

Retail data project: a file format for exchanging generally available retail tariff plan data

Consultation paper

Submissions close: 5 pm on 9 August 2016

28 June 2016



Executive summary

The purpose of the Electricity Authority's (Authority) retail data project is to increase consumer participation in the retail electricity market, by improving consumers' access to information to enable them to make more confident, better and faster decisions, including retailer switching decisions.

Increased consumer participation is expected to make it easier for retailers to entice and attract consumers, which in turn is expected to enhance retail market competition and provide long-term benefits to consumers.

As part of the retail data project, the Authority amended the Electricity Industry Participation Code 2010 (Code) to require retailers to provide information about their generally available retail tariff plans to any person that requests them. The Code amendment took effect on 1 February 2016.

The Authority expects that third-party service providers will be interested in obtaining retail tariff data on behalf of electricity consumer clients in order to compare tariff plans. However, the Code does not specify the format or method a retailer may use to provide this information.

This consultation paper presents a draft file format for use by retailers and seeks feedback from interested parties. The format is an addition to the current suite of industry electricity information exchange protocols (EIEPs) and has been titled EIEP 14.

The Authority has provided a format option that uses JavaScript Object Notation (JSON), in addition to the commonly used Comma Separated Value CSV format. The JSON format is specifically designed for efficient handling of structured, information-rich data.

While using the format by retailers is voluntary, the Authority recommends that retailers consider adopting the finalised version of EIEP 14 when they develop a tariff data file format. The Authority expects to publish a finalised version of EIEP 14 by 1 October 2016.

The Authority welcomes comment on the proposed file format from retailers, third-party tariff plan comparison service providers and other interested parties.

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1 What you need to know to make a submission

1.1 What this consultation paper is about

- 1.1.1 This consultation paper seeks feedback on an information exchange format the Authority has developed. The format will be available for retailers to use when they provide information about their generally available retail tariff plans.
- 1.1.2 The development of this format forms part of the Retail Data Project, which seeks to provide access to consumption data, tariff and connection data and monitoring data. The format is a voluntary format that retailers and parties that request the information may elect to use.
- 1.1.3 Previous documents about the retail data project are available at this URL:
<http://www.ea.govt.nz/development/work-programme/retail/retail-data/>
- 1.1.4 The Authority invites you to make a submission on the proposed format.

1.2 How to make a submission

- 1.2.1 Your submission is likely to be made available to the general public on the Authority's website. If necessary, please indicate any documents attached in support of your submission and any information that is provided to the Authority on a confidential basis. However, you should be aware that all information provided to the Authority is subject to the Official Information Act 1982.
- 1.2.2 The Authority's preference is to receive submissions in electronic format (Microsoft Word) in the format shown in Appendix A. Submissions in electronic form should be emailed to submissions@ea.govt.nz with "Consultation Paper— Retail data project: a file format for exchanging generally available retail tariff plan data" in the subject line.
- 1.2.3 Do not send hard copies of submissions to the Authority unless it is not possible to do so electronically. If you cannot or do not wish to send your submission electronically, you should post one hard copy of the submission to either of the addresses provided below or you can fax it to 04 460 8879. You can call 04 460 8860 if you have any questions.

Postal address

Submissions
Electricity Authority
PO Box 10041
Wellington 6143

Physical address

Submissions
Electricity Authority
Level 7, ASB Bank Tower
2 Hunter Street
Wellington

1.3 Deadline for receiving a submission

- 1.3.1 Submissions should be received by **5pm** on **9 August 2016**. Please note that late submissions are unlikely to be considered.
- 1.3.2 The Authority will acknowledge receipt of all submissions electronically. Please contact the Submissions' Administrator if you do not receive electronic acknowledgement of your submission within two business days.

2 Background about the retail data project

2.1.1 In November 2015, the Authority decided to:

- a) amend the Code to require all retailers to provide generally available retail tariff plans to any person that requests them
- b) prepare a standardised file format for electronically sending and receiving retail tariff plan data, for voluntary adoption.¹

2.1.2 The Code amendment requiring retailers to provide generally available retail tariff plans to any person that requests them came into effect on 1 February 2016.²

2.1.3 The purpose of this consultation paper is to consult on the proposed file format.

¹ See *Access to tariff and connection data: decisions and reasons paper*, 24 November 2015, section 2, available at <http://www.ea.govt.nz/dmsdocument/20115>.

² Code, clause 11.32G.

3 The Authority has developed a format for providing retail tariff data

- 3.1.1 'The format has been developed as an addition to the EIEPs'. The Code does not specify the manner or format in which retailers must provide generally available retail tariff plans. However, with the objective of standardising electronic information exchange formats where possible, the Authority has developed a standardised file format.
- 3.1.2 Retailers may elect whether to adopt or use the file format.
- 3.1.3 The format is presented as an addition to the Authority's suite of Electronic Information Exchange Protocols (EIEPs).³ Accordingly, the draft format is titled EIEP 14.
- 3.1.4 Before it finalises the file format, the Authority seeks feedback from interested parties, particularly about ways to improve the draft file format.

3.2 The Authority has considered inputs from industry representatives

- 3.2.1 In developing the draft file format to this point, the Authority has utilised a technical working group and sought input from the Standing Data Format Group (SDFG). The technical working group included representatives of retailers, third-party retail tariff comparison service providers and consumers. The (SDFG) is a working group of technical specialists from within the industry which considers additions and amendments to the suite of EIEPs.

3.3 The format is targeted at electronic data transfers

- 3.3.1 Any person may ask a retailer for its generally available retail tariff plans, but the draft file format has been designed for retailers to provide electronically structured information to third-party service providers. Service providers are expected to electronically process and use the tariff information to advise clients (electricity consumers) on the best retail plans to suit their needs. Accordingly, the file format is designed for structured and efficient machine to machine data transfer, via the internet.
- 3.3.2 While not primarily intended as a way to transfer tariff data directly to consumers, a data file formatted to the EIEP 14 specification could be decoded by a consumer with specific electronic information exchange expertise using suitable programming tools. An EIEP 14 formatted file is essentially a highly structured plain text file but would not be particularly human readable without subsequent electronic data processing.

