Second consultation on electricity information exchange protocols (EIEPs)

Proposal for a single standardised reporting methodology for EIEP1 and delivery mechanism for EIEP5A

Consultation paper

Submissions close: 5pm on Tuesday 18 December 2018

20 November 2018

Market Performance

Executive summary

We consulted on *Electricity information exchange protocols (EIEPs) – 2017 operational review* between August and September 2017. The paper sought submissions on proposals to amend the EIEPs.

Submitters were generally supportive of most of the proposed changes which addressed a backlog of issues and alignment of terminology.

We have issued a separate paper outlining final decisions relating to the EIEP functional specifications as a result of that consultation. The revised EIEPs are now referenced as version 11 (v11).[1] As a result of submissions, we decided we could not make decisions on two maters without further consultation. This consultation paper is seeking feedback on those two matters.

A single standardised distributor billing reporting methodology

During the consultation process, we asked questions about reducing the types of reporting methodology used in EIEP1 from four to three. The overwhelming preference of both distributors and traders was for a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements.

As the consultation paper did not specifically address preferences for conveyance arrangements, we consider it is appropriate to consult on a single standardised EIEP1 reporting methodology for both interposed and conveyance arrangements (our preference).

The proposal we are consulting on is to make the 'replacement RM normalised' methodology the standardised methodology for all EIEP1 files, both for conveyance and interposed arrangements.

The alternative options are to specify a default for conveyance arrangements (each option has a different methodology as the default) with the right of the parties to agree an alternative reporting methodology. In both alternatives, the 'replacement RM normalised' methodology is the only methodology for interposed arrangements.

Delivery mechanism for EIEP5A

While we have decided to make EIEP5A a regulated EIEP, we have not determined an optimal delivery mechanism, and instead wish to further consult on several options.

We propose the registry receive notifications from distributors, process the notifications and indicate outages against the ICP, and then notify retailers, and gaining retailers if a switch is initiated after the notification is sent. The option will also allow both distributors and retailers to choose the way they interact with the registry.

There are alternative options presented. The first is the status quo (where retailers and distributors agree on the transfer mechanism) with no registry processing, the second is a subset of our preferred option with only distributors able to choose the file type used to notify the registry. The third option is a fully automated registry process using the current registry maintenance file processes.

1

Contents

Tables

1 What you need to know to make a submission

What this consultation paper is about

1.1 The purpose of this paper is to consult with interested parties on the Authority's proposal to mandate a:

(a) reporting methodology for EIEP1, with three options to the status quo provided for consideration

(b) delivery mechanism for EIEP5A planned service interruption information between distributors and traders, with four options to the status quo provided for consideration.

1.2 The proposed changes would promote more efficient, lower cost, and reliable exchange of information between traders and distributors, by standardising system and process design, build and operational requirements for EIEP1 and EIEP5A files.

1.3 This aligns with the Authority's statutory objective.

1.4 A decision to proceed with any of the proposed changes will require amendments to the EIEPs and the Code:

(a) EIEP1 reporting methodology:

(i) EIEPs 1 and 2, specifying which reporting methodology is to be used by traders to provide billing and volume information to distributors for interposed and conveyance arrangements.

(b) EIEP5A delivery mechanism:

(i) EIEP5A, amendments to business requirements 1 and 2 if the Authority's decision is to implement Option 1, 2 or 3

(ii) Part 12A, clause 12A.13(3), insertion of (e) "planned service interruption information", reflecting the decision to make EIEP5A a regulated EIEP (to go with Option 1, 2, or 3)

(iii) Schedule 11.1, insertion of new clause 7A "Distributors to provide planned service interruption information to the registry" if the Authority's decision is to implement Option 4.

1.5 Section 39(1)(c) of the Electricity Industry Act 2010 (Act) requires the Authority to consult on any proposed amendment to the Code and corresponding regulatory statement. Section 39(2) provides that the regulatory statement must include a statement of the objectives of the proposed amendment, an evaluation of the costs and benefits of the proposed amendment, and an evaluation of alternative means of achieving the objectives of the proposed amendment. The regulatory statement is set out in part 6 of this paper.

1.6 The subject matter of this consultation is highly technical in nature. We use many acronyms and industry terms and we have tried to explain these when each first appears in the paper. However, because of the technical nature of EIEPs, the paper is generally written for industry people who are familiar with these subjects.

1.7 If you require explanation of any of the terms, or want to meet to help understand the subject matter in this paper, then please contact marketoperations@ea.govt.nz with your contact details and a short note describing how we can help.

How to make a submission

1.8 The Authority's preference is to receive submissions in electronic format (Microsoft Word) in the format shown in Appendix E. Submissions in electronic form should be emailed to submissions@ea.govt.nz with "Consultation Paper—Proposal for a single standardised reporting methodology for EIEP1 and delivery mechanism for EIEP5A" in the subject line.

1.9 If you cannot send your submission electronically, post one hard copy to either of the addresses below, or fax it to 04 460 8879.

Postal address	Physical address
Submissions Electricity Authority PO Box 10041 Wellington 6143	Submissions Electricity Authority Level 7, Harbour Tower 2 Hunter Street Wellington

1.10 Please note the Authority wants to publish all submissions it receives. If you consider that we should not publish any part of your submission, please

(a) Indicate which part should not be published

(b) Explain why you consider we should not publish that part

(c) Provide a version of your submission that we can publish (if we agree not to publish your full submission).

1.11 If you indicate there is part of your submission that should not be published, we will discuss with you before deciding whether to not publish that part of your submission.

1.12 However, please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we did not publish unless good reason existed under the Official Information Act to withhold it. We would normally consult with you before releasing any material that you said should not be published.

When to make a submission

1.13 Please deliver your submissions by **5pm** on Tuesday **18 December 2018**.

1.14 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 Issues the Authority would like to address

Introduction

2.1 EIEPs provide standardised formats and associated business requirements, that support the low cost, standardised, and reliable exchange of information between:

(a) traders and distributors

(b) traders and their field services providers for faults and new connections

(c) retailers and consumers (or their authorised agents)

(d) retailers and any person who requests generally available retail pricing plan information.

2.2 EIEPs enable parties to efficiently exchange regular and/or large volumes of information.

Previous consultation

2.3 We consulted on *Electricity information exchange protocols (EIEPs) – 2017 operational review* between August and September 2017. That paper sought submissions on proposals to amend the EIEP Overview Document and EIEPs 1-12.

2.4 We have issued a decisions paper outlining final decisions from that consultation. Included in that decisions paper is a note that we will consult further on two matters which arose from our consideration of submissions:

(a) an EIEP1 reporting methodology which must be used by traders to provide detailed volume and billing information to distributors to support billing of network charges, as appropriate to interposed and conveyance arrangements (section 3 of this paper)

(b) an optimal delivery mechanism for EIEP5A planned service interruption information provided by distributors to traders (section 4 of this paper).

3 A single reporting methodology for interposed and conveyance arrangements

Why is this proposal being considered?

3.1 Submitters told us that having four EIEP1 reporting methodologies is sub-optimal, and that it would make more sense to have a single standardised EIEP1 reporting methodology, and for that to be replacement RM normalised.

3.2 Submitters also told us that allowing the distributor to specify a preferred methodology could lead to the preferred option prevailing. Submitters considered that a distributor may prefer a methodology that may not be aligned with the methodology preferred by the majority of traders and distributors. This would lead to a continuance of more than one methodology for traders.

3.3 We agree and are therefore seeking feedback on the proposal in this consultation paper to mandate a single standardised reporting methodology of replacement RM normalised for interposed arrangements.

3.4 We also consider we should test support for mandating a single reporting methodology of replacement RM normalised for both interposed and conveyance arrangements in the interests of standardisation and efficiency.

Problem definition

3.5 Traders provide detailed billing and consumption information in EIEP1 files to distributors to enable billing of network charges.

3.6 Currently there are four reporting methodology options used for non-half hour (NHH) installation control points (ICPs). This is sub-optimal as it generates unnecessary inefficiency and complexity for both traders and distributors. They are:

(a) incremental as billed normalised – file type ICPMMNM

(b) replacement RM normalised – file type ICPMMRM

(c) incremental RM normalised – file type ICPMMSP

(d) as billed – file type ICPMMAB.

3.7 The as billed reporting methodology is also used for half hour (HHR) ICPs (file type ICPHHAB) where traders are required to provide EIEP1 as billed files to distributors for billing and settlement of network charges. We are not proposing any changes to the HHR files as most HHR metering installations have actual data for the full month, so there is no need to normalise consumption to month end or to make revisions (incremental or replacement). Unless otherwise stated the discussion in this consultation paper is directed at EIEP1 files provided by traders to distributors for NHH ICPs.

3.8 The first consultation paper asked submitters to respond to several questions relevant to the current state of EIEP1 files received by distributors, capability of traders to provide files in accordance with one or more of the reporting methodologies, preferences, and issues arising from mixing reporting methodologies.

3.9 Distributors were asked to disclose their preferred reporting methodology, and which of the four reporting methodology options they currently receive.

3.10 Traders were asked to disclose their preferred reporting methodology, and which of the four reporting methodologies they can currently provide.

3.11 We also sought comments on whether submitters agree:

(a) that as distributors move to more cost reflective delivery pricing, the incremental as billed normalised methodology may no longer be suitable, and that it may require a shift to replacement RM normalised

(b) that it is problematic for distributors receiving and processing EIEP1 files using different reporting methodologies. It is also potentially problematic for traders, depending on how the distributor manages the data, based on a mix of methodologies

(c) with:

(i) a proposed new business requirement 22 for conveyance arrangements, requiring traders to provide EIEP1 files in accordance with the as billed methodology, and

(ii) that distributors' invoices for network charges must reflect the as billed data provided by traders

(d) with a proposed new business requirement 23 for interposed arrangements where an EIEP1 file is validly provided by a trader, restricting:

(i) the distributor's right to mix as billed and normalised data, or

(ii) the distributor's right to normalise as billed data,

when generating its invoice for network charges.

3.12 An overwhelming preference of distributors and traders who made submissions was for a single standardised reporting methodology of replacement RM normalised. Additionally, most suggested that in the interests of standardisation and efficiency, this should become the sole mandated reporting methodology rather than the default if agreement between the distributor and trader is not obtained.

3.13 There was mixed feedback on the readiness of distributors to receive and process replacement RM normalised files. Some distributors indicated:

(a) there are constraints processing EIEP1 replacement (file status 'R') files as it is a manual process or is not supported by their billing system

(b) they have recently implemented, or are in the process of implementing, a system upgrade that enables automated processing of EIEP1 replacement files

(c) they are actively considering system upgrade options that would enable automated processing of EIEP1 replacement files.

3.14 However, we are aware that several distributors,[2] who did not make a submission, have historically preferred incremental as billed normalised because it avoids wash-ups. Informal discussion with several of these distributors has identified a trend towards a preference for a single standardised EIEP1 reporting methodology, and that the inevitable shift to more cost-reflective delivery pricing will be best supported by it being replacement RM normalised.

3.15 The capability and preferences of embedded network owners[3] is not fully understood. However, informal discussion indicates some who rely on EIEP1 files are not aligned on their preferences (reflecting system capability around wash-ups), while others obtain and bill using their own month end meter reads.

3.16 Given the overwhelming preference from submitters for a single standardised reporting methodology of replacement RM normalised, at least for interposed arrangements, we have made some informal enquiries to better understand the current capability of 39 traders active at the time.

(a) 33 can currently provide replacement RM normalised

(b) 1 cannot currently provide, but has advised no problem to change

(c) 1 cannot currently provide, but development is in progress

(d) 1 cannot currently provide, but a proposed system change will enable

(e) 3 small traders cannot currently provide, and have no current plan to develop.

[2] Page 73 of the ENA pricing guidelines for electricity distributors (November 2016) provided a summary of distributor preferences by number of distributors and number of ICPs, indicating at that point that only 25% of distributors preferred replacement RM normalised (representing 71% of ICPs), while 63% preferred incremental as billed normalised (representing 26% of ICPs).

[3] Embedded network owners are distributors, and in the context of system capability and reporting methodology preferences, includes agents providing services to embedded network owners

Interposed arrangements

3.17 There has been a marked shift in preferences by both distributors and traders over the last few years from incremental as billed normalised to replacement RM normalised. Traders and distributors have advised the reasons for this shift include:

(a) replacement RM normalised leverages and aligns with the dataset used for reconciliation manager submissions, providing greater assurance of the accuracy of volumes reported

(b) better alignment with calendar month network throughput enables more accurate tracking and disclosure of losses and unaccounted for electricity (UFE) and more accurate billing of seasonal and demand prices[4]

(c) a number of traders have developed replacement RM normalised, in most cases associated with major system changes, and now prefer replacement RM normalised

(d) all types of backdated changes are washed up

(e) calculations and comparisons for each month can be performed without cross month distortions

(f) alignment with registry and delivery pricing (including annual delivery price changes) can be achieved efficiently

(g) incremental as billed normalised presents problems with reporting accuracy and billing, particularly:

(i) some systems struggle with prior period corrections which cut across multiple months (and sometimes multiple years)

(ii) excessive reversals/billing revisions

(iii) poor estimation accuracy around shoulder season periods

(iv) no reference point to verify accuracy.

3.18 As distributors move to more cost-reflective pricing, the incremental as billed normalised reporting methodology may no longer be suitable, and it may require a shift to replacement RM normalised.

3.19 Mixing reporting methodologies is problematic for distributors and traders. Submissions from our first consultation noted that issues arise where the:

(a) distributor's billing methodology includes an element of scaling or spreading UFE related network charges across traders

(b) distributor does not understand what it is receiving and handles the data incorrectly

(c) distributor uses the same wash-up process for files based on different reporting methodologies

(d) distributor fails to process replacement RM normalised data correctly when mixed with incremental as billed normalised data

[4] The Authority notes that UFE and losses are more accurately tracked using the reconciliation reports available through the reconciliation manager's web portal.

(e) volume data submitted by traders using different reporting methodologies makes it more difficult to track losses and UFE, and to calculate reconciliation loss factors.[5]

Conveyance arrangements

3.20 Of the two distributors with conveyance arrangements:[6]

(a) one relies on EIEP1 data from traders for network billing

(b) the other currently direct bills its customers based on data obtained direct from smart meters on its network or meter reads provided by traders.

3.21 Informally, the distributor that relies on EIEP1 data indicated it would accept replacement RM normalised being mandated as a single reporting methodology option for both interposed and conveyance arrangements in the interests of standardisation, and to avoid it being an outlier.

3.22 We acknowledge that with a conveyance arrangement the natural default for settlement of network charges is as billed data based on the as billed reporting methodology because:

(a) the distributor has a direct network services agreement with each customer

(b) the trader has an energy only contract with each customer

(c) the use of system agreement recognises that the trader is acting as agent of the customer for receiving and paying the invoice for network charges (although some describe it as the trader billing the customer as agent of the distributor)

(d) the network component of trader's invoice to the customer would not include vacant period fixed and variable network charges.

3.23 We also acknowledge that the main disadvantage of changing to use replacement RM normalised data is that traders will be paying for unbillable/unrecoverable vacant period fixed and variable network charges which would not be included in an as billed file. This is because there is no customer to bill so traders are unable to directly recover vacant period network charges.

3.24 The difference between the as billed and normalised network charges will depend on the trader's vacant (or unbilled property) disconnection policy, but we understand it is likely to be of the order of 1.0-1.5 per cent of total fixed and variable network charges.

Authority's proposal

3.25 We have identified three options to support standardisation and efficiency in EIEP1 reporting:

(a) Option 1: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for both interposed and conveyance arrangements (our preference).

(b) Option 2: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance

---

5 The Authority notes that UFE and losses are more accurately tracked using the reconciliation reports available through the reconciliation manager's web portal

6 Note this section applies to mass market customers, as most distributors also use conveyance arrangements for their larger consumers and these consumers use HHR processes.

arrangements mandating a default reporting methodology of replacement RM normalised with the right of the parties to agree to as billed.

(c) Option 3: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of as billed with the right of the parties to agree to replacement RM normalised.

3.26 Our preference is to mandate a single standardised replacement RM normalised reporting methodology for both interposed and conveyance arrangements (Option 1).

3.27 While the form of interposed and conveyance contracts suggests it would be appropriate to mandate replacement RM normalised for interposed arrangements, and as billed for conveyance arrangements, we believe the advantages of a single standardised methodology for all networks outweighs any disadvantages.

3.28 Our preferred option would remove the issues which arise from mixing reporting methodologies described in paragraph 3.19.

3.29 However, as discussed in paragraphs 3.23 to 3.24, given the potential issues for a network with a conveyance UoSA that arises from vacant fixed and variable network charges, we have also included two options which allow for the parties for conveyance networks to agree to as billed (Option 2), or for as billed to be the default (Option 3).

3.30 Any change from a different methodology to replacement RM normalised requires traders to agree a transition process with the distributor to support settlement of transitional network charges. This will include the trader generating transition files.

3.31 It is generally accepted that to enable a smooth transition, the transition date should avoid shoulder season periods and be aligned with annual delivery pricing changes (if any), which is typically 1 April.

3.32 Distributors recently provided updated roadmaps to the Authority outlining their plans for rolling out efficient (more cost-reflective) delivery pricing, and we have noted the most common implementation date was 1 April 2020.

3.33 The implementation date also needs to allow sufficient time for several traders to develop replacement RM normalised reporting capability, and for distributors to upgrade systems to enable efficient processing of replacement RM normalised replacement files. We consider a period of 12 months should be sufficient lead time for proposed changes consistent with Option 1.

3.34 If we decide to proceed with one of the three options, we will:[7]

(a) amend EIEPs 1 and 2 to reflect the appropriate option(s) for NHH ICPs while retaining as billed (file type ICPHHAB) for HHR ICPs

(b) amend the EIEP Overview document to reflect the appropriate option

(c) set an implementation date of 1 April 2020, subject to a minimum lead time of 12 months from the date the Authority issues a decision paper adopting one of the above options

(d) propose drafting changes to the draft default distributor agreement to reflect the Authority's decision.

[7] Note: proceeding with option 1, 2, or 3 does not require a Code amendment.

Q1. Do you agree that in the interests of standardisation and efficiency we should mandate a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs? If not, please provide reasons.

Q2. If you agree that we should mandate a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs, do you agree that option 1 is the best option to implement. If not, please provide which of the Options 2 or 3 you prefer, and why?

Q3. As a trader, if you cannot currently provide replacement RM normalised files, please advise the estimated cost and time required to do so.

Q4. As a distributor, if your current system does not have the capability to process replacement RM normalised files (including at least a month 3 replacement file), or you have not commenced developing the capability, please advise the estimated cost and time required to do so.

Q5. Do you have any comments on the draft mark ups (attached as Appendices A and B) to EIEP1 and EIEP2 reflecting each of the three options?

Q6. If we decide to implement one of the options, do you agree with setting 1 April 2020 as the implementation date, subject to a minimum lead time of 12 months from when we issue the decision paper? If not, please advise what you consider to be a more appropriate implementation date and lead time, and why.

4 Delivery mechanism for EIEP5A planned service interruption information

Why is this proposal being considered?

4.1 Through our first consultation and in discussions with the Standing Data Formats Group, participants told us that the current delivery of EIEP5A planned service interruption information is sub-optimal.

4.2 We agree, and have formed the view that in the interests of standardisation and efficiency we should consult on proposed delivery options which include:

(a) choice of delivery channels for distributors and traders via the registry SFTP

(b) registry customisation to reflect trader preferences, eg, file to contain all ICPs or only the ICPs the trader is responsible for, inclusion or not of a DES (description) row

(c) registry functionality to address the primary concerns of missed notifications associated with switches in progress, backdated switches and switch withdrawals.

