9)

(a) These provisions apply wherever in the *Code* any person ("the *consulting party*") is required to comply with the *Code consultation procedures*.

(b) The *consulting party* must give a notice to all persons nominated (including *Intending Participants* in the class of persons nominated) by the relevant provision as those with whom consultation is required, or if no persons are specifically nominated all *Code Participants, Intending Participants* and *interested parties* ("*consulted persons*"), giving particulars of the matter under consultation.

(c) Except where the *consulting party* is *NECA* or the *Advocacy Panel*, the *consulting party* must provide a copy of the notice referred to in 8.9(b) to *NEMMCO*. Within 3 *business days* of receipt of the notice *NEMMCO* must *publish* the notice on its website. Where *NECA* or the *Advocacy Panel* is the *consulting party*, *NECA* must *publish* the notice referred to in 8.9(b) on its website.

(d) The notice must invite interested *consulted persons* to make written submissions to the *consulting party* concerning the matter.

(e) A written submission may state whether a *consulted person* considers that a meeting is necessary or desirable in connection with the matter under consultation, and if so, the reasons why such meeting is necessary or desirable. To be valid, a submission must be received not later than the date specified in the notice (not to be less than 25 *business days*) after the notice referred to in clause 8.9(a) is given.

(f) The *consulting party* must consider all valid submissions within a period of not more than a further 20 *business days*. If the *consulting party*, after having considered all valid submissions, concludes that it is desirable or necessary to hold any meetings the *consulting party* must use its best endeavours to hold such meetings with *consulted persons* who have requested meetings within a further 25 *business days*.

(g) Following the conclusion of any meetings held in accordance with clause 8.9(f) and the *consulting party's* consideration of a matter under consultation, the *consulting party* must publish a draft report, available to all *consulted persons*, setting out:

(1) the conclusions and any determinations of the *consulting party;*

(2) its reasons for those conclusions;

(3) the procedure followed by the *consulting party* in considering the matter; and

(4) summaries of each issue that the *consulting party* reasonably considers to material contained in written submissions received from *consulted persons* or in meetings and the *consulting party's* response to each such issue,

and subject to the provisions of clause 8.6, make available to all *consulted persons*, on request, copies of any material submitted to the *consulting party*.

(h) Except where the *consulting party* is *NECA* or the *Advocacy Pane*l, the *consulting party* must provide a copy of the draft report referred to in 8.9(g) to *NEMMC*O. Within 3 *business days* of receipt of the draft report *NEMMCO* must *publish* the draft report on its website. Where *NECA* or the *Advocacy Panel* is the *consulting part*y, *NECA* must *publish* the draft report referred to in 8.9(g) on its website.

(i) To be valid, a submission must be received not later than the date specified in the notice (not to be less than 10 *business days* after the notice referred to in clause 8.9(h) or such longer period as reasonably determined by the *consulting party* having regard to the complexity of the matters and issues under consideration.

(j) The *consulting party* must consider all valid submissions within a period of not more than a further 30 *business day*s.

(k) Following the conclusion of the *consulting party's* consideration of all valid submissions the *consulting party* must *publish* a final report, available to all *consulted person*s, setting out:

(1) the conclusions and any determinations of the *consulting party* on the matter under consultation;

(2) its reasons for those conclusions;

(3) the procedure followed by the *consulting party* in considering the matter;

(4) summaries required pursuant to 8.9(g)(4); and

(5) summaries of each issue that the *consulting party* reasonably considers to be material contained in valid written submissions received from *consulted persons* on the draft report and the *consulting party's* response to each such submission, and subject to the provisions of clause 8.6, make available to all *consulted person*s, on request, copies of any material submitted to the *consulting part*y.

(l) Except where the *consulting party* is *NECA* or the *Advocacy Pane*l, the *consulting party* must provide a copy of the final report referred to in 8.9(k) to *NEMMC*O. Within 3 *business days* of receipt of the final report *NEMMCO* must *publish* the final report on its website. Where *NECA* or the *Advocacy Panel* is the *consulting part*y, *NECA* or *NEMMCO* as the case may be must *publish* the final report referred to in 8.9(k) on its website.

(m) The *consulting party* must not make the decision or determination in relation to which the *Code consultation procedures* apply until the *consulting party* has completed all the procedures set out in this clause.

(n) Where *NEMMCO* or *NECA* as the *consulting party* fails to substantially comply with clause 8.9 when required to do so, any decision or determination purportedly made is a reviewable decision and is of no force or effect.

New South Wales
TREASURY

Proposed changes to the New South Wales Metrology Procedure - Types 5, 6 and 7 Metering Installations

April 2002

Contents

1 Introduction

This document proposes a number of changes to the New South Wales Metrology Procedure - Types 5, 6 and 7 Metering Installations (Metrology Procedure) for the consideration of IPART as the Metrology Coordinator. It is proposed that this document be used for the purposes of consultation on changes to the Metrology Procedure with all National Electricity Market Code Participants and Intending Participants under Clause 7.3.1(ba)(2) of the National Electricity Code ("the Code").

2 Background

The Code allows the wholesale electricity market to be settled on the basis of:

- metering installation type 5 (interval meter not read within settlement timeframes);
- metering installation type 6 (accumulation meter or interval meter settled on the basis of profiling); and
- metering installation type 7 (unmetered supplies).

Under the Code, a Metrology Coordinator in each jurisdiction must develop and approve Metrology Procedures for these three metering installation types. The Metrology Procedures are technical documents for second tier metering installations that describe the rules, processes, and algorithms needed to take energy data from the meter and consolidate and transform it into a form suitable for settlement of the wholesale electricity market.

A Metrology Procedure for metering installation types 5, 6 and 7 (Metrology Procedure) was published by the MIG as New South Wales Metrology Coordinator in August 2001. The Metrology Procedure became effective on 20 November 2001 for type 5 metering installations and on 1 January 2002 for types 6 and 7 metering installations.

3 Matters undergoing consultation

The proposed changes to the Metrology Procedure relate to the following matters:

- Clarifying and simplifying metering arrangements for embedded networks (section 4.1);
- Preservation of the integrity of sample meter data for controlled loads (section 4.2);
- Meter reading frequency (section 4.3);
- Meter tests and inspections requirements (section 4.4);
- Definition of estimated reads (section 4.5);
- Addition of a substitution type for type 6 meters (section 4.6);
- Changes to the inventory table (section 4.7);

- Allowing for more than one Controlled Load Profile per profile area in the areas of EnergyAustralia, Integral Energy and Country Energy (section 4.8); and
- Amending the dates for application of the net system load profile and controlled load profile (section 4.9).

4 Proposed amendments to the Metrology Procedure

This section:

- Sets out, where necessary, background to the proposed changes to the Metrology Procedure;
- Provides a discussion of the policy reasoning for proposed changes to the Metrology Procedure; and
- Sets out the key proposed changes to the Metrology Procedure.

4.1 Embedded networks

4.1.1 Background

Inset networks (which give rise to the practice of 'reselling') typically occur in situations such as major shopping centres, airports, industrial parks and caravan parks for example. They occur when customers (inset customers) are connected to a distribution network that is not operated by a licensed distributor; the inset network is operated by an operator who is exempt.

The incoming load is metered at the entry point to the inset network, while in some cases the individual inset customers within the network are metered and in other cases they are not. The common load (or residual load) of that inset network may or may not be separately metered.

Where the common load is not separately metered, then that common load is calculated by subtracting the inset customers' loads (metered or estimated) from the incoming load to the inset network. For the purposes of MSATS, the inset network, in this case, is referred to as an embedded network. The incoming load is referred to as the parent of the embedded network, and the inset customers are referred to as children of the embedded network.

For the purposes of MSATS, embedded networks also occur in New South Wales where there are master and slave metering installations, that is, there is subtractive metering. This typically occurs in rural areas.

A child in an embedded network is considered to be a second tier customer when that customer purchases electricity from a retailer other than the parent's retailer.

A number of proposed changes affecting embedded networks are discussed below. These are:

- Embedded network definition (sections 4.1.2 and 4.1.3);
- Clarification of the responsible person in embedded networks (section 4.1.4 and 4.1.5)

- Metering requirements for embedded networks (sections 4.1.6 and 4.1.7);
- Access to energy data for embedded networks (sections 4.1.8 and 4.1.9); and
- Standing data for children in embedded networks (section 4.1.10).

