Retail Advisory Group

Review of the Low Fixed Charge Regulations - efficiency

For discussion

12 February 2015

Note: This paper has been prepared for the purpose of Retail Advisory Group. The content of this paper should not be interpreted as representing the views or policy of the Electricity Authority.

Contents

1 Recommendations

1.1.1 It is recommended that the Retail Advisory Group (RAG):

a) **provide feedback** on this initial assessment of the effects of the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004 (the Regulations) on the efficient operation of retail and distribution services

b) **note** that a full report on the implications of the Regulations for the efficient operation of retail and distribution services will be provided at the March RAG meeting

c) **note** that an initial assessment of the effects of the Regulations on competition and reliability of supply will also be provided at the March RAG meeting.

2 Rationale

2.1.1 In its 2014/15 work programme the Authority included research into the effects of the Regulations as a priority project.

2.1.2 The Authority has requested the RAG investigate the competition, reliability and efficiency effects of the Regulations, focusing on:

a) Do the Regulations inhibit efficient distribution pricing and efficient retail pricing?

b) Do the Regulations inhibit the efficient operation of the industry and adversely affect retail competition due to increased transaction costs?

c) Do the Regulations inhibit retail competition by inhibiting innovation?

2.1.3 At its 9 December 2014 meeting, the RAG agreed that an initial paper on the efficiency of the Regulations be tabled at the February 2015 RAG meeting. The RAG also requested background information on the LFC Regulations.

2.1.4 The focuses of this paper are to:

a) set out how the Regulations operate

b) outline the effects of the Regulations on the efficiency of retail and distribution services

c) explore to what extent the Regulations affect efficient distribution pricing and efficient retail pricing.

3 Introduction

3.1.1 The Regulations were introduced in 2004 with the objective of:

a) ensuring that retailers offer a low fixed charge (LFC) tariff option (LFC option) or options for delivered electricity to domestic consumers at their principal place of residence that will assist low-use consumers and encourage energy conservation

b) regulate distributors so as to assist retailers to deliver LFC options.

3.1.2 At the time the Regulations were introduced, the majority of retailers offered LFC options to consumers in accordance with government policy guidelines. Competition for retail customers was much more limited than it is today (at least outside of the main centres) and the Minister of Energy wanted to ensure that all retailers offered, and all consumers had access, to a LFC option. The Regulations were introduced to promote a particular outcome – options for low fixed charges – rather than to resolve a market failure.

4 Direct effects of the Regulations

4.1 Basic requirements on retailers from the Regulations

4.1.1 Each LFC option that a retailer makes available must be either:

a) a bundled LFC option (by which the retailer charges the consumer directly for the electricity supplied to the home); or

b) a split charging LFC option (by which the distributor charges the consumer directly for some services to supply the electricity to their home, and the retailer charges the consumer directly for the rest of the electricity supplied to the home).[1]

4.1.2 The Regulations require that a LFC option has two components:

a) a fixed charge levied for each customer connection in currency per time period (for example, cents per day) that cannot exceed 30 cents per day[2], after deduction of any prompt payment discount[3]

b) a variable charge(s), which is a charge that varies according to the amount of electricity consumed (for example, cents per kilowatt hour).[4]

4.1.3 The variable component of a retailer's LFC option must be set so that the average consumer[5] pays no more in total per year for the fixed charge and the variable charge(s) charged on a LFC option than on any alternative tariff option.[6]

4.1.4 The retailer may not recover any charges associated with the delivered electricity to the home other than by a fixed charge, a variable charge(s) and any fees for special services.[7]

4.1.5 The Regulations define an "average consumer" as 'a person who purchases or uses 8,000 kWh of electricity per year for their home'[8] or 'a person who purchases or uses 9,000 kWh of electricity per year for their home' if the consumer's home is south of Arthur's Pass (referred to as 'Lower South region' in the Regulations).[9]

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1 See regulation 7 of the Regulations.

