

Rule Change Notice

Loss Factor Determination

(RC_2012_07)

This notice is given under clause 2.5.7 of the Market Rules.

Date Submitted: 20 November 2012

Submitter: Suzanne Frame, IMO

The Proposal

Section 2.27 of the Market Rules outlines the requirements for the determination of Loss Factors in the Wholesale Electricity Market. Clause 2.27.6 requires the IMO to document in “the Market Operations Procedure” the standards, methodologies and procedures that must be used by Network Operators in determining the Loss Factors.

A detailed document titled “Market Procedure for Determining Loss Factors” was developed and published in 2006 with input from Western Power, and has not been changed since that time¹. This document details the methodology to be used by the Network Operator to calculate Transmission and Distribution Loss Factors.

The IMO has identified a number of discrepancies between section 2.27 of the Market Rules, the Market Procedure for Determining Loss Factors and current practice. This Rule Change Proposal, which has been developed in consultation with Western Power, seeks to resolve these discrepancies in a way that promotes the efficiency and transparency of the Loss Factor determination process.

Appendix 1 contains the Rule Change Proposal and gives complete information about:

- the proposed amendments to the Market Rules;
- relevant references to clauses of the Market Rules and any proposed specific amendments to those clauses; and
- the submitter’s description of how the proposed amendments would allow the Market Rules to better address the Wholesale Market Objectives.

Decision to Progress the Rule Change

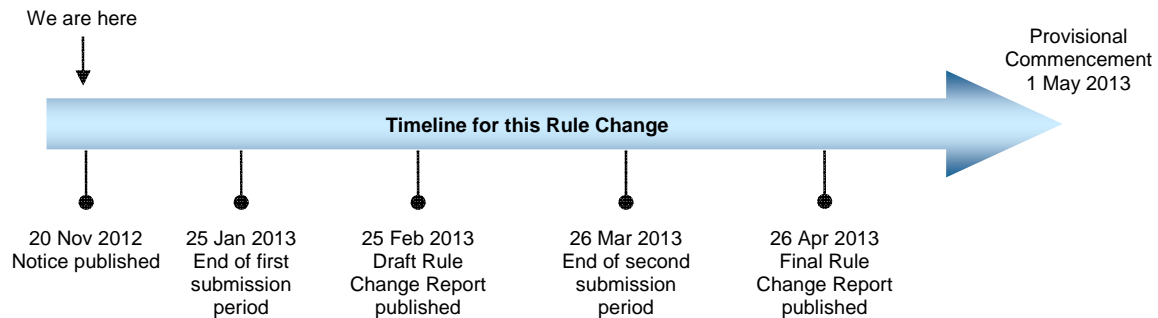
The IMO has decided to progress the Rule Change Proposal on the basis that interested parties should be given an opportunity to provide submissions as part of the rule change process.

¹ Available: http://www.imowa.com.au/f711.715493/Loss_Factor_Procedure.pdf

Timeline

This Rule Change Proposal will be progressed using the standard rule change process, described in section 2.7 of the Market Rules.

The projected timelines for processing this proposal are:



Please note that the time for the first submission period has been extended beyond the usual 30 Business Days to better align operational considerations over the Christmas period, as published in an extension notice on 20 November 2012.

Call for Submissions

The IMO invites interested stakeholders to make submissions on this Rule Change Proposal. The submission period is 45 Business Days from the publication date of this Rule Change Notice. Submissions must be delivered to the IMO by **5.00pm on Friday, 25 January 2013**.

The IMO prefers to receive submissions by email (using the submission form available on the Market Web Site: <http://www.imowa.com.au/rule-changes>) to: market.development@imowa.com.au

Submissions may also be sent to the IMO by fax or post, addressed to:

Independent Market Operator

Attn: Group Manager, Market Development
PO Box 7096
Cloisters Square, PERTH, WA 6850
Fax: (08) 9254 4399

Wholesale Electricity Market Rule Change Proposal

Change Proposal No: RC_2012_07
Received date: 20 November 2012

Change requested by

Name:	Suzanne Frame
Phone:	9254 4304
Fax:	9254 4399
Email:	suzanne.frame@imowa.com.au
Organisation:	IMO
Address:	Level 17, 197 St Georges Terrace, Perth WA 6000
Date submitted:	20 November 2012
Urgency:	Medium
Change Proposal title:	Loss Factor Determination
Market Rules affected:	2.27.1, 2.27.1A, 2.27.2, 2.27.2A, 2.27.3, 2.27.3A, 2.27.3B, 2.27.4, 2.27.5, 2.27.6, 2.27.7(new), 2.27.8(new), 2.27.9(new), 2.27.10(new), 2.27.11(new), 2.27.12(new), 2.27.13(new), 2.27.14(new), 2.27.15(new), 2.27.16(new), 2.27.17(new), 9.3.4A and the Glossary.