4.1.2 Embedded network definition discussion

The following definitions are included in the Metrology Procedure:

- Embedded network – 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*;
- Parent – a *metering point* in an *embedded network* to which *child(ren)* are connected or a *master metering installation*;
- Child – a *metering point* in an *embedded network* which is connected to a *parent* or a *slave metering installation;*
- Master metering installation – a *metering installation* that records the total consumption associated with an *embedded network*, including consumption to each associated *slave metering installation*; and
- Slave metering installation – for the purposes of this *Metrology Procedure*, a *metering installation* that is not the *master metering installation* and where the consumption of the *metering installation* is also recorded by the *master metering installation*.

The Metrology Coordinator needs to consider whether the definitions for "embedded network", "parent", "child", "master metering installation" and "slave metering installation" are appropriate. A key determinant of whether an inset network is an embedded network is the need for subtractive metering, that is, when one or more children transfer to a retailer other than the parent's retailer, then the energy for which the parent's retailer is charged is based on the incoming load less the children's load.

Currently, this distinction is not clear in the definitions. The existing definitions apply to all inset networks, regardless of whether there is, or is not, subtractive metering.

4.1.3 Embedded network definition proposed change

It is therefore proposed that the definition for "embedded network" in the Metrology Procedure be amended as follows:

> "Embedded network means a *distribution network* to which end-use customers are connected that is not owned, operated or controlled by a *Local Network Service Provider*, and which requires the *energy data* for the end-use customers which are connected to the *embedded network*, and which purchase electricity from a *Retailer*

other than the *parent's Retailer*, to be deducted to be able to settle the *energy* for the *parent's Retailer* in the wholesale market."

Similar changes would also need to be made to the *Market Operations Rule (NSW Rules for Electricity Metering) No.3 of 2001* (Metering MOR).

Comment is sought as to whether the definition for an "embedded network" in the Metrology Procedure should be amended as proposed. Are the definitions for a "parent", "child", "master metering installation" and "slave metering installation" in the Metrology Procedure appropriate?

4.1.4 Responsible person discussion

Under the Code, there must be a party who is the 'Responsible Person' for each metering installation that is not first-tier (ie for each metering installation where a customer has ever switched). The Responsible Person is responsible for meter provision and the provision of metering data services to the metering installation in question.

Under the existing Code and Metrology Procedure, problems arise in certain circumstances involving embedded networks. The relevant provisions are:

- The Code states that the Responsible Person for a metering installation may be either the LNSP or the financially responsible market participant (FRMP) (except where an exclusivity is imposed via the NSW FRC Code derogation)[1]; and
- The Metrology Procedure states that, where the child and the parent have a metering installation type 5, 6 or 7, the Responsible Person for a child's metering installation is the Responsible Person for the child's parent metering installation.

At the same time, it should be noted that the child metering installation in an embedded network does not have an LNSP, unless it is a 'slave' in a 'master/slave' metering installation. The existing definition of embedded networks excludes master/slave metering installations, which are embedded networks for the purposes of MSATS, but are part of the LNSP's network.

The circumstances that create difficulties are:

- Where the child is second tier with a type 5 or 6 metering installation whilst the parent is first tier. In this case, there is no Responsible Person for the parent, so it would not be possible to comply with the Metrology Procedure **(First-tier parent)** [Note: if the child has a type 1-4 metering installation, the Metrology Procedure does not apply to the child]; and

[1] The NSW derogation makes the LNSP the exclusive Responsible Person for all type 6 and 7 metering installations and all type 5 metering installations below 100 MWh per annum.

- Where the parent's Responsible Person is its FRMP (and not the LNSP) but the child metering installation falls within the exclusivity, so that its Responsible Person must be the LNSP. This violates the Metrology Procedure if the child has a slave metering installation and is not possible otherwise, since a child other than one with a slave metering installation does not have an LNSP **(Different RPs)**.

The proposed solutions to these difficulties are:

- *First-tier parent*:
  - where the parent is a first-tier load, then during the period of the exclusivity, the Responsible Person of the child is deemed to be the LNSP of the child's parent (assuming the child falls within the exclusivity); and
- *Different RPs*:
  - Where the parent and child both have a type 5 or 6 metering installation and both fall within the exclusivity, the Responsible Person for the child is the parent's Responsible Person. During the period of the exclusivity, this will be the parent's LNSP; and
  - Where the parent has a type 1-4 metering installation or has a type 5 metering installation and consumes more than 100 MWh pa , the child's Responsible Person is the parent's LNSP (during the period of the exclusivity).

4.1.5 Responsible person proposed changes

Delete the existing clause 1.2.5 and replace with:

1.2.5 For the period during which the *Local Network Service Providers* are, pursuant to Chapter 9 of the *Code*, the exclusive *Responsible Persons* for *metering installations* installed at a *connection point* consuming less than 100 MWh per annum, and:

(a) where a *child* and a *parent* both have *metering installation* types 5, 6 or 7 which are installed at *connection points* consuming less than 100 MWh per annum, then the *Responsible Person* for a *metering installation* of a *child* is the *Responsible Person* for the *metering installation* of that *child's parent*[2];

(b) where a *child* and a *parent* both have *metering installation* types 5, 6 or 7 and the *metering installation* for the *parent* is installed at a *connection point* consuming greater than 100 MWh per annum, then the *Responsible Person* for a *metering installation* of a *child* is the *LNSP* for that *child's parent.*

[2] Consultation note: The Responsible Person for the parent must be the parent's LNSP due to the NSW FRC Code derogation.

Similar changes will also need to be made to the Metering MOR to cover the situations other than where both the parent and child are second tier and have type 5, 6 or 7 metering installations.

Comment is sought as to whether the changes proposed to promote consistency between the Metrology Procedure and the Code as to the identity of the Responsible Person for 'children' in embedded networks are required.

4.1.6 Metering requirements discussion

The present requirements for metering installations in embedded networks are potentially onerous and may unnecessarily deter switching by 'children' within such networks. The current clause 2.2.1 of the Metrology Procedure requires the Responsible Person for a child metering installation to ensure that the child has the same type of metering installation as the child's parent where the child is or wishes to become second tier. The justification for this requirement was to remove any risk of higher costs for the parent that may arise from a child becoming second tier and using a different type of metering installation to the parent.

For example, without this requirement, where both parent and child had a type 6 metering installations and the child chose to switch on the basis of a type 5 metering installation, the parent could be subject to higher charges if the child had a flatter load than the profile. This is because the parent is still being settled on the basis of a profile and is still paying the same amount to its retailer, but the child may make a lower contribution than it did when it was on the profile. This would be a risk that would be difficult for the parent to manage, which justifies retaining a prohibition on this type of scenario.

However, three changes to clause 2.2.1 should be considered.

First, for the sake of clarity, the requirements on the Responsible Person of the child should apply when the child elects to transfer to a retailer other than the parent's retailer, rather than when the child becomes second tier as such. A child could be second tier and still be with the host retailer. Alternatively, a child could be first tier and with a retailer other than the host retailer. It is the *difference* in child and parent retailer combined with different metering installations that can create risks for the parent, not the fact that the child has switched from the host retailer *per se*.

Second, the requirement on the Responsible Person of the child to ensure consistency of metering installation with the parent should only apply at the time that the child switches to a retailer other than the parent's retailer. The current clause can be read as requiring the child to install a new metering installation type simply because the parent installs a different meter type subsequent to the child's switch. This could impose unnecessary and unanticipated costs on the child or the child's retailer. To the extent that differing metering installations create risks for the parent, the parent can factor this into its decision to move to another type of metering installation.

Third, it would be reasonable to allow children to switch retailer on the basis of a different metering installation to the parent, so long as the difference in metering installations pre-dates the child's decision to switch and *it is the parent who caused the difference in metering installations to occur*. For example, if a parent has switched on the basis of a type 5 metering installation, while a child is still on a type 6, the child should be permitted to switch either on the basis of a type 5 or 6 metering installation. If the child has a relatively flat load, then the parent may be made worse off by the child switching on this basis, but this is a risk that the parent could and should have factored into its decision to move to a type 5 metering installation in the first place. An alternative way for the parent to manage these risks is to negotiate conditions of switching and/or metering in its agreement with its children. For example, a parent may be able to agree with a child that the child may only switch on the basis of an accumulation meter.

This solution also ensures that where both parent and child are originally on a type 5 metering installation, and the parent reverts to a type 6 metering installation, the child is not also forced to revert to type 6, but may switch on the basis of either a type 5 or type 6 metering installation. Once again, any risks this imposes on the parent should be factored into the parent's decision to revert or in the contractual arrangements, if any, between the parent and child.