3.4 Developing a tariff data file format has specific challenges

- 3.4.1 Structuring a standardised file format for encapsulating tariff data is particularly challenging. This is because tariff plans (both from plan to plan and between retailers) are "text rich" and can follow widely disparate formats. In addition, the retail electricity market is at a point of significant innovation in tariff plan design, so increasingly less similar tariff plans are anticipated.
- 3.4.2 This shows that the high-level design objectives for the file format should be to provide flexibility to accommodate different tariffs and to future tariff innovations.

³ More information about EIEPs can be found at <http://www.ea.govt.nz/operations/retail/eiep/>.

3.4.3 The Authority has also sought to incorporate the following objectives within the draft file format. The file format should:

- a) be scalable and extensible
- b) align where possible with associated data formats
- c) be an open format
- d) be efficient (in its use of machine data storage)
- e) be readily interpretable and unambiguous
- f) use standardised terminology where possible
- g) provide unique file IDs to aid tracking
- h) allow for versioning.

3.5 The draft file format follows EIEP specification conventions

3.5.1 The Authority's suite of EIEPs has evolved over many years to meet a variety of data exchange purposes. Nevertheless, each EIEP specification follows a similar layout. This provides for consistency and predictability across the suite of formats.

3.5.2 While the Authority has considered alternative approaches from time to time, the current suite of EIEPs is based on the exchange of CSV formatted files. CSV means Comma Separated Values, with data fields in each record (line) of textual data separated by a predefined delimiter (the EIEPs use a comma).

3.5.3 While "flat file" (ie, one data record to one line) formats like CSV can incorporate a hierarchy within the data, other format options can provide for highly hierarchically structured data that do this more efficiently. Developing the file format for exchanging tariff data has highlighted this and has resulted in the Authority considering a modern format approach for dealing with hierarchically structured data. This has led the Authority to provide:

- a) a CSV format
- b) additionally, a specification based on the JSON format.

3.6 EIEP 14

3.6.1 The draft file format is attached as Appendix B.

3.6.2 Of note is:

- a) the draft EIEP 14 included in Appendix B provides more detail on the proposed data hierarchy for encapsulating tariff data⁴
- b) the hierarchically structured text-rich data
- c) example output files showing both CSV and JSON formatted options.

3.6.3 The hierarchical structure should allow retailer tariff to be correctly defined by setting conditions for eligibility. The structure currently shows "retailer" attributes being a lower order than "customer" attributers ie the customer is defined in the hierarchical structure before the retailer is. The reason for this is the use of brand names by some retailers, where the brand names compete for similar customers. The structure could show

⁴ Appendix B, page 3

customer as a subset of retailer. Views on this order are contained in question 4 following.

- | | |
|------------|--|
| Q1. | Do you have any comments on the draft EIEP 14? |
| Q2. | Do you have any specific comments on any of the file format fields or business rules? |
| Q3. | Do you consider there are alternatives to an EIEP 14 that could be used/developed as a standard format? Please give reasons for any alternatives. |
| Q4. | Do you consider that within the format that the hierarchy should be “customer” as a subset of “retailer”? Currently the format shows “retailer” as a subset of “customer”. Please give reasons. |

3.7 The draft file format also allows for JavaScript Object Notation (JSON)

- 3.7.1 The Authority has considered JSON for formatting tariff data because it is specifically designed for efficient handling of structured, information-rich data. It is flexible, extensible, hierarchical and is suited to Business to Business (B2B) transmission. These attributes align well with the proposed EIEP14 purpose and structure.
- 3.7.2 JSON is an open-standard format that uses human-readable text to transmit data objects consisting of named attribute–value pairs. It is the most common data format used for asynchronous browser/server communication (ie internet functions) and has largely replaced XML for this purpose.⁵ There are numerous JSON resources available with a web search.
- 3.7.3 The Authority has considered JSON for formatting tariff data because it is specifically designed for efficient handling of structured, information-rich data. It is flexible, extensible, hierarchical, and is suited to Business to Business (B2B) transmission. These attributes align well with the proposed EIEP14 purpose and structure.
- 3.7.4 Discussion amongst the members of the tariff data technical working group indicated strong support for development of a JSON format for tariff data exchange between machines. Similarly, discussion amongst members of the SDFG also suggested support for a JSON format option.
- 3.7.5 The draft file format for electronic exchange of retailers’ generally available tariff data includes both CSV and JSON variants.
- 3.7.6 The Authority is particularly keen to understand interested parties’ views on this design choice.

⁵ Wikipedia definition

Q5. What are the pros and cons of specifying a JSON format? (a) for this EIEP (b) for other EIEPs both current and future?

Appendix A Format for submissions

Submitter	
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Question	Comment
Q1: Do you have any comments on the draft EIEP 14?	
Q2: Do you have any specific comments on any of the file format fields or business rules?	
Q3: Do you consider there are alternatives to an EIEP 14 that could be used/developed as a standard format? Please give reasons for any alternatives.	
Q4: Do you consider that within the format that the hierarchy should be “customer” as a subset of “retailer”? Currently the format shows “retailer” as a subset of “customer”. Please give reasons.	
Q5: What are the pros and cons of specifying a JSON format (a) for this EIEP? (b) for other EIEPs both current and future?	

Appendix B Draft EIEP 14 for exchanging retail tariff data

- B.1 This appendix contains the draft file format for voluntary use by retailers when sending their generally available tariff data to requesting parties.

Electricity Information Exchange Protocol 14: Strawman file format

Title:	Electricity Information Exchange Protocol 14 – Retailer tariff rate notification
Version	Draft 1.C
Application:	This protocol applies when a third party service provider requests a retailer to provide its generally available tariff rates.
Participants:	Retailers
Code references:	Clause 11.1(g) and 11.32(g) of Part 11. Not regulated.
Dependencies:	This protocol should be read in conjunction with the connection data available for an ICP from the Authority's web portal.

Description of when this protocol applies

1. A retailer may use this protocol when responding to a request from a third party service provider that requests the retailer's generally available tariff plans. This is a voluntary protocol.