Introduction

Clause 2.5.1 of the Wholesale Electricity Market Rules (Market Rules) provides that any person (including the Independent Market Operator (IMO)) may make a Rule Change Proposal by submitting a completed Rule Change Proposal form to the IMO.

This Rule Change Proposal can be posted, faxed or emailed to:

Independent Market Operator

Attn: Group Manager, Market Development
PO Box 7096
Cloisters Square, Perth, WA 6850

Fax: (08) 9254 4339
Email: market.development@imowa.com.au

The IMO will assess the proposal and, within five Business Days of receiving this Rule Change Proposal form, will notify you whether the Rule Change Proposal will be further progressed.

In order for the proposal to be progressed, all fields below must be completed and the proposal must explain how it will enable the Market Rules to better contribute to the achievement of the wholesale electricity market objectives. The objectives of the market are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;
- (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;
- (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and
- (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

Details of the proposed Market Rule Change

1. Describe the concern with the existing Market Rules that is to be addressed by the proposed Market Rule change:

Background

As electricity flows through the transmission and distribution networks energy is lost due to electrical resistance and the heating of conductors. Energy losses on the network must be factored in at all stages of electricity production and transport, to ensure the delivery of adequate supply to meet prevailing demand and to keep the power system in balance.

While system losses can be measured in total, the actual losses of any specific user cannot easily be measured. Therefore Loss Factors are used to allocate system losses to users in as equitable a manner as possible. Under the Wholesale Electricity Market (WEM) Rules (Market Rules), each generator or load is assigned a static Loss Factor, which notionally represents the average marginal losses between the Facility and a fixed Reference Node at Muja. Multiplying the metered output or consumption of a Facility by its Loss Factor produces a “loss adjusted” quantity corresponding to the equivalent generation or consumption at the Reference Node.

Settlement of the Short Term Energy Market (STEM) and Balancing Market is based on loss adjusted energy quantities. For example, the metered consumption of a Load is typically inflated by its Loss Factor, to reflect the actual generation required to service the Load including system losses. Similarly, generation offers submitted to these markets are loss adjusted, to reflect the variation in system losses associated with generation at different locations in the South West interconnected system (SWIS).

Loss Factors are determined by the responsible Network Operator and provided to the IMO for publication and use in market operations. Currently Western Power is the Network

Operator for all connection points in the SWIS for which Loss Factors are required. The Loss Factors must be recalculated and provided to the IMO each year by 1 June. A Market Participant may apply to the IMO for a reassessment of a Loss Factor if the Market Participant believes the Loss Factor has been calculated incorrectly.

A Loss Factor incorporates both transmission and distribution system losses and is expressed as the product of a Transmission Loss Factor and a Distribution Loss Factor. Since market start, Facility specific Loss Factors have been calculated for Registered Facilities and some of the largest Loads. Various average Loss Factors have been calculated for other interval metered Loads; these Loss Factors are assigned to the Loads in accordance with a classification system that considers a range of factors such as network tariff and substation. The Notional Wholesale Meter has been assigned the product of the system wide average Loss Factors calculated for Western Power's transmission and distribution systems.

Section 2.27 of the Market Rules outlines the requirements for the determination of Loss Factors in the WEM. Clause 2.27.6 requires the IMO to document, in "the Market Operations Procedure", the standards, methodologies and procedures that must be used by Network Operators in determining the Loss Factors.

A detailed document titled "Market Procedure for Determining Loss Factors" was developed and published in 2006 with input from Western Power, and has not been changed since that time¹. This document details the methodology to be used by the Network Operator to calculate Transmission and Distribution Loss Factors.

The IMO has identified a number of discrepancies between section 2.27 of the Market Rules, the Market Procedure for Determining Loss Factors and current practice. This Rule Change Proposal, which has been developed in consultation with Western Power, seeks to resolve these discrepancies in a way that promotes the efficiency and transparency of the Loss Factor determination process.