2 See "fixed charge" in regulation 4(1) and regulation 8 of the Regulations.

3 See regulation 18 of the Regulations.

4 See "variable charge" in regulation 4(1) and regulation 9 of the Regulations.

5 See "average consumer" in regulation 4(1) of the Regulations.

6 See regulations 8 and 9 respectively of the Regulations.

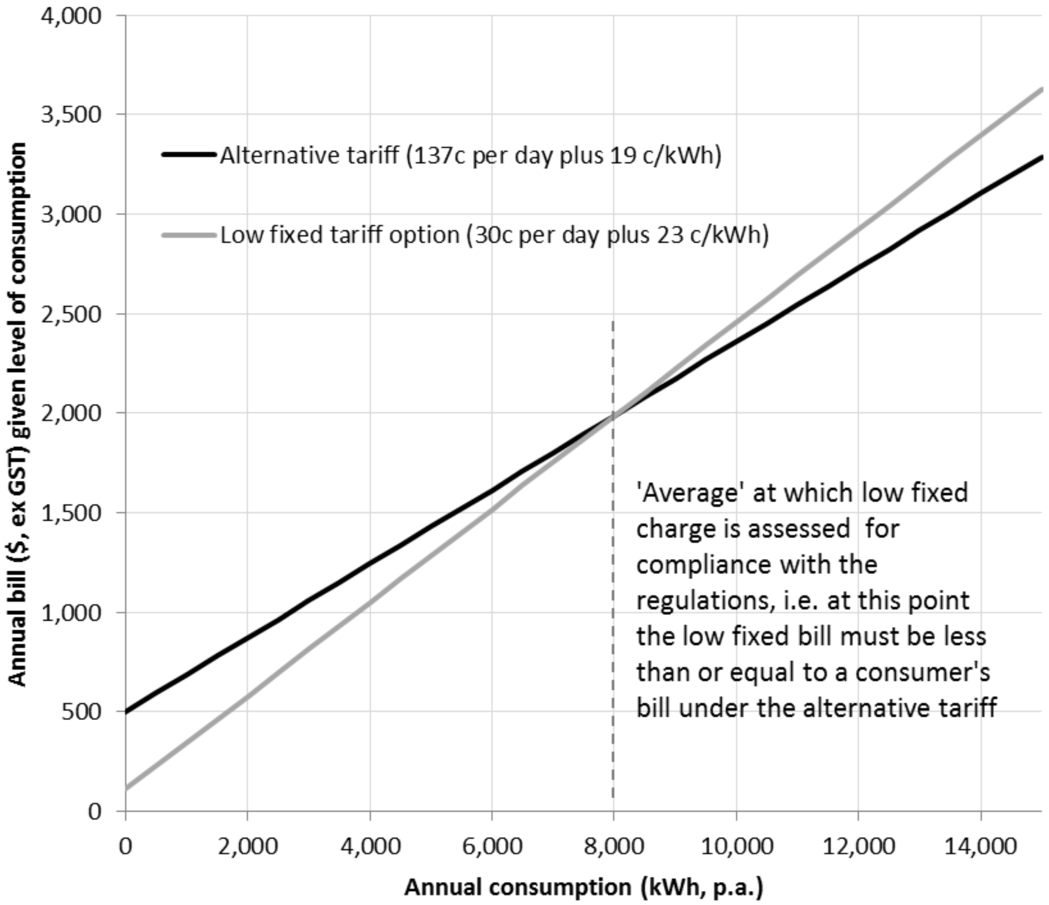
7 See regulation 8(d) of the Regulations.

8 Under regulation 4(1) of the Regulations, 'home' is defined as the domestic premises (as defined in the Electricity Act 1992) that are the principal place of residence of a domestic consumer.

9 See regulation 4(1) of the Regulations.

4.1.6 Figure 1 below provides an example of a LFC option and an alternative tariff.

Figure 1: Example of a low fixed charge and an alternative tariff option



4.2 Basic requirements on distributors from the Regulations

4.2.1 If a distributor has a tariff that includes a fixed charge component, it must ensure that it offers a tariff with a fixed charge component to homes, and that the fixed charge component is capped at no more than 15 cents per day (excluding GST).[10]

4.2.2 A distributor may not recover any charges associated with the delivered electricity supplied to the home other than by all or any of:

a) a fixed charge (of no more than 15 cents per day)

b) a variable charge or charges

c) any fees for special services

d) any fee payable for:

i. providing or reading any meter that is owned by the distributor or relay

ii. providing any relay that is owned by the distributor.[11]

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[10] See regulation 14(1) of the Regulations.