Problem definition

4.3 With the decision to make EIEP5A a regulated EIEP, distributors will be required to provide planned service interruption information to traders in accordance with EIEP5A (unless otherwise agreed)[8], enabling traders to:

[8] For example, the parties may agree in the relevant use of system agreement that the distributor is not required to provide planned service interruption information to traders where the distributor is required to notify all affected consumers and takes responsibility for receiving and managing service interruption calls from consumers.

(a) notify affected customers, where required to do so by the relevant use of system agreement

(b) record details in their customer information systems, allowing traders to:

(i) proactively contact or respond to queries from critical customers

(ii) respond with relevant information to 'no power' calls from customers without requiring customers to call the distributor.

4.4 With the increasing number of planned service interruptions,[9] it is important to provide for an efficient delivery mechanism which best meets distributor and trader requirements while enabling automated uploads and customer notifications to ensure all affected consumers are notified on a timely basis.

4.5 Currently, planned service interruption files are required to contain all affected ICPs and are delivered to each trader via email (the default) or via the registry EIEP transfer hub (where agreed). The notification of planned service interruptions may become problematic where:

(a) the distributor has a large number of traders retailing on its network

(b) a new trader enters a network and gains a customer after the distributor has issued its EIEP5A and before the outage occurs.

4.6 Where required to notify affected customers, the trader must not only notify its existing customers but also manage the customer experience and risk. This also includes medically dependent consumer risk, and the risk of missed notifications to customers who change trader between the date the file is processed and date of the planned service interruption.

4.7 In our first consultation, some submitters noted their system automatically polls the list of ICP identifiers to identify those that have switched in to the trader (including backdated switches) and switches subsequently withdrawn. Where there is a completion date between the date the file is processed and the notification deadline, additional customer notifications are required.

4.8 It is reasonable to assume that many traders notify only current customers as at the date the file is processed.

4.9 Submitters were asked to comment on two delivery options instead of using email:

(a) EIEP transfer hub (via the EIEP SFTP server); or

(b) registry SFTP (via the registry batch interface).

4.10 Both options would make it easier for distributors, but not necessarily for traders unless:

(a) the files were customised to reflect individual trader preferences

(b) a delivery option was available which allowed traders to use existing processes.

4.11 Several submitters (both large and small) expressed a preference for the list of ICP identifiers to be split by trader responsibility (split files), also noting that unless this can be done there is no benefit to them in processing via the EIEP transfer hub.

[9] This is understood to be about 18,000, including cancellations and revisions notified to traders in 2017 (information provided by a national trader).

4.12 We are also aware that participants prefer a solution that does not cause significant system changes, as may be the case with the registry SFTP option.

4.13 Most submitters indicated a preference for:

(a) distributors to provide a single EIEP5A file of all ICP identifiers to the registry SFTP

(b) registry to customise the output so each trader can decide to receive an EIEP5A file which includes all ICP identifiers, or only the ICP identifiers it is responsible for.

4.14 We also proposed adding a DES (description) row to assist new traders, allowing them to use the files as a mail merge source and avoid the need (initially at least) to build sophisticated systems to notify customers.

4.15 Submitters were split on the Authority's proposal to add a DES row, so we decided that it should be possible with Options 1 to 4 to include functionality that enables traders to opt to receive a file with or without a DES row.

4.16 Apart from the status quo, the options outlined in the Authority's proposal provide for:

(a) alternative delivery channels for distributors and traders

(b) notifying MEPs of planned service interruptions for the ICPs they are responsible for

(c) registry customisation of the output to reflect trader preferences

(d) registry functionality to address the primary concerns raised with split files and missed notifications arising from switches in progress, backdated switches and switch withdrawals

(e) the registry to display impending planned service interruption summarised information on the summary page as another reference point for traders and customer service representatives

4.17 Note that it is not intended to add impending outage notification to any of the existing registry reports.

Authority's proposal

4.18 We propose four options to support standardisation and efficiency. A key consideration in proposing the options has been to provide enhanced functionality while minimising system and process changes for distributors and traders.

4.19 This includes addressing the concern of several submitters that for split files, ICP identifiers associated with backdated switches or switches that are subsequently withdrawn must be advised to the correct trader to mitigate the risk of missed consumer notifications.

4.20 It is intended that for all four options, the registry will look for impending planned service interruption events relevant to ICP identifiers with a trader switch completion date between the date the initial split file was notified to the trader and the date of the planned service interruption. Where this occurs, the registry will provide additional notifications containing only the affected ICP identifier(s) to the gaining trader. This includes ICP identifiers associated with switch gains (including backdated switches) and switch withdrawals.

4.21 The status quo and proposed options are:

(a) Status quo: Distributors send EIEP5A files with individual trader recipient code containing all ICP identifiers to each affected trader via email (the default), or the registry EIEP transfer hub (where agreed). It is up to traders how they deal with switch gains (including backdated switches) and switches subsequently withdrawn.

(b) Option 1: Distributors upload EIEP5A files to the EIEP transfer hub with the registry recipient code RGST, and the registry delivers EIEP5A files with customised outputs to traders and MEPs. With this option:

  (i) registry imports files from the registry EIEP transfer hub into the registry

  (ii) registry returns the EIEP5A files via the registry EIEP transfer hub to each trader's EIEP inbox with content reflecting each trader's preferences (or defaults) set out in the Supervisor screen, being:

    1. all ICP identifiers (the default) or only those ICPs the trader is responsible for

    2. excluding (the default) or including a description (DES) row

  (iii) registry looks for ICP identifiers with an impending planned service interruption event date associated with a trader switch (switch gains including backdated switches, and switches subsequently withdrawn), and provides additional notifications (EIEP5A files) to the gaining trader

  (iv) registry will display all current and impending planned service interruptions in summarised form on the summary page

  (v) MEPs can elect to receive (the default) or not receive EIEP5A notifications from the registry SFTP and choose whether to have a DES row, but the notifications will only include the ICP identifiers the MEP is responsible for

(c) Option 2: As for Option 1, except distributors would be able to choose to upload EIEP5A files to the EIEP transfer hub or registry SFTP. Distributors who choose to continue using the EIEP transfer hub would not be required to make any changes to the current EIEP5A file format. Distributors who chose to upload EIEP5A files to the registry SFTP would need to build a batch interface to upload files containing a standard registry HDR line, followed by the existing EIEP5A file format.

(d) Option 3 (preferred option): As for Option 2, except traders would be able to choose to have EIEP5A files sent to their EIEP inbox (optional) in addition to registry SFTP (the default).

(e) Option 4: EIEP5A becomes a registry maintenance file in its entirety. With this option:

  (i) registry EIEP transfer hub will not be involved, and is not an option for either distributors or traders

  (ii) EIEP5A will be deleted from the EIEP functional specification

  (iii) registry will provide additional notifications to traders as for Options 1, 2 and 3 (ie, additional notifications for switch gains including backdated switches, and switch withdrawals)

  (iv) the maintenance file containing similar information to EIEP5A would need to conform to the registry's requirements and be part of the registry functional

specification, and distributors would have to use the batch interface to upload files containing:

1. a standard registry HDR line; followed by
2. a second header (HDR) line (being the EIEP5A header line); followed by
3. 1 or more detail (DET) ICP service interruption lines in accordance with the registry functional specification which will be similar to the current EIEP5A.

(v) registry would validate the header (HDR) and individual detail (DET) lines, and load service interruption information for all valid DET lines provided the HDR lines pass validation (otherwise the entire file will be rejected)

(vi) registry will generate a notification file (in a similar format as EIEP5A with addition of a standard registry header) and deliver via batch interface to each trader's 'fromreg' folder on the SFTP server, reflecting each trader's preferences (or defaults) set out in the Supervisor screen, being:

1. all ICP identifiers (the default) or only those ICP identifiers the trader is responsible for
2. excluding (the default) or including a DES row

(vii) registry will display all current and impending planned service interruptions in summarised form on the summary page

(viii) MEPs can elect to receive (the default) or not receive notification files and choose whether to have a DES row, but the notification will only include the ICP identifiers the MEP is responsible for.

4.22 Our preferred option is Option 3. This is because it:

(a) allows traders to customise the notification file and delivery channel

(b) minimises costs by allowing distributors and traders the choice to continue to use EIEP5A in its current format delivered via the EIEP transfer hub (where already agreed and used), or transition to a registry maintenance file delivered via the registry SFTP

(c) will display planned service interruption information on the summary screen regardless of which delivery channel is chosen by the distributor and trader

(d) allows for a participant led transition to a registry maintenance file as part of a future system upgrade.

4.23 When considering the Authority's options, it is important participants understand the differences between the EIEP transfer hub and registry SFTP. Although they appear in the same SFTP directory area of the registry, the hub is not part of the registry's functionality and files sent via the hub skirt the registry. Currently, the information contained within the file is not added to the registry, stored or archived in any way. However this would change for EIEP5A files only, if option 1, 2 or 3 is implemented.

(a) EIEP transfer hub:

(i) can be thought of as a postal service with tracking, and the registry as the carrier guaranteeing delivery

(ii) is a service that provides SFTP encrypted transfer of EIEPs (and any other file the users agree to exchange) between users

(iii) access is available through the online and batch interfaces

(iv) files are uploaded into the sender's EIEPout directory and transferred via the SFTP server to the recipient's EIEPin directory

(v) EIEP transfer hub will:

1. acknowledge to the sender receipt of a file
2. deliver the file to the intended recipient
3. notify the sender that the file has been delivered
4. notify the recipient that the file has arrived

(vi) files are not archived. Once the recipient moves or deletes the file, it is permanently removed from the hub and only the tracking information remains to show the file has been received and delivered.[10]

(b) Registry SFTP:

(i) the registry batch interface consists of CSV formatted files sent to and from the registry via SFTP

(ii) the registry maintains SFTP directories on the registry SFTP server for every participant from which it receives input files (toreg) and to which it delivers output files (fromreg)

(iii) it is up to participants to access these files and transfer them to their own systems

(iv) files are archived for a period

(v) files supplied by participants to their input SFTP toreg directory are automatically forwarded to the registry for processing, similarly the registry returns or provides output files to a participant's fromreg SFTP directory

Note: many participants have automated processes that operate on registry SFTP downloads (but not necessarily for EIEP transfer hub downloads).

4.24 If we decide to proceed with one of the four options we will:

(a) for Options 1, 2, or 3:

(i) amend the relevant EIEP5A business requirements

(ii) implement a new registry functional specification to describe the registry functions which work in conjunction with EIEP5A

(iii) amend clause 12A.13(3) of the Code by inserting "(e) planned service interruption information" to give effect to the decision already made to make EIEP5A a regulated EIEP

(b) for Option 4:

[10] Note: the Authority currently has registry functionality which can take a copy of an EIEP as it moves through the hub. This is only done with the sender's approval.

(i) implement a new registry file in the registry functional specification to replace EIEP5A

(ii) amend Schedule 11.1 by inserting a new clause 7A “Distributors to provide planned service interruption information to the registry” to give effect to the registry maintenance file.

4.25 If we decide to proceed with any of the options, we propose a lead time of six to 12 months before implementation to give participants time to make any changes they choose to use their preferred delivery or receipt option. The actual transition period will be decided once submissions have been reviewed.

Q7. Do you agree that in the interests of standardisation and efficiency we should mandate a delivery mechanism for EIEP5A planned service interruption information, instead of retaining the status quo? If not, please provide reasons.

Q8. If you agree that we should mandate a delivery mechanism, do you agree with our preferred option. If not which of the Options 1, 2 or 4 do you prefer, and why?

Q9. If we mandated a delivery mechanism as for Options 1 to 4, what system costs would you incur? Please list the costs for each option.

Q10. Do you have any comments on the draft mark ups of EIEP5A reflecting Options 1, 2 and 3?

Q11. Do you have any comments on the draft registry functional specification?

Q12. If the proposal proceeds, we intend to provide web services for planned outage information. Would you prefer a new dedicated web services for planned outage information or a a new version of icp_details with outage information appended? See Appendix C for further information.

Q13. Do you have any comments on the draft Code changes proposed for Schedule 11.1 reflecting Option 4?

Q14. Do you agree that six to 12 months is sufficient lead time from the time the decision is issued to implement the proposed solution? If not, please advise what you consider to be a more appropriate implementation date and lead time, and why.

5 Assessing costs and benefits

Costs

5.1 The Authority recognises that existing participants already have systems that process, deliver and receive EIEP information. Although these systems may be inefficient in delivering or providing the required information, the costs to participants of changing their systems to comply with the proposed amendments to the EIEPs may be substantial.

5.2 The Authority will consider the costs and benefits of the proposed changes discussed in this consultation paper before determining any changes to be made. To assist with assessing costs against benefits, this paper seeks information from participants in relation to the nature and likely level of:

(a) change-related costs to comply with the proposed changes

(b) change-related benefits that the proposal will provide.

5.3 We have provided suitable questions to encourage relevant feedback.

5.4 We have assumed the following starting points for the cost-benefit analysis:

(a) EIEP1:

(i) where a trader provides EIEP1 and/or EIEP2 in accordance with one or more reporting methodologies, the files will be compliant with v11 as at the implementation date in the EIEP 2017 operational review decision paper

(ii) information from submitters and subsequent enquiries as to preferences and capability are a true reflection of current state.

(b) EIEP5A:

(i) is a regulated EIEP, with the effective date to be determined from this consultation

(ii) all local distributors and embedded network owners will be able to provide compliant files from this date, unless otherwise agreed with traders.

(c) Registry EIEP transfer hub:

(i) current capability to use the registry EIEP transfer hub reflects the list of participant identifiers who either uploaded or downloaded one or more files in March 2018:

1. almost all traders (37 of 38)

2. all local distributors

3. almost all embedded network owners (40 of 43).

(d) Registry SFTP: all traders and distributors have the capability to use.

(e) MEPs: all MEPs that elect to receive EIEP files have the capability to receive EIEP files via the registry EIEP transfer hub and registry SFTP.

Benefits

5.5 A range of benefits are expected from the proposed changes, including:

(a) For the reporting methodology proposes changes:

(i) lower costs for traders and distributors in only having to build and maintain their systems to manage one reporting methodology

(ii) more accurate network reporting and billing of network charges flowing from aligning volumes reported with those submitted to the reconciliation manager which are subject to reconciliation participant audits, and removing settlement issues arising from mixing methodologies.

(b) For the EIEP5A proposed changes:

(i) improved customer service as customisation to suit trader requirements will provide greater assurance that all affected consumers (including those changing traders) will receive planned service interruption notifications

(ii) reduction in costs for traders dealing with complaints from recently switched customers about planned service interruptions they were not notified of, and managing recently switched medically dependant consumers.

(iii) distributors can be assured that outage notifications are delivered to all relevant traders on its network

(iv) MEPs may elect to receive outage notifications and be aware of outages that will affect the re-certification, operation and interrogations of its metering installations.

(c) For both the reporting methodology and EIEP5A proposed changes:

(i) enhanced retail competition and efficiency as trader system developments and operations are optimised through standardisation and automation

(ii) reduced need for inefficient workarounds, more potential to automate uploads and processes.

Summary of costs and benefits arising from the proposed substantive changes

5.6 Table 1: Summary costs and benefits for mandating the EIEP1 reporting methodology

Proposal reference	Costs	Benefits
Option 1: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for both interposed and conveyance arrangements	~ 3 small traders would have to develop capability to provide replacement RM normalised files ~ 5 local distributors may have to implement a system upgrade (which may mean a replacement system) to process replacement RM normalised files Ongoing additional operational cost for those distributors who decide to process replacement files manually One-off cost for those distributors	Reduces costs and a potential barrier to entry for new entrant traders as they only have to develop one methodology Reduces costs for existing traders and distributors systems as maintenance (and future system replacement) is only needed for one methodology Best fit for majority of traders and distributors who have indicated a preference for replacement RM normalised

Proposal reference	Costs	Benefits
	who decide to implement a system upgrade to enable automated processing of replacement files Some embedded network owners (or their agents) may need to develop capability to process replacement RM normalised files, unless the billing & settlement process agreed with traders does not require EIEP1 files (e.g. use own reads). If moving from incremental as billed normalised or as billed to replacement RM normalised – operational cost to produce and validate transitional files, and cost to settle transitional network charges (which may already be accrued for)	Best fit for majority of traders who have current capability to report replacement RM normalised Removes incremental as billed normalised and the problems experienced with this reporting methodology raised by several distributors Removes incremental RM normalised as an option, noting this methodology was a hybrid developed to accommodate a trader's preference for replacement RM normalised and distributor preference for incremental as billed normalised. Best fit for an increasing number of local distributors who have current capability or are progressing capability to process replacement RM normalised files Removes issues for both distributors and traders that arise from mixing reporting methodologies. More efficient for traders who will only have to produce and validate data for one file type (ICPMMRM) rather than several file types. Distributors: • alignment with RM submission volumes provides greater assurance of the accuracy of volumes reported for network billing • more efficient as will only have to process one file type • avoids having to deal with data cutting across multiple months
Option 2: mandating a single standardised EIEP1 reporting methodology of replacement RM	As for Option 1 except: 2 (rather than 3) small traders	As for Option 1 except: Would work well for traders who

Proposal reference	Costs	Benefits
normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of replacement RM normalised with the right of the parties to agree to as billed	would have to develop replacement RM normalised If the distributor fails to agree to use as billed where preferred by a trader, the trader would be forced to provide replacement RM normalised files and pay additional network charges for active-vacant periods – fixed charges and variable charges if any vacant consumption recorded.	have indicated a preference for replacement RM normalised. For conveyance arrangements, would still allow the parties to agree to use (or continue to use) as billed which aligns with contracts.
Option 3: mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of as billed with the right of the parties to agree to replacement RM normalised	As for Option 1 except: 2 (rather than 3) small traders would have to develop replacement RM normalised	As for Option 1 except: May work for traders who have indicated a preference for replacement RM normalised, if it can be agreed by the distributor for conveyance arrangements. Would work best for traders who have indicated a preference for replacement RM normalised, but who consider as billed is the appropriate default basis for settlement of network charges for conveyance arrangements as it aligns with contracts.