The IMO also proposes to make a number of amendments to the Market Procedure for Determining Loss Factors, to ensure that the Market Rules and the Market Procedure are fully aligned and to address some issues specific to the Market Procedure.

The IMO notes that, apart from the proposed changes to the calculation of the Notional Wholesale Meter Distribution Loss Factor and the removal of the requirement to provide Loss Factors for non-interval metered Loads, this Rule Change Proposal does not seek to change current practices for the determination and provision of Loss Factors.

¹ Available: http://www.imowa.com.au/f711,715493/Loss_Factor_Procedure.pdf

Issue 1: Calculation and Publication of Loss Factors

The current Market Rules are unclear about how Loss Factors must be published and how frequently the Loss Factor for a particular connection point may change. For example, it could be inferred from section 2.27 that:

- a Network Operator must provide to the IMO a Loss Factor (i.e. a number value) for each and every connection point on its network at which a relevant Facility is connected (clause 2.27.1);
- the IMO must publish the Loss Factor for each of the hundreds of thousands of relevant connection points on the Market Website (clause 2.27.3); and
- the Loss Factor for a specific connection point can only be changed through the annual review process under clause 2.27.1 or a reassessment under clause 2.27.4(d).

The actual practice since market start has been different to that described above.

- Western Power assigns a Transmission Loss Factor Code and a Distribution Loss Factor Code to each connection point in its network, in accordance with the classification system described in the Market Procedure for Determining Loss Factors. Each code identifies a group of connection points that will be assigned the same Transmission Loss Factor or Distribution Loss Factor. While some groups consist of a single connection point (e.g. a Scheduled Generator) others contain many thousands of connection points (e.g. for residential customers).
- By 1 June each year Western Power recalculates the Loss Factors for its network and provides the IMO with updated Transmission and Distribution Loss Factors for each Transmission Loss Factor Code and Distribution Loss Factor Code (rather than for each connection point). The IMO publishes each code and its new value on the Market Web Site.
- The Loss Factor for a connection point is calculated as the product of the Transmission Loss Factor for its assigned Transmission Loss Factor Code and the Distribution Loss Factor for its assigned Distribution Loss Factor Code.
- Western Power may update the Transmission or Distribution Loss Factor Code of a connection point at any time, if there is a change to any of the characteristics that determine these codes under the classification system (e.g. network tariff). This means that the Loss Factor for a particular connection point can change at any time, even though the Transmission and Distribution Loss Factors for each code are usually only updated on an annual basis.
- Western Power provides the IMO with the Transmission and Distribution Loss Factor Codes for each connection point, whenever they are set or modified. The IMO does not however publish this information, which is provided by Western Power to Market Participants for their connection points directly.

The IMO considers that the current practice is more efficient than the one implied by the current Market Rules, as it allows for Loss Factors to be updated more dynamically if there are significant changes to connection points and avoids unnecessary double handling in the provision of Loss Factors to Market Participants.

Proposal:

The IMO proposes a number of amendments to section 2.27 to remove ambiguity and clarify the process for providing Loss Factors to the IMO and Market Participants. The proposed amendments will bring the Market Rules into alignment with current practice.

Issue 2: Loss Factors for Non-Dispatchable Loads

A number of discrepancies exist between the Market Rules, the Market Procedure and current practice regarding the determination of Loss Factors for Non-Dispatchable Loads.

Non-Dispatchable Loads between 1000 kVA and 7000 kVA peak consumption:

Currently clause 2.27.2(e)(vi) requires the calculation of a specific Loss Factor for each Non-Dispatchable Load above 1000 kVA peak consumption. This conflicts with the Market Procedure and current practice, where in general individual Loss Factors are only calculated for:

- transmission connected Loads;
- distribution connected Loads above 7000 kVA peak consumption; and
- distribution connected Loads between 1000 kVA and 7000 kVA peak consumption that are more than 10 km from the associated substation.

In some (but not all) cases a Market Participant may request the calculation of an individual Distribution Loss Factor for a distribution connected, Non-Dispatchable Load between 1000 kVA and 7000 kVA that is less than 10 km from the associated substation, but the Market Participant is required to pay for this calculation.

Western Power has advised the IMO that the current practice appears to produce a more appropriate outcome than the practice prescribed in the Market Rules. There are approximately 400 Non-Dispatchable Loads with a measured² demand over 1000 kVA in the SWIS. Western Power has estimated that it would cost over \$0.5 million per year to calculate individual Loss Factors for all of these Loads, a cost that would ultimately be passed on to the market through network tariffs. Under the present system only around 100 are calculated, at a much reduced cost.