Finally, all metering arrangements within embedded networks should be flexible if all the relevant affected parties agree – namely, the parent's and child's retailers and their Responsible Persons (who would be the same person for the term of the derogation).

The proposed solution is designed to maximise the freedom and minimise the cost of switching to the child, whilst giving the parent reasonable control over the risks it faces by any or all of its children changing metering installation types.

One caveat to the proposed solution is that some parents of children with accumulation meters may *already* be settled on the basis of interval data and have not had the opportunity to manage the risks of their children moving to second tier on the basis of accumulation meters. In other words, the parents created the difference in metering installations, but did so on the basis of an understanding that if their children wanted to switch, such children would need to install interval meters and be settled on the basis of interval data. Therefore, it is proposed that, as a transitional measure until 31 December 2002, children should not be permitted to become second tier unless they are settled on the same basis as their parent. This allows time for parents currently settled on an interval basis to enter into or vary agreements between themselves and their children to manage the risks of children switching on the basis of accumulation meters. It is considered that this does not impose excessive costs or risks on the parents, as such parents, already being settled on an interval basis (probably type 4 metering installations) would most likely be sophisticated enough to understand and manage any risks that may arise. Again, if the relevant parties agree, arrangements should be flexible.

The implications of both the proposed long term and transitional arrangements for metering in embedded networks are illustrated in the flow charts below.

4.1.7 Metering requirements proposed change

Delete the existing clauses 2.2.1 and 2.2.2 and replace with:

2.2.1 Until 31 December 2002, unless otherwise agreed by the *parent's Retailer*, the *child's Retailer*, the *parent's Responsible Person* and the *child's Responsible Person*, at the time that a *child* elects to transfer to a *Retailer* other than the *parent's Retailer*, the *child's Responsible Person* must ensure that:

(a) if the *parent* has an *interval meter* installed that is settled on the basis of interval data, the *child* has a type 4 or 5 *metering installation*;

(b) if the *parent* has an *interval meter* installed that is settled on the basis of accumulation data, the *child* has a type 6 *metering installation*; or

(c) if the *parent* has an *accumulation meter* installed, the *child* has a type 6 *metering installation.*

2.2.2 Until 31 December 2002, unless otherwise agreed by the *parent's Retailer*, the *child's Retailer*, the *parent's Responsible Person* and the *child's Responsible Person*, the *Responsible Person* of a *child* that elects to transfer to a *Retailer* other than the *parent's Retailer* must ensure that the *metering installation* type of the *child* does not change from the type of *metering installation* required at the time of transfer by clause 2.2.1, unless the *parent's metering installation* type changes from the *metering installation* in place at the time of the *child's* transfer, in which case, the *child's metering installation* may be changed to the same *metering installation* type as the *child's parent.*

2.2.3 From 1 January 2003, unless otherwise agreed by the *parent's Retailer*, the *child's Retailer*, the *parent's Responsible Person* and the *child's Responsible Person*, at the time that a *child* elects to transfer to a *Retailer* other than the *parent's Retailer*, the *child's Responsible Person* must ensure that, if before the transfer of *Retailer*:

(a) the *parent* and the *child* both have an *interval meter* installed that is settled on the basis of interval data, then the *child* has a type 4 or type 5 *metering installation*;

(b) the *parent* and the *child* both have:

(i) an *accumulation meter* installed; or
(ii) an *interval meter* installed that is settled on the basis of accumulated energy data,

then the *child* has a type 6 *metering installation*; or

(c) if neither (a) nor (b) are met, then the *child* has a type 4, type 5 or type 6 *metering installation*.

2.2.4 Agreement by the *parent's Retailer*, the *child's Responsible Person* and the *parent's Responsible Person* under this clause 2.2 shall not be unreasonably withheld.

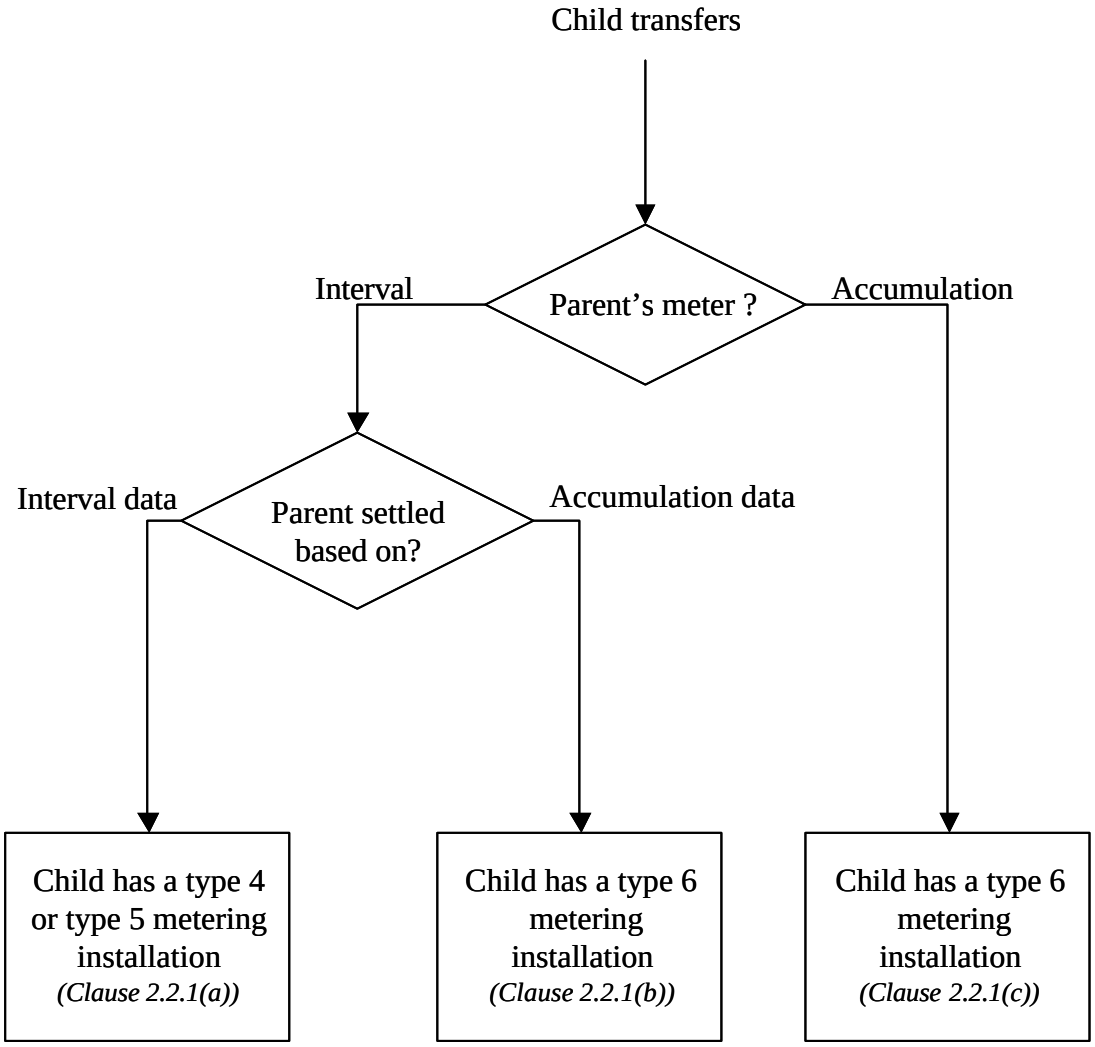
2.2.5 From 1 January 2003, unless otherwise agreed by the *parent's Retailer*, the *child's Retailer*, the *parent's Responsible Person* and the *child's Responsible Person*, the *Responsible Person* of a *child* that elects to transfer to a *Retailer* other than the *parent's Retailer* must ensure that the *metering installation* type of the *child* does not change from the type or types of *metering installation* permitted at the time of transfer by clause 2.2.3, unless the *parent's metering installation* type changes from the *metering installation* in place at the time of the *child's* transfer, in which case the *child's metering installation* may be changed to the same *metering installation* type as the *parent*.

2.2.6 Until 31 December 2002, unless otherwise agreed by the *parent's Retailer*, the *child's Retailer*, the *parent's Responsible Person* and the *child's Responsible Person*, should a *parent* elect to transfer to a *second tier Retailer*, the *Responsible Person* must ensure that all *children*, who have not previously elected to transfer to a *Retailer* other than the *parent's Retailer*, also transfer to the same *second tier Retailer* as the *parent*.