4.2.3 Any variable charge a distributor sets must be set so that the average consumer pays no more in total per year for the fixed charge and variable charges than on any alternative distributor tariff option,[12] including after discounts and rebates.[13]

4.3 Information requirements from the Regulations

4.3.1 The Regulations also require:

a) retailers to promote LFC options to each consumer at least once in every 12 months[14]

b) retailers and distributors to supply the Authority with the required information regarding a LFC option 15 working days before the date any new LFC option takes effect.[15] Such information includes a schedule of tariff options that the retailer or distributor makes available to homes in its supply area.[16]

5 Direct implications of the Regulations

5.1 Implications for consumer tariffs

5.1.1 The main implications of the Regulations for the design of consumer tariffs are that:

a) the fixed component of a LFC option (15c/30c) is likely to be much smaller than the typical fixed cost of a connection, leading to tariffs that are less cost-reflective than they might otherwise be

b) the variable component of a LFC option will never be smaller than the variable component of the alternative to an LFC option

c) groups of high-use consumers cross-subsidise groups of low-use consumers

d) consumers who elect the LFC option may inadvertently consume more than 8,000 kWh (or 9,000kWh as appropriate), and if they do, they are likely to be worse off than if they had chosen a tariff with a higher fixed charge

e) if consumers discover or are made aware (e.g. via Powerswitch) that they have paid “too much” by being on the LFC option (because they consume more than the average consumer as defined in the Regulations), they could be inclined to switch retailers despite overpayment potentially being a consequence of the Regulations, and not the retailer.

5.1.2 It is unclear how significant the above implications are to the design of consumer tariffs. Cross-subsidies naturally occur due to limited information on real-time consumption and transaction costs associated with perfectly efficient tariffs. While it appears that the Regulations give rise to a cross-subsidy, it is unclear how large this cross-subsidy is compared to a realistic counterfactual with no Regulations.

5.1.3 Similarly, it can only be assumed that tariffs would be more cost-reflective (and therefore more efficient) without the Regulations. In practice, there are limits for Electricity Distribution

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[11] See regulation 14(1)(c) of the Regulations.

[12] See regulation 15(1) of the Regulations.

[13] See regulations 15(1) and 15(2)(a) of the Regulations.

[14] See regulation 12 of the Regulations.

[15] See regulation 22 of the Regulations.

[16] See regulation 23 of the Regulations.

Businesses (EDBs): for example, in terms of both how they charge particularly due to the Regulations, as well as how their charges are passed on to end-users. This is because retailers, rather than EDBs, determine the final pricing structures to end-users through their direct relationship with consumers.

5.2 Implications from compliance costs

5.2.1 Compliance costs that arise from the Regulations include costs of verifying whether a residential ICP is in fact a principal place of residence and, for example, not a holiday home. It is unclear if all distributors or retailers carry out this sort of verification, but some certainly do.

5.2.2 The RAG understands that other compliance costs associated with the Regulations include:

a) applying for exemptions under the Regulations (e.g. for remote areas)[17]

b) menu costs from duplicating tariffs

c) costs of coordination between retailers and distributors to ensure the combined effects of charges do not contravene the Regulations

d) costs of communicating with consumers and promoting the LFC option at least once a year

e) costs to retailers liaising with distributors and retail customers when distributors question the status of retail customers.

5.2.3 The direct costs of managing two sets of domestic tariffs - a low fixed and a standard tariff - are not likely to be significant. This is because simple algorithms can be used to calculate a LFC option equivalent of any tariff charge, and consequently, menu costs are trivial. It is also likely that communication with customers about the value of the LFC option can easily be automated and carried out in the context of billing, requiring close to zero marginal cost of compliance.