A comparison with the National Electricity Market indicates that the 1000 kVA threshold appears to be low. The corresponding threshold in the NEM is set at either 10 MW peak demand or 40 GWh annual consumption. A customer whose load does not meet these thresholds may request a site specific Distribution Loss Factor, provided it meets the reasonable costs incurred by the distribution business.

Western Power has advised the IMO of its view that individually calculating a Loss Factor for each of the Loads in this peak demand range would not lead to a material improvement in the overall accuracy of the Loss Factors.

Non-Dispatchable Loads below 1000 kVA peak consumption: Clause 2.27.2(f) requires “the same” Loss Factor to apply to all Non-Dispatchable Loads with less than 1000 kVA peak consumption, where this Loss Factor is to be determined “on an averaged basis”. However, under the Market Procedure the Transmission and Distribution Loss Factors for these Loads

²Additional Loads in this peak demand range may exist, as connection points on some Western Power services may not have sufficiently accurate metering to determine an exact peak demand.

will vary depending on a number of factors, including the network tariff for the connection point and whether it is an exit or entry point.

Since the market commenced in 2006 Western Power has generally followed the Market Procedure rather than clause 2.27.2(f) when calculating Loss Factors for these Non-Dispatchable Loads. The methodology outlined in the Market Procedure was originally developed by Western Power and the IMO considers it provides a more accurate allocation of losses across the various types of network users than the single average value prescribed in the Market Rules.

The IMO notes, however, that several issues exist with the methodology outlined in the Market Procedure (which for example requires the calculation of specific Distribution Loss Factors for each Entry Point). The IMO proposes to address these issues in its proposed revised Market Procedure for Determining Loss Factors, to be considered by industry concurrently with this Rule Change Proposal.

Notional Wholesale Meter: Clause 2.27.2A requires the Loss Factor for the Notional Wholesale Meter to be the same as the Loss Factor for Non-Dispatchable Loads below 1000 kVA peak consumption described in clause 2.27.2(f). As mentioned above, there is currently no single Loss Factor applicable to Non-Dispatchable Loads below 1000 kVA peak consumption. Further, the Market Procedure describes the Loss Factor that is to apply to a Notional Wholesale Meter as being “the Transmission System system-wide average Loss Factor multiplied by the Distribution System system-wide average Loss Factor”.

Loss Factors for Loads with and without interval meters: Clause 2.27.1(c) requires that Network Operators provide to the IMO Loss Factors for all Non-Dispatchable Loads. However, the Loss Factors provided for Non-Dispatchable Loads without interval meters are not used by the IMO as the consumption for these Loads is settled as part of the Notional Wholesale Meter, and so these Loss Factors do not actually need to be provided.

Further, the IMO notes that under the current Market Procedure the calculation of the Distribution Loss Factor for the Notional Wholesale Meter considers average losses over all connection points, not just the basic and unmetered Loads that are settled as part of the Notional Wholesale Meter.

Proposal:

Following discussions with Western Power the IMO proposes the following amendments to the Loss Factor requirements for Non-Dispatchable Loads:

- increase the minimum peak consumption level for which a specific Loss Factor must be calculated from 1000 kVA to 7000 kVA, in line with current practice;
- remove the requirement for all Non-Dispatchable Loads under 1000 kVA peak consumption to have the same Loss Factor;
- clarify that connection points (and in particular Non-Dispatchable Loads) are assigned to Transmission and Distribution Loss Factor Classes according to a classification system prescribed for each Network Operator in the Market Procedure, and that the classification is based on characteristics indicative of the expected transmission or distribution system losses for a connection point;
- clarify the requirements for the Transmission and Distribution Loss Factors for the Notional Wholesale Meter, where:

- the Transmission Loss Factor represents system wide average losses over Western Power’s transmission system (unchanged from current practice); and
- the Distribution Loss Factor represents the average losses incurred over Western Power’s distribution system by Non-Dispatchable Loads not equipped with an interval meter; and
- remove the requirement for Network Operators to provide Loss Factors for Non-Dispatchable Loads without interval meters.