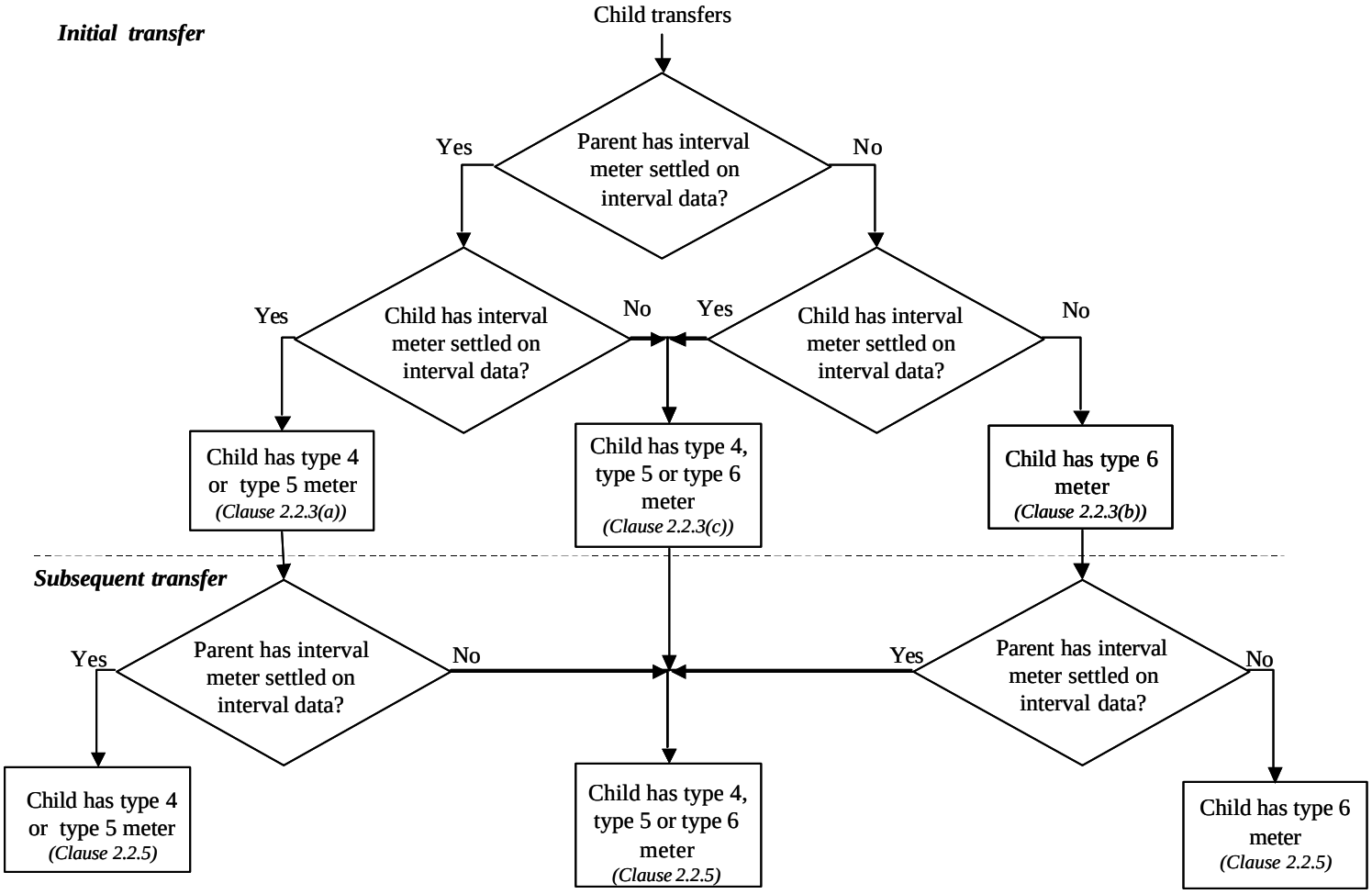
Similar changes would need to be made to the Metering MOR.

Comment is sought as to whether the changes to the requirements for metering in embedded networks are appropriate.

NSW Metrology Procedure – Embedded networks
Current situation and proposed situation until 31 December 2002



NSW Metrology Procedure – Embedded networks
Proposed situation after 1 January 2003



4.1.8 Access to energy data discussion

The Metrology Procedure[3] and the Metering Market Operations Rule[4] require that the Responsible Person and distributor, respectively, must provide access to energy data for relevant parties. However, the energy data in a metering installation for a parent will be the total energy for that parent's embedded network. When one or more children have transferred to a retailer other than the parent's retailer, then the parent's retailer will need to know the energy consumed by the children that have transferred so that this energy can be deducted from the energy consumed by the parent, and the parent can be billed accordingly. Where the parent's retailer is the Local Retailer, then that retailer will have access to the energy data for the children because it relates to its "NEMMCO account statements". However, if the parent's retailer is not the Local Retailer:

- The Code[5] allows access by that retailer to the energy data for the children in the embedded network because its "NEMMCO account statements" relate to that energy data; but
- The Metrology Procedure (and therefore the Metering MORs) only allow access to the energy data for the children if the retailer has registered that metering installation with NEMMCO.

The first issue to be considered by the Metrology Coordinator is whether the energy data for the children who have transferred retailer should be deducted from the energy data for the parent: prior to when access is provided to that energy data to the parent's retailer and the Local Retailer; or whether the retailer should deduct the children's energy data.

The energy data for the children that have transferred retailer can only be deducted from the parent's energy data prior to access being provided to the retailer(s) if the one party is the Responsible Person for the parent and for the children who have transferred retailer. This may not be the case if the child has a metering installation type 1, 2, 3 or 4.

4.1.9 Access to energy data proposed change

It is therefore proposed that the deduction may be done by the retailer(s). To do so, clause 3.7.1 of the Metrology Procedure should be amended so that it is consistent with clause 7.7(a)(1) of the Code and clause 3.7.3 of the Metrology Procedure. It is therefore proposed to replace clause 3.7.1 with the following:

> "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 a *metering installation* for each *metering*

[3] New South Wales Metrology Procedure, clause 3.7

[4] Market Operations Rule (NSW Rules for Electricity Metering) No. 3 of 2001, clause 10.6

[5] National Electricity Code, clause 7.7(a)(1)

installation which is installed in relation to a *connection point* that relates to the *Financially Responsible Market Participant's NEMMCO* account statements."

Comment is sought as to whether the parent's retailer should calculate the energy consumption for the parent by deducting the energy data for the children who have transferred retailer, or whether the deduction should be done by the Responsible Person or distributor prior to providing access to the retailer to that data. Assuming that it is the parent's retailer that deducts the energy data for the children who have transferred retailer, comment is sought as to whether clause 3.7.1 of the Metrology Procedure should be amended as proposed.

4.1.10 Standing data discussion

The CATS Procedures currently place an obligation on the LNSP to set up a NMI in the MSATS system in regard to a connection point, where a NMI does not exist[6]. This obligation is also included in the *Market Operations (NSW Transfer Rules for Retail Electricity Supply) Rules No. 4 of 2001* (Transfer MOR)[7] which state that the LNSP must "issue a unique NMI for each metering installation of small retail customers in its distribution district", the Metering MOR[8], which states that "a distributor must issue a unique NMI for each new metering installation of a first tier customer within its local area" and the Code[9], which states that the LNSP "shall issue for each metering installation a unique NMI".

Conversely, the CATS Procedures currently place an obligation on the local retailer to set up a NMI in the MSATS system for a child in an embedded network[10]. No other jurisdictional instrument places a similar obligation on a retailer.

The Metrology Coordinator is unsure as to which party should have the responsibility for issuing NMIs for children in an embedded network. This confusion is compounded by the fact that as at mid March 2002, no NMIs had been registered in the MSATS system for children in an embedded network. Whilst the objective of this process is not to address CATS issues such as this, the Metrology Coordinator is keen to seek comments in relation to this particular issue.

Comment is sought as to the appropriate party to issue NMIs for children in embedded networks, and to register the NMIs in the MSATS system.

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[6] CATS Procedures Part 1 – Principles and Obligation, clause 19.1 for "small" NMIs and clause 20.1 for "large" NMIs

[7] Market Operations (NSW Transfer Rules for Retail Electricity Supply) Rules No. 4 of 2001, clause 7.1

[8] Market Operations Rule (NSW Rules for Electricity Metering) No. 3 of 2001, clause 7.2.1

[9] National Electricity Code, clause 7.3.1(da)

[10] CATS Procedures Part 1 – Principles and Obligations, clause 17.1 for "small" NMIs and clause 18.1 for "large" NMIs

4.2 Sample meters

4.2.1 Discussion

There is concern that customers who have sample meters (which are all interval meters) may, over time, change their consumption patterns if they are settled on the basis of interval data. This may mean that the specific sample meter would no longer accurately represent consumption on the off-peak tariff for customers settled on the basis of the controlled load profile.