5.7 Table 2: Summary costs and benefits for mandating the delivery mechanism for EIEP5A planned service interruption information

Proposal reference	Costs	Benefits
Status quo: distributors send EIEP5A files containing all ICPs to traders via email (the default in UoSAs). It is noted that some parties have agreed for the distributor to deliver files via the registry EIEP transfer hub, but the costs and benefits for the status quo option assume email.	Costs associated with missing an outage notification to a customer that has switched retailer, including potentially a medically dependent consumer. No other additional costs as all participants must comply with the current requirements.	Traders would not have to change their system or process if it is based on receiving a file of all ICPs and ensures all customers who switch to the trader between receipt of the file and notification deadline receive notifications.
Option 1: distributors upload EIEP5A files to registry EIEP	The registry manager estimate registry development cost of	Registry EIEP transfer hub more

Proposal reference	Costs	Benefits
transfer hub with registry recipient code RGST, registry imports file and returns to each trader's EIEPinbox with content reflecting each trader's preferences (or defaults) as set out on the supervisor screen – all ICPs or only ICPs the trader is responsible for, include or exclude DES row. MEPs can also elect to have EIEP5A notification files delivered to their registry SFTP.	$75,000. Traders: • minor administrative cost increase if traders need to change existing processes to regularly check EIEP inboxes for new files that require processing or a small one-off cost to create an automated process to regularly check for, and download, new files.	reliable and secure than email. Distributors only need to create and despatch one file with one recipient code (RGST) containing all ICP identifiers, instead of multiple files with the same ICP identifiers and individual trader recipient codes. Less chance that a current trader would miss receiving a file. Possible cost reduction for traders if the choice to receive only own ICP identifiers would make processing more efficient. Split files make it clear the trader has a notification obligation when it receives a file, assuming the trader is required to notify in the network area. For split files, trader switches associated with ICP identifiers with an impending planned service interruption event will result in gaining trader receiving additional files. MEPs may receive planned service interruption information. Traders will be able to set their preferences in the registry supervisor screen to receive files: • containing all ICPs or only the ICP identifiers they are responsible for • which include or exclude a DES row. Traders would not have to change their system or process if it is based on receiving a file containing all ICP identifiers and has functionality to deal with trader switches between initial processing and notification

Proposal reference	Costs	Benefits
		deadline. Reduction in costs for traders dealing with complaints and medically dependant consumers. New traders would not have to build sophisticated systems as they could opt to receive and manually process files with only their own ICP identifiers and with a DES row if it would assist manual mail merges. Registry summary screen will be configured to show current and impending planned service interruption information for an ICP identifier which may be useful as an additional point of reference for traders and customer service representatives. Mandates a consistent file transfer method via the EIEP transfer hub which enables automated uploads by distributors and traders, more efficient and secure than email. Reduction in costs for MEPs scheduling metering work at ICPs on a date the supply will be off. Reduction in cost to MEPs that: • cannot interrogate metering due to an outage, but do not know the reason why • investigate event logs that record an outage. Minor reduction in administrative cost for distributors if process to create multiple recipient files is done manually (but no change if process automated).
Option 2: As for Option 1, except distributors will be able to choose to upload files to the registry EIEP transfer hub or registry SFTP, registry returns files to each	The registry manager estimate registry development cost of $75,000. This is the same as per the other options as the registry manager would need to build the	As for Option 1, except: • distributors will be able to choose to upload files to the registry EIEP transfer hub or

Proposal reference	Costs	Benefits
trader's EIEP inbox.	same functionality for any option. As for Option 1, except distributors who use the registry SFTP will need to build a batch interface to upload files containing a standard registry HDR line.	registry SFTP.
Option 3: As for Option 2, except traders will be able to choose to have notification files sent to their EIEP inbox in addition to registry SFTP (the default)	The registry manager estimate registry development cost of $75,000. This is the same as per the other options as the registry manager would need to build the same functionality for any option. As for Option 2, except: • traders will not have to poll EIEP inboxes to check for files that have been received	As for Option 2, except: • traders will be able to choose to receive files via the EIEP transfer hub to their EIEP inbox in addition to registry SFTP (the default), one of which may be a better fit with existing processes
Option 4: EIEP5A becomes a registry maintenance file in its entirety	The registry manager estimate registry development cost of $75,000. This is the same as per the other options as the registry manager would need to build similar functionality. Distributors will need to build a batch interface to upload files containing a standard registry HDR line, the standard EIEP5A header line, followed by 1 or more detail (DET) ICP service interruption lines in accordance with EIEP5A. Traders will need to build a batch interface if they wish to automatically upload notification files to their systems which are currently built to receive EIEP5A files via the EIEP transfer hub.	Distributors only need to create one file with one recipient code (RGST) containing all ICP identifiers, instead of multiple files with the same ICP identifiers and individual trader recipient codes. Traders will be able to set their preferences in the registry supervisor screen to receive files: • containing all ICP identifiers or only the ICP identifiers the trader is responsible for • which include or exclude a DES row. Split files make it clear the trader has a notification obligation when it receives a file, assuming the trader is required to notify in the network area. For split files, the registry will provide additional notifications/files to the gaining trader, thus enabling traders to provide additional notifications to affected customers.

Proposal reference	Costs	Benefits
		Apart from building a batch interface to automatically upload notification files, traders would not have to change their system or process if it is based on receiving a file containing all ICP identifiers and has functionality to deal with trader changes between initial processing and notification deadline. New traders would not have to build sophisticated systems as they could opt to receive and manually process files with only their own ICP identifiers and with a DES row if it would assist manual mail merges. MEPs would receive planned service interruption information affecting those ICP identifiers they are responsible for. Registry summary screen will be configured to show current and impending planned service interruption information for an ICP which may be a useful additional reference point for traders and customer service representatives. Reduction in costs for traders dealing with complaints and medically dependant consumers. Reduction in costs for MEPs scheduling metering work at ICPs on a date the supply will be off.

Q15. Do you agree with the costs and benefits of the proposed amendments? If not, why not?

Q16. What are your costs associated with making RM normalised the single standard reporting methodology for EIEP1? Please provide details.

Q17. Are there any other costs or benefits we have not identified?

6 Regulatory statement for the proposed amendments

6.1 Although we are not proposing Code changes for our preferred options, the proposed amendments to EIEPs 1, 2, and 5A will create new obligations for traders and distributors. For this reason, we consider it good practice to provide regulatory statements for those proposed amendments, despite not being required to by section 39 of the Act.

6.2 Section 7 contains the regulatory statement for a single reporting methodology for EIEP1.

6.3 Section 8 contains the regulatory statement for the delivery mechanism for EIEP5A planned service interruption information.

7 EIEP1 single reporting methodology

Objectives of the proposed amendment

7.1 The objectives of mandating the reporting methodology replacement RM normalised in EIEP1 under Option 1 are to:

(a) remove inefficient barriers to entry for new participants

(b) standardise the way traders and distributors exchange billing data, reducing the need for inefficient workarounds, and allowing lower costs through the potential for automation

(c) enhance retail competition and efficiency as trader system developments and operations are optimised through standardisation.

The proposed amendment

7.2 The Authority proposes mandating replacement RM normalised as the reporting methodology in EIEP1, which must be used by traders to provide detailed volume and billing information to distributors to support billing of network charges. This is for both interposed and conveyance arrangements.

7.3 If the proposal is adopted, the Authority will:

(a) publish the final versions of EIEP1, and subsequent changes to EIEP2, (version 12),[11] on its website, mandating the reporting methodology set out in Option 1

(b) amend the EIEP Overview document

(c) propose drafting changes to the draft default distributor agreement to reflect the Authority's decision.

7.4 To allow participants time to move to a single reporting methodology, the Authority proposes that, if adopted, the changes will come into effect on 1 April 2020. This would allow a minimum lead time of 12 months.

The proposed amendment's benefits are expected to outweigh the costs

7.5 The benefits of Option 1 are set out in Table 1 , and will enable:

[11] Consultation drafts of EIEPs 1 and 2 are provided as version 11.1 in Appendices A and B.

(a) reduced costs for new entrant traders as only one methodology will need to be developed

(b) reduced costs for all traders and distributors systems maintenance as only one methodology must be maintained

(c) participant processing time savings by removal of inadvertent errors and inaccuracies caused by mixed methodologies

(d) alignment with RM submission volumes, which will provide distributors with the ability to easily check volumes, therefore greater assurance of volume accuracy for network billing

(e) enhanced retail competition and efficiency as trader system developments and operations are optimised through standardisation.

7.6 The primary costs associated with the proposal would be to develop systems for replacement RM normalised for the few traders and distributors whose systems currently do not accept replacement RM normalised.

7.7 If the Authority decides to implement Option 1:

(a) some traders would have to develop capability to provide replacement RM normalised files

(b) some distributors, including embedded network owners, may have to develop the capability to process replacement RM normalised files

(c) some distributors may have a one-off cost if they decide to enable automatic file processing.

7.8 Overall, the Authority considers the benefits of implementing Option 1 will outweigh the costs.

The Authority has identified two other options for addressing the objectives

7.9 The Authority has identified two other options (Options 2 and 3) for addressing the objectives.

7.10 Options 2 and 3 also provide for replacement RM normalised to be the standard reporting methodology, but only for interposed arrangements.

7.11 For conveyance arrangements:

(a) Option 2 provides for replacement RM normalised as the default reporting methodology, with the right of the parties to agree to use ‘as billed’.

(b) Option 3 provides for as billed as the default reporting methodology, with the right of the parties to agree to use replacement RM normalised.

7.12 If the Authority decides to implement either Option 2 or 3:

(a) some distributors, including embedded network owners, may need to upgrade their systems to process replacement RM normalised files

(b) two, rather than three, traders would still need to develop replacement RM normalised

(c) traders and distributors may want to negotiate to use the methodology that is not the default

(d) with Option 3, there is a possibility traders may decide not to trade on the one network that would have a different methodology as the default, to reduce their system development and maintenance costs.

Option 1 is preferred to other options

7.13 The Authority has evaluated the three options for addressing the objectives and prefers Option 1. This option will lower costs for traders and distributors by only requiring them to build and maintain their systems to manage one reporting methodology.

8 Delivery mechanism for EIEP5A planned service interruption information

Objectives of the proposed amendment

8.1 The objectives of mandating an optimal delivery mechanism for planned service interruption information under Option 3 are to:

(a) remove inefficient barriers to entry for new participants

(b) standardise the way traders and distributors exchange outage information, reducing the need for inefficient workarounds, and allowing lower costs through the potential for automation

(c) provide a mechanism for MEPs to receive planned service interruption information

(d) provide a mechanism for outage notifications when a trader gains an ICP after the original notification (including backdated switches) and switch withdrawals

(e) reduce costs and risks for traders dealing with complaints and medically dependant consumers flowing from missed notifications

(f) enhance retail competition and efficiency as trader system developments and operations are optimised through standardisation

(g) improve customer service as customisation to suit trader requirements will provide greater assurance that all affected consumers (including those changing traders during the notification window) will receive planned service interruption notifications.

8.2 The objectives of making EIEP5A a regulated EIEP were set out in the August 2017 *Electricity information exchange protocols (EIEPs) – 2017 operational review* consultation document and subsequent decision paper.

The proposed amendment

8.3 The Authority proposes that distributors be required to deliver planned service interruption information to traders via the registry in accordance with the delivery mechanism outlined for Option 3 instead of allowing the delivery option to be determined by agreement between the parties (status quo).

8.4 If the proposal is adopted, the Authority will:

(a) publish the final version of EIEP5A (version 12), consultation drafts of which are provided as version 11.1 in Appendix C, on its website, mandating the delivery mechanism set out in Option3

(b) make the Code amendment set out in paragraph 4.24(a)(iii), amending clause 12A.13(3) by inserting "(e) planned service interruption information".

8.5 To allow participants time to make suitable arrangements to implement EIEP5A, the Authority proposes that, if adopted, participants have a transition period of six to 12 months. The actual transition period will be decided once submissions have been reviewed.

The proposed amendment's benefits are expected to outweigh the costs

8.6 The benefits of Option 3 are set out in Table 2 , and will enable:

(a) more efficient delivery channels for distributors and traders

(b) MEPs to receive planned service interruption information, allowing them to reduce the costs of scheduling metering work at ICPs on a date the supply will be off

(c) reduced participant transaction costs through a more standardised process which avoids workarounds and can be automated

(d) registry customisation of file content (file containing all ICP identifiers or only those ICP identifiers the trader is responsible for, including or excluding DES row) to reflect trader preferences which best fits with their system design and processes

(e) registry functionality to address the primary concerns associated with split files of missed notifications associated with switch gains (including backdated switches) and switch

(f) reduced costs for traders dealing with complaints and medically dependant consumers flowing from missed notifications

(g) enhanced retail competition and efficiency as trader system developments and operations are optimised through standardisation

(h) improved customer service as customisation to suit trader requirements will provide greater assurance that all affected consumers (including those switching traders during the notification window) will receive planned service interruption notifications.

8.7 The primary costs associated with the proposal would be registry manager costs to allow for changes to import/upload the EIEP5A files to the registry, customise the outputs to reflect trader preferences, and send to traders in accordance with relevant delivery option(s).

8.8 If the Authority decides to implement Option 3:

(a) all affected:

(i) distributors will need to update their systems and processes to upload/deliver EIEP5A files via their EIEPoutbox (registry EIEP transfer hub) or toreg directory (registry SFTP), with a recipient code of RGST

(ii) traders will need to update their systems and processes to receive/download EIEP5A files via their EIEPinbox (registry EIEP transfer hub) or fromreg directory (registry SFTP)

(iii) MEPs may need to update their systems and processes to receive/download EIEP5A files via their fromreg directory (registry SFTP)

(b) the costs to make changes to upload/download EIEP5A files sent via the EIEP transfer hub or registry SFTP rather than using email should be minimal[12]

(c) distributors who currently use a manual process to create EIEP5A files with unique recipient codes and/or use email to send the files should be able to reduce costs

(d) distributors who currently use an automated process to create EIEP5A files with unique recipient codes and/or upload files to be sent via the registry EIEP transfer hub will notice little change

(e) traders who currently use a manual process to download files to their system should be able to reduce costs from the potential to automate the process

(f) traders who currently receive files via the EIEP transfer hub EIEPinbox and use an automated process to download files from to their system will notice little change

(g) traders who choose the option to receive split files (containing only the ICP identifiers they are responsible for) may be able to reduce costs marginally compared to having to process files with all ICP identifiers. However, they may incur additional costs from having to process additional notifications where they are the gaining trader following a customer switch.

8.9 Overall, the Authority considers the benefits of implementing Option 3 will outweigh the costs.

The Authority has identified three other options for addressing the objectives

8.10 The Authority has identified three other options (Options 1, 2 and 4) for addressing the objectives.

8.11 Options 1 and 2 will achieve a similar outcome to Option 3, but without the added flexibility for traders to choose the location for registry notifications.

8.12 Option 4 would make EIEP5A a registry maintenance file and would require an amendment to Part 11 of the Code, inserting a new clause 7A "Distributors to provide planned service interruption information to the registry". The draft Code amendment is attached as Appendix D. Option 4 is the Authority's second preference.

8.13 If the Authority decides to implement Option 4:

(a) a new clause will need to be inserted into Schedule 11.1 of the Code (the proposed clause 7A is detailed in Appendix D)

(b) the registry manager will need to make changes to the registry to provide functionality to process planned service interruption information and send customised notification files to each affected trader's fromreg directory

(c) distributors will need to make system and process changes to upload a planned service interruption maintenance file to the registry in accordance with the registry functional specification

(d) traders will be able to use existing registry SFTP notification processes to receive and download notification files.

[12] This is because all local distributors, all but three of 42 embedded network owners, and all traders are current users of the registry EIEP transfer hub (and it is reasonable to assume they are all current users of the registry SFTP).

Option 3 is preferred to other options

8.14 The Authority has evaluated the four options for addressing the objectives and prefers Option 3 as we consider it to be the optimal delivery mechanism that minimises costs for participants to change systems and processes, and the risk of missed customer notifications.

Q18. Do you agree with the objectives of the proposed amendment? If not, why not?

Q19. Do you agree the benefits of the proposed amendment outweigh its costs? If not, why not?

Q20. Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.

Q21. If you prefer Option 4 over the other options, do you have any comments on the proposed Code drafting in Appendix D? If yes, please provide details.

9 The proposed amendments comply with section 32(1) of the Act

9.1 The Authority's objective under section 15 of the Act is to promote competition in, reliable supply by, and efficient operation of, the electricity industry for the long-term benefit of consumers.

9.2 Section 32(1) of the Act says that the Code may contain any provisions that are consistent with the Authority's objective and is necessary or desirable to promote one, or all, of the following:

Table 3: How the proposals comply with section 32(1) of the Act

	EIEP1 single reporting methodology	EIEP5A delivery mechanism
(a) competition in the electricity industry;	Enhanced retail competition and efficiency as trader system developments and operations are optimised through standardisation and processes can be automated	Enhanced retail competition and efficiency as trader system developments and operations are optimised through standardisation and processes can be automated
(b) the reliable supply of electricity to consumers;	The proposed amendment will not materially affect the reliable supply of electricity to consumers.	Improved customer service and reliability of supply as customisation to suit trader requirements will provide greater assurance that all affected consumers (including those

		changing traders during the notification window) will receive planned service interruption notifications and will be able to make arrangements during upcoming outages
(c) the efficient operation of the electricity industry;	Reduced participant transaction costs through a more standardised process which avoids workarounds and can be automated.	More efficient delivery channels for distributors, traders and MEPs Reduced participant transaction costs through a more standardised process which avoids workarounds and can be automated Registry customisation of file content (file containing all ICPs or only those ICPs the trader has an interest in, including or excluding DES row) to reflect trader preferences will optimise system design and processes
(d) the performance by the Authority of its functions;	The proposed amendment will not materially affect the performance of the Authority	The proposed amendment will not materially affect the performance of the Authority
(e) any other matter specifically referred to in this Act as a matter for inclusion in the Code.	The proposed amendment will not materially affect any other matter specifically referred to in the Act for inclusion in the Code	The proposed amendment will not materially affect any other matter specifically referred to in the Act for inclusion in the Code

Q22. Do you agree the Authority's proposed amendments comply with section 32(1) of the Act?

Appendix A Regulating a single billing methodology: draft EIEP1 for Options 1, 2, and 3

Electricity Information Exchange Protocols (EIEP)

EIEP 1: Detailed ICP billing and volume information (Option 1)

Regulated

Draft for consultation on regulating a single standard reporting methodology ~~Effective from 1 October 2019~~

Version control

Version	Date amended	EIEP reference	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP1	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP1	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content Corrections to content where appropriate Guidance on approach to determination of reporting methodology for trader files Changes to names of normalised reporting methodologies to better reflect data sources Guidance on application of mixed reporting methodologies Minimum requirements for replacement RM normalised revision files
11	2 October 2018	EIEP1	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Guidance on split or single files (business requirement 12) Application of mixed methodologies (business requirements 22 and 23) Minimum requirements for replacement RM normalised revisions New file types for distributor to trader files Validation rules for attributes used to calculate network charge Validation rule for register content code where HHR data framed for time-blocked prices Clarity around requirements for NZ Daylight Time adjustment techniques
11.1 draft	20 November 2018	EIEP1	This is option 1 in the consultation paper. Amendments mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for both interposed and conveyance arrangements

Contents

1 EIEP1: Detailed ICP billing and volume information

Title:	**EIEP1 – Detailed ICP billing and volume information**
Version:	11.1 draft (Option 1 in the consultation paper)~~0~~
Application:	This protocol allows: a) traders to provide billing and volume information to distributors at an ICP level to enable distributors to invoice fixed and variable network charges, meet the distributor's network planning, pricing design, and regulatory information disclosure reporting requirements, and provide information to the extended reserve manager. b) distributors to provide information to traders to support their invoices for network charges, and to enable traders to reconcile the network charges at detailed level. For trader to distributor files this protocol requires that traders must provide NHH EIEP1 files in accordance with the replacement RM normalised reporting methodology for both interposed and conveyance arrangements..
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies

EIEP1 files are required for invoicing and reconciliation of network charges which are based on ICP fixed and variable delivery prices, to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and to enable distributors to provide information to the extended reserve manager.

Unless a distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing), EIEP1 must be used where a distributor has specified time blocked periods for the application of delivery prices.

A data file formatted in accordance with EIEP1 is to be forwarded by the trader to the distributor to provide billing and volume information that enables the calculation of network charges for individual ICPs. EIEP1 files may also be provided to support buyer created invoices for network charges.

The billing and volume information for NHH ICPs contained in ~~an~~ EIEP1 ~~format~~ files provided by traders must ~~use~~be in accordance with ~~one of~~ the 'replacement RM normalised' ~~following~~ reporting methodology~~ies:~~

- ~~As billed~~
- ~~Incremental as billed normalised~~
- ~~Replacement RM normalised~~
- ~~Incremental RM normalised~~

~~The reporting methodology to be used must be as agreed and recorded in writing, or otherwise the distributor may specify it's preferred reporting methodology in its delivery price schedule and associated pricing information (which may include its billing and settlement process). Traders must use reasonable endeavours to provide EIEP1 files that comply with the distributor's preferred reporting methodology.~~

~~In the absence of an agreed reporting methodology, or a preferred reporting methodology specified by the distributor, the default reporting methodology is 'replacement RM normalised' for interposed arrangements, and 'as billed' for conveyance arrangements.~~

The billing and volume information for HHR ICPs contained in EIEP1 files provided by traders must be in accordance with the as billed reporting methodology.