It should be noted that in conjunction with this Rule Change Proposal the IMO proposes to amend the Market Procedure for Determining Loss Factors to:

- remove details relating to the requirement to determine Loss Factor Classes for Non-Dispatchable Loads without interval meters;
- refine the methodology for calculating the Distribution Loss Factor for the Notional Wholesale Meter, to exclude consideration of interval metered connection points; and
- clarify the treatment of small Entry Points.

Minor Amendments

The IMO also proposes the following minor amendments to improve the clarity of the Market Rules.

Clause	Issue	Proposed solution
2.27.2	Clause 2.27.2(b) states that “Loss Factors must represent the marginal losses for a connection point relative to the Reference Node, averaged over all Trading Intervals in a year, weighted by the absolute value of the net demand at that connection point during the Trading Interval”. This statement is not reflective of Distribution Loss Factors which represent average losses over the distribution system, consistent with the approach taken to determine Distribution Loss Factors in the NEM.	Modify the drafting to clarify the differences between Transmission and Distribution Loss Factors.
2.27.2A, Glossary	Currently the Market Rules contain conflicting references to the term “Notional Wholesale Meter”. For example, clause 2.27.2A refers to “where a Loss Factor must be applied to a Notional Wholesale Meter”, while clause 9.3.4A describes the process for determining a single Metered Schedule for “the” Notional Wholesale Meter, to account for “those Non-Dispatchable Loads without interval meters or with meters not read as interval meters that are served by Synergy”. Under the current market arrangements only Synergy can supply Non-Dispatchable Loads without interval meters, and this is reflected in the way in which non-interval metered consumption is allocated to Synergy under the	Amend the relevant clauses to clarify that: <ul style="list-style-type: none"> • there is only one Notional Wholesale Meter, which represents those Non-Dispatchable Loads without interval meters or with meters not read as interval meters that are served by Synergy; and • Western Power is responsible for determining the Loss Factors to apply to the Notional Wholesale Meter.

	Market Rules.	
2.27.6	Clause 2.27.6 provides the heads of power for the Market Procedure for Determining Loss Factors, but refers to the Market Procedure as the “Market Operations Procedure”.	Amend the name of the Market Procedure in this clause so that it is consistent with the current Market Procedure and provides an appropriately descriptive and useful title.
2.27.6	The heads of power in clause 2.27.6 refers only to Network Operators, implying that only Network Operators are obliged to comply with the Market Procedure. The Market Procedure, however, also describes a number of activities undertaken by the IMO and Market Participants. The IMO notes that clauses 2.9.6, 2.9.7 and 2.9.8 of the Market Rules require the IMO, System Management and other Rule Participants respectively to comply with any Market Procedures applicable to them. As such, the IMO does not consider it necessary for heads of power clauses such as clause 2.27.6 to list explicitly the Rule Participants required to comply with a Market Procedure.	Delete from clause 2.27.6 the explicit statement requiring Network Operators to comply with the Market Procedure.
2.27.6	As currently drafted, clause 2.27.6 does not reflect the important role of Network Operators in developing and maintaining the Market Procedure for Determining Loss Factors.	Update the clause to emphasise the involvement of Network Operators in developing this Market Procedure.

The IMO has also made some minor typographical corrections and renumbered the clauses in section 2.7 to improve the integrity of this section.

2. Explain the reason for the degree of urgency:

The IMO proposes that this Rule Change Proposal be progressed through the Standard Rule Change Process.

3. Provide any proposed specific changes to particular Rules: (for clarity, please use the current wording of the Rules and place a ~~strikethrough~~ where words are deleted and underline words added)

- 2.27.1. ~~By 1 June of each year~~ Network Operators must, in accordance with this section 2.27, calculate and provide to the IMO Loss Factors for:
- (a) _____ each connection point in their Networks at which any of the following is connected:
 - i. _____ a Scheduled Generator;
 - ii. _____ a Non-Scheduled Generator;

iii. a Non-Dispatchable Load equipped with an interval meter;

iv. an Interruptible Load; or

v. a Dispatchable Load; and

(b) in the case of Western Power, the Notional Wholesale Meter.

~~(a) a Scheduled Generator;~~

~~(b) a Non-Scheduled Generator;~~

~~(c) a Non-Dispatchable Load;~~

~~(d) an Interruptible Load; or~~

~~(e) [Blank]~~

~~(f) a Dispatchable Load.~~

2.27.21A. A Market Participant may request, during the process of obtaining a relevant Arrangement for Access, that the relevant Network Operator determine and provide to the IMO, Loss Factors to apply to a ~~facility or a Non-Dispatchable Load Facility~~ where there are no Loss Factors applying to the connection point at which the ~~facility or the Non-Dispatchable Load Facility~~ will be connected.