Business requirements

2. The protocol is primarily designed to generate a CSV-formatted file. As an additional option, it can be used to develop an alternative file format (such as JSON) conveying the same content as agreed by the requesting and supplying parties.
3. The format should include a full and complete file of the retailer's generally available tariffs that are in use and comply with the attribute specifications and the protocol specifications that are set out in this protocol.
4. If the retailer becomes aware of an error in the file, the retailer must advise the recipient of the error as soon as practicable after becoming aware of the error. The retailer may provide the recipient with a partial or full replacement file.
5. A notification must include the conditions for application of the tariff rate.
6. Where a tariff rate applies to a brand name, the brand name should be identified in the "Retailers name" field, and the parent participant identifier of the brand name should be used in the "Retailer participant identifier" field.
7. Tariff rates included in this format must
 - a. be GST exclusive
 - b. have the effect of any discounts removed. Where a tariff rate has different discounts applicable, the tariff rate description should have the discount condition appended to the tariff name eg "Anytime Wellington domestic direct debit", and each different discount must be identified with a different tariff.
 - c. All components (such as separate rates, fees, levys etc) making up the plan must be included.

8. A file will consist of:
- a. Single header row
 - b. One or more customer rows
 - c. One or more plan rows for each customer row
 - d. One Network/Distributor row for each plan
 - e. Optional additional attribute/condition rows for each plan
 - f. One or more rate rows for each plan row
 - g. Optional rows if there is a time component attached to the rate.
9. Attribute codes used in this format are listed at the end of this format to describe certain characteristics that apply to the application of a retailers pricing plan. Attribute codes may be specific to “customer”, “plan” or “tariff” information. Where an attribute applies to a tariff, and an attribute code in Appendix 1 describes that attribute, the attribute code must be used. Where there is no attribute code that describes the attribute, a retailer may create an additional attribute code but:
- a. additional attribute codes must conform to the standard naming convention detailed below
 - b. retailers must provide a definition of what the attribute code means within 2 business days of a request from a third party service provider
 - c. the retailer must provide the additional attribute code to the Authority within three months of its first use.
10. Additional attribute codes must conform to the following:
- a. abbreviations should be avoided
 - b. words must be upper case separated by an underscore and should generally describe what the attribute is for
 - c. not exceed 50 characters in length
 - d. any ASCII characters used must comply with Table 1 ASCII character set shown in Appendix 1.

Data inputs
Retailers’ generally available price plans.

Specifications

The specification has multiple levels, and contains optional segments to enable simplicity along with future flexibility within a csv structure.

- Level 1 - Customer type. This level specifies attributes particular to the customer class that the retailer is providing plans for, followed by 0 or more attribute rows as applicable
 - Attributes that relate to customers which is a collection of factors that define the customer
- Level 2 – Plan. A plan means a collection of Tariffs and Attributes available for a particular set of conditions, (ie region, configuration, etc)
 - Attributes that relate to the plan which are not customer related. It is a collection of factors that can additionally be applied to a plan (ie a discount, constraint filter, or extra piece of information such as T&C text or a URL)
- Level 3 - A network record providing common distributor level details that will make up a portion of the above set of conditions if applicable
- Level 3 – A tariff record provide a collection of single rates that will be applied per defined unit (ie \$/kWh, \$/day, \$/month). Some of these may be meter register, timespan or metering configuration dependant.
 - Attributes that relate to tariffs which are not customer or plan related. It is a collection of factors that can additionally be applied to a tariff (ie requires loss adjustment)
 - Schedules that relate to tariffs are a collection of timespans to which a tariff or attribute may be limited.

Event data	Format	Retailer to Agent	JSON element/attribute	Validation rules
Header record type	Char 3	M	(Root)	HDR – indicates the row is a header record type
File type	Char 7	M	FileType	Pricing Information - RETPRCE
Version of EIEP	Num 3.1	M	Version	Version of EIEP that is being used for this file.
Sender	Char 20	M	Sender	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of	Char 4	M	SentOnBehalfOf	Participant identifier of party on whose behalf data is provided.
Recipient	Char 4	M	Recipient	Party code of recipient or if the same information is provided to multiple parties may be “ANY”
Report run date	DD/MM/YYYY	M	RunDate	Date the report is run
Report run time	HH:MM:SS	M	RunTime	Time the report is run
Unique file identifier	NUM 15	M	Uniquifier	Reference that uniquely identifies the file
Number of detailed records Where the information is provided as CSV is the number of lines in the report. Where the information is provided as JSON is the number of tariffs contained in the file	NUM 8	M	RecordCount	Total number of DET records in report
File status	Char 1	M	FileStatus	I (Initial) or R (Replacement) or X (replace only those tariffs contained in this replacement file)

Event data	Format	Retailer to Agent	JSON element/attribute	Validation rules
Customer type				
Customer record type	Char 15	M	CustomerGroups[]	Must be "CUSTOMER"
Customer text	Char 1000	C	CustomerGroup	Text value or description of the rules for allocation to customers. Null if there are no rules
Customer attributes				
<i>An extendable list of common customer attributes that is common to a CUSTOMER TYPE</i>				
Attribute record type	Char 15	M	Attributes[]	"ATTRIBUTE" – indicates the attributes additional to rates that apply to the plan
Attribute code	Char 50	C	Attribute	The name of the attribute eg "ANZSIC"
Attribute numerical value	Num 20.6	C	NumValue	The numerical value (which may be either +ve or –ve) of the attribute eg "10.012345" or "10". Null if non-numerical attribute, ie "URL"
Unit of measure	Char 25	C	Unit	The unit of the attribute eg "%", '\$'. Null if non-numerical attribute, ie "ANZSIC"
Attribute text value	Char 1000	C	TextValue	Text value or description of the rules of the attribute eg "Applies only to domestic customers with red roofs" Null if there is no attribute
Retailer				
Retailer record type	Char 15	M	Retailer	"RETAILER" – indicates the row defines the retailer that the plan is relevant for
Trader participant identifier	Char 4	M	TraderId	Mandatory if a participant identifier has been assigned to the trader by the Authority. Null if the trader does not have a participant identifier.
Retailer participant identifier	Char 4	C	RetailerId	Participant identifier of the retailer assigned by the Authority to the participant that purchases electricity from the clearing manager, that is then on-sold as part of this tariff Null if the retailer does not have a participant identifier.
Retailer name	Char 50	M	RetailerBrand Name	Brand name of retailer
Plan				
Plan record type	Char 15	M	Plans[]	"PLAN" – indicates the row defines the retailer that the tariff rate is relevant for. is a tariff plan record.
Retailers plan code	Char 50	O	Plan	A plan code assigned by a retailer that is unique to the plan
Retailers plan description	Char 50	M	Description	A plan description assigned by a retailer that is unique to the plan
Start date of	DD/MM/YYYY	C	StartDate	The future start date of the new tariff rate