Description of when this protocol applies
Distributors use data in the EIEP1 files and from other sources (e.g. EIEP2, EIEP3, registry data, reconciliation manager reports) as applicable to their pricing and billing methodology to generate invoices for the fixed and variable network charges and to provide information to traders that supports their invoices for the network charges. Traders may then use the information provided by distributors in their EIEP1 files to reconcile the network charges at detailed level.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, a trader must deliver any EIEP1 initial file containing billing and volume information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.
4. Unless otherwise agreed with the distributor, traders must deliver EIEP1 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is provided to the reconciliation manager on the 13th business day, ~~the distributor may agree with~~ traders may provide~~that the~~ EIEP1 revision month files ~~be provided~~ to the distributor any day between the 13th business day and 5th business day of the following month.
5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP1 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.
6. A trader or distributor must only use codes that are:
   (a) stipulated in this document; or
   (b) approved and published by the Electricity Authority; or
   (c) determined in the registry and reconciliation manager functional specifications; or
   (d) in the case of network price category codes or price component codes, these must be those in the distributor's published delivery price schedule (except where a delivery price is unbillable without repackaging the trader may determine and report its own price code).
7. Information relating to individual price component codes must be formatted on separate lines.
8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.
9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.
10. Information is to be provided in accordance with the following status codes unless otherwise specified:
    O Optional
    M Mandatory
    C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)
11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or

Business requirements

Distributor to Trader.

12. Recipients of EIEP1 files must be capable of receiving I (initial), R (complete replacement) and X (partial replacement) files.
13. For trader to distributor files, unless a distributor has requested otherwise, and the trader agrees, volume data relating to non-half hour (NHH) ICPs (including ICPs with smart metering for which the distributor has specified time-blocked periods for the application of delivery prices) must be provided in a separate file to that of half hour (HHR) ICPs. For distributor to trader files, it is preferable that the distributor provides matching separate files for NHH ICPs and HHR ICPs, however where this isn't supported by the distributor's systems, or the parties have agreed to a single file, the distributor may provide a single file containing all ICPs. Each file must include the appropriate file type in the header record.
14. Injection and extraction must to be shown with the 'energy flow direction' indicator, where X (extraction/volume consumed) together with a positive 'unit quantity' represents electricity leaving the network, and I (injection as a result of generation) together with a positive 'unit quantity' represents electricity entering the network (e.g. from embedded generation).
15. Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding the delivery price for injection may be $0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file and must not be netted off against each other or summated as this would result in incorrect interpretation of the data.
16. The data in an EIEP1 file must cover a complete calendar month, unless the sender makes it clear that a different period applies (for as billed this means the volume billed with a bill date during the month).
17. The 'report month' used in the report detail section must be the same as the 'report month' used in the header.
18. If the trader or distributor becomes aware of a format error or that the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.
19. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file must be provided.
20. The first file for the report month must have file status I (initial). Subsequent files must either be R (full replacement) or X (partial replacement). On receiving an R file the recipient must remove all previous data for that report month and replace it with the data from the new file. Data for individual ICPs can be replaced by using an X file status, in which case just data for those ICPs must be removed and replaced. X files can only contain replacement data for ICPs included in the initial I file or data for ICPs that were not included in the Initial file.
21. If any previously transmitted records are reversed these must be represented by re-reporting the data but with the following changes:
    (a) Reversal of the sign of the originally transmitted "unit quantity" (recognising that the original unit quantity may have been negative and therefore the reversal would be positive);
    (b) Capacity and demand figures remain as previously reported and the reversal is inferred from the presence of negative days in the associated 'chargeable days' field; and
    (c) The 'start date' and 'end date' of a reversal record must replicate the dates that were provided with the original incorrect data and be in the correct chronological order.
22. Prior period correction events, the treatment of which is discussed in each of the reporting methodology options, include:
    (d) cancelled switches;
    (e) backdated switches;

Business requirements

(f) late processing of switches;

(g) switch read changes;

(h) late processing of meter changes;

(i) correction of readings from stopped/slow/fast meters;

(j) meter reading errors; and

(k) meter channel multiplier errors.

23. For networks subject to a conveyance UoSA, ~~and unless otherwise agreed,~~ traders must provide billing and volume information in accordance with the '~~as billed~~replacement RM normalised' reporting methodology ~~and the distributor's invoices for network charges must reflect the as billed data provided by traders~~.

24. For networks subject to an interposed UoSA, ~~the~~ traders must provide billing and volume information in accordance with the 'replacement RM normalised' reporting methodology.~~preferred reporting methodology will normally be one of the normalised reporting methodologies. However, the distributor may agree with traders to accept and process EIEP1 files based on the 'as billed' or one of the normalised reporting methodologies. If the distributor agrees to accept and process both as billed and normalised files, and the trader provides an as billed file, then the following will apply:~~

~~(a) If, in its volume calculations used for billing, there is any spreading or scaling of UFE related volumes across traders, the distributor must normalise the as billed volumes provided by the trader(s)~~

~~(b) If the 'as billed' reporting methodology was agreed on the basis the distributor must be able to normalise the as billed volumes, or an 'as billed' file is provided without it being an agreed reporting methodology, the distributor may normalise the as billed volumes provided by the trader~~

~~(c) In all other circumstances not covered by (a) or (b), the distributor's invoice for both fixed and variable network charges must reflect the as billed data provided by the trader unless the trader and distributor agree that the distributor may normalise the as billed data.~~

25. Traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable at the time of customer billing and forces repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) in which case the trader may determine and report its own price code and repackaged price.

~~25.~~26. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

'As billed' methodology

~~26.~~27. As billed is a reporting methodology that, for both the fixed and variable network charges, reflects the actual quantities by network price component code billed to the trader's customer (whether unbundled from or bundled with the retail charges on the customer's bill) with a bill date at any time in the report period. All billed quantities that have a bill date in the report period must be included in the as billed EIEP1 file. The as billed methodology also requires that:

(a) fixed and variable charges by network price component code are applied as per the delivery prices in the distributor's published delivery price schedule;

Business requirements

(b) ICPs with an 'Active' registry status, and for which the trader was the responsible trader for any part of the report period, but which were not billed by the trader during the report period, are represented by a single detail record per ICP, with UB (unbilled) as the 'meter read status'. For these ICPs, all other mandatory fields must be left blank;

(c) where the 'end date' represents a final bill date (e.g. where a customer is moving out or is switching traders), the 'meter read status' must be shown as FL (final);

(d) as billed data must contain fixed and variable quantities as billed to the customer (whether unbundled from or bundled with the retail charges on customer bills);

(e) all corrections for under or over-estimates, and for prior period correction events, must be included in future reporting periods by reflecting the corresponding correction that is applied to the customer's bill; and

(f) the I (initial) file must show the correct start and end dates for any corrections or omissions relating to prior periods.

~~27.~~28. Where an ICP has been vacant but has an 'Active' status on the registry, the 'start date' reported in an 'as billed' file must be the date of the new customer contract. Note this may result in data gaps in the 'as billed' file between the new 'start date' and the previous 'end date' associated with the previous customer at that ICP.

~~28.~~29. The start date for as billed must be the 'bill from' date on the bill to the customer which has had a bill produced during the report period.

~~29.~~30. The end date for as billed must be the ~~\"~~'bill to' date on the bill to the customer.

~~30.~~31. The RD (read) status must be used for 'meter read status' if the bill to the customer was based on an actual read, otherwise the status code ES (estimate) must be used. If any bills to a customer have been reversed during the report period, the RV status code must be used.

~~31.~~32. In an 'as billed' file, the RV (reversal), RD (read), ES (estimate) and FL (final) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.

~~**'Incremental as billed normalised' methodology**~~

~~32. 'Incremental as billed normalised' is a reporting methodology that for the variable network charges reflects the actual billed volume plus an estimate of unbilled volume from the last billed read to the end of the month, less the estimate of unbilled volume in the previous month, and for the fixed network charges reflects the chargeable days, in both cases for all ICPs with a registry status of Active against the trader at any time in the report period. This methodology requires:~~

~~(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price.;~~

~~(b) the provision of data for all ICP-days that have had the registry status of Active against the trader at any time in the report period whether the ICP was in fact billed or not billed within the report period;~~

~~(c) that the 'meter read status' code is set to indicate that quantities have been calculated based on an:~~

~~(i) actual read (RD code) processed during the month being reported; or~~

~~(ii) estimate read (ES code); and~~

Business requirements

~~(d) actual or estimated volumes must account for any vacant consumption and adjustments for prior period correction events.~~

~~33. The unbilled consumption process must be undertaken for each variable network price component code, and be summated at meter channel - price component code level.~~

~~34. With this methodology, all over or under estimates of variable quantities reported in previous months will self-correct in subsequent months as actual meter reads are obtained and processed, so that all metered volumes will be accounted for over the full lifecycle of the ICP with the trader.~~

~~35. The I (initial) file for the 'incremental as billed normalised' methodology must show the correct start and end dates for any corrections or omissions relating to prior periods. Reversals must be shown as a separate line for each from/to date range as previously reported, and revised data must be shown as a single date range from where the error occurred to the end of the relevant end date in the current report period.~~

~~36. If the data in an I (initial) file is found to be materially corrupted shortly after it is transmitted by either party then it must be brought to the attention of the recipient as soon as practicable, and the recipient may require an R or X file to be sent that fully replaces the corrupted file. In all other circumstances, any errors in the data will be corrected in subsequent report period data.~~

~~37. An I (initial) file may include adjustments for previously reported data where a need for correction is identified. An error may be corrected by providing both a reversal (RV) of the originally transmitted incorrect data and supplying replacement corrected data.~~

~~In an 'incremental as billed normalised' file RD (read), ES (estimate) and RV (reversal) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.~~

'Replacement RM normalised' methodology

~~38.~~33. 'Replacement RM normalised' is a reporting methodology that for the variable charges reflects volume information submitted to the reconciliation manager, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry status of 'Active' against the trader at any time in the report period.

~~39.~~34. This method requires:

(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

(b) the provision of data for all ICP-days that have had the registry status of 'Active' against the trader at any time during the report period;

(c) volume reported by price component code must align in aggregate (subject to minor exceptions that may occur with month 0 processing and timing of reconciliation revisions) with the volume information submitted to the reconciliation manager;

(d) where used by the distributor for invoicing network charges, EIEP1 files must be provided for:

(i) the initial month 0~~;~~

(ii) revision months aligned with the reconciliation revision cycle (months 1, 3, 7, 14) or those revision months agreed between the parties, however as a minimum, files must be provided for revision month 3 and any additional revision month if requested by the distributor; and~~;~~

(iii) any other revision month aligned with special reconciliations that may be directed

Business requirements

by the Authority;

(e) while the parties may agree in writing that the distributor is not required to produce a wash-up invoice for all the revision files provided by traders, the distributor must as a minimum process the files provided by traders and produce an associated wash-up invoice for network charges for:

(i) revision month 3;

(ii) any additional revision month requested by a trader;

(iii) any additional revision month for which revision files have been provided by traders in response to a request by the distributor; and

(iv) any additional revision month for which revision files have been provided by traders aligned with special reconciliation revisions that may be directed by the Authority;~~.~~

(f) that the distributor's processing of a 'replacement RM normalised' revision file must result in full replacement of all data provided in the previous file, and for the avoidance of doubt there will be valid reasons (e.g. backdated switches) why some ICPs appear in a previous file but not in the replacement file, or appear in the replacement file but not in the previous file.

35. Each revision file must have a 'file status' of R (replacement) and fully replace the previous file ~~as file type~~.

36. Where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was 'Active' in the registry and the responsibility of that trader.

37. The 'start date' must always be in the same month as the report month, and be either:

(a) the first day of the month being reported;

(b) the date the ICP was electrically connected (if the ICP previously had a registry status of 'Ready') or electrically reconnected (if the ICP previously had a registry status of 'Inactive'); or

(c) the date the ICP switched to the trader if in the report month.

38. The 'end date' always be in the same month as the report month, and be either:

(a) the last day of the month being reported;

(b) the date the ICP was electrically disconnected, if the ICP's registry status changes from 'Active' to either 'Inactive' or 'Decommissioned'; or

~~(a)~~(c) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).

~~**'Incremental RM normalised' methodology**~~

~~40. 'Incremental RM normalised' is a hybrid reporting methodology that for the variable network charges reflects the volume information submitted to the reconciliation manager for the initial month. Information is adjusted to account for the incremental changes in the volume information submitted to the reconciliation manager for the revision months, and for the fixed network charges reflects the chargeable days, in both cases for all ICP days with a registry status of Active against the trader at any time in the report period.~~

~~41. This method requires:~~

~~(a) that traders must report the distributor's price component code and delivery price in the~~

Business requirements

EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

(b) the provision of data for all ICP-days that have had the registry status of Active against the trader at any time during the report period;

(c) volumes reported by network price component code must align in aggregate with the volume information submitted to the reconciliation manager:

(i) for the relevant initial reconciliation (month 0); and

(ii) adjusted to reflect incremental changes in volume information submitted to the reconciliation manager within the report period for the latest reconciliation revision cycles (months 1, 3, 7 and 14); and

(iii) adjusted to reflect incremental changes in volume information submitted to the reconciliation manager for any other special reconciliations that may be directed by the Electricity Authority;

that where incremental changes in submission information is for ICPs that are no longer the responsibility of the trader in the current report period, the ICPs must be added to the file along with the associated incremental changes in volume information to ensure completeness.

General requirements for the normalised methodologies

42. A normalised data file with a 'file status' of R fully replaces the previously transmitted normalised data file.

43. Apart from prior period correction events for the 'incremental as billed normalised' files where date ranges span multiple months, the normalised methodologies enable distributors to align their network billing and revenue processes with calendar months. The incremental methodologies enable a single reporting, billing, settlement and reconciliation process for each month, without the need for wash-ups. The replacement methodology requires multiple reporting, billing, settlement and reconciliation processes for each month.

44. For the normalised reports, the date range for most ICPs will be from the first day to the last day of the month. However, where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was Active in the registry and the responsibility of that trader. The date range for an ICP may also cover prior months where reporting a prior period correction event.

45. The 'start date' for an ICP in an incremental normalised file must be either:

(a) the first day of the month being reported;

(b) the applicable start date for any prior period correction event (refer also to the Business Requirements for 'incremental as billed normalised' and reversals associated with prior period correction events);

(c) the date of livening (if the ICP previously had a registry status of Ready) or reconnection of the ICP (if the ICP previously had a registry status of Inactive); or

(d) the date the ICP switched to the trader, which may be in a prior month if the ICP switched in a prior month but has not been previously reported.

46. The 'end date' for an incremental normalised file must be either:

Business requirements

(a) the last day of the month being reported;

(b) the applicable end date for any prior period correction event;

(c) the date of disconnection, if the ICP's registry status changes from Active to either Inactive or Decommissioned; or

(d) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).

47. In an incremental normalised file, the RD (read) status must be used for 'meter read status' wherever there has been an actual read during the report period, and the ES (estimate) status must be used if there has been no actual read during the report period. The RD and ES meter read status must be used for both fixed and variable network price component codes.

48. The 'start date' for a 'replacement RM normalised' file must always be in the same month as the report month. This will align the volume reported for each report month with volume information submitted to the reconciliation manager for each month.

49. In both the 'incremental as billed normalised' and 'incremental RM replacement normalised' files, the RV (reversal) 'meter read status' code applies to both the fixed and variable price component code records.

Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements
1. If there are any conflicts between this document and the Code, the Code takes precedence. 2. In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available and applicable to the methodology, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. 3. A number of data transfers are required between participants for the EIEP process to take place. Unless the relevant participants have previously agreed otherwise, these data flows must be those required by the Code. At all times data transfers must take place in a secure and predictable manner. 4. It is the responsibility of participants to comply with the Privacy Act when exchanging customer information.

Data inputs
Information from a participant's billing system and/or reconciliation submission files.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Header record type	Char 3	M	M	HDR – indicates the row is a header record type
File type	Char 7	M	M	For Trader to Distributor files: If 'As billed' then ICPMMAB (for NHH ICPs) or ICPHHAB (for HHR ICPs) If ~~'Incremental As billed normalised' then ICPMMNM, if~~ 'Replacement RM normalised' then ICPMMRM (for NHH ICPs)~~or if 'Incremental RM normalised' then ICPMMSP~~. For Distributor to Trader files: If split billing file for HHR ICPs – ICPHHR If split billing file for NHH ICPs – ICPNHH If single billing file for both HHR and NHH ICPs - ICPALL
Version of EIEP	Num 3.1	M	M	Version of EIEP that is being used for this file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Sender	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	M	M	Participant identifier of party on whose behalf volume data is provided.
Recipient participant identifier	Char 4	M	M	Valid recipient participant identifier
Report run date	DD/MM/YYYY	M	M	Date the report is run
Report run time	HH:MM:SS	M	M	Time the report is run
Unique file identifier	Char 15	M	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	M	Total number of DET records in report
Report period start date	DD/MM/YYYY	M	M	Report run start date (inclusive)
Report period end date	DD/MM/YYYY	M	M	Report run end date (inclusive)
Report month	YYYYMM	M	M	The month the report is run for.
Utility type	Char 1	M	M	Type of energy supply; G = Gas; or E = Electricity
File status	Char 1	M	M	I (Initial) or R (Replacement) or X (replace only those ICPs contained in this replacement file)

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Detail record type	Char 3	M	M	DET – indicates the row is a detail record.
ICP identifier	Char 15	M	M	Unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1 of the Code
Start date	DD/MM/YYYY	C	M	Start date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
End date	DD/MM/YYYY	C	M	End date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB
Price description	Char 75	O	O	Null unless required to further describe the price code.
Unit of measure	Char 25	C	M	The type of unit applicable to the value in the 'Unit quantity' field. Examples are provided in table 3. Mandatory unless as billed file and 'meter read status' equals UB.
Unit quantity	Num 12.2	C	M	Unit quantity as appropriate to the 'Unit of measure' field (e.g. injection or extraction volume in kWh, chargeable demand or capacity in kW or kVA, or the number of chargeable items for connection, equipment or fixture per day delivery prices) Mandatory unless as billed file and 'meter read status' equals UB.
Meter read status	Char 2	C	C	Mandatory except Null where only fixed charges apply. RD = Read, ES = Estimate, RV = Reversal. For as billed files only, FL = Final, UB = Unbilled.
POC	Char 8	C	M	Valid code for the point of connection to which the ICP is connected for the period between the start date and the end date. For local networks 'POC' is typically referred to as the GXP. Mandatory for trader to distributor files where relevant to the distributor's pricing (and Null in the as billed file where the 'meter read status' equals UB).
Network participant identifier	Char 4	M	M	Network participant identifier
Spare		O	O	Empty
Price component code	Char 25	C	M	Price component code[1] for each fixed and variable delivery price as per the distributor's published delivery price schedule. Mandatory unless as billed file and 'meter read status' equals UB

[1] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Delivery price	Num 12.6	C	M	Fixed or variable delivery price[2] as per the distributor's published delivery price schedule. The delivery price is to be expressed in $ excl GST and net of prompt payment discount. Mandatory unless as billed file and 'meter read status' equals UB
Fixed/Variable	Char 1	C	M	F (Fixed) or V (Variable). Mandatory unless as billed file and 'meter read status' equals UB
Chargeable days	Int 7	C	C	Number of days between start date and end date (both dates inclusive) where used in the network charge calculation for per day prices. otherwise Null Mandatory unless as billed file and 'meter read status' equals UB
Network charge	Num 11.2	C	M	The network charge (in $ excluding GST, net of any prompt payment discount) which is the product of 'Unit quantity', 'Chargeable days' and 'Delivery price' as applicable. Mandatory unless as billed file and 'meter read status' equals UB, and where information supports an invoice.
Register content code	Char 6	C	O	A code that identifies the type of information being recorded by the channel and must reflect the physical or programmed configuration of the metering installation. Selected from a list in the registry. For clarity, where HHR data is framed for time-blocked prices the register content code must reflect the physical or programmed channel.
Period of availability	Num 2	C	O	Minimum number of hours within a day that supply is available. ~~(~~or controlled part is available for an inclusive channel.~~)~~ (<=24). Where HHR data is ~~framed~~ aggregated for time-blocked prices the period of availability must reflect the physical or programmed NHH channel, rounded up or down where the period is for an odd number of trading periods (provided the total for a day is <=24).