To ensure that sample meters continue to be representative of customers on the controlled load profile, a change is proposed to require the Responsible Person to ensure that all sample meters are settled in the market on the basis of accumulation data. This way, the consumption of customers with sample meters should not be distorted away from the average controlled load profile. If such a customer chooses to be settled on the basis of interval data, then the Responsible Person must arrange another sample interval meter instead of that customer's metering installation.

4.2.2 Proposed change

Insertion of new clause 2.3.7:

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 the *Controlled Load Profile*, is settled in the wholesale energy market on the basis of a type 6 *metering installation*.

Consequential changes are also proposed to the "reversion" clauses (clauses 2.3.2, 2.3.3 and 2.3.4) to make this an overriding requirement.

Similar changes will need to be made to the first-tier metering MOR, clauses 10.1.2 and 10.1.5.

Comment is sought as to whether the placing of additional obligations on Responsible Persons in relation to sample meters is required.

4.3 Meter reading frequency

4.3.1 Discussion

A change that has been made to the Victorian Metrology Procedure, is to change the meter reading period from "lock down period" to "every fourteen (14) weeks". This is so that a performance measure is based on a fixed period of time rather than a variable period of time.

The lock-down period is a variable period that is set in NEMMCO's central MSATS system. When the clause was originally written, the lock down period was still being determined. However, it is now reasonably certain that the lock down period will be approx 15 to 17 weeks, so it is now desirable to firm up this requirement. This change to the NSW Metrology Procedure will ensure consistency with the Victorian Metrology Procedure.

4.3.2 Proposed change

In clauses 3.2.1(b) and 3.2.3(b), replace the words "lock down period" with "fourteen (14) weeks".

Comment is sought as to whether the proposed modification to meter reading frequency is required.

4.4 Meter tests and inspections

Two changes to meter tests and inspections are considered:

- Testing and inspections requirements (sections 4.4.1 and 4.4.2); and
- Actions in the event of non-compliance (sections 4.4.3 and 4.4.4).

4.4.1 Tests and inspections requirements discussion

Table S7.3.2 of the NEC states that the testing and inspection requirements for whole-current (direct connected) meters must be by an asset management strategy, the guidelines for which must be recorded in the Metrology Procedure.

These guidelines are provided in clauses 2.4.4 to 2.4.11 of the Metrology Procedure. However, clause 2.4.3 currently states:

> "When the *Australian Standard*"AS1284 Part 13: In-service compliance testing" has been published, that standard supersedes clauses 2.4.4 to 2.4.11 (inclusive) and is to be

regarded as the asset management strategy guidelines for whole-current (direct connected) *meters* for the purposes of schedule 7.3 of the *Code*."

NEMMCO has advised that the new Australian Standard referred to in this clause has recently been approved by a vote of members of the Australian Standards Metering Committee, but there are some reservations with regard to the standard in its current form. It is anticipated that the wording of the standard will be reviewed in 12 months time when the results from testing during that period are available. It is therefore probably premature for the new Australian Standard to supersede clauses 2.4.4 to 2.4.11 of the Metrology Procedure.

4.4.2 Tests and inspections requirements proposed change

To ensure that the new Australian Standard does not prematurely supersede clauses 2.4.4 to 2.4.11 of the Metrology Procedure, it is proposed to replace clause 2.4.2 of the Metrology Procedure with the following:

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

Additionally, it is proposed to replace clause 2.4.3 of the Metrology Procedure with the following:

"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 be based on that standard."

The new Australian Standard is also referred to in the Metering MOR[11]. Assuming that the proposed change is made to the Metrology Procedure, then it is also proposed that clause 7.4.3(b) of the Metering MOR be replaced by:

"A *distributor* must ensure that a whole-current *meter* (*direct connected meter*) is tested in accordance with clauses 2.4.3 to 2.4.4 and 2.4.6 to 2.4.11 (inclusive) of the *Metrology Procedure*. For the purposes of this clause all references in the *Metrology Procedure* to:

(1) a *responsible person* are references to a *distributor*; and

(2) a type 5 *metering installation* are references to *interval metering equipment*."

Comment is sought as to whether clauses 2.4.2 and 2.4.3 of the Metrology Procedure should be replaced with the proposed new clauses. If so, should clause 7.4.3(b) of the Metering MOR also be replaced with the proposed new clause?

[11] Market Operations Rule (NSW Rules for Electricity Metering) No. 3 of 2001

4.4.3 Actions in the event of non-compliance discussion

In each of Schedules 1 to 5[12], the only action in the event of non-compliance that has been replicated from the Code is clause 7.6.2(a), which states:

> "If the accuracy of the *metering installation* does not comply with the requirements of the *Code*, *NEMMCO* must be advised as soon as practicable of the errors detected and the possible duration of the existence of errors, and arrangements are made for the accuracy of the *metering installation* to be restored in a time frame agreed with *NEMMCO*."

Clause 7.9.5 of the Code provides actions that are required to be taken where errors are found in metering tests, inspections or tests. Whilst the obligation is placed on NEMMCO to undertake these actions, it would appear reasonable that the Responsible Person should be responsible for such actions where the metering installation is a type 5, 6 or 7.

4.4.4 Actions in the event of non-compliance proposed change

It is therefore proposed to add the following Code requirements in Schedule 1 after Reference 5.21, Schedule 2 after Reference 4.21, Schedule 3 after Reference 3.2, Schedule 4 after Reference 3.2 and Schedule 5 after Reference 3.12:

- Decision based on clause 7.9.5(a) – if a metering installation test, inspection or audit demonstrates errors in excess of those prescribed 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 complied with the relevant accuracy requirement and the time when the error was detected.
- Decision based on clause 7.9.5(b) – if a test or audit of a metering installation demonstrates an error of measurement of less than 1.5 times permitted by this schedule, no substitution of readings is required unless in NEMMCO's reasonable opinion a particular party would be significantly affected if no substitution were made.

Comment is sought as to whether the proposed additional actions in event of non-conformance should be added to each of Schedules 1, 2, 3, 4 and 5 of the Metrology Procedure.

[12] Victorian Metrology Procedure, Schedule 1 Reference 5.21, Schedule 2 Reference 4.21, Schedule 3 Reference 3.2, Schedule 4 Reference 3.2, and Schedule 5 Reference 3.12

4.5 Estimated reads

4.5.1 Discussion

It is proposed that the definition of "estimated read" be amended to clarify whether an estimated read for transferring a customer to a new retailer, is an estimation or a substitution for the purposes of the Metrology Procedure. The change proposed is consistent with the recent change that was made to the Victorian Metrology Procedure.

Under clause 12A of the Transfer MOR, a customer may not transfer on the basis of an estimated read until 1 July 2002.

Where an estimated meter read occurs for the transfer of a customer to a new retailer and an interval meter is installed (metering installation type 5), the actual consumption at the date of transfer to the new retailer may be determined at the time of the next actual meter read. However, where an accumulation meter is installed (metering installation type 6), the actual consumption at the date of transfer to the new retailer cannot be determined without an actual meter reading on the date of transfer.

The Metrology Procedure for metering installation types 5, 6 and 7 currently specifies when and how a substitution and an estimation are to be done.

A meter reading is substituted when there is a problem with the metering installation and an accurate actual meter reading for that period will never be able to be obtained. A substitution is not replaced by an actual meter reading, although a substitution may be replaced with a more accurate substitution. The substitution may also be used for customer billing.

A meter reading is estimated for the purposes of wholesale market settlement when the meter reading is not obtained within the NEMMCO settlements timetable. When the meter reading is obtained later, the estimate is replaced by the actual meter reading. The actual meter reading may also be used for customer billing.

If an estimated meter read, for the purposes of transferring a customer with a metering installation type 6 to a new retailer, is treated as an *estimation* in the wholesale market settlements system (MSATS), then this estimate will be replaced by the next actual meter reading. This may result in an adjustment to the amount paid for energy by the old retailer prior to the transfer and the amount paid for energy by the new retailer after the transfer. As the retailer will bill the customer on the basis of the energy for which the retailer has been billed in the wholesale settlements market, then this may result in an adjustment to the final bill to the customer from the old retailer.