2.27.3. Loss Factors must reflect transmission and distribution losses and each Loss Factor must be expressed as the product of a Transmission Loss Factor and a Distribution Loss Factor.

2.27.4. Subject to clause 2.27.5(d), for each Network Operator the IMO must, in consultation with that Network Operator, develop a classification system to assign each of the connection points in the Network Operator's network identified under clause 2.27.1(a) to a Transmission Loss Factor Class and a Distribution Loss Factor Class, where:

(a) the assignment of a connection point to a Loss Factor Class is based on characteristics indicative of the expected transmission or distribution system losses (as applicable) for the connection point;

(b) each connection point in a Loss Factor Class is assigned the same Transmission Loss Factor or Distribution Loss Factor (as applicable); and

(c) connection points on the transmission system are assigned to a Distribution Loss Factor class with a Distribution Loss Factor equal to one.

2.27.52. In calculating Loss Factors, Network Operators must apply the following principles:

~~(a) Loss Factors are static and apply to each connection point until new Loss Factors are calculated in accordance with clause 2.27.1 or 2.27.4(d);~~

- (~~ba~~) Transmission Loss Factors must notionally represent the marginal transmission system losses for a connection point relative to the Reference Node, averaged over all Trading Intervals in a year, weighted by the absolute value of the net demand at that connection point during the Trading Interval;
- (~~b~~) Distribution Loss Factors must notionally represent the average distribution system losses for a connection point over a year;
- (c) Loss Factors must be calculated using:
 - i. generation and load meter data from the preceding 12 months; or
 - ~~ii.~~ for a new facility or a Non-Dispatchable Load Facility, any other relevant data provided to the Network Operator by the Market Participant and as agreed with the Network Operator and the IMO; and
 - ~~iii.~~ for Transmission Loss Factors, an appropriate network load flow software package; and
- (~~d~~) ~~Loss Factors must include transmission and distribution losses;~~
- (~~e~~) a specific Loss Factor must be calculated for each:
 - i. Scheduled Generator;
 - ii. Non-Scheduled Generator;
 - ~~iii.~~ ~~[Blank]~~
 - ~~iv.~~ Interruptible Load;
 - ~~v.~~ Dispatchable Load; and
 - ~~vi.~~ Non-Dispatchable Load above 4000kVA 7000 kVA peak consumption;
- (~~fe~~) ~~the same Loss Factor will apply to all Non-Dispatchable Loads less than 4000kVA peak consumption, and will be determined on an averaged basis. Western Power must assign the Notional Wholesale Meter to:~~
 - ~~i.~~ a Transmission Loss Factor Class that represents system wide average losses over Western Power's transmission system; and
 - ~~ii.~~ a Distribution Loss Factor Class that represents the average losses incurred over Western Power's distribution system by Non-Dispatchable Loads not equipped with an interval meter; and
- (~~f~~) the Transmission Loss Factors calculated for each Transmission Loss Factor Class and the Distribution Loss Factors calculated for each Distribution Loss Factor Class are static, and apply to each connection point in the relevant Loss Factor Class until the time published by the IMO

under clause 2.27.8 for the application of an updated Transmission Loss Factor or Distribution Loss Factor to that Loss Factor Class.