[2] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Report month	YYYYMM	M	M	The month for which the report is run. Must match the month given in the header for 'Report Month'.
Customer no	Char 15	C	O	Trader's customer number (the identifier that the trader assigns to the customer, which remains the same across all the connections for the customer). Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter read status' equals UB
Consumer no	Char 15	C	O	Trader's consumer number. Defined as the trader's unique ID that links the premises and the customer. Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter reading status' equals UB
Invoice date	DD/MM/YYYY	O	M	
Invoice or invoice reference number	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.
Energy flow direction	Char 1	C	C	An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Mandatory unless as billed and 'meter read status' equals UB. Null if fixed charge

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file must consist of one or more records, with each record being a single line of text as defined in the business rules. Records must be delimited with one of the following:
   (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs; or
   (b) a line feed character (ASCII character 10) commonly used in Unix based programs; or
   (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files must be defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, must be case insensitive.
5. Each data file must contain only one header but can contain any number of detail records.
6. The first record of a file must contain 'Header" information followed by one or more detail lines.
7. Each file created must have a file name as outlined below and must have names that are unique within any month.
   Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + 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_ICPMMAB_200007_20000802_ UniqueID.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]
8. The format must provide for a number of different trader to distributor file types supporting the following:
   (a) Individual ICP (with matching total days, kWh, and other associated network charges such as capacity charges) where the file type corresponds to the reconciliation type
   (b) File type ICPMMAB provides ICP level 'as billed' data summed at meter channel - delivery price component level for NHH ICPs.
   (c) File type ICPHHAB provides ICP level 'as billed' data for HHR ICPs billed in previous period.
   ~~(d) File type ICPMMNM provides 'incremental as billed normalised' ICP level data summed at meter channel - delivery price level.~~
   ~~(e)~~(d) File type ICPMMRM provides 'replacement RM normalised' ICP level data summed at meter channel - delivery price component level that aligns in aggregate (subject to minor exceptions that may occur at month 0 and timing of reconciliation revisions) with the volume information submitted to the reconciliation manager.
   ~~File type ICPMMSP provides 'incremental RM normalised' ICP level data summed at meter channel – delivery price level that aligns in aggregate with the volume information submitted to the reconciliation manager for the relevant initial reconciliation (month 0), and in addition reflects incremental changes in volume information submitted to the reconciliation manager for the latest reconciliation revision cycle (months 1, 3, 7 and 14) and any other special reconciliations if directed by the Electricity Authority.~~

Data outputs

Completed file for transmission to traders.

2 Table of codes used in EIEP1

2.1 Table 1 List of attributes to define data fields used in EIEP1

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up to n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place. For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	NUM (6.2) 123.45 1234.0 -12.32 NUM (6.3) -0.123 23.987 987.000 8
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME		ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15

Logical format	Data type	Rules	Example
		ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP1.

ASCII character set for use within fields of EIEPs

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	~

2.3 Table 3 Unit of measure table

Unit	Description
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power), or capacity
kVAh	kilovolt ampere hour energy (apparent energy)
kVA	kilovolt ampere demand (apparent power), or capacity rating
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVA-km	kilovolt ampere capacity multiplied by kilometres
Con or ICP	used for per connection per day or per ICP per day delivery prices
Equipment	typically used for dedicated equipment delivery prices (e.g. transformers)
Fixture	typically used for per fixture delivery prices associated with streetlighting
Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's published delivery price schedule.	

3 Examples of files for EIEP 1

File examples are shown in tabular format with column headings for clarity, actual files are comma delimited and do not contain column headings. Changes from version 10 are not tracked.

3.1 Example of standard file – Incremental as billed normalised

HDR	ICPMMNM	10	TRDR	TRDR	DIST	04/11/2012	4:04:5	40455	8	01/10/2012	31/10/2012	201210	E	I	

RECORD TYPE	ICP	START DATE	END DATE	PRICE CATEGORY CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0973498743DT297	01/10/2012	31/10/2012		CON	1		EKT0661	DIST		DT001-FIXD	0.18	F	31	5.58
DET	0973498743DT297	01/10/2012	31/10/2012		KWH	212	ES	EKT0661	DIST		DT001-AICO	0.102	V		21.62
DET	0000847534DTB30	18/10/2012	31/10/2012		CON	1		DGA0221	DIST		DT002-FIXD	0.18	F	14	2.52
DET	0000847534DTB30	18/10/2012	31/10/2012		KVA-KM	18.86		DGA0221	DIST		DT002-CAPY	0.05	F	14	13.20
DET	0000847534DTB30	18/10/2012	31/10/2012		KWH	439	RD	DGA0221	DIST		DT002-CTRL	0.089	V		39.07
DET	0000847534DTB30	18/10/2012	31/10/2012		KWH	892	RD	DGA0221	DIST		DT002-24UC	0.156	V		139.15
DET	1000004384DT1CF	01/10/2012	31/10/2012		CON	1		EKT0661	DIST		DT001-FIXD	0.18	F	31	5.58
DET	1000004384DT1CF	01/10/2012	31/10/2012		KWH	163	RD	EKT0661	DIST		DT001-AICO	0.102	V	31	16.63

REGISTER CONTENT CODE	PERIOD OF AVAILAB	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
		201210	29058779	894563212			
IN	19	201210	29058779	894563212			X
		201210	24058193	630021548			
		201210	24058193	630021548			
CN	19	201210	24058193	630021548			X
UN	24	201210	24058193	630021548			X
		201210	17008953	220045683			
IN	19	201210	17008953	220045683			X

~~3.2~~3.1 Example of standard file – As billed

HDR	ICPMMAB	10	TRDR	TRDR	DIST	6/11/2012	4:33:22	43322	8	1/10/2012	31/10/201	201210	E	I	
RECORD TYPE	ICP	START DATE	END DATE	PRICE CAT CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0973498743DT297	05/09/2012	04/10/2012			1		EKT0661	DIST		DT001-FIXD	0.18	F	30	5.40
DET	0973498743DT297	05/09/2012	04/10/2012		KWH	116	RD	EKT0661	DIST		DT001-24UC	0.156	V		18.10
DET	0973498743DT297	05/09/2012	04/10/2012		KWH	99	RD	EKT0661	DIST		DT001-CTRL	0.102	V		10.10
DET	0000847534DTB30	18/09/2012	17/10/2012			1		DGA0221	DIST		DT002-FIXD	0.18	F	30	5.40
DET	0000847534DTB30	18/09/2012	17/10/2012		KVA.KM	130		DGA0221	DIST		DT002-CAPY	0.05	F	30	195.00
DET	0000847534DTB30	18/09/2012	17/10/2012		KWH	577	FL	DGA0221	DIST		DT002-DAY	0.156	V		90.01
DET	0000847534DTB30	18/09/2012	17/10/2012		KWH	140	FL	DGA0221	DIST		DT002-NITE	0.089	V		12.46

0

REGISTER CONTENT CODE	PERIOD OF AVAILAB	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICENO	ENERGY FLOW DIRECTIO
		201210	356000023	56234521	05/10/2012	10000078963	
UN	24	201210	356000023	56234521	05/10/2012	10000078963	X
CN	19	201210	356000023	56234521	05/10/2012	10000078963	X
		201210	852315620	10234589	18/10/2012	40023698780	
		201210	852315620	10234589	18/10/2012	40023698780	
D	16	201210	852315620	10234589	18/10/2012	40023698780	X
N	8	201210	852315620	10234589	18/10/2012	40023698780	X

3.3 Example of prior period correction event for a multiplier error (x1, should have been x60)

(a) Original data reported for report months 200710 – 200802 (for simplicity shown in a single table)

RECORD TYPE	ICP	START DATE	END DATE	PRICE CAT CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED / VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0000000997B3	01/10/2007	31/10/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.125	F	31	3.88
DET	0000000997B3	01/10/2007	31/10/2007	-	kWh	689	RD	GFD0331	UNET	-	G100/24UC	0.0736	V	-	50.71
DET	0000000997B3	01/11/2007	30/11/2007	-	-	-	ES	GFD0331	UNET	-	G100	0.125	F	30	3.75
DET	0000000997B3	01/11/2007	30/11/2007	-	kWh	540	ES	GFD0331	UNET	-	G100/24UC	0.0736	V	-	39.74
DET	0000000997B3	01/12/2007	31/12/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/12/2007	31/12/2007	-	kWh	299	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	24.04
DET	0000000997B3	01/01/2008	31/01/2008	-	-	-	ES	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/01/2008	31/01/2008	-	kWh	498	ES	GFD0331	UNET	-	G100/24UC	0.0804	V	-	40.04
DET	0000000997B3	01/02/2008	29/02/2008	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	29	4.35
DET	0000000997B3	01/02/2008	29/02/2008	-	kWh	242	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	19.46

REGISTER CONTENT CODE	PERIOD OF AVAILABILITY	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
-	-	200710	402408386	2701721110	-	-	-
UN	24	200710	402408386	2701721110	-	-	X
-	-	200711	402408386	2701721110	-	-	-
UN	24	200711	402408386	2701721110	-	-	X
-	-	200712	402408386	2701721110	-	-	-
UN	24	200712	402408386	2701721110	-	-	X

-	-	200801	402408386	2701721110	-	-	-
UN	24	200801	402408386	2701721110	-	-	X
-	-	200802	402408386	2701721110	-	-	-
UN	24	200802	402408386	2701721110	-	-	X

(b) Prior period correction – reversals of data previously reported (separate reversal rows for each report month), corrected data across entire date range plus 1 month with only split being the price change on 1/12/07

RECORD TYPE	ICP	START DATE	END DATE	PRICE CATEGORY CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED / VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0000000997B3	01/10/2007	31/10/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.125	F	31	3.88
DET	0000000997B3	01/10/2007	31/10/2007	-	kWh	689	RV	GFD0331	UNET	-	G100/24UC	0.0736	V	-	50.71
DET	0000000997B3	01/11/2007	30/11/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.125	F	30	3.75
DET	0000000997B3	01/11/2007	30/11/2007	-	kWh	540	RV	GFD0331	UNET	-	G100/24UC	0.0736	V	-	39.74
DET	0000000997B3	01/12/2007	31/12/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/12/2007	31/12/2007	-	kWh	299	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	24.04
DET	0000000997B3	01/01/2008	31/01/2008	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/01/2008	31/01/2008	-	kWh	498	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	40.04
DET	0000000997B3	01/02/2008	29/02/2008	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	29	4.35
DET	0000000997B3	01/02/2008	29/02/2008	-	kWh	242	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	19.46
DET	0000000997B3	01/10/2007	30/11/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	61	9.15
DET	0000000997B3	01/10/2007	30/11/2007	-	kWh	73740	RD	GFD0331	UNET	-	G100/24UC	0.0736	V	-	5427.26
DET	0000000997B3	01/12/2007	31/03/2008	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	122	18.3
DET	0000000997B3	01/12/2007	31/03/2008	-	kWh	88680	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	7129.87

REGISTER CONTENT CODE	PERIOD OF AVAILABILITY	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200802	402408386	2701721110	-	-	-
UN	24	200802	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X

Electricity Information Exchange Protocols (EIEP)

EIEP 1: Detailed ICP billing and volume information (Option 2)

Regulated

Draft for consultation on regulating a single standard reporting methodology ~~Effective from 1 October 2019~~

Version control

Version	Date amended	EIEP reference	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP1	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP1	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content Corrections to content where appropriate Guidance on approach to determination of reporting methodology for trader files Changes to names of normalised reporting methodologies to better reflect data sources Guidance on application of mixed reporting methodologies Minimum requirements for replacement RM normalised revision files
11	2 October 2018	EIEP1	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Guidance on split or single files (business requirement 12) Application of mixed methodologies (business requirements 22 and 23) Minimum requirements for replacement RM normalised revisions New file types for distributor to trader files Validation rules for attributes used to calculate network charge Validation rule for register content code where HHR data framed for time-blocked prices Clarity around requirements for NZ Daylight Time adjustment techniques
11.1 draft	20 November 2018	EIEP1	This is option 2 in the consultation paper. Amendments mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements a default reporting methodology of replacement RM normalised with the right of the parties to agree to as billed

Contents

1 EIEP1: Detailed ICP billing and volume information

Title:	**EIEP1 – Detailed ICP billing and volume information**
Version:	11.1 draft (Option 2 in the consultation paper)~~0~~
Application:	This protocol allows: a) traders to provide billing and volume information to distributors at an ICP level to enable distributors to invoice fixed and variable network charges, meet the distributor's network planning, pricing design, and regulatory information disclosure reporting requirements, and provide information to the extended reserve manager. b) distributors to provide information to traders to support their invoices for network charges, and to enable traders to reconcile the network charges at detailed level. For trader to distributor files this protocol requires that: • for interposed arrangements, traders must provide NHH EIEP1 files in accordance with the replacement RM normalised reporting methodology • for conveyance arrangements, traders must provide NHH EIEP1 files in accordance with the replacement RM normalised reporting methodology (the default) unless the parties agree otherwise that the trader may provide EIEP1 files in accordance with the as billed reporting methodology.
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies

EIEP1 files are required for invoicing and reconciliation of network charges which are based on ICP fixed and variable delivery prices, to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and to enable distributors to provide information to the extended reserve manager.

Unless a distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing), EIEP1 must be used where a distributor has specified time blocked periods for the application of delivery prices.

A data file formatted in accordance with EIEP1 is to be forwarded by the trader to the distributor to provide billing and volume information that enables the calculation of network charges for individual ICPs. EIEP1 files may also be provided to support buyer created invoices for network charges.

The billing and volume information for NHH ICPs contained in ~~an~~ EIEP1 ~~format~~ files provided by traders must ~~use~~be in accordance with one of the following reporting methodologies, subject to the applicable business requirements for networks with conveyance or interposed arrangements as set out below:

- As billed
- ~~Incremental as billed normalised~~
- Replacement RM normalised
- ~~Incremental RM normalised~~

~~The reporting methodology to be used must be as agreed and recorded in writing, or otherwise the distributor may specify it's preferred reporting methodology in its delivery price schedule and associated pricing information (which may include its billing and settlement process). Traders must use reasonable endeavours to provide EIEP1 files that comply with the distributor's preferred reporting methodology.~~

Description of when this protocol applies

~~In the absence of an agreed reporting methodology, or a preferred reporting methodology specified by the distributor, the default reporting methodology is 'replacement RM normalised' for interposed arrangements, and 'as billed' for conveyance arrangements.~~

The billing and volume information for HHR ICPs contained in EIEP1 files provided by traders must be in accordance with the as billed reporting methodology.

Distributors use data in the EIEP1 files and from other sources (e.g. EIEP2, EIEP3, registry data, reconciliation manager reports) as applicable to their pricing and billing methodology to generate invoices for the fixed and variable network charges and to provide information to traders that supports their invoices for the network charges.

Traders may then use the information provided by distributors in their EIEP1 files to reconcile the network charges at detailed level.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, a trader must deliver any EIEP1 initial file containing billing and volume information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.
4. Unless otherwise agreed with the distributor, traders must deliver EIEP1 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is provided to the reconciliation manager on the 13th business day, ~~the distributor may agree with~~ traders may provide~~that the~~ EIEP1 revision month files ~~be provided~~ to the distributor any day between the 13th business day and 5th business day of the following month.
5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP1 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.
6. A trader or distributor must only use codes that are:
   (a) stipulated in this document; or
   (b) approved and published by the Electricity Authority; or
   (c) determined in the registry and reconciliation manager functional specifications; or
   (d) in the case of network price category codes or price component codes, these must be those in the distributor's published delivery price schedule (except where a delivery price is unbillable without repackaging the trader may determine and report its own price code).
7. Information relating to individual price component codes must be formatted on separate lines.
8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.
9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.
10. Information is to be provided in accordance with the following status codes unless otherwise specified:
    O Optional

Business requirements

M Mandatory

C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)

11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.
12. Recipients of EIEP1 files must be capable of receiving I (initial), R (complete replacement) and X (partial replacement) files.
13. For trader to distributor files, unless a distributor has requested otherwise, and the trader agrees, volume data relating to non-half hour (NHH) ICPs (including ICPs with smart metering for which the distributor has specified time-blocked periods for the application of delivery prices) must be provided in a separate file to that of half hour (HHR) ICPs. For distributor to trader files, it is preferable that the distributor provides matching separate files for NHH ICPs and HHR ICPs, however where this isn't supported by the distributor's systems, or the parties have agreed to a single file, the distributor may provide a single file containing all ICPs. Each file must include the appropriate file type in the header record.
14. Injection and extraction must to be shown with the 'energy flow direction' indicator, where X (extraction/volume consumed) together with a positive 'unit quantity' represents electricity leaving the network, and I (injection as a result of generation) together with a positive 'unit quantity' represents electricity entering the network (e.g. from embedded generation).
15. Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding the delivery price for injection may be $0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file and must not be netted off against each other or summated as this would result in incorrect interpretation of the data.
16. The data in an EIEP1 file must cover a complete calendar month, unless the sender makes it clear that a different period applies (for as billed this means the volume billed with a bill date during the month).
17. The 'report month' used in the report detail section must be the same as the 'report month' used in the header.
18. If the trader or distributor becomes aware of a format error or that the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.
19. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file must be provided.
20. The first file for the report month must have file status I (initial). Subsequent files must either be R (full replacement) or X (partial replacement). On receiving an R file the recipient must remove all previous data for that report month and replace it with the data from the new file. Data for individual ICPs can be replaced by using an X file status, in which case just data for those ICPs must be removed and replaced. X files can only contain replacement data for ICPs included in the initial I file or data for ICPs that were not included in the Initial file.
21. If any previously transmitted records are reversed these must be represented by re-reporting the data but with the following changes:
    (a) Reversal of the sign of the originally transmitted "unit quantity" (recognising that the original unit quantity may have been negative and therefore the reversal would be positive);
    (b) Capacity and demand figures remain as previously reported and the reversal is inferred from the presence of negative days in the associated 'chargeable days' field; and
    (c) The 'start date' and 'end date' of a reversal record must replicate the dates that were provided with the original incorrect data, and be in the correct chronological order.
22. Prior period correction events, the treatment of which is discussed in each of the reporting

Business requirements

methodology options, include:

(d) cancelled switches;

(e) backdated switches;

(f) late processing of switches;

(g) switch read changes;

(h) late processing of meter changes;

(i) correction of readings from stopped/slow/fast meters;

(j) meter reading errors; and

(k) meter channel multiplier errors.

23. For networks subject to a conveyance UoSA, ~~and unless otherwise agreed,~~ traders must provide billing and volume information in accordance with the '~~as billed~~replacement RM normalised' reporting methodology ~~and the distributor's invoices for network charges must reflect the as billed data provided by traders~~.