If an estimated meter read, for the purposes of transferring a customer with a type 6 metering installation to a new retailer, is treated as a *substitution* in MSATS, then this substitution will *not* be replaced by the next actual meter reading. The amount paid for energy by the old

retailer prior to the transfer will remain unchanged and there will be no adjustment to the final bill to the customer from the old retailer on the basis of a change in energy cost.

In both cases the customer will only be billed on the basis of the total energy consumed over the meter reading cycle. The only difference may be the proportion that is billed by the old retailer at the old tariff and the proportion that is billed by the new retailer at the new tariff.

To eliminate the need for adjustments to the amount paid for energy in the wholesale market by the old retailer, clause 3.3.2(e) of the Metrology Procedure currently states that the metering data is substituted where a customer with a metering installation type 6 transfers to a new retailer on the basis of an estimated read.

An estimation may be used when a customer transfers retailer on the basis of an estimated read and has a metering installation type 5, as the actual meter reading can still be obtained when the data from the meter is downloaded at a future date. A special estimated read need not be provided as the Metering Provider produces a forward estimate to enable NEMMCO settlement until the next actual read is obtained.

Whilst the Metrology Procedure states that a substitution is to be used where an estimated read is required to transfer a customer to a new retailer on the basis of a type 6 metering installation, it currently only infers that an estimation is used where the customer is transferring retailers on the basis of a type 5 metering installation and an estimated read. Furthermore the current definition of "estimated read" is incorrect; it states that an estimated read is a "substitute of a meter reading for the purposes of transferring a customer to a new Retailer where an actual meter reading has not occurred".

4.5.2 Proposed change

It is proposed to replace the definition of "estimated read" with the following new definition that clarifies the issue:

'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*.

A similar change would need to be made to the Metering MOR.

Comment is sought as to whether the proposed amendment to the definition of 'estimated read' is required.

4.6 Substitution type

4.6.1 Discussion

A further proposed change is the addition of a Substitution Type 5 for metering installation type 6 (Schedule 8) which is consistent with Substitution Type 3 for metering installation type 5 (Schedule 6) and with the recent change that was made to the Victorian Metrology Procedure.

As discussed in the previous section, a substitution is used where a customer transfers to a new retailer with a type 6 metering installation on the basis of an estimated read.

However, the MIG considers that it would be appropriate to adjust a substitute in circumstances where an error is discovered. Accordingly, it is proposed that an additional Substitution Type be included in the Metrology Procedure for type 6 metering installations that allows previously substituted energy data to be changed.

4.6.2 Proposed change

It is therefore proposed to insert the following clause 4.5 into Schedule 8. The wording is the same as that in clause 4.3 of Schedule 6:

4.5 Substitution Type 5

Previously substituted energy data can be changed, prior to the actual meter reading or prior to the second revision in the NEMMCO settlements timetable (whichever occurs first), where the Financially Responsible Market Participant, Local Retailer and Local Network Service Provider have agreed, on the basis of site- or customer-specific information, that the original substituted energy data is in error and a correction is required.

Additionally, it is proposed that Schedule 8, clause 3(b) be replaced by:

The Responsible Person may use Substitution Types 1, 2, 3, 4 or 5, in accordance with clause 4 of this Schedule 8, when the energy data is required to be substituted.

A similar change would need to be made to the Metering MOR.

Comment is sought as to whether the proposed addition of a Substitution Type 5 for metering installation type 6 is required.

4.7 Changes to inventory table

4.7.1 Discussion

The Victorian Metrology Procedure has recently been amended as a result of an issue arising from Schedule 11, clauses 2.3(d) and 3.3(d), which require the Responsible Person to use its reasonable endeavours to update Inventory Tables "on a timely basis". The effect of these clauses is that Inventory Tables for type 7 metering installations may be adjusted retrospectively, resulting in a potential need to retrospectively adjust bills to the end-use customers.

In order to increase the certainty to customers and to minimise a large number of potentially small adjustments to end-use customer bills, the MIG proposes an amendment to the Metrology Procedure so that:

- Inventory Tables are maintained on at least a monthly basis, unless required on a more frequent basis to ensure that the accuracy requirements in clause 3.8.7 of the Metrology Procedure are maintained; and
- Inventory Tables are only adjusted retrospectively where agreed by the Responsible Person, Local Retailer and the Financially Responsible Market Participant.

4.7.2 Proposed change

The MIG proposes that Schedule 11 clause 2.3(d) and Schedule 11 clause 3.3(d) of the Metrology Procedure be 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. Any such additions, deletions or modifications to the Inventory Table may only be made on a retrospective basis where agreed by the *Responsible Person* and the affected *Code Participants*. The *Responsible Person* must communicate any material changes to the Inventory Table to the affected *Code Participants* and the relevant end-use customer.

Comment is sought as to whether the proposed changes to the maintenance of Inventory Tables for type 7 metering installations are required.

4.8 Increasing the number of Controlled Load Profiles per profile area

4.8.1 Discussion

4.8.1.1 Background

Prior to the development of the New South Wales Metrology Procedure for metering installation types 5, 6 and 7, NSW Treasury released a Discussion Paper on metering and settlement strategies[13]. The paper discussed how controlled loads could be treated if Net System Load Profiling (NSLP) was adopted for settling the wholesale energy market for New South Wales. The paper identified that there were a least two groups of controlled load customers[14]:

- Those with a basic controlled load service suitable for hot water use, which is usually between 10pm and 7am (Type 1 controlled load); and
- Those with an extended hours option, which, in addition to the normal overnight availability of standard off peak power, allows power to be used during the middle of the day (while still avoiding the morning and evening peak) (Type 2 controlled load).

It was estimated that the extended hours option was taken up by 10% to 15% of off-peak customers for which, as a very small proportion of all customers, it was not necessary to develop a separate load profile. No information to the contrary was provided to the MIG as the Metrology Coordinator during consultation on the Metrology Procedure and as a result, the New South Wales Metrology Procedure provided for a single Controlled Load Profile (CLP) to be developed and applied for each profile area[15] for all controlled load customers.

4.8.1.2 EnergyAustralia request

EnergyAustralia has recently requested the Metrology Coordinator to consider an additional controlled load profile for their profile area. EnergyAustralia has two tariffs for controlled load customers:

- Off-Peak 1 for night time use; and
- Off-Peak 2 for extended use.

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[13] *Metering and settlement Strategies for Full Retail Competition – Discussion Paper*, NSW Treasury Full Retail Competition Group, August 2000

[14] *Metering and settlement Strategies for Full Retail Competition – Discussion Paper*, NSW Treasury Full Retail Competition Group, August 2000. pages 39 - 40

[15] There is one profile area for each Local Network Service Provider. The New South Wales Metrology Coordinator has issued a Notice of Minor Change in accordance with clauses 7.3.1(g) to (k) of the Code to replace the term "LNSP area" in the Metrology Procedure with the term "profile area". This Notice assumes that the change will be adopted and therefore the term "profile area" has been used in this Notice.

Approximately 30% of controlled load customers in EnergyAustralia's area are currently on the Off-Peak 2 tariff, which is higher than was previously understood. The adoption of a single CLP in accordance with the New South Wales Metrology Procedure will, a priori, result in customers on the Off-Peak 1 tariff cross-subsidising customers on the Off-Peak 2 tariff *in respect of the energy cost*. (It should be noted that network tariffs for Off-Peak 2 are significantly higher than those for Off-Peak 1)

Depending on assumptions about the relevant wholesale electricity prices that apply to off peak consumption, the average cross subsidy from Off Peak 1 customers to Off Peak 2 customers has been estimated at between $7 and $17 per customer per year, or around 1 to 2.2 per cent of the typical Off Peak 1 customer's total bill. As there are fewer Off Peak 2 customers, this translates to an annual benefit of between $17 and $46 per customer, or about 2.2 to 5.5 per cent of a typical Off Peak 2 customer's total bill. Separate Off Peak 1 and Off Peak 2 profiles could therefore result in a reduction of Off-Peak 1 wholesale electricity costs and an increase in Off Peak 2 wholesale electricity costs to better reflect the underlying cost of supply for the different consumption patterns.

EnergyAustralia has requested that the Metrology Procedure be amended to allow for two CLPs in EnergyAustralia's area:

- one for those controlled load customers on the Off-Peak 1 tariff; and
- one for those controlled load customers on the Off-Peak 2 tariff.

4.8.1.3 Comment from the MIG

MIG considers that if an additional CLP can be justified in EnergyAustralia's area, it may also be justified in the areas of Integral Energy and Country Energy. Therefore, MIG proposes to extend EnergyAustralia's proposal to the areas of Integral Energy and Country Energy.