5.2.4 More significant compliance costs are more likely to arise from interacting with any consumer inquiries about the LFC option. The Regulations require that each time a standard tariff option is promoted, the alternative LFC option must also be promoted in the same manner. This could well cause increased call-centre demands and other communication costs. This would be inefficient to the extent that the enquiries came from consumers who would not benefit from a LFC option.

6 Flexibilities afforded by the Regulations

6.1 Variation in the way distributors implement the Regulations

6.1.1 Variation in the way distributors implement the Regulations provides insight on the degree of flexibility that the Regulations can provide.

6.1.2 Analysis of distributors' charges shows that distributors have adopted four broad types of tariff structure to comply with the Regulations, including:

a) setting a fixed charge at 15 cents per day for all domestic connections (approximately 240,000 ICPs covered)

b) offering an alternative LFC option with the variable charge and the standard tariff set in currency per kWh of electricity delivered (approximately 1,100,000 ICPs)

[17] 12 time-limited exemptions were in force as at August 2014.

c) offering an alternative LFC option with the variable charge linked to a measure of peak demand (The Lines Company) or MWh days (Electricity Invercargill and The Power Company) (approximately 50,000 ICPs across both types)

d) bulk selling of distribution services to retailers (at the grid exit point, 'wholesale pricing' under regulation 17 of the Regulations) with a fixed charge of zero (Orion Limited and PowerCo – Western Region – controlled) or 15 cents per day (PowerCo – Western Region –uncontrolled and OtagoNet Joint Venture) (approximately 240,000 ICPs covered).

6.2 Flexibility on the form of fixed charges

6.2.1 The Regulations define both the charging basis and the maximum amount for the fixed charge component of a LFC option. The Regulations allow for only one fixed charge in the LFC option. However, the Regulations allow:

a) a retailer and a distributor to recoup fees for special services[18]

b) a distributor to recoup fees for any fee payable for:

i. providing or reading any meter that is owned by the distributor or relay

ii. providing any relay that is owned by the distributor.[19]

6.2.2 Consequently, while the Regulations prescribe a maximum amount for the fixed charge component of a LFC option, a distributor or retailer may recoup its costs provided such costs come within the definitions of 'special services',[20] or for distributors, fees payable for metering or relays under Regulation 14(1)(d).

6.2.3 The Regulations do quantify a limit of 15 cents per day for the maximum rate of the fixed charge for distributors, but do not set a formula for the allocation of the variable costs between the retailer and distributor.

6.3 Flexibility on the form of variable charges

6.3.1 The Regulations allow for multiple variable charges and charges on different measures of demand such as "setting different variable charges for controlled or uncontrolled load, or for electricity consumption at different times of the day or year".[21]

6.3.2 The Regulations do place some limitations on the form of multiple variable charges. Rates used for variable charges cannot be tiered or stepped by the amount of electricity consumed.[22] This ensures that retailers and distributors cannot claw back the cost savings to low-use consumers provided by the Regulations. However, it does not prevent a retailer or a distributor from setting different variable charges for controlled and uncontrolled load or for electricity consumption at different times of the day or year.[23]

6.3.3 The consumption averages referred to in the Regulations are now very inaccurate. Nationwide, 73% of residential ICPs are estimated to consume below 8,000 kWh per year. In the North Island,

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[18] See regulation 8(d) and 14(1)(c) of the Regulations.

[19] See regulation 14(1)(c) of the Regulations.

[20] See regulation 4(1) of the Regulations.

[21] See regulation 10(3) of the Regulations for retailers and regulation 16(2)(a) of the Regulations for distributors.

[22] See regulation 10(2)(a) of the Regulations for retailers and regulation 16(2)(a) of the Regulations for distributors.

[23] See regulation 10(3) of the Regulations for retailers and regulation 16(2)(a) of the Regulations for distributors .

this value is as high as 4 in every 5 ICPs. The prescribed averages are set at historic estimates of averages with no ability for dynamic adjustment.

6.3.4 However, it appears there is some flexibility in the way that 'average' is defined for the purposes of determining whether a variable charge complies with the Regulations. When a peak demand or capacity charge is used, distributors and retailers have some flexibility in determining what the average peak is and how that relates to the definition of average consumer in the Regulations (i.e. 8,000 kWh).

