

# Office of Energy Submission to the Economic Regulation Authority *Review and Proposed Amendment of the Technical Rules for Western Power's South West Interconnected Network*

September 2011

## 1 Introduction

This document provides comment and suggestions in response to the *Review and Proposed Amendment of the Technical Rules for Western Power's South West Interconnected Network* (Review Report), undertaken by the Economic Regulation Authority (the Authority). The comments are set out in two parts: the first part considers the Authority's recommendations for changes to the Technical Rules and the second part introduces other matters for consideration by the Authority.

## 2 Authority Recommendations

### 2.1 *Small Generator Threshold Change*

The Office of Energy (the Office) notes the Authority's consideration in its Review Report of the size threshold for small generators covered by clause 3.6 of the Technical Rules (the Rules) and accepts the reasons given for determining to leave the threshold unchanged for the time being.

The generator capacity range of 30kW to 10MW is likely to capture a wide range of plant. Many of the facilities installed at this scale will be embedded generators, designed, in the case of traditional generators, as back-up capacity or, in the case of renewables, to displace imported energy. The breadth of the category suggests scope for subdivisions – something that affected parties may raise in the future.

The Office anticipates that increasing numbers of companies will seek to install renewable generators, particularly photovoltaic systems, above the 30kW size threshold. These installations will mostly be intended to serve loads on site rather than to export and many will be owned by organisations with minimal expertise and knowledge of power generation issues.

If this type of applicant emerges in significant numbers, the Office anticipates increasing and ongoing pressure to ensure that the Rules only impose obligations which are justified in view of the risks posed. Among other things, it seems likely that the small generator threshold will remain the subject of discussion and proposals for additional categories may also emerge.

The Office does not propose any changes to the Rules in relation to this issue at this point in time.

## 2.2 Metering Installation

### 2.2.1 Background

The Working Group on the Inspection and Approvals for Small Photovoltaic Generation Systems (the PV Working Group) recommended that clause 3.7.4 of the Rules be amended to remove the requirement that a user make provision to accommodate both an import and an export meter. Such a requirement is no longer considered necessary because it is now standard practice for bi-directional metering to be facilitated by way of a single meter (it is noted that the proposed amendment to clause 3.7.4 addresses this issue).

The Office understands that the current Rules do not confer on Western Power the authority to require users who install PV systems to pay for the installation of an electronic bi-directional meter to replace their old electromechanical meter. The absence of this authority has been largely masked by the fact that most bi-directional customers are obliged to acquire bi-directional metering under their Renewable Energy Buyback Scheme (REBS) contract.<sup>1</sup> However, there are some customers with electromechanical meters who install PV systems and choose not to join REBS. Currently the numbers are understood to be small, but may increase with the suspension of the Feed in Tariff.<sup>2</sup>

As there is no statutory requirement on the user/customer to pay for a bi-directional meter, Western Power normally replaces their old meter free of charge once it becomes aware that the old electromechanical meter is running backwards during periods of net export. Whenever a small scale renewable energy system is connected to Western Power's distribution system via an inverter, the Office believes the Rules should require the user to pay for a bi-directional meter, or the reprogramming of an existing meter.

### 2.2.2 Proposed amendment

The following amendment to the Rules was submitted by Western Power:

#### Technical Rules Amendment Submitted by Western Power

##### 3.7.4 Metering Installation

The User must make provision for an import/export meter, as per the Western Australian Distribution Connection manual or as otherwise approved by the Network Service Provider ~~both an import and export meter. Should an additional meter be required for the export power meter, the User may need to install an additional meter box or rearrange the existing meter box to accommodate a second meter.~~

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<sup>1</sup> To participate in the REBS scheme a customer's meter must be able to measure and record export. Synergy's REBS contract has a condition stipulating that "The customer must pay all costs associated with the supply and installation of the metering equipment." (clause 10.1)

<sup>2</sup> The Office has been informed that some solar suppliers may be marketing the advantages of installing a system and retaining the electromechanical meter to allow the householder to receive an effective one-for-one tariff for exported energy.