Event data	Format	Retailer to Agent	JSON element/attribute	Validation rules
plan				Null if the start date is in the past
End date of plan	DD/MM/YYYY	C	EndDate	The future end date of the tariff rate if it is known. Null if there is no end date
Close date	DD/MM/YYYY	C	CloseDate	The final date a customer can be signed up to the plan (no new customers after this date). Null if there is no close date
LFC	Char 1	M	LFC	'Y' if provided as low fixed charge plan under the "Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004" otherwise "N"
Plan attributes. <i>An extendable list of common attributes, eligibility criteria, pricing conditions, additional information etc that is common to a PLAN.</i>				
Attribute record type	Char 15	M	Attributes[]	"ATTRIBUTE" – indicates the attributes additional to rates that apply to the plan
Attribute code	Char 50	C	Attribute	The name of the attribute eg "DISCOUNT_PROMPT_PAYMENT", "EXIT_FEE", "KVA_MAX", "URL"
Value	Num 20,6	C	NumValue	The numerical value (which may be either +ve or –ve) of the attribute eg "10.012345" or "10". Null if non-numerical attribute, ie "URL"
Unit of measure	Char 25	C	Unit	The unit of the attribute eg "%", '\$'. Null if non numerical attribute, ie "URL"
Attribute text value	Char 1000	C	TextValue	Text value or description of the rules of the attribute eg "Applicable if paid within 10 business days" Null if there is no attribute
Network <i>This record identifies the network that the plan applies to. Where a plan applies to more than one network, there should be a network row provided for each network</i>				
Network record type	Char 15	M	Networks[]	"NETWORK" – defines the network that the plan is relevant to.
Distributor participant identifier	Char 4	C	Network	Details of the distributors network (obtainable for an ICP from the registry web portal) that the plan is applicable for.
NSP	Char 200	C	NSP	Network supply point where a tariff rate is specific to 1 or more NSP eg CPK0331CKHK. Separate NSPs with a space where there are multiple NSPs. Mandatory if the tariff rate is applicable to an NSP. Null if not applicable

Event data	Format	Retailer to Agent	JSON element/attribute	Validation rules
Distributor price category code	Char 200	C	DPC	Price category code where a tariff rate is specific to 1 or more price category codes. Separate price category codes with a space where there are multiple codes. Mandatory if the tariff rate is applicable to a price category code. Null if not applicable
Distributor loss category code	Char 50	C	DLC	Loss category code where a tariff rate is specific to 1 or more loss category codes. Separate loss category codes with a space where there are multiple codes. Mandatory if the tariff rate is applicable to a loss category code. Null if not applicable
Tariff				
Tariff record type	Char 15	M	Tariffs[]	"TARIFF" – defines the eligible rates for the plan.
Retailers tariff identifier	Char 50	O	Tariff	A retailer identifier description or code assigned by a retailer that is unique to the tariff rate Mandatory if tariff identifier used in published information
Tariff name	Char 50	M	Description	The name of this component used by the retailer and that appears on the customers invoice eg "Domestic low fixed charge under 15kVA", "Electricity Authority levy" not necessarily tied to a meter register
Fixed Variable	Char 1	M	FixVar	Identifies a data row as either "V" for variable where the rate applies to a variable and measured electricity quantity such as volume or demand or in all other cases "F" for fixed
Tariff rate	Num 6.6	M	Rate	The specific tariff rate in either a) where unit type is spot + %, % of cost. In all other cases b) dollars per unit type
Unit type	Char 25	C	Unit	The type of unit to which the tariff rate applies as per unit of measure type table.
Flow direction indicator	Char 1	C	FlowDirection	For energy tariff components only, the flow direction that the plan is eligible for X – Consumption only I – Generation only B – Both
Register content code	Char 6	C	RegisterContentCode	Identifies the register content of a meter register to be eligible for the tariff rate. a) for fixed charges code is "Fixed" or

Event data	Format	Retailer to Agent	JSON element/attribute	Validation rules
				b) for all electricity conveyed charges ie EA levy, meter lease charges "Null" or in all other cases c) for electricity delivered rate tariff components, as set out in SD-020 of the registry functional specification
Period of availability	Num 2.1	C	PeriodOfAvailability	Identifies the period of availability of a meter register to be eligible for the tariff rate Null if not applicable
Tariff attributes <i>An extendable list of common attributes, eligibility criteria, pricing conditions, additional information, etc that is common to a tariff</i>				
Attribute record type	Char 15	M	Attributes[]	"ATTRIBUTE" – indicates the attributes additional to rates that apply to the plan
Attribute code	Char 50	C	Attribute	The name of the attribute eg "FIXED_TERM_PERIOD"
Date	DD/MM/YYYY	C		Date if attribute is dependent on a date Null if non-date attribute, ie "URL"
Value	Num 20.6	C	NumValue	The numerical value (which may be either +ve or –ve) of the attribute eg "10.012345" or "10". Null if non-numerical attribute, ie "URL"
Unit of measure	Char 25	C	Unit	The type of unit in which data is supplied as per unit of measure type table. Null if non-numerical attribute, ie "URL"
Attribute text value	Char 1000	C	TextValue	Text value or description of the rules of the attribute eg "Applicable if paid within 10 business days" or "Network or transmission losses are not included in costs" Null if there is no attribute
Schedule <i>If no schedule record, then applicable period assumed to be available 24x7x365</i> <i>If there are multiple active periods associated with a tariff rate, then multiple rows as required so that</i> - there is no more than one on and off period per row - an active period cannot span midnight, if it does two rows should be used. <i>ie Off peak:</i> 00:00-06:00, and, 22:00-24:00				
Schedule record type	Char 15	M	Schedules[]	"SCHEDULE" – indicates the schedule(s) for which a tariff rate applies
Daylight savings adjustment	Char 1	C	DTST	Indicator that the time periods during the period of daylight saving 1 – are adjusted to daylight saving time (NZDT), or 2 – remain as standard time (NZST)
Start time	HH:MM	C	StartTime	Start time that the tariff is active for during a day expressed

