APPENDIX 38

New asset class - Load control and network metering devices

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1.1 Overview

The purpose of this appendix is to explain the reasons why Energex has introduced a new asset class for load control and network metering devices for the 2015-20 regulatory control period. In accordance with clause 28.4 of the Regulatory Information Notice (RIN) [1], Energex provides:

- reason(s) for introducing a new asset class; and
- relevant supporting information on their proposed standard asset lives.

1.2 Background

Energex operates an audio frequency load control (AFLC) system that is used to control over 700,000 appliances at customer premises. This load control program has been expanding with about 30,000 additional appliances being added since 2010.

Under the current arrangements, load control devices are bundled with metering services under the asset class “metering services”. This will change on 1 July 2015 following the AER’s decision to change the classification of electromechanical (type 6) meters from Standard Control Services (SCS) to Alternative Control Services (ACS) on the basis that there could be a potential for contestability in future for this type of services[2]. This issue is further discussed in Chapter 25 (Alternative Control Services – Metering Services).

The AER has also decided that load control devices would remain classified as a SCS in the 2015-20 regulatory control period as managing network peak demand benefits all users[3]. With the change of classification of metering services to ACS, a new asset class for load control devices needs to be created to accommodate these assets.

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[1] Australian Energy Regulator, Regulatory Notice issued under Division 4 of Part 3 of the National Electricity (South Australia) Law (Qld), 29 August 2014.

[2] Australian Energy Regulator, Final Framework and Approach for Energex and Ergon Energy, Regulatory control period commencing 1 July 2015, April 2014, pages 42-3

[3] Ibid, page 26

1.3 Load control and network metering asset life

Clause 6.5.5(b)(1) of the Rules provides that the depreciation schedules must determine the amount of depreciation that will apply by using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets.

The economic life of an asset is the estimated period that the asset will be able to perform its current, or intended function. In determining the standard and remaining asset lives, Energex has considered both the technical and engineering life to assist in determining an appropriate economic life for the relevant assets. The economic lives of the respective assets have been calculated based on Energex's informed knowledge and understanding of:

- how the asset performs over time
- the use of the asset within the distribution system
- the expected life associated with the type of usage
- best engineering practice.

1.3.1 Profile of load control and network metering devices

Load control and network metering devices are made up of the following assets:

- Load control relays (integrated and stand alone)
- Signal receivers
- Smart meters.

The table below shows the types of assets forming part of the load control asset class.

Table 1 – types and number of load control & network metering devices

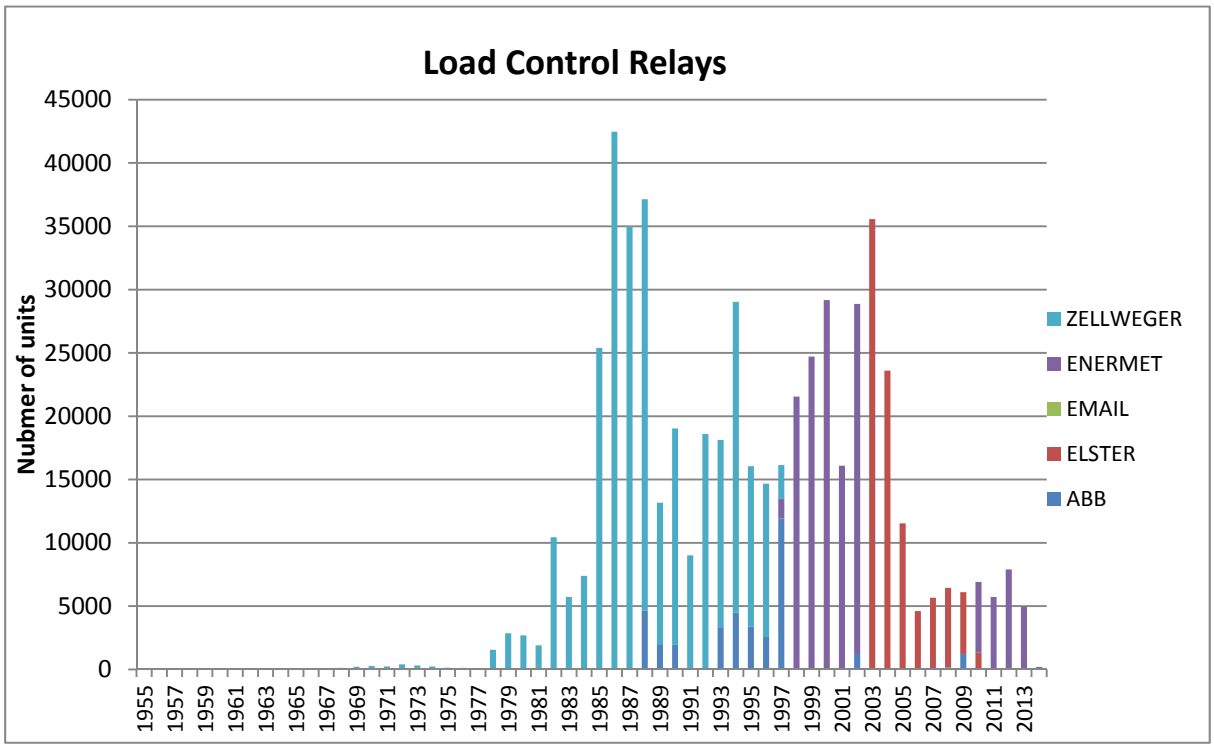
Type of asset	Manufacturers	Number of units
Load control relay (multi-switch AF receiver)	ABB	37,022
	Elster	93,470
	Email	50
	Enermet	145,082
	Zellweger	292,774
Signal receivers	Peaksmart	13,263
	Poolsaver	1,213