## 2.2.3 Comments

### 2.2.3.1 General Comments

Clause 3.7.4 of the Rules covers a user's obligation to provide for bi-directional metering as part of the requirements to connect energy systems to the low voltage distribution system via an inverter. It could be argued that the requirement originally imposed by this clause was only concerned with the installation of a second meter in the meter box.

It is the Office's understanding that the intention was for the clause to be redrafted to oblige the user to pay for bi-directional metering functionality. The proposed new clause requires a user to make provision for a bi-directional meter as per the Western Australian Distribution Connection manual (WADCM). Clause 11.16 of the WADCM states that:

“The customer shall make provision for the measurement of both energy consumed, where connected to a distribution network (imported) and energy generated by their renewable energy system (exported) facilitated by the installation of an import and export meter...”

The new clause places an obligation on the user to make provision for a bi-directional meter as per the WADCM. It is assumed that the “user” is the person with the access contract (the Office raises an issue with the definition of “user” in the Rules later in this submission) rather than the customer. However, as the WADCM places the obligation for providing the meter on the customer it is assumed that under the new clause the retailer (the user) can require the customer to comply with the WADCM. Therefore, whilst the user is responsible for complying with clause 3.7.4, the customer is ultimately responsible since they are responsible for the meter under the WADCM. If this is not the Authority's understanding of how the new clause is applied, the Office requests that the Authority clarify how it believes the new clause will operate in practice.

The Office supports making the customer ultimately responsible for the cost of either a new bi-directional meter, or the reprogramming of an existing meter to enable bi-directional functionality, as part of the connection requirements for an energy system. However, the Office has some concerns with the approach taken by the proposed amendment to clause 3.7.4.

### 2.3.3.2 Effect of the WADCM

One concern with the new clause is that the WADCM is not a statutory instrument nor is it approved by the Authority. Clause 2.2 of the WADCM states:

“This Manual is the property of the copyright owners, Electricity Networks Corporation and Regional Power Corporation, who reserve the right to develop, administer, publish and revise the Manual, as they see fit.”

As the new clause in the Rules takes its metering requirements for connecting energy systems to the distribution system from the WADCM, the ultimate requirement for metering is set by Western Power (including who is responsible for supplying the meter) and neither approved by the Authority nor Government. This is cause for concern as one of the reasons the Rules are approved by the Authority is so there is independent verification that the Rules meet their objectives, as set out in clause 12.1 of the *Electricity Networks Access Code 2004* (the Code).

By linking the Rules to the WADCM the network operator, who has to comply with the Rules, can set the requirements and the Authority potentially loses the ability to ensure the Rules are meeting their Code objectives in relation to the bi-directional metering of energy systems.

### *2.3.3.3 Making Provision for a Bi-directional Meter*

Both the Rules and the WADCM use the phrase “make provision for”. One of the reasons the current clause 3.7.4 is ambiguous is because of this phrase. The intention is for it to mean that the meter must be supplied and paid for, but it could also relate to making preparations beforehand to facilitate an act (such as making room in the meter box to facilitate the installation of the meter). The Office cautions against using this phrase if it does not explicitly mean that the user is responsible for ensuring the appropriate metering is supplied.

## **3 Other matters**

In addition to those matters covered by the Authority in the Review Report the Office has identified two other matters that warrant consideration.

### *3.1 Definitions of key terms*

The Office has noted the divergence between the Rules and the Code in how these documents define a number of key terms. In some cases, the definitions adopted by the Rules may create confusion or include or exclude situations in ways that Western Power may not have intended.

#### *3.1.1 “consumer”*

The Code defines a “consumer” as a person who consumes electricity, noting that “consumers” can also be “users”, but by implication “consumers” are not limited to “users”.

The Rules define a “consumer” as a “user” who consumes electricity through a connection point. The Office is uncertain as to why the Rules adopt a more restricted definition of the term than is used within the Access Code. However, the purpose of the restricted definition may be to preclude electricity customers which do not have service contracts with the network operator. This may lend weight to the view that Western Power may have intended for the definition of “user” provided by the Rules to be interpreted narrowly and to exclude “consumers” with which it does not have service contracts (see 3.1.3 below).