6.3.5 For instance, The Lines Company (TLC) has taken the approach, in implementing a peak (kW) demand tariff, to estimate the average peak demand of a typical 8,000 kWh consumer. There are few (if any) consumers on the TLC network who consume precisely 8,000 kWh, so TLC uses a range of consumers between 7,000 and 9,000 kWh to construct the average kW demand. Once the average kW demand is found, it can be used as the benchmark for determining compliance against the Regulations. TLC's approach suggests that there is scope under the Regulations for innovation with LFC tariffs options.

6.3.6 The Regulations expressly contemplate some variation in the measurement of average consumption even if it is limited to default ratios for splitting controlled and uncontrolled load. If the electricity retailer or electricity distributor has used a different assumption as to the consumption of the average consumer from that prescribed in the Regulations, they must supply the Authority with a detailed explanation and data to support the use of the different assumption.[24]

6.4 Regulations do not constrain charges on distributed generation

6.4.1 The Regulations do not specifically address distributed generation, such as domestic use of solar photovoltaics (PV). Requirements on retailers and distributors relate to charges for 'delivered electricity' to the home. The scope of the definition of 'delivered electricity' in the Regulations specifically include 'electricity supply, line function services, customer service, meter provision and meter reading services' and exclude 'special services' which means any services that are provided by an electricity retailer or an electricity distributor to a domestic consumer in addition to those in the standard delivered electricity package and either at the request of the consumer or as a result of the consumers default under their agreement with the retailer or distributor.[25] This suggests that charging for connection of distributed generation is outside the scope of the Regulations.

6.4.2 The Regulations do not affect distributors or retailers' ability to charge for services related to connection or injection from solar PV. Distributed generation is governed by a distinct set of rules in Part 6 of the Electricity Industry Participation Code 2010 (the Code). Under the pricing principles in Schedule 6.4 to Part 6 of the Code, distributors can charge for any actual or estimated incremental costs – fixed or variable – incurred as a result of providing connection services.

6.4.3 Proliferation of solar PV would see an expansion of use of LFC options as installing solar PV typically lowers consumers' average kWh consumption. This implies revenue risk for distributors given that the Regulations preclude recovery of fixed costs with fixed charges above the regulated level. This is inefficient if demand for capacity or peak energy demand does not decline along with

[24] See regulation 23(d) of the Regulations.

[25] See the definition of 'special services' in regulation 4 of the Regulations.

a reduction in annual consumption. If solar PV owners continue to make full use of network capacity then the LFC option acts as a subsidy to solar PV installation and other consumers' costs increase.

6.4.4 On the face of it, if distributors can charge for any actual or estimated incremental costs it may be that Part 6 also allows distributors to recoup lost demand-related connection revenue by increasing the cost charged for connection of solar PV. This could be considered reasonable and efficient on the grounds that lost demand-related connection revenue is an incremental cost caused by the connection of the distributed generation.

7 Interaction with the Regulations and the Commerce Act

7.1.1 The LFC options could cause EDBs to fail to recover costs consistent with requirements of the Commerce Commission under Part 4 of the Commerce Act 1986.

7.1.2 This is not an opinion regarding the law or its application but an observation about how the arithmetic of price path compliance operates in conjunction with the Regulations.

7.1.3 The constraint on revenue recovery comes about through the fact that regulated price paths are a weighted average of prices. If demand on higher priced tariffs declines and consumers move to LFC options then there will potentially be a step change in revenue. Distributors cannot adapt prices to deal with this, at least within a regulatory control period, without breaching price paths.

7.1.4 It is unclear how material this effect is as we have not found a practical example in which this has been a problem and one that can be directly related to the Regulations.

8 Next Steps

8.1.1 Feedback that is provided at the February 2015 RAG meeting will be incorporated in to the RAG's report on the Regulations and efficiency impacts (if appropriate). A full report will be tabled for discussion at the March RAG meeting.

8.1.2 An initial assessment of the competition effects from the Regulations will be provided at the March RAG meeting for discussion.