Event data	Format	Retailer to Agent	JSON element/attribute	Validation rules
				as a) If all day, Null, or 00.00 b) If part of a day the start time.
End time	HH:MM	C	EndTime	the end time that the tariff is active for during a day expressed as a) If all day, Null, or 24.00 b) If part of a day the end time.
Day type	Char 50	M	DayType	The day type that a tariff applies for ANY/Null – no set day type BD – national business day NBD – national non business day WD – weekday WE – weekend LBD – local business day LNBD – local non business day declared in the network tariff structure SBD – special business day declared in the network tariff structure SPNBD – special non business day declared in the network tariff structure Or any combination of days expressed as the first three letters of a day name separated by a space.
Month	Char 50	M	Month	Month of year that tariff rate applies to. ANY/Null or if it applies to selected months, the name of the months that the rate applies to expressed as the first three letters of a month separated by a space

Appendix 1 Optional attributes list

(To be confirmed and extended over time)

Code	Where attributes used			Values/Description
	Customer	Plan	Tariff	
ANZSIC	✓			The customers type that the tariff applies to 1 – domestic residential only 2 – domestic non-residential (ie holiday) only 3 – retail only 4 – commercial only 5 – industrial only or Valid codes separated by a space, from a list of Australian and New Zealand Standard Industrial Classification codes stored in the registry reference tables with an additional code 000000 to indicate a residential customer. Mandatory if eligibility applies. Assumed 000000 if not.
BUNDLED_GAS	✓			Indicates that the tariff is only available bundled with gas
BUNDLED_OTHER	✓	✓		Use the free text field to describe the bundling requirements As necessary, other codes may be approved by the Authority and appended to this document
CLAW BACK		✓		Claw back of a joining bonus should the contract period be broken
CREDIT_CHECK	✓			Indicates that a satisfactory credit check is necessary for eligibility
DISCOUNT_PROMPT_PAYMENT	✓	✓		
DISCOUNT_PAYMENT_CUSTOMER_INITIATED	✓	✓		
DISCOUNT_PAYMENT RETAILER INITIATED	✓	✓		
DISCOUNT_OTHER	✓	✓		
EXIT_FEE	✓	✓		Break fee
FIXED_TERM_DATE			✓	

FIXED_TERM_PERIOD			✓	
FIXED_PRICE_DURING THE TERM			✓	
FUSE_SIZE_MIN		✓		
FUSE_SIZE_MAX		✓		
KWH_MIN		✓		
KWH_MAX		✓		
KVA_MAX		✓		
KVA_MIN		✓		
LOSS_ADJUSTMENT		✓	✓	Indicator that electricity tariff rates are loss exclusive, and local and/or embedded network losses must be applied to either the electricity volume, demand or tariff rates 1 = losses are included in the tariff rates 2 = losses are excluded from the tariff rates
METER_TYPE_AMI	✓	✓	✓	The plan is only eligible for ICPs with an AMI meter and operating two communications
METER_TYPE_C_AND_I	✓	✓	✓	The plan is only eligible for ICPs with an HHR C&I time of use meter
METER_TYPE_NHH	✓	✓	✓	The plan is only eligible for ICPs with NHH meter registers that are not prepay
METER_TYPE_PP		✓	✓	The plan is only eligible for ICPs with prepay meter registers
PHASES		✓		The number of phases that the plan is eligible for apply for which may be 1 – single phase 2 – two phase 3 – three phase 4 – any number of phases
REPRESENTATIVE_TARIFFS		✓	✓	Indicates basis of tariff structure. 1 – Tariffs are fixed rates 2 – Tariffs are a mix of variable rates over and above spot rates. (I.e. Flick) 3 – Tariffs are variable rates that are over and above spot rates but with a fixed volume hedge 4 – Tariffs are unknown/estimated for a period, (ie Powershop)
SIGNON_FEE	✓	✓		Entrance fee

SIGNON_BOND	✓	✓		Bond requirements
SIGNON_BONUS	✓	✓		Sign on credit/value/bonus
SURCHARGE	✓	✓		Applies to certain types of payments
TERMS_AND_CONDITIONS	✓	✓	✓	Additional terms and conditions, free text
URL		✓	✓	Web link for more information, free text

Protocol specifications
11. Where the file is delivered as a: a. Comma delimited text file. Commas must not be used within fields. If portions of a field require separation, a tilde character (~) must be used. If commas need to be used in the fields, quotation marks must be used to exclude them as separators, as per the DOS CSV format. b. JSON file. JSON element attributes as schedule in this format must be used. 12. Matching of file names, code list values, and other information must not be case sensitive. 13. The file must contain one header. 14. The first record of a file must contain header information followed by three (RETAILER, PLAN, NETWORK, TARIFF, ATTRIBUTE and SCHEDULE) or more detailed lines. 15. The file must have a file name that complies with the following, and must have a name that is unique to the month to which the file relates: Sender + Utility Type (only “E” must be used) + Recipient + File Type (only “RETPRCE” must be used) + Report Year and Month (yyyymm) + Report Run Date (yyyymmdd) + UniqueID# (e.g. hhmm run time, or ICP but limited to Char(60)) with an extension of .TXT and with the components concatenated using the underscore character, to assist readability. e.g. TRUS_E_UNET_RETPRCE_200007_20000802_UniqueID.TXT [Char4_Char1_Char4_Char7_yyyymm_yyyymmdd_Char60.TXT]

Data outputs
Completed notification of generally available tariffs for transmission by the retailer to the requestor.