- ~~2.27.2A6.~~ For the purpose of these Market Rules, where a Loss Factor must be applied to a Notional Wholesale Meter value then the loss factor described in clause 2.27.2(f) is to apply. Each year by 1 June each Network Operator must, in accordance with the Market Procedure for Determining Loss Factors, recalculate the Loss Factors for its connection points and provide the IMO with updated Transmission Loss Factors and Distribution Loss Factors (as applicable) for each Loss Factor Class in the Network Operator's classification system.
- ~~2.27.37.~~ The IMO must publish the ~~Loss Factors~~ Transmission Loss Factors and Distribution Loss Factors as soon as practicable after receiving them from all Network Operators.
- ~~2.27.3A8.~~ Once all ~~When~~ Transmission Loss Factors and Distribution Loss Factors are published in accordance with clause ~~2.27.3~~ 2.27.7 or where one or more Transmission Loss Factors or Distribution Loss Factors are changed in accordance with clauses ~~2.27.4(e)~~ 2.27.15(e) or ~~2.27.5~~ 2.27.16 the IMO must publish the time from which the ~~Loss Factor or~~ new Transmission Loss Factors or Distribution Loss Factors will apply, where this must be from the commencement of a Trading Day.
- ~~2.27.3B9.~~ In setting the time from which a Transmission Loss Factor or Distribution Loss Factor ~~or Loss Factors~~ will apply in accordance with clause ~~2.27.3A~~ 2.27.8 the IMO must allow sufficient time for Market Participants to identify and update Standing Data that is dependent on Loss Factors.
- 2.27.10. A Network Operator must develop new Loss Factor Classes if required to implement the classification system prescribed by the IMO for that Network Operator. If a Network Operator develops a new Loss Factor Class then it must:
- (a) calculate the initial Transmission Loss Factor or Distribution Loss Factor (as applicable) for the new Loss Factor Class in accordance with the Market Procedure for Determining Loss Factors; and
 - (b) provide to the IMO details of the new Loss Factor Class and its initial Transmission Loss Factor or Distribution Loss Factor as soon as practicable but in any event before a connection point is assigned to the new Loss Factor Class.
- 2.27.11. The IMO must publish a new Transmission Loss Factor or Distribution Loss Factor provided by a Network Operator in accordance with clause 2.27.10(b) as soon as practicable after receiving it from the Network Operator.

- 2.27.12. A Network Operator must determine the Transmission Loss Factor Class and Distribution Loss Factor Class for each new connection point in its Network identified under clause 2.27.1(a), in accordance with the classification system prescribed by the IMO for that Network Operator.
- 2.27.13. A Network Operator must re-determine the Loss Factor Classes for a connection point in its network identified under clause 2.27.1(a) if a change occurs to the connection point that might alter its applicable Loss Factor Classes under the classification system prescribed by the IMO for that Network Operator.
- 2.27.14. When a Network Operator determines a Loss Factor Class for a connection point under clause 2.27.12 or changes a Loss Factor Class for a connection point under clause 2.27.13, the Network Operator must provide to both the IMO and the relevant Market Participant the new Loss Factor Class for the connection point and the Trading Day from which it takes effect, as soon as practicable but in any event before the information must be used in any calculations under these Market Rules.
- 2.27.15. A Market Participant may apply to the IMO for a ~~re-assessment~~ reassessment of any Transmission Loss Factor or Distribution Loss Factor applying to a Scheduled Generator, Non-Scheduled Generator, Interruptible Load, Dispatchable Load or Non-Dispatchable Load registered to that Market Participant. The following process will apply to every application:
- (a) ~~the~~ The Market Participant must apply to the IMO in writing within 15 Business Days of receiving the notification of the relevant Loss Factors, stating the Transmission Loss Factor or Distribution Loss Factors that it believes to be in error and its reasons for believing that the Transmission Loss Factor or Distribution Loss Factors should take some other value;
 - (b) ~~upon~~ Upon receiving such an application, the IMO must:
 - i. within two Business Days notify the relevant Network Operator that the IMO intends to carry out an audit of the Loss Factor calculation; and
 - ii. within 25 Business Days conduct an audit of the Loss Factor calculation.
 - (c) ~~the~~ The relevant Network Operator must cooperate with the audit of the Loss Factor calculation by providing reasonable access to the data and calculations used in producing the Loss Factor.
 - (d) Where the audit reveals an error in the ~~Loss Factor~~ calculation of a Transmission Loss Factor or Distribution Loss Factor for a Loss Factor Class, the IMO must direct the Network Operator to recalculate the Transmission Loss Factor or Distribution Loss Factor, and may instruct the

Network Operator to recalculate other Transmission Loss Factors or Distribution Loss Factors provided by that Network Operator.

- (e) Where the IMO directs the Network Operator to recalculate a Transmission or Distribution Loss Factor for a Loss Factor Class, then the Network Operator must do so, and must provide the recalculated Transmission Loss Factor or Distribution Loss Factor to IMO. The recalculated Transmission Loss Factor or Distribution Loss Factor is substituted for the value previously applied with effect from the time published by the IMO in accordance with clause ~~2.27.3A~~ 2.27.8.
- (f) Where the audit reveals an error in the assignment of a connection point to a Loss Factor Class, the IMO must direct the relevant Network Operator to correct the error and re-determine the Loss Factor Class for the connection point in accordance with the classification system prescribed by the IMO for that Network Operator.
- (g) Where the IMO directs a Network Operator to re-determine a Loss Factor Class for a connection point, then the Network Operator must do so, and must as soon as reasonably practicable provide to the IMO and the relevant Market Participant the revised Loss Factor Class and the Trading Day from which it should apply.