24. For networks subject to an interposed UoSA, ~~the~~ traders must provide billing and volume information in accordance with the 'replacement RM normalised' reporting methodology (the default), unless the parties agree otherwise that the trader may provide the information in accordance with the 'as billed' reporting methodology. If an 'as billed' file is provided, the distributor's invoice for network charges must reflect the as billed data provided by the trader. ~~preferred reporting methodology will normally be one of the normalised reporting methodologies. However, the distributor may agree with traders to accept and process EIEP1 files based on the 'as billed' or one of the normalised reporting methodologies. If the distributor agrees to accept and process both as billed and normalised files, and the trader provides an as billed file, then the following will apply:~~

~~(a) If, in its volume calculations used for billing, there is any spreading or scaling of UFE related volumes across traders, the distributor must normalise the as billed volumes provided by the trader(s)~~

~~(b) If the 'as billed' reporting methodology was agreed on the basis the distributor must be able to normalise the as billed volumes, or an 'as billed' file is provided without it being an agreed reporting methodology, the distributor may normalise the as billed volumes provided by the trader~~

~~(c) In all other circumstances not covered by (a) or (b), the distributor's invoice for both fixed and variable network charges must reflect the as billed data provided by the trader unless the trader and distributor agree that the distributor may normalise the as billed data.~~

25. Traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable at the time of customer billing and forces repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) in which case the trader may determine and report its own price code and repackaged price.

~~25.~~26. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

'As billed' methodology

Business requirements

~~26.~~27. As billed is a reporting methodology that, for both the fixed and variable network charges, reflects the actual quantities by network price component code billed to the trader's customer (whether unbundled from or bundled with the retail charges on the customer's bill) with a bill date at any time in the report period. All billed quantities that have a bill date in the report period must be included in the as billed EIEP1 file. The as billed methodology also requires that:

(a) fixed and variable charges by network price component code are applied as per the delivery prices in the distributor's published delivery price schedule;

(b) ICPs with an 'Active' registry status, and for which the trader was the responsible trader for any part of the report period, but which were not billed by the trader during the report period, are represented by a single detail record per ICP, with UB (unbilled) as the 'meter read status'. For these ICPs, all other mandatory fields must be left blank;

(c) where the 'end date' represents a final bill date (e.g. where a customer is moving out or is switching traders), the 'meter read status' must be shown as FL (final);

(d) as billed data must contain fixed and variable quantities as billed to the customer (whether unbundled from or bundled with the retail charges on customer bills);

(e) all corrections for under or over-estimates, and for prior period correction events, must be included in future reporting periods by reflecting the corresponding correction that is applied to the customer's bill; and

(f) the I (initial) file must show the correct start and end dates for any corrections or omissions relating to prior periods.

~~27.~~28. Where an ICP has been vacant but has an 'Active' status on the registry, the 'start date' reported in an 'as billed' file must be the date of the new customer contract. Note this may result in data gaps in the 'as billed' file between the new 'start date' and the previous 'end date' associated with the previous customer at that ICP.

~~28.~~29. The start date for as billed must be the 'bill from' date on the bill to the customer which has had a bill produced during the report period.

~~29.~~30. The end date for as billed must be the ~~\"~~"bill to' date on the bill to the customer.

~~30.~~31. The RD (read) status must be used for 'meter read status' if the bill to the customer was based on an actual read, otherwise the status code ES (estimate) must be used. If any bills to a customer have been reversed during the report period, the RV status code must be used.

~~31.~~32. In an 'as billed' file, the RV (reversal), RD (read), ES (estimate) and FL (final) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.

~~**'Incremental as billed normalised' methodology**~~

~~32. 'Incremental as billed normalised' is a reporting methodology that for the variable network charges reflects the actual billed volume plus an estimate of unbilled volume from the last billed read to the end of the month, less the estimate of unbilled volume in the previous month, and for the fixed network charges reflects the chargeable days, in both cases for all ICPs with a registry status of Active against the trader at any time in the report period. This methodology requires:~~

~~(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price.;~~

~~(b) the provision of data for all ICP days that have had the registry status of Active against the trader at any time in the report period whether the ICP was in fact billed or not billed~~

Business requirements

~~within the report period;~~

~~(c) that the 'meter read status' code is set to indicate that quantities have been calculated based on an:~~

~~(i) actual read (RD code) processed during the month being reported; or~~

~~(ii) estimate read (ES code); and~~

~~(d) actual or estimated volumes must account for any vacant consumption and adjustments for prior period correction events.~~

~~33. The unbilled consumption process must be undertaken for each variable network price component code, and be summated at meter channel - price component code level.~~

~~34. With this methodology, all over or under estimates of variable quantities reported in previous months will self-correct in subsequent months as actual meter reads are obtained and processed, so that all metered volumes will be accounted for over the full lifecycle of the ICP with the trader.~~

~~35. The I (initial) file for the 'incremental as billed normalised' methodology must show the correct start and end dates for any corrections or omissions relating to prior periods. Reversals must be shown as a separate line for each from/to date range as previously reported, and revised data must be shown as a single date range from where the error occurred to the end of the relevant end date in the current report period.~~

~~36. If the data in an I (initial) file is found to be materially corrupted shortly after it is transmitted by either party then it must be brought to the attention of the recipient as soon as practicable, and the recipient may require an R or X file to be sent that fully replaces the corrupted file. In all other circumstances, any errors in the data will be corrected in subsequent report period data.~~

~~37. An I (initial) file may include adjustments for previously reported data where a need for correction is identified. An error may be corrected by providing both a reversal (RV) of the originally transmitted incorrect data and supplying replacement corrected data.~~

~~In an 'incremental as billed normalised' file RD (read), ES (estimate) and RV (reversal) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.~~

'Replacement RM normalised' methodology

~~38.~~33. 'Replacement RM normalised' is a reporting methodology that for the variable charges reflects volume information submitted to the reconciliation manager, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry status of 'Active' against the trader at any time in the report period.

~~39.~~34. This method requires:

(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

(b) the provision of data for all ICP-days that have had the registry status of 'Active' against the trader at any time during the report period;

(c) volume reported by price component code must align in aggregate (subject to minor exceptions that may occur with month 0 processing and timing of reconciliation revisions) with the volume information submitted to the reconciliation manager;

(d) where used by the distributor for invoicing network charges, EIEP1 files must be provided for:

Business requirements

(i) the initial month 0~~;~~

(ii) revision months aligned with the reconciliation revision cycle (months 1, 3, 7, 14) or those revision months agreed between the parties, however as a minimum, files must be provided for revision month 3 and any additional revision month if requested by the distributor; and~~;~~

(iii) any other revision month aligned with special reconciliations that may be directed by the Authority;

(e) while the parties may agree in writing that the distributor is not required to produce a wash-up invoice for all the revision files provided by traders, the distributor must as a minimum process the files provided by traders and produce an associated wash-up invoice for network charges for:

(i) revision month 3;

(ii) any additional revision month requested by a trader;

(iii) any additional revision month for which revision files have been provided by traders in response to a request by the distributor; and

(iv) any additional revision month for which revision files have been provided by traders aligned with special reconciliation revisions that may be directed by the Authority;~~,~~

(f) that the distributor's processing of a 'replacement RM normalised' revision file must result in full replacement of all data provided in the previous file, and for the avoidance of doubt there will be valid reasons (e.g. backdated switches) why some ICPs appear in a previous file but not in the replacement file, or appear in the replacement file but not in the previous file.

35. Each revision file must have a 'file status' of R (replacement) and fully replace the previous file ~~as file type~~.

36. Where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was 'Active' in the registry and the responsibility of that trader.

37. The 'start date' must always be in the same month as the report month, and be either:

(a) the first day of the month being reported;

(b) the date the ICP was electrically connected (if the ICP previously had a registry status of 'Ready') or electrically reconnected (if the ICP previously had a registry status of 'Inactive'); or

(c) the date the ICP switched to the trader if in the report month.

38. The 'end date' always be in the same month as the report month, and be either:

(a) the last day of the month being reported;

(b) the date the ICP was electrically disconnected, if the ICP's registry status changes from 'Active' to either 'Inactive' or 'Decommissioned'; or

~~(a)~~(c) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).

~~**'Incremental RM normalised' methodology**~~

~~40. 'Incremental RM normalised' is a hybrid reporting methodology that for the variable network charges~~

Business requirements

reflects the volume information submitted to the reconciliation manager for the initial month. Information is adjusted to account for the incremental changes in the volume information submitted to the reconciliation manager for the revision months, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry status of Active against the trader at any time in the report period.

41. This method requires:

(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

(b) the provision of data for all ICP-days that have had the registry status of Active against the trader at any time during the report period;

(c) volumes reported by network price component code must align in aggregate with the volume information submitted to the reconciliation manager:

(i) for the relevant initial reconciliation (month 0); and

(ii) adjusted to reflect incremental changes in volume information submitted to the reconciliation manager within the report period for the latest reconciliation revision cycles (months 1, 3, 7 and 14); and

(iii) adjusted to reflect incremental changes in volume information submitted to the reconciliation manager for any other special reconciliations that may be directed by the Electricity Authority;

that where incremental changes in submission information is for ICPs that are no longer the responsibility of the trader in the current report period, the ICPs must be added to the file along with the associated incremental changes in volume information to ensure completeness.

General requirements for the normalised methodologies

42. A normalised data file with a 'file status' of R fully replaces the previously transmitted normalised data file.

43. Apart from prior period correction events for the 'incremental as billed normalised' files where date ranges span multiple months, the normalised methodologies enable distributors to align their network billing and revenue processes with calendar months. The incremental methodologies enable a single reporting, billing, settlement and reconciliation process for each month, without the need for wash-ups. The replacement methodology requires multiple reporting, billing, settlement and reconciliation processes for each month.

44. For the normalised reports, the date range for most ICPs will be from the first day to the last day of the month. However, where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was Active in the registry and the responsibility of that trader. The date range for an ICP may also cover prior months where reporting a prior period correction event.

45. The 'start date' for an ICP in an incremental normalised file must be either:

(a) the first day of the month being reported;

(b) the applicable start date for any prior period correction event (refer also to the Business Requirements for 'incremental as billed normalised' and reversals associated with prior period correction events);

Business requirements

(c) the date of livening (if the ICP previously had a registry status of Ready) or reconnection of the ICP (if the ICP previously had a registry status of Inactive); or

(d) the date the ICP switched to the trader, which may be in a prior month if the ICP switched in a prior month but has not been previously reported.

46. The 'end date' for an incremental normalised file must be either:

(a) the last day of the month being reported;

(b) the applicable end date for any prior period correction event;

(c) the date of disconnection, if the ICP's registry status changes from Active to either Inactive or Decommissioned; or

(d) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).

47. In an incremental normalised file, the RD (read) status must be used for 'meter read status' wherever there has been an actual read during the report period, and the ES (estimate) status must be used if there has been no actual read during the report period. The RD and ES meter read status must be used for both fixed and variable network price component codes.

48. The 'start date' for a 'replacement RM normalised' file must always be in the same month as the report month. This will align the volume reported for each report month with volume information submitted to the reconciliation manager for each month.

49. In both the 'incremental as billed normalised' and 'incremental RM replacement normalised' files, the RV (reversal) 'meter read status' code applies to both the fixed and variable price component code records.

Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements
1. If there are any conflicts between this document and the Code, the Code takes precedence. 2. In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available and applicable to the methodology, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. 3. A number of data transfers are required between participants for the EIEP process to take place. Unless the relevant participants have previously agreed otherwise, these data flows must be those required by the Code. At all times data transfers must take place in a secure and predictable manner. 4. It is the responsibility of participants to comply with the Privacy Act when exchanging customer information.

Data inputs
Information from a participant's billing system and/or reconciliation submission files.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Header record type	Char 3	M	M	HDR – indicates the row is a header record type
File type	Char 7	M	M	For Trader to Distributor files: If 'As billed' then ICPMMAB (for NHH ICPs) or ICPHHAB (for HHR ICPs) If ~~'Incremental As billed normalised' then ICPMMNM, if~~ 'Replacement RM normalised' then ICPMMRM (for NHH ICPs)~~or if 'Incremental RM normalised' then ICPMMSP~~. For Distributor to Trader files: If split billing file for HHR ICPs – ICPHHR If split billing file for NHH ICPs – ICPNHH If single billing file for both HHR and NHH ICPs - ICPALL
Version of EIEP	Num 3.1	M	M	Version of EIEP that is being used for this file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Sender	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	M	M	Participant identifier of party on whose behalf volume data is provided.
Recipient participant identifier	Char 4	M	M	Valid recipient participant identifier
Report run date	DD/MM/YYYY	M	M	Date the report is run
Report run time	HH:MM:SS	M	M	Time the report is run
Unique file identifier	Char 15	M	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	M	Total number of DET records in report
Report period start date	DD/MM/YYYY	M	M	Report run start date (inclusive)
Report period end date	DD/MM/YYYY	M	M	Report run end date (inclusive)
Report month	YYYYMM	M	M	The month the report is run for.
Utility type	Char 1	M	M	Type of energy supply; G = Gas; or E = Electricity
File status	Char 1	M	M	I (Initial) or R (Replacement) or X (replace only those ICPs contained in this replacement file)

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Detail record type	Char 3	M	M	DET – indicates the row is a detail record.
ICP identifier	Char 15	M	M	Unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1 of the Code
Start date	DD/MM/YYYY	C	M	Start date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
End date	DD/MM/YYYY	C	M	End date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB
Price description	Char 75	O	O	Null unless required to further describe the price code.
Unit of measure	Char 25	C	M	The type of unit applicable to the value in the 'Unit quantity' field. Examples are provided in table 3. Mandatory unless as billed file and 'meter read status' equals UB.
Unit quantity	Num 12.2	C	M	Unit quantity as appropriate to the 'Unit of measure' field (e.g. injection or extraction volume in kWh, chargeable demand or capacity in kW or kVA, or the number of chargeable items for connection, equipment or fixture per day delivery prices) Mandatory unless as billed file and 'meter read status' equals UB.
Meter read status	Char 2	C	C	Mandatory except Null where only fixed charges apply. RD = Read, ES = Estimate, RV = Reversal. For as billed files only, FL = Final, UB = Unbilled.
POC	Char 8	C	M	Valid code for the point of connection to which the ICP is connected for the period between the start date and the end date. For local networks 'POC' is typically referred to as the GXP. Mandatory for trader to distributor files where relevant to the distributor's pricing (and Null in the as billed file where the 'meter read status' equals UB).
Network participant identifier	Char 4	M	M	Network participant identifier
Spare		O	O	Empty
Price component code	Char 25	C	M	Price component code[1] for each fixed and variable delivery price as per the distributor's published delivery price schedule. Mandatory unless as billed file and 'meter read status' equals UB

[1] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Delivery price	Num 12.6	C	M	Fixed or variable delivery price[2] as per the distributor's published delivery price schedule. The delivery price is to be expressed in $ excl GST and net of prompt payment discount. Mandatory unless as billed file and 'meter read status' equals UB
Fixed/Variable	Char 1	C	M	F (Fixed) or V (Variable). Mandatory unless as billed file and 'meter read status' equals UB
Chargeable days	Int 7	C	C	Number of days between start date and end date (both dates inclusive) where used in the network charge calculation for per day prices. otherwise Null Mandatory unless as billed file and 'meter read status' equals UB
Network charge	Num 11.2	C	M	The network charge (in $ excluding GST, net of any prompt payment discount) which is the product of 'Unit quantity', 'Chargeable days' and 'Delivery price' as applicable. Mandatory unless as billed file and 'meter read status' equals UB, and where information supports an invoice.
Register content code	Char 6	C	O	A code that identifies the type of information being recorded by the channel and must reflect the physical or programmed configuration of the metering installation. Selected from a list in the registry. For clarity, where HHR data is framed for time-blocked prices the register content code must reflect the physical or programmed channel.
Period of availability	Num 2	C	O	Minimum number of hours within a day that supply is available. ~~(~~or controlled part is available for an inclusive channel.~~)~~ (<=24). Where HHR data is ~~framed~~ aggregated for time-blocked prices the period of availability must reflect the physical or programmed NHH channel, rounded up or down where the period is for an odd number of trading periods (provided the total for a day is <=24).

[2] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Report month	YYYYMM	M	M	The month for which the report is run. Must match the month given in the header for 'Report Month'.
Customer no	Char 15	C	O	Trader's customer number (the identifier that the trader assigns to the customer, which remains the same across all the connections for the customer). Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter read status' equals UB
Consumer no	Char 15	C	O	Trader's consumer number. Defined as the trader's unique ID that links the premises and the customer. Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter reading status' equals UB
Invoice date	DD/MM/YYYY	O	M	
Invoice or invoice reference number	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.
Energy flow direction	Char 1	C	C	An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Mandatory unless as billed and 'meter read status' equals UB. Null if fixed charge

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file must consist of one or more records, with each record being a single line of text as defined in the business rules. Records must be delimited with one of the following:
   (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs; or
   (b) a line feed character (ASCII character 10) commonly used in Unix based programs; or
   (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files must be defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, must be case insensitive.
5. Each data file must contain only one header but can contain any number of detail records.
6. The first record of a file must contain 'Header" information followed by one or more detail lines.
7. Each file created must have a file name as outlined below and must have names that are unique within any month.
   Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + 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_ICPMMAB_200007_20000802_ UniqueID.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]
8. The format must provide for a number of different trader to distributor file types supporting the following:
   (a) Individual ICP (with matching total days, kWh, and other associated network charges such as capacity charges) where the file type corresponds to the reconciliation type
   (b) File type ICPMMAB provides ICP level 'as billed' data summed at meter channel - delivery price component level for NHH ICPs.
   (c) File type ICPHHAB provides ICP level 'as billed' data for HHR ICPs billed in previous period.
   ~~(d) File type ICPMMNM provides 'incremental as billed normalised' ICP level data summed at meter channel - delivery price level.~~
   ~~(e)~~(d) File type ICPMMRM provides 'replacement RM normalised' ICP level data summed at meter channel - delivery price component level that aligns in aggregate (subject to minor exceptions that may occur at month 0 and timing of reconciliation revisions) with the volume information submitted to the reconciliation manager.
   ~~File type ICPMMSP provides 'incremental RM normalised' ICP level data summed at meter channel – delivery price level that aligns in aggregate with the volume information submitted to the reconciliation manager for the relevant initial reconciliation (month 0), and in addition reflects incremental changes in volume information submitted to the reconciliation manager for the latest reconciliation revision cycle (months 1, 3, 7 and 14) and any other special reconciliations if directed by the Electricity Authority.~~

Data outputs

Completed file for transmission to traders.

2 Table of codes used in EIEP1

2.1 Table 1 List of attributes to define data fields used in EIEP1

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up to n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place. For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	NUM (6.2) 123.45 1234.0 -12.32 NUM (6.3) -0.123 23.987 987.000 8
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME		ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15

Logical format	Data type	Rules	Example
		ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP1.

ASCII character set for use within fields of EIEPs

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	~

2.3 Table 3 Unit of measure table

Unit	Description
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power), or capacity
kVAh	kilovolt ampere hour energy (apparent energy)
kVA	kilovolt ampere demand (apparent power), or capacity rating
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVA-km	kilovolt ampere capacity multiplied by kilometres
Con or ICP	used for per connection per day or per ICP per day delivery prices
Equipment	typically used for dedicated equipment delivery prices (e.g. transformers)
Fixture	typically used for per fixture delivery prices associated with streetlighting
Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's published delivery price schedule.	

3 Examples of files for EIEP 1

File examples are shown in tabular format with column headings for clarity, actual files are comma delimited and do not contain column headings. Changes from version 10 are not tracked.