Type of asset	Manufacturers	Number of units
	Cyclit ECC	13,984
Meter (multi-switch electronic integrated meter)	Single phase 2 elements	99,313

The purpose of the electronic Audio Frequency (AF) control receivers (multi-switch AF receiver or multi switch electronic integrated meter) is the switching circuits to comply with tariff conditions. This operation is solely at the discretion of Energex utilising its own communication system, the AFLC.

The purpose of the demand control signal receivers (e.g. PeakSmart, Poolsaver, Cyclits) is to provide an interface between customers' equipment (i.e. AS4755 compliant Demand Response Ready) and Energex AFLC system. This allows Energex to place customers' equipment into Demand Response Modes (DRMs) via Energex standard AFLC control channels.

Figure 1 - Profile of Energex's load control relays



It can be noted that the first generation of Zellweger relays were initially introduced in 1955, followed by the second generation of Zellweger relays in the 1970's and 1980's. Energex started to phase out the older equipment in the 1990's, gradually replacing them with newer technologies. The new developments in load control technology can offer a variety of services and solutions in addition to load control.

It can also be noted that the load control and network metering asset class includes more than 90,000 advanced electronic meters with integrated load control relay. These meters have the capability of being able to communicate remotely with the addition of a modem.

The newer load control and network metering devices contain electronics and therefore have a finite time of operations (i.e. capacitors dry-out over time). These electronic components limit the economic life of this type of assets to a life of between 10 and 15 years. This position is based on Energex's informed knowledge and understanding of:

- how the asset performs over time;
- the expected life associated with the type of usage;
- best engineering practice; and
- technological obsolescence.

Energex also notes that the Australian Tax Office's ruling sets the effective life of electricity distribution's control, monitoring, communication and protection systems assets at 10 years.[4]

Considering the mix of Energex's stock of load control devices, Energex considers that 15 years is appropriate at this stage. As Energex's stock of older models is replaced by newer electronic-based devices and communication systems over time (e.g. electronic meters), Energex will consider in future to reduce the asset life of load control devices from 15 to 10 years.

1.3.2 Remaining life of existing load control and network metering devices

Currently the remaining life of existing load control devices is higher than their economic life. This situation is the consequence of bundling metering assets and load control devices together, resulting in their being depreciated on the same basis as LV cumulative meters over 35 years. This results in load control devices with a remaining life of 21.3 years, compared to an economic life of 15 years. To remedy this anomaly, it is proposed that an adjustment be made to the load control devices' remaining life

The residual value of load control devices as at 1 July 2015 is estimated to be $60 million. It is small relative to Energex's total RAB value. As a result, the impact the proposed change to the remaining life and economic life of load control devices will have on the overall depreciation allowance is considered to be immaterial.

[4] Australian Taxation Office, Taxation Ruling – Income tax: effective life of depreciation assets (applicable from 1 July 2013), Electricity Supply (26110 to 26400), page 149.

Glossary

Term	Definition
Advanced meter	Meter capable of being upgraded to a Type 4 when fitted with a communications module
ACS	Alternative Control Services
AER	Australian Energy Regulator
AF	Audio frequency
AFLC	Audio frequency load control
DRM	Demand response mode
Electromechanical Meter	Meter capable of recording accumulated energy use
LV	Low voltage
SCS	Standard Control Services
Smart Meter	Advanced meter with fitted with a communications module enabling remote communication capabilities
Metering Categories from NER	
Type 4 Meter	Remotely read meter with 30 minute energy consumption data
Type 5 Meter	Manually read meter with 30 minute energy consumption data
Type 6 Meter	Manually read meter with accumulated energy consumption data