Definitions

16. In this protocol, the following definitions apply:

- a. Code means the Electricity Industry Participation Code 2010
- b. day means the measure of time for fixed daily charges
- c. kWh means kilo watt hour energy (real energy).

17. Unless the context otherwise requires, any term that is defined in the Code and used in this protocol has the same meaning as in the Code.

Table 1 ASCII character set for use within fields of EIEP 14

Character	ASCII
32	Space
33	!
34	"
35	#
36	\$
37	%
38	&
39	'
40	(
41	)
42	*
43	+
45	-
46	.
47	/
48	0
49	1
50	2
51	3
52	4
53	5
54	6
55	7
56	8
57	9
58	:
59	;
60	<
61	=
62	>
63	?

Character	ASCII
64	@
65	A
66	B
67	C
68	D
69	E
70	F
71	G
72	H
73	I
74	J
75	K
76	L
77	M
78	N
79	O
80	P
81	Q
82	R
83	S
84	T
85	U
86	V
87	W
88	X
89	Y
90	Z
91	[
92	\
93	]
94	^
95	_
96	`

Character	ASCII
97	a
98	b
99	c
100	d
101	e
102	f
103	g
104	h
105	i
106	j
107	k
108	l
109	m
110	n
111	o
112	p
113	q
114	r
115	s
116	t
117	u
118	v
119	w
120	x
121	y
122	z
123	{
124	
125	}
126	~

Table 2 Unit of measure table

Unit	Description
Day	Period measured in days
Week	Period measured in weeks
Month	Period measured in months
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power)
kVAh	kilovolt ampere hour energy (apparent energy)
kVA	kilovolt ampere demand (apparent power)
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVAkm	Kilovolt ampere multiplied by kilometres
Day	Measure of time for fixed daily charges
PF	Power factor
Equipment	Fixed charges for specific equipment (eg transformers)
Note: This list is not exhaustive, alternative units and descriptions may be used if contained in the distributors price schedule.	

Appendix 2 CSV file format examples

Example 1

Simple example available to the entire Wellington (CKHK) region from 'A Simple Retailer Ltd'.

- a) Two basic plans, (LFC and SFC both covering IN, CN and UN tariffs) for domestic consumers

```
HDR,RETPRICE,1,ASRL,ASRL,ANY,23/05/2016,01:23:45,12345,15,I
CUSTOMER,General domestic
RETAILER,ASRL,ASRL,Simple Retailer Ltd
ATTRIBUTE,ANZSIC,,,0000000
PLAN,PRSU,Residential - standard user,,,N
NETWORK,CKHK,,RSU,
TARIFF,RSU-FIXED,Daily supply charge,F,2.1560,Day,B,Fixed,
TARRIF,RSU-24UN,Anytime,V,0.1937,kWh,X,UN,24
TARRIF,RSU-AICO,All inclusive,V,0.1737,kWh,X,IN,17
TARRIF,RLU-CTRL,Controlled - hot water,V,0.1537, kWh,X,CN,19
PLAN,PRLU,Residential - low user,,,Y
NETWORK,CKHK,,RLU,
TARIFF,RLU-FIXED,Daily supply charge,F,0.3333,Day,B,Fixed,
TARRIF,RLU-24UN,Anytime,V,0.2768,kWh,X,UN,24
TARRIF,RLU-AICO,All inclusive,V,0.2568,kWh,X,IN,17
TARRIF,RLU-CTRL,Controlled - hot water,V,0.2368, kWh,X,CN,19
```

Example 2

Simple example available to a subset of the Wellington (CKHK) region from 'A Simple Retailer Ltd'.

- a) Two basic plans, (LFC and SFC both covering available distribution tariffs ie IN, CN, UN, Day/Night and EV) for domestic consumers. The rates come into effect 1 April 2016, and will not be offered to new customers after 30 June 2016. The plan offers a 10% discount for prompt payment, and a further 2% discount for a direct debit payment.
- b) They are further limited to a region (Three central city NSPs) and Distributor Price Categories, (separate sets for LFC and SFC as tends to be the case in Wellington)
- c) Schedules are provided for the EV tariffs

HDR,RETPRICE,1,ASRL,ASRL,ANY,23/05/2016,01:23:45,12345,25,I
CUSTOMER,General domestic
RETAILER,ASRL,ASRL,Simple Retailer Ltd
ATTRIBUTE,ANZSIC,,,0000000
ATTRIBUTE,DISCOUNT_PROMPT_PAYMENT,10,%,
ATTRIBUTE,DISCOUNT_PAYMENT_RETAILER_INITIATED,2,%,
PLAN,PRSU,Residential - standard user,01/04/2016,,30/06/2016,N
NETWORK,CKHK,WIL0331CKHK CPK0331CKHK CPK0111CKHK,RSU,LCC1
TARIFF,RSU-FIXED,Daily supply charge,F,2.1560,Day,B,Fixed,
TARRIF,RSU-24UN,Anytime,V,0.1937,kWh,X,UN,24
TARRIF,RSU-AICO,All inclusive,V,0.1737,kWh,X,IN,17
TARRIF,RLU-CTRL,Controlled - hot water,V,0.1537, kWh,X,CN,19
TARRIF,RSU-16D,Daytime,V,0.1937,kWh,X,D,16
TARRIF,RSU-NITE,Night only,V,0.1337, kWh,X,N,8
TARRIF,RSU-EVNITE,Electric vehicle - night only,V,0.1337,kWh,X,UN,10
SCHEDULE,NZDT,21:00,24:00,,,
SCHEDULE,NZDT,00:00,07:00,,,
PLAN,PRLU,Residential - low user,01/04/2016,,30/06/2016,Y
NETWORK,CKHK,WIL0331CKHK CPK0331CKHK CPK0111CKHK,RLU,LCC1
TARIFF,RLU-FIXED,Daily supply charge,F,0.3333,Day,B,Fixed,
TARRIF,RLU-24UN,Anytime,V,0.2768,kWh,X,UN,24
TARRIF,RLU-AICO,All inclusive,V,0.2568,kWh,X,IN,17
TARRIF,RLU-CTRL,Controlled - hot water,V,0.2368, kWh,X,CN,19
TARRIF,RLU-16D,Daytime,V,0.2768,kWh,X,D,16
TARRIF,RLU-NITE,Night only,V,0.2368, kWh,X,N,8
TARRIF,RLU-EVNITE,Electric vehicle - night only,V,0.2368,kWh,X,UN,10
SCHEDULE,NZDT,21:00,24:00,,,
SCHEDULE,NZDT,00:00,07:00,,,