2.27.516. Where a Network Operator fails to provide the IMO with a Transmission Loss Factor or Distribution Loss Factor in accordance with clause ~~2.27.4~~ 2.27.6 or ~~2.27.4(d)~~ 2.27.15(d), the IMO must continue to use the equivalent Transmission Loss Factor or Distribution Loss Factor from the previous year until such time as the Network Operator has provided the IMO with the new Transmission Loss Factor or Distribution Loss Factor and that Transmission Loss Factor or Distribution Loss Factor has taken effect. The recalculated Transmission Loss Factor or Distribution Loss Factor is substituted for the value previously applied with effect from the time published by the IMO in accordance with clause ~~2.27.3A~~ 2.27.8.

2.27.617. The IMO must, with the assistance of Network Operators, document the standards, methodologies, classification systems and procedures to be used in determining the Loss Factors in the Market Operations Procedure for Determining Loss Factors and ~~Network Operators must follow that documented Market Procedure when determining the Loss Factors.~~

9.3.4A. The IMO must determine a single Metered Schedule for a Trading Interval for those Non-Dispatchable Loads without interval meters or with meters not read as interval meters that are served by Synergy where:

- (a) the Metered Schedule equals the Notional Wholesale Meter value for that Trading Interval;

- (b) the Notional Wholesale Meter value for a Trading Interval equals negative one multiplied by:
- i. the sum of the Metered Schedules with positive quantities for that Trading Interval; plus
 - ii. the sum of the Metered Schedules with negative quantities for that Trading Interval;

where the Metered Schedules referred to in clauses 9.3.4A(i) and 9.3.4A(ii) exclude the Metered Schedule for the Notional Wholesale Meter.

Notional Wholesale Meter: A notional interval meter quantity associated with a Market Customer's aggregate consumption not metered by Trading Interval. This value will be an estimate produced by the IMO, representing Non-Dispatchable Loads without interval meters that are served by Synergy.

Distribution Loss Factor: A factor representing the average electrical energy losses incurred when electricity is transmitted through a distribution network.

Distribution Loss Factor Class: A group of one or more connection points with common characteristics assigned a common Distribution Loss Factor.

Loss Factor: Means:

- (a) Aa factor representing network losses defining the annual average marginal network loss between any given node and the Reference Node where the Loss Factor at the Reference Node is 1, determined in accordance with clause 2.27.2 2.27.5, and includes the Portfolio Loss Factor; and
- (b) in relation to the Verve Energy Balancing Portfolio, the Portfolio Loss Factor.

Loss Factor Class: A Transmission Loss Factor Class or a Distribution Loss Factor Class.

Transmission Loss Factor: A factor representing the average marginal losses incurred when electricity is transmitted through a transmission network.

Transmission Loss Factor Class: A group of one or more connection points with common characteristics assigned a common Transmission Loss Factor.

4. Describe how the proposed Market Rule change would allow the Market Rules to better address the Wholesale Market Objectives:

The proposed amendments support a more accurate allocation of system losses, firstly by allowing multiple Loss Factor Classes to be defined for Non-Dispatchable Loads with less than 1000 kVA peak consumption, and secondly by refining the requirements for the Notional

Wholesale Meter's Distribution Loss Factor. The amendments also reduce unnecessary demands on Network Operators by removing the requirement to determine Loss Factors for each non-interval metered Load and to calculate a specific Loss Factor for each Non-Dispatchable Load between 1000 kVA and 7000 kVA peak consumption. As such the IMO considers that the proposed amendments promote the economically efficient production and supply of electricity in the SWIS (Wholesale Market Objective (a)).

The IMO considers that the proposed amendments are consistent with the remaining Wholesale Market Objectives and improve the clarity and integrity of the Market Rules.

5. Provide any identifiable costs and benefits of the change:

Costs: None identified.

Benefits:

- Improves transparency around the calculation and provision of Loss Factors;
- Supports greater accuracy in the allocation of system losses;
- Improves the integrity of the Market Rules; and
- Ensures consistency between the Market Rules and Market Procedure for determining Loss Factors.