3.1 Example of standard file – Incremental as billed normalised

HDR	ICPMMNM	10	TRDR	TRDR	DIST	04/11/2012	4:04:5	40455	8	01/10/2012	31/10/2012	201210	E	I	
RECORD TYPE	ICP	START DATE	END DATE	PRICE CATEGORY CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0973498743DT297	01/10/2012	31/10/2012		CON	1		EKT0661	DIST		DT001-FIXD	0.18	F	31	5.58
DET	0973498743DT297	01/10/2012	31/10/2012		KWH	212	ES	EKT0661	DIST		DT001-AICO	0.102	V		21.62
DET	0000847534DTB30	18/10/2012	31/10/2012		CON	1		DGA0221	DIST		DT002-FIXD	0.18	F	14	2.52
DET	0000847534DTB30	18/10/2012	31/10/2012		KVA-KM	18.86		DGA0221	DIST		DT002-CAPY	0.05	F	14	13.20
DET	0000847534DTB30	18/10/2012	31/10/2012		KWH	439	RD	DGA0221	DIST		DT002-CTRL	0.089	V		39.07
DET	0000847534DTB30	18/10/2012	31/10/2012		KWH	892	RD	DGA0221	DIST		DT002-24UC	0.156	V		139.15
DET	1000004384DT1CF	01/10/2012	31/10/2012		CON	1		EKT0661	DIST		DT001-FIXD	0.18	F	31	5.58
DET	1000004384DT1CF	01/10/2012	31/10/2012		KWH	163	RD	EKT0661	DIST		DT001-AICO	0.102	V	31	16.63

REGISTER CONTENT CODE	PERIOD OF AVAILAB	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
		201210	29058779	894563212			
IN	19	201210	29058779	894563212			X
		201210	24058193	630021548			
		201210	24058193	630021548			
CN	19	201210	24058193	630021548			X
UN	24	201210	24058193	630021548			X
		201210	17008953	220045683			
IN	19	201210	17008953	220045683			X

~~3.~~23.1 Example of standard file – As billed

HDR	ICPMMAB	10	TRDR	TRDR	DIST	6/11/2012	4:33:22	43322	8	1/10/2012	31/10/201	201210	E	I	
RECORD TYPE	ICP	START DATE	END DATE	PRICE CAT CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0973498743DT297	05/09/2012	04/10/2012			1		EKT0661	DIST		DT001-FIXD	0.18	F	30	5.40
DET	0973498743DT297	05/09/2012	04/10/2012		KWH	116	RD	EKT0661	DIST		DT001-24UC	0.156	V		18.10
DET	0973498743DT297	05/09/2012	04/10/2012		KWH	99	RD	EKT0661	DIST		DT001-CTRL	0.102	V		10.10
DET	0000847534DTB30	18/09/2012	17/10/2012			1		DGA0221	DIST		DT002-FIXD	0.18	F	30	5.40
DET	0000847534DTB30	18/09/2012	17/10/2012		KVA.KM	130		DGA0221	DIST		DT002-CAPY	0.05	F	30	195.00
DET	0000847534DTB30	18/09/2012	17/10/2012		KWH	577	FL	DGA0221	DIST		DT002-DAY	0.156	V		90.01
DET	0000847534DTB30	18/09/2012	17/10/2012		KWH	140	FL	DGA0221	DIST		DT002-NITE	0.089	V		12.46

0

REGISTER CONTENT CODE	PERIOD OF AVAILAB	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICENO	ENERGY FLOW DIRECTIO
		201210	356000023	56234521	05/10/2012	10000078963	
UN	24	201210	356000023	56234521	05/10/2012	10000078963	X
CN	19	201210	356000023	56234521	05/10/2012	10000078963	X
		201210	852315620	10234589	18/10/2012	40023698780	
		201210	852315620	10234589	18/10/2012	40023698780	
D	16	201210	852315620	10234589	18/10/2012	40023698780	X
N	8	201210	852315620	10234589	18/10/2012	40023698780	X

3.3 Example of prior period correction event for a multiplier error (x1, should have been x60)

(a) Original data reported for report months 200710 – 200802 (for simplicity shown in a single table)

RECORD TYPE	ICP	START DATE	END DATE	PRICE CAT CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED / VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0000000997B3	01/10/2007	31/10/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.125	F	31	3.88
DET	0000000997B3	01/10/2007	31/10/2007	-	kWh	689	RD	GFD0331	UNET	-	G100/24UC	0.0736	V	-	50.71
DET	0000000997B3	01/11/2007	30/11/2007	-	-	-	ES	GFD0331	UNET	-	G100	0.125	F	30	3.75
DET	0000000997B3	01/11/2007	30/11/2007	-	kWh	540	ES	GFD0331	UNET	-	G100/24UC	0.0736	V	-	39.74
DET	0000000997B3	01/12/2007	31/12/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/12/2007	31/12/2007	-	kWh	299	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	24.04
DET	0000000997B3	01/01/2008	31/01/2008	-	-	-	ES	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/01/2008	31/01/2008	-	kWh	498	ES	GFD0331	UNET	-	G100/24UC	0.0804	V	-	40.04
DET	0000000997B3	01/02/2008	29/02/2008	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	29	4.35
DET	0000000997B3	01/02/2008	29/02/2008	-	kWh	242	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	19.46

REGISTER CONTENT CODE	PERIOD OF AVAILABILITY	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
-	-	200710	402408386	2701721110	-	-	-
UN	24	200710	402408386	2701721110	-	-	X
-	-	200711	402408386	2701721110	-	-	-
UN	24	200711	402408386	2701721110	-	-	X
-	-	200712	402408386	2701721110	-	-	-
UN	24	200712	402408386	2701721110	-	-	X

-	-	200801	402408386	2701721110	-	-	-
UN	24	200801	402408386	2701721110	-	-	X
-	-	200802	402408386	2701721110	-	-	-
UN	24	200802	402408386	2701721110	-	-	X

(b) Prior period correction – reversals of data previously reported (separate reversal rows for each report month), corrected data across entire date range plus 1 month with only split being the price change on 1/12/07

RECORD TYPE	ICP	START DATE	END DATE	PRICE CATEGORY CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED / VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0000000997B3	01/10/2007	31/10/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.125	F	31	3.88
DET	0000000997B3	01/10/2007	31/10/2007	-	kWh	689	RV	GFD0331	UNET	-	G100/24UC	0.0736	V	-	50.71
DET	0000000997B3	01/11/2007	30/11/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.125	F	30	3.75
DET	0000000997B3	01/11/2007	30/11/2007	-	kWh	540	RV	GFD0331	UNET	-	G100/24UC	0.0736	V	-	39.74
DET	0000000997B3	01/12/2007	31/12/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/12/2007	31/12/2007	-	kWh	299	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	24.04
DET	0000000997B3	01/01/2008	31/01/2008	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/01/2008	31/01/2008	-	kWh	498	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	40.04
DET	0000000997B3	01/02/2008	29/02/2008	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	29	4.35
DET	0000000997B3	01/02/2008	29/02/2008	-	kWh	242	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	19.46
DET	0000000997B3	01/10/2007	30/11/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	61	9.15
DET	0000000997B3	01/10/2007	30/11/2007	-	kWh	73740	RD	GFD0331	UNET	-	G100/24UC	0.0736	V	-	5427.26
DET	0000000997B3	01/12/2007	31/03/2008	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	122	18.3
DET	0000000997B3	01/12/2007	31/03/2008	-	kWh	88680	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	7129.87

REGISTER CONTENT CODE	PERIOD OF AVAILABILITY	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200802	402408386	2701721110	-	-	-
UN	24	200802	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X

Electricity Information Exchange Protocols (EIEP)

EIEP 1: Detailed ICP billing and volume information (Option 3)

Regulated

Draft for consultation on regulating a single standard reporting methodology~~Effective from 1 October 2019~~

Version control

Version	Date amended	EIEP reference	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP1	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP1	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content Corrections to content where appropriate Guidance on approach to determination of reporting methodology for trader files Changes to names of normalised reporting methodologies to better reflect data sources Guidance on application of mixed reporting methodologies Minimum requirements for replacement RM normalised revision files
11	2 October 2018	EIEP1	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Guidance on split or single files (business requirement 12) Application of mixed methodologies (business requirements 22 and 23) Minimum requirements for replacement RM normalised revisions New file types for distributor to trader files Validation rules for attributes used to calculate network charge Validation rule for register content code where HHR data framed for time-blocked prices Clarity around requirements for NZ Daylight Time adjustment techniques
11.1 draft	20 November 2018	EIEP1	This is option 3 of the consultation paper. Amendments to mandate a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements to mandate a default reporting methodology of as billed with the right of the parties to agree to replacement RM normalised

Contents

1 EIEP1: Detailed ICP billing and volume information

Title:	**EIEP1 – Detailed ICP billing and volume information**
Version:	11.1 draft (Option 3 in the consultation paper)~~0~~
Application:	This protocol allows: a) traders to provide billing and volume information to distributors at an ICP level to enable distributors to invoice fixed and variable network charges, meet the distributor's network planning, pricing design, and regulatory information disclosure reporting requirements, and provide information to the extended reserve manager. b) distributors to provide information to traders to support their invoices for network charges, and to enable traders to reconcile the network charges at detailed level. For trader to distributor files this protocol requires that: • for interposed arrangements, traders must provide NHH EIEP1 files in accordance with the replacement RM normalised reporting methodology • for conveyance arrangements, traders must provide NHH EIEP1 files in accordance with the as billed reporting methodology unless the parties agree otherwise that the trader may provide files in accordance with the replacement RM normalised reporting methodology.
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies

EIEP1 files are required for invoicing and reconciliation of network charges which are based on ICP fixed and variable delivery prices, to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and to enable distributors to provide information to the extended reserve manager.

Unless a distributor has requested otherwise, and the trader agrees (and that agreement is recorded in writing), EIEP1 must be used where a distributor has specified time blocked periods for the application of delivery prices.

A data file formatted in accordance with EIEP1 is to be forwarded by the trader to the distributor to provide billing and volume information that enables the calculation of network charges for individual ICPs. EIEP1 files may also be provided to support buyer created invoices for network charges.

The billing and volume information for NHH ICPs contained in ~~an~~ EIEP1 ~~format~~ files provided by traders must ~~use~~be in accordance with one of the following reporting methodologies, subject to the applicable business requirements for networks with conveyance or interposed arrangements as set out below:

- As billed
- ~~Incremental as billed normalised~~
- Replacement RM normalised
- ~~Incremental RM normalised~~

~~The reporting methodology to be used must be as agreed and recorded in writing, or otherwise the distributor may specify it's preferred reporting methodology in its delivery price schedule and associated pricing information (which may include its billing and settlement process). Traders must use reasonable endeavours to provide EIEP1 files that comply with the distributor's preferred reporting methodology.~~

~~In the absence of an agreed reporting methodology, or a preferred reporting methodology specified by the~~

Description of when this protocol applies

~~distributor, the default reporting methodology is 'replacement RM normalised' for interposed arrangements, and 'as billed' for conveyance arrangements.~~

The billing and volume information for HHR ICPs contained in EIEP1 files provided by traders must be in accordance with the as billed reporting methodology.

Distributors use data in the EIEP1 files and from other sources (e.g. EIEP2, EIEP3, registry data, reconciliation manager reports) as applicable to their pricing and billing methodology to generate invoices for the fixed and variable network charges and to provide information to traders that supports their invoices for the network charges.

Traders may then use the information provided by distributors in their EIEP1 files to reconcile the network charges at detailed level.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, a trader must deliver any EIEP1 initial file containing billing and volume information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.
4. Unless otherwise agreed with the distributor, traders must deliver EIEP1 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is provided to the reconciliation manager on the 13th business day, ~~the distributor may agree with~~ traders may provide~~that the~~ EIEP1 revision month files ~~be provided~~ to the distributor any day between the 13th business day and 5th business day of the following month.
5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP1 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.
6. A trader or distributor must only use codes that are:
   (a) stipulated in this document; or
   (b) approved and published by the Electricity Authority; or
   (c) determined in the registry and reconciliation manager functional specifications; or
   (d) in the case of network price category codes or price component codes, these must be those in the distributor's published delivery price schedule (except where a delivery price is unbillable without repackaging the trader may determine and report its own price code).
7. Information relating to individual price component codes must be formatted on separate lines.
8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.
9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.
10. Information is to be provided in accordance with the following status codes unless otherwise specified:
    O Optional
    M Mandatory

Business requirements

C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)

11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.
12. Recipients of EIEP1 files must be capable of receiving I (initial), R (complete replacement) and X (partial replacement) files.
13. For trader to distributor files, unless a distributor has requested otherwise, and the trader agrees, volume data relating to non-half hour (NHH) ICPs (including ICPs with smart metering for which the distributor has specified time-blocked periods for the application of delivery prices) must be provided in a separate file to that of half hour (HHR) ICPs. For distributor to trader files, it is preferable that the distributor provides matching separate files for NHH ICPs and HHR ICPs, however where this isn't supported by the distributor's systems, or the parties have agreed to a single file, the distributor may provide a single file containing all ICPs. Each file must include the appropriate file type in the header record.
14. Injection and extraction must to be shown with the 'energy flow direction' indicator, where X (extraction/volume consumed) together with a positive 'unit quantity' represents electricity leaving the network, and I (injection as a result of generation) together with a positive 'unit quantity' represents electricity entering the network (e.g. from embedded generation).
15. Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding the delivery price for injection may be $0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file and must not be netted off against each other or summated as this would result in incorrect interpretation of the data.
16. The data in an EIEP1 file must cover a complete calendar month, unless the sender makes it clear that a different period applies (for as billed this means the volume billed with a bill date during the month).
17. The 'report month' used in the report detail section must be the same as the 'report month' used in the header.
18. If the trader or distributor becomes aware of a format error or that the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.
19. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file must be provided.
20. The first file for the report month must have file status I (initial). Subsequent files must either be R (full replacement) or X (partial replacement). On receiving an R file the recipient must remove all previous data for that report month and replace it with the data from the new file. Data for individual ICPs can be replaced by using an X file status, in which case just data for those ICPs must be removed and replaced. X files can only contain replacement data for ICPs included in the initial I file or data for ICPs that were not included in the Initial file.
21. If any previously transmitted records are reversed these must be represented by re-reporting the data but with the following changes:
    (a) Reversal of the sign of the originally transmitted "unit quantity" (recognising that the original unit quantity may have been negative and therefore the reversal would be positive);
    (b) Capacity and demand figures remain as previously reported and the reversal is inferred from the presence of negative days in the associated 'chargeable days' field; and
    (c) The 'start date' and 'end date' of a reversal record must replicate the dates that were provided with the original incorrect data, and be in the correct chronological order.
22. Prior period correction events, the treatment of which is discussed in each of the reporting methodology options, include:

Business requirements

(d) cancelled switches;

(e) backdated switches;

(f) late processing of switches;

(g) switch read changes;

(h) late processing of meter changes;

(i) correction of readings from stopped/slow/fast meters;

(j) meter reading errors; and

(k) meter channel multiplier errors.

23. For networks subject to a conveyance UoSA, ~~and unless otherwise agreed,~~ traders must provide billing and volume information in accordance with the '~~as billed~~replacement RM normalised' reporting methodology ~~and the distributor's invoices for network charges must reflect the as billed data provided by traders~~.

24. For networks subject to an interposed UoSA, ~~the~~ traders must provide billing and volume information in accordance with the 'As billed' reporting methodology (the default), unless the parties agree otherwise that the trader may provide the information in accordance with the 'replacement RM normalised reporting methodology. If an 'As billed' file is provided, the distributor's invoice for network charges must reflect the as billed data provided by the trader.~~preferred reporting methodology will normally be one of the normalised reporting methodologies. However, the distributor may agree with traders to accept and process EIEP1 files based on the 'as billed' or one of the normalised reporting methodologies. If the distributor agrees to accept and process both as billed and normalised files, and the trader provides an as billed file, then the following will apply:~~

~~(a) If, in its volume calculations used for billing, there is any spreading or scaling of UFE related volumes across traders, the distributor must normalise the as billed volumes provided by the trader(s)~~

~~(b) If the 'as billed' reporting methodology was agreed on the basis the distributor must be able to normalise the as billed volumes, or an 'as billed' file is provided without it being an agreed reporting methodology, the distributor may normalise the as billed volumes provided by the trader~~

~~(c) In all other circumstances not covered by (a) or (b), the distributor's invoice for both fixed and variable network charges must reflect the as billed data provided by the trader unless the trader and distributor agree that the distributor may normalise the as billed data.~~

25. Traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable at the time of customer billing and forces repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) in which case the trader may determine and report its own price code and repackaged price.

~~25.~~26. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

'As billed' methodology

~~26.~~27. As billed is a reporting methodology that for both the fixed and variable network charges reflects the actual quantities by network price component code billed to the trader's customer (whether

Business requirements

unbundled from or bundled with the retail charges on the customer's bill) with a bill date at any time in the report period. All billed quantities that have a bill date in the report period must be included in the as billed EIEP1 file. The as billed methodology also requires that:

(a) fixed and variable charges by network price component code are applied as per the delivery prices in the distributor's published delivery price schedule;

(b) ICPs with an 'Active' registry status, and for which the trader was the responsible trader for any part of the report period, but which were not billed by the trader during the report period, are represented by a single detail record per ICP, with UB (unbilled) as the 'meter read status'. For these ICPs, all other mandatory fields must be left blank;

(c) where the 'end date' represents a final bill date (e.g. where a customer is moving out or is switching traders), the 'meter read status' must be shown as FL (final);

(d) as billed data must contain fixed and variable quantities as billed to the customer (whether unbundled from or bundled with the retail charges on customer bills);

(e) all corrections for under or over-estimates, and for prior period correction events, must be included in future reporting periods by reflecting the corresponding correction that is applied to the customer's bill; and

(f) the I (initial) file must show the correct start and end dates for any corrections or omissions relating to prior periods.

~~27.~~28. Where an ICP has been vacant but has an 'Active' status on the registry, the 'start date' reported in an 'as billed' file must be the date of the new customer contract. Note this may result in data gaps in the 'as billed' file between the new 'start date' and the previous 'end date' associated with the previous customer at that ICP.

~~28.~~29. The start date for as billed must be the 'bill from' date on the bill to the customer which has had a bill produced during the report period.

~~29.~~30. The end date for as billed must be the ~~\"~~'bill to' date on the bill to the customer.

~~30.~~31. The RD (read) status must be used for 'meter read status' if the bill to the customer was based on an actual read, otherwise the status code ES (estimate) must be used. If any bills to a customer have been reversed during the report period, the RV status code must be used.

~~31.~~32. In an 'as billed' file, the RV (reversal), RD (read), ES (estimate) and FL (final) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.

~~**'Incremental as billed normalised' methodology**~~

~~32. 'Incremental as billed normalised' is a reporting methodology that for the variable network charges reflects the actual billed volume plus an estimate of unbilled volume from the last billed read to the end of the month, less the estimate of unbilled volume in the previous month, and for the fixed network charges reflects the chargeable days, in both cases for all ICPs with a registry status of Active against the trader at any time in the report period. This methodology requires:~~

~~(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price.;~~

~~(b) the provision of data for all ICP days that have had the registry status of Active against the trader at any time in the report period whether the ICP was in fact billed or not billed within the report period;~~

Business requirements

~~(c) that the 'meter read status' code is set to indicate that quantities have been calculated based on an:~~

~~(i) actual read (RD code) processed during the month being reported; or~~

~~(ii) estimate read (ES code); and~~

~~(d) actual or estimated volumes must account for any vacant consumption and adjustments for prior period correction events.~~

~~33. The unbilled consumption process must be undertaken for each variable network price component code, and be summated at meter channel - price component code level.~~

~~34. With this methodology, all over or under estimates of variable quantities reported in previous months will self-correct in subsequent months as actual meter reads are obtained and processed, so that all metered volumes will be accounted for over the full lifecycle of the ICP with the trader.~~

~~35. The I (initial) file for the 'incremental as billed normalised' methodology must show the correct start and end dates for any corrections or omissions relating to prior periods. Reversals must be shown as a separate line for each from/to date range as previously reported, and revised data must be shown as a single date range from where the error occurred to the end of the relevant end date in the current report period.~~

~~36. If the data in an I (initial) file is found to be materially corrupted shortly after it is transmitted by either party then it must be brought to the attention of the recipient as soon as practicable, and the recipient may require an R or X file to be sent that fully replaces the corrupted file. In all other circumstances, any errors in the data will be corrected in subsequent report period data.~~

~~37. An I (initial) file may include adjustments for previously reported data where a need for correction is identified. An error may be corrected by providing both a reversal (RV) of the originally transmitted incorrect data and supplying replacement corrected data.~~

~~In an 'incremental as billed normalised' file RD (read), ES (estimate) and RV (reversal) 'meter read status' applies to both F (fixed) and V (variable) network price component code records.~~

'Replacement RM normalised' methodology

~~38.~~33. 'Replacement RM normalised' is a reporting methodology that for the variable charges reflects volume information submitted to the reconciliation manager, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry status of 'Active' against the trader at any time in the report period.