Clause 7.3.1 (bc) of the Code[16] provides that the following factors must be considered in the preparation of the Metrology Procedure:

> *"(1) the promotion of an efficient market;*
>
> *(2) the avoidance of unreasonable discrimination between Market Participants;*
>
> *(3) minimisation of the barriers to entry for competing retailers;*
>
> *(4) providing metrology procedures which are technically sound and economically efficient; and*
>
> *(5) the Code consultation procedures where reasonably practicable,*

[16] National Electricity Code, clause 7.3.1(bc)

and to the extent of any conflict between the application of these objectives to a particular metrology procedure, the Metrology Coordinator may determine the manner in which they can best be reconciled or which of them should prevail."

The MIG considers that there may be circumstances where more than one CLP may be required in each profile area to ensure that the market operates in accordance with the above requirements. The MIG's consideration of EnergyAustralia's request against the criteria is outlined below:

The promotion of an efficient market. At the highest level, competition should be maximised, which is discussed below. In addition, customers should be exposed to the true costs of supply to ensure efficient consumption and associated investment decisions are made. The actual costs of more accurately reflecting the true costs of supply – the costs of the new profile – must be weighed against the benefits of removing consumption distortions that might arise from cross subsidies between the two types of load.

The costs of the additional profile will include those related to additional sample meters**,** creation and application of the additional profile in central systems, and changes in network and retailer business IT systems. It is understood that there should no incremental cost in network operating systems to manage the different types of controlled load, as these systems are already an integral part of the distribution network assets. Total costs of the profile will clearly be much lower than the alternative approach of requiring an interval meter for each off-peak customer.

The benefits of removing the cross-subsidy from Off Peak 1 to Off Peak 2 consumption, and hence, moving to more cost-reflective tariffs, will arise from two sources:

First, when customers choose which type of appliance to install, they will face stronger incentives to choose appliances that consume electricity only overnight, rather than also during the day. To the extent that customers change their choice of appliance, this will lead to more efficient *patterns* of consumption, other things being equal; and

Second, for a given appliance, customers will face stronger incentives to increase consumption if they have appliances that use electricity only at night and to reduce consumption if they use appliances that also consume electricity during the day. To the extent that customers change their amount of appliance usage, this will lead to more efficient *levels* of consumption, other things being equal.

In other words, the removal of the cross-subsidy should lead to an efficient shift in consumption from daytime to overnight periods, as well as possibly an increase in overnight consumption and reduction in daytime consumption, other things being equal. In the absence of separate profiles, customers may be encouraged to move from Off Peak 1 supply to Off Peak 2 supply, or to remain on Off Peak 2 supply, by installing or keeping appliances that consume electricity during the day rather than appliances that only consume load overnight (at Off Peak 1 times). Since presently, retailers/customers do not have to pay the full costs of

consumption during the middle of the day if they are on Off Peak 2 tariffs, they are likely to consume higher than efficient levels of electricity (for example, by using electricity during the middle of the day for Off Peak 1 hot water systems, even though this is not necessary to maintain the heat of the water in the system). Similarly, presently, customers on Off Peak 1 tariffs are likely to be consuming inefficiently low amounts of electricity overnight as they are being charged higher than cost reflective tariffs.

Even greater cost reflectivity could be achieved by across-the-board installation of interval meters. However, as demonstrated during the consultation on the initial metrology procedure, the costs of compulsorily moving to such a solution in the short term are highly likely to outweigh the incremental benefits of even greater cost-reflectivity.

The avoidance of unreasonable discrimination between Market Participants: The proposal should not create unreasonable discrimination between market participants. This is because they will all be settled on the same basis, and therefore pay the same price for the energy in respect to the different off peak customers.

One concern with the proposed move to two CLPs may be that retailers have made offers to customers on the basis of the existing single profile. Introduction of separate profiles will mean retailers and, to the degree allowed for in their contracts, customers:

- receive a windfall gain for Off Peak 1 load (as energy prices would fall for these customers relative to the existing CLP); and
- incur a windfall loss for Off Peak 2 load (as energy prices would increase for these customers relative to the existing CLP).

The importance of this issue will depend on how many Off Peak 1 and Off Peak 2 customers have accepted negotiated offers from retailers. If this is significant, it may be necessary to have a transition to the introduction of separate profiles to allow for existing contracts to expire.

Minimisation of the barriers to entry for competing retailers. The proposal would increase the complexity of operating in the NSW market. It is not expected that this would be a major barrier to entry.

Providing metrology procedures which are technically sound and economically efficient: The proposed change would be accommodated so as to be technically sound. The economic efficiency of introducing an additional CLP is discussed above. There is an implementation risk, as standing data for a large number of meters in EnergyAustralia, Integral Energy and Country Energy's regions would need to be amended so that the CLPs would be calculated correctly.

The Code consultation procedures where reasonably practicable: These procedures are being followed.

On balance, it is considered that more accurate price signals are desirable to remove the incentive for consumption to be shifted from Off Peak 1 to Off Peak 2 patterns. This is particularly the case for Off Peak 1 and Off Peak 2 load where network infrastructure to control the load is already in place so incremental costs of implementation are expected to be low, so long as implementation risks can be effectively managed.

Subject to further assessment of costs and benefits as part of this consultation process, the MIG proposes that the following amendments be made to the Metrology Procedure:

- Clause 3.10.2 be replaced by the following:

  "*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."

- Clauses 2.3.6, 3.2.1, 3.2.2 and 3.10.6(a) – replace "Controlled Load Profile" with "Controlled Load Profile(s)".

- Schedule 10 Clause 2.1 be amended as follows:

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

  The sample *meter*s, 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 *Controlled Load Profile* in accordance with this clause 2.1; and
  - where the *metering installation* that has a sample *meter* is second tier and is to be settled on the basis of *interval energy data*, then *interval energy data* must be transferred to *NEMMCO* as a second *data stream* of that *NMI* in accordance with Schedule 3 of this *Metrology Procedure*, for the purposes of settlement;
  - where the *metering installation* that has a sample *meter* is first tier, or is second tier and is settled on the basis of *consumption energy data*, then a second *NMI* must be used to transfer the *consumption energy data* to which the *Controlled Load Profile* is applied in accordance with clause 2.2 of this Schedule 10.

  One (1) CLP must be calculated for Australian Inland Energy representing all controlled loads in that distributor's profile area, which is based on the sample of controlled load interval meters.

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

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

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

where:
n represents the set of sample *NMI*'s in the *profile* area
Weighting factor is the weighting factor associated with the *NMI*

Two (2) CLPs must be calculated for EnergyAustralia, Integral Energy and Country Energy:

- one for controlled loads in the EnergyAustralia, Integral Energy and Country Energy profile areas based on a sample of controlled load interval meters on the controlled load 1 network tariff; and
- one for controlled loads in the EnergyAustralia, Integral Energy and Country Energy Profile areas based on the 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 EnergyAustralia, Integral Energy and Country Energy's *profile areas* as follows:

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

CLP_1 for a *profile area* for a *trading interval j*

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

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_2 for a *profile area* for a *trading interval j*

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

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*

To indicate that there may be more than one Controlled Load Profile in each profile area, each occurrence of the symbol "CLP" in the algorithms in Schedule 10 clauses 2.1 and 2.2 to be replaced by "CLP_p", where *p* represents each of the Controlled Load Profiles.

- Schedule 10, clause 2.2 to be amended 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*.

For *NMIs* in Australian Inland Energy's *profile areas*, the *CLP* must be applied as follows:

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

= *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*

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

if the *consumption energy data* is an *actual meter reading*
start date = 00:00 on the *day* after the previous *meter* reading
end date = the end of the trading interval commencing at 23:30 on the current *meter* reading date
and where if the *consumption energy data* is an *estimate*
start date = 00:00 on the first *day* of the *billing period,* or 00:00 on the previous *meter* reading date, or 00:00 on the first *day* that the *load* becomes *second tier*, whichever is the later
end date = the end of the trading interval commencing at 23:30 on the last *day* of the *billing period*

In EnergyAustralia, Integral Energy and Country Energy's *profile areas*, the *CLP* for 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, as follows:

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

= *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*

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

if the *consumption energy data* is an *actual meter reading*

start date = 00:00 on the *day* after the previous *meter* reading

end date = the end of the trading interval commencing at 23:30 on the current *meter* reading date

and where if the *consumption energy data* is an *estimate*

start date = 00:00 on the first *day* of the *billing period*, or 00:00 on the previous *meter* reading date, or 00:00 on the first *day* that the *load* becomes *second tier*, whichever is the later

end date = the end of the trading interval commencing at 23:30 on the last *day* of the *billing period*

In EnergyAustralia, Integral Energy and Country Energy's *profile areas*, the *CLP* for loads on the controlled load 2 network tariff (CLP_2) 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, as follows:

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

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

where

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

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

if the *consumption energy data* is an *actual meter reading*

start date = 00:00 on the *day* after the previous *meter* reading

end date = the end of the trading interval commencing at 23:30 on the current *meter* reading date

and where if the *consumption energy data* is an *estimate*

start date = 00:00 on the first *day* of the *billing period*, or 00:00 on the previous *meter* reading date, or 00:00 on the first *day* that the *load* becomes *second tier*, whichever is the later

end date = the end of the trading interval commencing at 23:30 on the last *day* of the *billing period*

Minor changes would need to be made to the Metering MOR to ensure that references to 'controlled load profile' were amended to 'controlled load profiles'.