Appendix 3 JSON file format examples

Example 1

Simple example available to the entire Wellington (CKHK) region from 'A Simple Retailer Ltd'. (As per appendix 2, example 1)

```
{
  "FileType" : "RETPRCE",
  "Version" : 1,
  "Sender" : "ASRL",
  "SentOnBehalfOf" : "ASRL",
  "Recipient" : "ANY",
  "RunDate" : "2016-05-23",
  "RunTime" : "01:23:45",
  "Uniquifier" : 12345,
  "RecordCount" : "8",
  "FileStatus" : "I",
  "Retailers" :
  [
    {
      "TraderId" : "ASRL",
      "RetailerId" : "ASRL",
      "RetailerBrandName" : "A Simple Retailer Ltd",
      "CustomerGroups" :
      [
        {
          "CustomerGroup" : "General domestic",
          "Attributes" :
          [
            {
              "Attribute" : "ANZSIC",
              "TextValue" : "0000000"
            }
          ],
          "Plans" :
          [
            {
              "Plan" : "PRSU",
              "Description" : "Residential - standard user",
              "LFC" : "N",
              "Networks" :
              [
                {
                  "Network" : "CKHK",
                  "DPC" : "RSU"
                }
              ],
              "Tariffs" :
              [
                {
                  "Tariff" : "RSU-FIXD",
                  "Description" : "Daily supply charge",
                  "FixVar" : "F",
                  "Rate" : 2.1560,
                  "Unit" : "Day",
                  "FlowDirection" : "B",
                  "RegisterContentCode" : "Fixed",
                },
                {
                  "Tariff" : "RSU-24UN",
                  "Description" : "Anytime",
                  "FixVar" : "V",
                  "Rate" : 0.1937,
                  "Unit" : "kWh",
                  "FlowDirection" : "X",
                  "RegisterContentCode" : "UN",
                  "PeriodOfAvailability" : 24
                },
                {
                  "Tariff" : "RSU-AICO",
```

```

        "Description" : "All inclusive",
        "FixVar" : "V",
        "Rate" : 0.1737,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "IN",
        "PeriodOfAvailability" : 24
    },
    {
        "Tariff" : "RSU-CTRL",
        "Description" : "Controlled/Hot water",
        "FixVar" : "V",
        "Rate" : 0.1537,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "CN",
        "PeriodOfAvailability" : 17
    }
]
},
{
    "Plan" : "PRLU",
    "Description" : "Residential - low user",
    "LFC" : "Y",
    "Networks" :
    [
        {
            "Network" : "CKHK",
            "DPC" : "RLU"
        },
    ],
    "Tariffs" :
    [
        {
            "Tariff" : "RLU-FIXD",
            "Description" : "Daily supply charge",
            "FixVar" : "F",
            "Rate" : 0.3333,
            "Unit" : "Day",
            "FlowDirection" : "B",
            "RegisterContentCode" : "Fixed",
        },
        {
            "Tariff" : "RLU-24UN",
            "Description" : "Anytime",
            "FixVar" : "V",
            "Rate" : 0.2768,
            "Unit" : "kWh",
            "FlowDirection" : "X",
            "RegisterContentCode" : "UN",
            "PeriodOfAvailability" : 24
        },
        {
            "Tariff" : "RLU-AICO",
            "Description" : "All inclusive",
            "FixVar" : "V",
            "Rate" : 0.2568,
            "Unit" : "kWh",
            "FlowDirection" : "X",
            "RegisterContentCode" : "IN",
            "PeriodOfAvailability" : 24
        },
        {
            "Tariff" : "RLU-CTRL",
            "Description" : "Controlled/Hot water",
            "FixVar" : "V",
            "Rate" : 0.2368,
            "Unit" : "kWh",
            "FlowDirection" : "X",
            "RegisterContentCode" : "CN",
            "PeriodOfAvailability" : 17
        }
    ]
}
}

```

}] }] }

Draft

Example 2

An example available to a subset of the Wellington (CKHK) region from 'A Simple Retailer Ltd'. (As per appendix 2, example 2)

- a) Two basic plans, (LFC and SFC both covering available distribution tariffs ie IN, CN, UN, Day/Night and EV) for domestic consumers. The rates come into effect 1 April 2016, and will not be offered to new customers after 30 June 2016. The plan offers a 10% discount for prompt payment, and a further 2% discount for a direct debit payment.
- b) They are further limited to a region (Three central city NSPs) and Distributor Price Categories, (separate sets for LFC and SFC as tends to be the case in Wellington)
- c) Schedules are provided for the EV tariffs

```
{
  "FileType" : "RETPRCE",
  "Version" : 1,
  "Sender" : "ASRL",
  "SentOnBehalfOf" : "ASRL",
  "Recipient" : "ANY",
  "RunDate" : "2016-05-23",
  "RunTime" : "01:23:45",
  "Uniquifier" : 12345,
  "RecordCount" : "14",
  "FileStatus" : "I",

  "Retailers" :
  [
    {
      "TraderId" : "ASRL",
      "RetailerId" : "ASRL",
      "RetailerBrandName" : "A Simple Retailer Ltd",
      "CustomerGroups" :
      [
        {
          "CustomerGroup" : "General domestic",
          "Attributes" :
          [
            {
              "Attribute" : "ANZSIC",
              "TextValue" : "0000000"
            },
            {
              "Attribute" : "DISCOUNT_PROMPT_PAYMENT",
              "NumValue" : 10,
              "Units" : "%"
            },
            {
              "Attribute" : "DISCOUNT_PAYMENT_RETAILER INITIATED",
              "NumValue" : 2,
              "Units" : "%"
            }
          ],
          "Plans" :
          [
            {
              "Plan" : "PRSU",
              "Description" : "Residential - standard user",
              "StartDate" : "2016-04-01",
              "CloseDate" : "2016-06-30",
              "LFC" : "N",
              "Networks" :
              [
                {
                  "Network" : "CKHK",
                  "NSP" : "WIL0331CKHK CPK0331CKHK CPK0111CKHK",