#### *3.1.2 “generator”*

The Code defines a “generator” as a person who generates electricity with no further qualification. The Rules, on the other hand, define a “generator” as a person who supplies electricity to the network.

The Office queries why it is the case that the definition of ‘generator’ in both the Code and the Rules refers to “any person”, and yet the Rules’ definition of a “consumer” is limited to only those persons that are “users”.

As a separate matter, Western Power recently executed its first Connection Contract to provide for the installation of a photovoltaic “generator” which is electronically prevented from exporting electricity. The photovoltaic system has been covered under a Connection Contract rather than

an Electricity Transfer Access Contract (ETAC) because no retailers were willing to connect the system under their own ETACs. The Office is of the understanding that the current Rules definition of a “generator” does not cover the person with whom Western Power negotiated the Connection Contract.

Many of the provisions in sections 3.6 and 3.7 of the Rules impose obligations on “generators”. On account of the present difficulty that proponents of embedded photovoltaic facilities are having in negotiating buy-back contracts with retailers, it is likely these proponents may increasingly seek to negotiate Connection Contracts with Western Power.

The Office suggests that a broader definition of “generator” under the Rules warrants consideration.

### *3.1.3 “users”*

Section 12.4 of the Code states that the service provider (Western Power) and “users” of a network must comply with the Rules. The Code defines a “user” as a person who has a contract for services with the network operator.

The Rules define “users” to include applicants seeking access to the network as well as any person who already enjoys access to the network. This second class of “user” of the network includes, but is not limited to, those persons who have an access contract or connection agreement with the network operator.

It is the Office’s view that the definition of a “user” provided for in the Rules is sufficiently broad as to raise the possibility that it could cover customers who have no contractual relationship with the network operator. It is clear from section 12.4 of the Code that the Rules are intended to be binding on “users” as defined in the Code. It may not have been Western Power’s intention to broaden the coverage of this definition to include general electricity customers.

The Office understands that Western Power applies the Rules as if “users” are limited to those parties with whom they have a contract for services. Where a “consumer” or “generator” is not the “user”, it appears to be industry practice for the “user” to require, through their supply contract with the “consumer” or “generator”, that the counterparty will comply with the Rules. This practice contributes to the Office’s view that Western Power may not have intended for the term “user” to be interpreted broadly in the manner that may be permitted by the current wording of the Rules.

The Office suggests that a narrower definition of “user” under the Rules warrants consideration, in particular, whether it should be more closely aligned to the Code’s definition of “user” to ensure consistency between the two documents.

## *3.2 Inverters and the definition of a generating unit*

A photovoltaic system is comprised of a string of panels wired to an inverter and potentially multiple inverters can be wired together. Photovoltaic technology being modular, an inverter and associated panels can be installed and connected to the grid and further panels on a second inverter can then be installed subsequently.

The Rules define a “generating unit” as “the equipment used to generate electricity and all the related equipment essential to its functioning as a single entity”. A “generating system” is defined as “a system comprising one or more generating units”. A “power station” is defined as “one or more generating units at a particular location” along with the associated equipment and buildings.

The Office is uncertain as to whether an individual inverter (and the associated string of panels), located among a set of inverters, could be regarded as a generating unit in its own right. If this is the case, the Office queries whether the entire set of inverters and panels constitutes a “generating system” and/or a “power station”.

Inverters can be readily purchased off-the-shelf at sizes below the 30kW threshold for a “small generator”. The Office questions whether the Rules incentivise a proponent to adopt a sequencing strategy such that the applications for each inverter and associated string of panels were made and assessed in sequence rather than all at once. If an application was made for each installation separately and the inverter capacity in each case was below 30 kW, it seems plausible that this series of sequential applications would be subject to different rules than might be applied where a single application for all of the inverter capacity was submitted.

The Office is of the view that any facility should be assessed against the same set of rules whether an application was submitted for the inverter capacity in its entirety or applications for each inverter and string of panels were made in sequence.