Comment is sought as to whether the Metrology Procedure should be amended to provide for a controlled load 1 and controlled load 2 in EnergyAustralia, Integral Energy and Country Energy's profile areas. Can this be justified in all of these LNSP areas? Where possible, actual costs and benefits of the proposal should be quantified by market participants. Have all the required changes to the Metrology Procedure been identified if 2 CLPs are to be provided for?

4.9 Amending dates for application of profiles

4.9.1 Background

Small customers who transfer retailer may elect to transfer on the basis of a profiling solution, using the Net System Load Profile (NSLP) and the Controlled Load Profile (CLP). Profiling involves:

- Determining an estimate of the average load profile for a profile area over a given period of time (Profile Preparation Service); and
- Allocating that load profile to customers in that profile area (Basic Meter Profiler).

The algorithm for applying a NSLP and a CLP to the consumption energy data for a type 6 metering installation in order to obtain interval energy data for that metering installation is provided in Schedule 10, clause 2.2 and Schedule 10, clause 3.2 of the Metrology Procedure, respectively. The start date for applying the NSLP and CLP is specified as:

> "00:00 on the day after the previous meter reading".

The end date for applying the NSLP and CLP is specified as:

> "23:59 on the current meter reading date"

where the consumption energy data is an actual meter reading, and

> "23:59 on the last day of the billing period"

where the consumption energy data is an estimate.

This is illustrated in Figure 4.1 below.

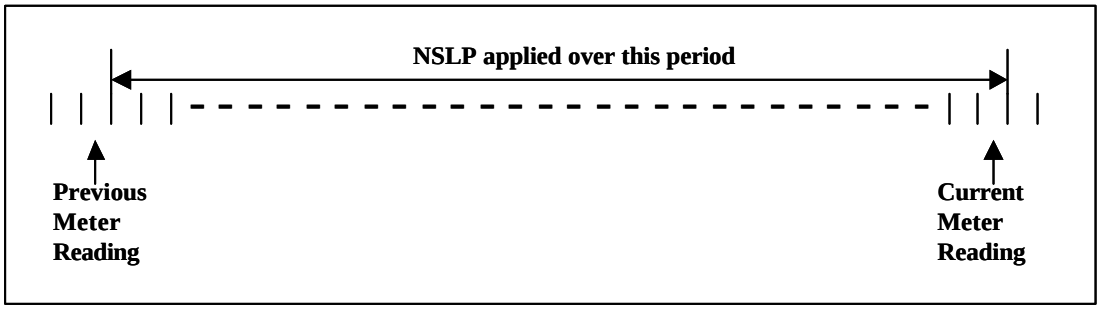

Figure 4.1: Period over which the NSLP is applied

That is, the meter reading is referred to the **end** of the day on which the actual meter reading occurred.

4.9.1.1 CATS Procedures

In contrast, the CATS Procedures[17] state that a customer must be transferred on the date of an actual meter read. This is illustrated in Figure 4.2 below.

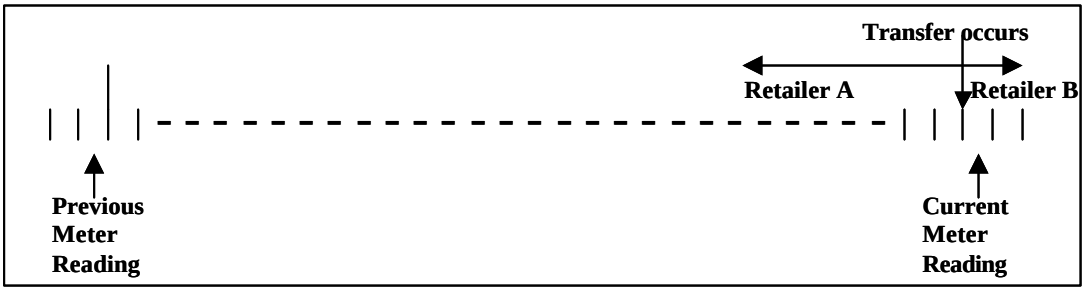

Figure 4.2: Transfer relative to actual meter reading

That is, the customer transfer is referred to the **beginning** of the day on which the actual meter reading occurs.

It is understood that some Metering Providers are currently applying the NSLP and CLP in accordance with the Metrology Procedure, whilst others are applying the NSLP and CLP so that it is consistent with the CATS Procedures.

4.9.1.2 Interstate provisions

The same conflict between the Metrology Procedure and the date for transferring customers exists in Victoria.

Additionally, the end date for application of the NSLP in the Victorian Metrology Procedure[18] has been amended to:

> "the end of the trading interval commencing at 23:30 on the current meter reading date"

where the consumption energy data is an actual meter reading, and

> "the end of the trading interval commencing at 23:30 on the last day of the billing period"

where the consumption energy data is an estimate.

[17]CATS Procedures, Part 1: Principles and Obligations, NEMMCO, 14 December 2001, section 6.1

[18] Victorian Metrology Procedure, Schedule 10, clause 3

The change in the end date was made to address confusion over the treatment of the minute occurring after 23:59.

4.9.2 Discussion

The Metrology Coordinator needs to consider whether:

- The period over which the NSLP and CLP are applied, as specified in the Metrology Procedure, remains unchanged but the date on which a customer transfer occurs is actually the date after the actual meter reading; or
- Alternatively, the period over which the NSLP and CLP are applied is amended so that it is consistent with the CATS Procedures; and
- Whether the end date should be modified so that it is consistent with the Victorian Metrology Procedure.

If a customer transfer occurred on the date after the actual meter reading, then the final bill for a customer with a type 5 metering installation, for example, could not occur until after the following meter reading, which could be three months or more later, as demonstrated in Figure 4.3 below.

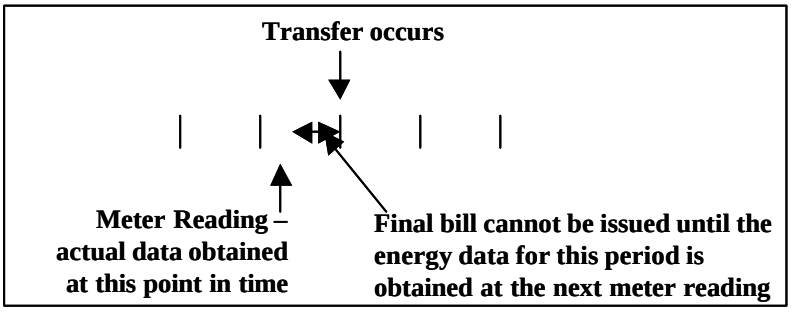

Figure 4.3: Transfer relative to meter reading if Metrology Procedure not amended

The Metrology Coordinator agrees that there is confusion regarding the end date with respect to the minute after 23:59.

4.9.3 Proposed change

It is therefore proposed that the start date for applying the NSLP and the CLP, as specified in Schedule 10, clause 2.2 and Schedule 10, clause 3.2 of the Metrology Procedure, respectively, be amended to:

"00:00 on the day of the previous meter reading".

Additionally, it is proposed that the end date be amended to:

"the end of the trading interval commencing at 23:30 on the day prior to the current meter reading date"

where the consumption energy data is an actual meter reading, and

"the end of the trading interval commencing at 23:30 on the last day of the billing period"

where the consumption energy data is an estimate.

Comment is sought as to whether the start date and end date for applying the NSLP and CLP, as specified in Schedule 10, clause 2.2 and Schedule 10 clause 3.2 of the Metrology Procedure, respectively, should be amended as proposed.