```

```

        "DPC" : "RSU",
        "DLC" : "LCC1"
    },
],
"Tariffs" :
[
    {
        "Tariff" : "RSU-FIXD",
        "Description" : "Daily supply charge",
        "FixVar" : "F",
        "Rate" : 2.1560,
        "Unit" : "Day",
        "FlowDirection" : "B",
        "RegisterContentCode" : "Fixed",
    },
    {
        "Tariff" : "RSU-24UN",
        "Description" : "Anytime",
        "FixVar" : "V",
        "Rate" : 0.1937,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "UN",
        "PeriodOfAvailability" : 24
    },
    {
        "Tariff" : "RSU-AICO",
        "Description" : "All inclusive",
        "FixVar" : "V",
        "Rate" : 0.1737,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "IN",
        "PeriodOfAvailability" : 24
    },
    {
        "Tariff" : "RSU-CTRL",
        "Description" : "Controlled/Hot water",
        "FixVar" : "V",
        "Rate" : 0.1537,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "CN",
        "PeriodOfAvailability" : 17
    },
    {
        "Tariff" : "RSU-16D",
        "Description" : "Daytime",
        "FixVar" : "V",
        "Rate" : 0.1937,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "D",
        "PeriodOfAvailability" : 16
    },
    {
        "Tariff" : "RSU-NITE",
        "Description" : "Night only",
        "FixVar" : "V",
        "Rate" : 0.1337,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "N",
        "PeriodOfAvailability" : 8
    },
    {
        "Tariff" : "RSU-EVNITE",
        "Description" : "Electric vehicle - night only (9PM-7am)",
        "FixVar" : "V",
        "Rate" : 0.1337,
        "Unit" : "kWh",
        "FlowDirection" : "X",
        "RegisterContentCode" : "UN",
        "PeriodOfAvailability" : 10 "Schedules" :

```

```

[
  {
    "DTST" : "NZDT",
    "StartTime" : "21:00",
    "EndTime" : "24:00",
  },
  {
    "DTST" : "NZDT",
    "StartTime" : "00:00",
    "EndTime" : "07:00",
  }
]
}
],
{
  "Plan" : "PRLU",
  "Description" : "Residential - low user",
  "StartDate" : "2016-04-01",
  "CloseDate" : "2016-06-30",
  "LFC" : "Y",
  "Networks" :
  [
    {
      "Network" : "CKHK",
      "NSP" : "WIL0331CKHK CPK0331CKHK CPK0111CKHK",
      "DPC" : "RLU",
      "DLC" : "LCC1"
    },
  ],
  "Tariffs" :
  [
    {
      "Tariff" : "RLU-FIXD",
      "Description" : "Daily supply charge",
      "FixVar" : "F",
      "Rate" : 0.3333,
      "Unit" : "Day",
      "FlowDirection" : "B",
      "RegisterContentCode" : "Fixed",
    },
    {
      "Tariff" : "RLU-24UN",
      "Description" : "Anytime",
      "FixVar" : "V",
      "Rate" : 0.2768,
      "Unit" : "kWh",
      "FlowDirection" : "X",
      "RegisterContentCode" : "UN",
      "PeriodOfAvailability" : 24
    },
    {
      "Tariff" : "RLU-AICO",
      "Description" : "All inclusive",
      "FixVar" : "V",
      "Rate" : 0.2568,
      "Unit" : "kWh",
      "FlowDirection" : "X",
      "RegisterContentCode" : "IN",
      "PeriodOfAvailability" : 24
    },
    {
      "Tariff" : "RLU-CTRL",
      "Description" : "Controlled/Hot water",
      "FixVar" : "V",
      "Rate" : 0.2368,
      "Unit" : "kWh",
      "FlowDirection" : "X",
      "RegisterContentCode" : "CN",
      "PeriodOfAvailability" : 17
    },
    {
      "Tariff" : "RLU-16D",
      "Description" : "Daytime",

```

```

    "FixVar" : "V",
    "Rate" : 0.2768,
    "Unit" : "kWh",
    "FlowDirection" : "X",
    "RegisterContentCode" : "D",
    "PeriodOfAvailability" : 16
  },
  {
    "Tariff" : "RLU-NITE",
    "Description" : "Night only",
    "FixVar" : "V",
    "Rate" : 0.2268,
    "Unit" : "kWh",
    "FlowDirection" : "X",
    "RegisterContentCode" : "N",
    "PeriodOfAvailability" : 8
  },
  {
    "Tariff" : "RLU-EVNITE",
    "Description" : "Electric vehicle - night only (9PM-7am)",
    "FixVar" : "V",
    "Rate" : 0.2268,
    "Unit" : "kWh",
    "FlowDirection" : "X",
    "RegisterContentCode" : "UN",
    "PeriodOfAvailability" : 10 "Schedules" :
    [
      {
        "DTST" : "NZDT",
        "StartTime" : "21:00",
        "EndTime" : "24:00",
      },
      {
        "DTST" : "NZDT",
        "StartTime" : "00:00",
        "EndTime" : "07:00",
      }
    ]
  }
]
}

```

Glossary of abbreviations and terms

Authority	Electricity Authority
Code	Electricity Industry Participation Code 2010
CSV	Comma Separated Values
EIEP	Electricity Information Exchange Protocol
JSON	JavaScript Object Notation