~~39.~~34. This method requires:

(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

(b) the provision of data for all ICP-days that have had the registry status of 'Active' against the trader at any time during the report period;

(c) volume reported by price component code must align in aggregate (subject to minor exceptions that may occur with month 0 processing and timing of reconciliation revisions) with the volume information submitted to the reconciliation manager;

(d) where used by the distributor for invoicing network charges, EIEP1 files must be provided for:

(i) the initial month 0~~;~~

Business requirements

(ii) revision months aligned with the reconciliation revision cycle (months 1, 3, 7, 14) or those revision months agreed between the parties, however as a minimum, files must be provided for revision month 3 and any additional revision month if requested by the distributor; and~~,~~

(iii) any other revision month aligned with special reconciliations that may be directed by the Authority;

(e) while the parties may agree in writing that the distributor is not required to produce a wash-up invoice for all the revision files provided by traders, the distributor must as a minimum process the files provided by traders and produce an associated wash-up invoice for network charges for:

(i) revision month 3;

(ii) any additional revision month requested by a trader;

(iii) any additional revision month for which revision files have been provided by traders in response to a request by the distributor; and

(iv) any additional revision month for which revision files have been provided by traders aligned with special reconciliation revisions that may be directed by the Authority;~~.~~

(f) that the distributor's processing of a 'replacement RM normalised' revision file must result in full replacement of all data provided in the previous file, and for the avoidance of doubt there will be valid reasons (e.g. backdated switches) why some ICPs appear in a previous file but not in the replacement file, or appear in the replacement file but not in the previous file.

35. Each revision file must have a 'file status' of R (replacement) and fully replace the previous file ~~as file type~~.

36. Where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was 'Active' in the registry and the responsibility of that trader.

37. The 'start date' must always be in the same month as the report month, and be either:

(a) the first day of the month being reported;

(b) the date the ICP was electrically connected (if the ICP previously had a registry status of 'Ready') or electrically reconnected (if the ICP previously had a registry status of 'Inactive'); or

(c) the date the ICP switched to the trader if in the report month.

38. The 'end date' always be in the same month as the report month, and be either:

(a) the last day of the month being reported;

(b) the date the ICP was electrically disconnected, if the ICP's registry status changes from 'Active' to either 'Inactive' or 'Decommissioned'; or

~~(a)~~(c) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).

~~**'Incremental RM normalised' methodology**~~

~~40. 'Incremental RM normalised' is a hybrid reporting methodology that for the variable network charges reflects the volume information submitted to the reconciliation manager for the initial month. Information is adjusted to account for the incremental changes in the volume information submitted to~~

Business requirements

the reconciliation manager for the revision months, and for the fixed network charges reflects the chargeable days, in both cases for all ICP-days with a registry status of Active against the trader at any time in the report period.

41. This method requires:

(a) that traders must report the distributor's price component code and delivery price in the EIEP1 files regardless of what they invoice the customer, except where a delivery price is unbillable without repackaging (e.g. where the chargeable peak period(s) required to bill a coincident peak demand charge is(are) unknown at the time of customer billing) the trader may determine and report its own price code and repackaged price;

(b) the provision of data for all ICP-days that have had the registry status of Active against the trader at any time during the report period;

(c) volumes reported by network price component code must align in aggregate with the volume information submitted to the reconciliation manager:

(i) for the relevant initial reconciliation (month 0); and

(ii) adjusted to reflect incremental changes in volume information submitted to the reconciliation manager within the report period for the latest reconciliation revision cycles (months 1, 3, 7 and 14); and

(iii) adjusted to reflect incremental changes in volume information submitted to the reconciliation manager for any other special reconciliations that may be directed by the Electricity Authority;

that where incremental changes in submission information is for ICPs that are no longer the responsibility of the trader in the current report period, the ICPs must be added to the file along with the associated incremental changes in volume information to ensure completeness.

General requirements for the normalised methodologies

42. A normalised data file with a 'file status' of R fully replaces the previously transmitted normalised data file.

43. Apart from prior period correction events for the 'incremental as billed normalised' files where date ranges span multiple months, the normalised methodologies enable distributors to align their network billing and revenue processes with calendar months. The incremental methodologies enable a single reporting, billing, settlement and reconciliation process for each month, without the need for wash-ups. The replacement methodology requires multiple reporting, billing, settlement and reconciliation processes for each month.

44. For the normalised reports, the date range for most ICPs will be from the first day to the last day of the month. However, where an ICP has belonged to the trader for only part of the month, then the date range must only be for that part of the month when the ICP was Active in the registry and the responsibility of that trader. The date range for an ICP may also cover prior months where reporting a prior period correction event.

45. The 'start date' for an ICP in an incremental normalised file must be either:

(a) the first day of the month being reported;

(b) the applicable start date for any prior period correction event (refer also to the Business Requirements for 'incremental as billed normalised' and reversals associated with prior period correction events);

(c) the date of livening (if the ICP previously had a registry status of Ready) or reconnection

Business requirements

~~of the ICP (if the ICP previously had a registry status of Inactive); or~~

~~(d) the date the ICP switched to the trader, which may be in a prior month if the ICP switched in a prior month but has not been previously reported.~~

~~46. The 'end date' for an incremental normalised file must be either:~~

~~(a) the last day of the month being reported;~~

~~(b) the applicable end date for any prior period correction event;~~

~~(c) the date of disconnection, if the ICP's registry status changes from Active to either Inactive or Decommissioned; or~~

~~(d) the date the ICP switched away from the trader (which is the date that the ICP switched to the new trader minus 1 day).~~

~~47. In an incremental normalised file, the RD (read) status must be used for 'meter read status' wherever there has been an actual read during the report period, and the ES (estimate) status must be used if there has been no actual read during the report period. The RD and ES meter read status must be used for both fixed and variable network price component codes.~~

~~48. The 'start date' for a 'replacement RM normalised' file must always be in the same month as the report month. This will align the volume reported for each report month with volume information submitted to the reconciliation manager for each month.~~

~~49. In both the 'incremental as billed normalised' and 'incremental RM replacement normalised' files, the RV (reversal) 'meter read status' code applies to both the fixed and variable price component code records.~~

~~Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the 'trading period run on technique' which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.~~

General requirements
1. If there are any conflicts between this document and the Code, the Code takes precedence. 2. In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available and applicable to the methodology, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. 3. A number of data transfers are required between participants for the EIEP process to take place. Unless the relevant participants have previously agreed otherwise, these data flows must be those required by the Code. At all times data transfers must take place in a secure and predictable manner. 4. It is the responsibility of participants to comply with the Privacy Act when exchanging customer information.

Data inputs
Information from a participant's billing system and/or reconciliation submission files.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Header record type	Char 3	M	M	HDR – indicates the row is a header record type
File type	Char 7	M	M	For Trader to Distributor files: If 'As billed' then ICPMMAB (for NHH ICPs) or ICPHHAB (for HHR ICPs) If ~~'Incremental As billed normalised' then ICPMMNM, if~~ 'Replacement RM normalised' then ICPMMRM (for NHH ICPs)~~or if 'Incremental RM normalised' then ICPMMSP~~. For Distributor to Trader files: If split billing file for HHR ICPs – ICPHHR If split billing file for NHH ICPs – ICPNHH If single billing file for both HHR and NHH ICPs - ICPALL
Version of EIEP	Num 3.1	M	M	Version of EIEP that is being used for this file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Sender	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	M	M	Participant identifier of party on whose behalf volume data is provided.
Recipient participant identifier	Char 4	M	M	Valid recipient participant identifier
Report run date	DD/MM/YYYY	M	M	Date the report is run
Report run time	HH:MM:SS	M	M	Time the report is run
Unique file identifier	Char 15	M	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	M	Total number of DET records in report
Report period start date	DD/MM/YYYY	M	M	Report run start date (inclusive)
Report period end date	DD/MM/YYYY	M	M	Report run end date (inclusive)
Report month	YYYYMM	M	M	The month the report is run for.
Utility type	Char 1	M	M	Type of energy supply; G = Gas; or E = Electricity
File status	Char 1	M	M	I (Initial) or R (Replacement) or X (replace only those ICPs contained in this replacement file)

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Detail record type	Char 3	M	M	DET – indicates the row is a detail record.
ICP identifier	Char 15	M	M	Unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1 of the Code
Start date	DD/MM/YYYY	C	M	Start date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
End date	DD/MM/YYYY	C	M	End date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB
Price description	Char 75	O	O	Null unless required to further describe the price code.
Unit of measure	Char 25	C	M	The type of unit applicable to the value in the 'Unit quantity' field. Examples are provided in table 3. Mandatory unless as billed file and 'meter read status' equals UB.
Unit quantity	Num 12.2	C	M	Unit quantity as appropriate to the 'Unit of measure' field (e.g. injection or extraction volume in kWh, chargeable demand or capacity in kW or kVA, or the number of chargeable items for connection, equipment or fixture per day delivery prices) Mandatory unless as billed file and 'meter read status' equals UB.
Meter read status	Char 2	C	C	Mandatory except Null where only fixed charges apply. RD = Read, ES = Estimate, RV = Reversal. For as billed files only, FL = Final, UB = Unbilled.
POC	Char 8	C	M	Valid code for the point of connection to which the ICP is connected for the period between the start date and the end date. For local networks 'POC' is typically referred to as the GXP. Mandatory for trader to distributor files where relevant to the distributor's pricing (and Null in the as billed file where the 'meter read status' equals UB).
Network participant identifier	Char 4	M	M	Network participant identifier
Spare		O	O	Empty
Price component code	Char 25	C	M	Price component code[1] for each fixed and variable delivery price as per the distributor's published delivery price schedule. Mandatory unless as billed file and 'meter read status' equals UB

[1] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Delivery price	Num 12.6	C	M	Fixed or variable delivery price[2] as per the distributor's published delivery price schedule. The delivery price is to be expressed in $ excl GST and net of prompt payment discount. Mandatory unless as billed file and 'meter read status' equals UB
Fixed/Variable	Char 1	C	M	F (Fixed) or V (Variable). Mandatory unless as billed file and 'meter read status' equals UB
Chargeable days	Int 7	C	C	Number of days between start date and end date (both dates inclusive) where used in the network charge calculation for per day prices. otherwise Null Mandatory unless as billed file and 'meter read status' equals UB
Network charge	Num 11.2	C	M	The network charge (in $ excluding GST, net of any prompt payment discount) which is the product of 'Unit quantity', 'Chargeable days' and 'Delivery price' as applicable. Mandatory unless as billed file and 'meter read status' equals UB, and where information supports an invoice.
Register content code	Char 6	C	O	A code that identifies the type of information being recorded by the channel and must reflect the physical or programmed configuration of the metering installation. Selected from a list in the registry. For clarity, where HHR data is framed for time-blocked prices the register content code must reflect the physical or programmed channel.
Period of availability	Num 2	C	O	Minimum number of hours within a day that supply is available. ~~(~~or controlled part is available for an inclusive channel.~~)~~ (<=24). Where HHR data is ~~framed~~ aggregated for time-blocked prices the period of availability must reflect the physical or programmed NHH channel, rounded up or down where the period is for an odd number of trading periods (provided the total for a day is <=24).

[2] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Report month	YYYYMM	M	M	The month for which the report is run. Must match the month given in the header for 'Report Month'.
Customer no	Char 15	C	O	Trader's customer number (the identifier that the trader assigns to the customer, which remains the same across all the connections for the customer). Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter read status' equals UB
Consumer no	Char 15	C	O	Trader's consumer number. Defined as the trader's unique ID that links the premises and the customer. Required in the trader to distributor file where available, otherwise Null (and Null in the as billed file where the 'meter reading status' equals UB
Invoice date	DD/MM/YYYY	O	M	
Invoice or invoice reference number	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.
Energy flow direction	Char 1	C	C	An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Mandatory unless as billed and 'meter read status' equals UB. Null if fixed charge

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file must consist of one or more records, with each record being a single line of text as defined in the business rules. Records must be delimited with one of the following:
   (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs; or
   (b) a line feed character (ASCII character 10) commonly used in Unix based programs; or
   (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files must be defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, must be case insensitive.
5. Each data file must contain only one header but can contain any number of detail records.
6. The first record of a file must contain 'Header" information followed by one or more detail lines.
7. Each file created must have a file name as outlined below and must have names that are unique within any month.
   Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + 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_ICPMMAB_200007_20000802_ UniqueID.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]
8. The format must provide for a number of different trader to distributor file types supporting the following:
   (a) Individual ICP (with matching total days, kWh, and other associated network charges such as capacity charges) where the file type corresponds to the reconciliation type
   (b) File type ICPMMAB provides ICP level 'as billed' data summed at meter channel - delivery price component level for NHH ICPs.
   (c) File type ICPHHAB provides ICP level 'as billed' data for HHR ICPs billed in previous period.
   ~~(d) File type ICPMMNM provides 'incremental as billed normalised' ICP level data summed at meter channel - delivery price level.~~
   ~~(e)~~(d) File type ICPMMRM provides 'replacement RM normalised' ICP level data summed at meter channel - delivery price component level that aligns in aggregate (subject to minor exceptions that may occur at month 0 and timing of reconciliation revisions) with the volume information submitted to the reconciliation manager.
   ~~File type ICPMMSP provides 'incremental RM normalised' ICP level data summed at meter channel – delivery price level that aligns in aggregate with the volume information submitted to the reconciliation manager for the relevant initial reconciliation (month 0), and in addition reflects incremental changes in volume information submitted to the reconciliation manager for the latest reconciliation revision cycle (months 1, 3, 7 and 14) and any other special reconciliations if directed by the Electricity Authority.~~

Data outputs

Completed file for transmission to traders.

2 Table of codes used in EIEP1

2.1 Table 1 List of attributes to define data fields used in EIEP1

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up to n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place. For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	NUM (6.2) 123.45 1234.0 -12.32 NUM (6.3) -0.123 23.987 987.000 8
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME		ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15

Logical format	Data type	Rules	Example
		ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP1.

ASCII character set for use within fields of EIEPs

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	~

2.3 Table 3 Unit of measure table

Unit	Description
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power), or capacity
kVAh	kilovolt ampere hour energy (apparent energy)
kVA	kilovolt ampere demand (apparent power), or capacity rating
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVA-km	kilovolt ampere capacity multiplied by kilometres
Con or ICP	used for per connection per day or per ICP per day delivery prices
Equipment	typically used for dedicated equipment delivery prices (e.g. transformers)
Fixture	typically used for per fixture delivery prices associated with streetlighting
Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's published delivery price schedule.	

3 Examples of files for EIEP 1

File examples are shown in tabular format with column headings for clarity, actual files are comma delimited and do not contain column headings. Changes from version 10 are not tracked.

3.1 Example of standard file – Incremental as billed normalised

HDR	ICPMMNM	10	TRDR	TRDR	DIST	04/11/2012	4:04:5	40455	8	01/10/2012	31/10/2012	201210	E	I	
RECORD TYPE	ICP	START DATE	END DATE	PRICE CATEGORY CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0973498743DT297	01/10/2012	31/10/2012		CON	1		EKT0661	DIST		DT001-FIXD	0.18	F	31	5.58
DET	0973498743DT297	01/10/2012	31/10/2012		KWH	212	ES	EKT0661	DIST		DT001-AICO	0.102	V		21.62
DET	0000847534DTB30	18/10/2012	31/10/2012		CON	1		DGA0221	DIST		DT002-FIXD	0.18	F	14	2.52
DET	0000847534DTB30	18/10/2012	31/10/2012		KVA-KM	18.86		DGA0221	DIST		DT002-CAPY	0.05	F	14	13.20
DET	0000847534DTB30	18/10/2012	31/10/2012		KWH	439	RD	DGA0221	DIST		DT002-CTRL	0.089	V		39.07
DET	0000847534DTB30	18/10/2012	31/10/2012		KWH	892	RD	DGA0221	DIST		DT002-24UC	0.156	V		139.15
DET	1000004384DT1CF	01/10/2012	31/10/2012		CON	1		EKT0661	DIST		DT001-FIXD	0.18	F	31	5.58
DET	1000004384DT1CF	01/10/2012	31/10/2012		KWH	163	RD	EKT0661	DIST		DT001-AICO	0.102	V	31	16.63

REGISTER CONTENT CODE	PERIOD OF AVAILAB	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
		201210	29058779	894563212			
IN	19	201210	29058779	894563212			X
		201210	24058193	630021548			
		201210	24058193	630021548			
CN	19	201210	24058193	630021548			X
UN	24	201210	24058193	630021548			X
		201210	17008953	220045683			
IN	19	201210	17008953	220045683			X

~~3.2~~3.1 Example of standard file – As billed

HDR	ICPMMAB	10	TRDR	TRDR	DIST	6/11/2012	4:33:22	43322	8	1/10/2012	31/10/201	201210	E	I	
RECORD TYPE	ICP	START DATE	END DATE	PRICE CAT CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0973498743DT297	05/09/2012	04/10/2012			1		EKT0661	DIST		DT001-FIXD	0.18	F	30	5.40
DET	0973498743DT297	05/09/2012	04/10/2012		KWH	116	RD	EKT0661	DIST		DT001-24UC	0.156	V		18.10
DET	0973498743DT297	05/09/2012	04/10/2012		KWH	99	RD	EKT0661	DIST		DT001-CTRL	0.102	V		10.10
DET	0000847534DTB30	18/09/2012	17/10/2012			1		DGA0221	DIST		DT002-FIXD	0.18	F	30	5.40
DET	0000847534DTB30	18/09/2012	17/10/2012		KVA.KM	130		DGA0221	DIST		DT002-CAPY	0.05	F	30	195.00
DET	0000847534DTB30	18/09/2012	17/10/2012		KWH	577	FL	DGA0221	DIST		DT002-DAY	0.156	V		90.01
DET	0000847534DTB30	18/09/2012	17/10/2012		KWH	140	FL	DGA0221	DIST		DT002-NITE	0.089	V		12.46

0

REGISTER CONTENT CODE	PERIOD OF AVAILAB	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICENO	ENERGY FLOW DIRECTIO
		201210	356000023	56234521	05/10/2012	10000078963	
UN	24	201210	356000023	56234521	05/10/2012	10000078963	X
CN	19	201210	356000023	56234521	05/10/2012	10000078963	X
		201210	852315620	10234589	18/10/2012	40023698780	
		201210	852315620	10234589	18/10/2012	40023698780	
D	16	201210	852315620	10234589	18/10/2012	40023698780	X
N	8	201210	852315620	10234589	18/10/2012	40023698780	X

3.3 Example of prior period correction event for a multiplier error (x1, should have been x60)

(a) Original data reported for report months 200710 – 200802 (for simplicity shown in a single table)

RECORD TYPE	ICP	START DATE	END DATE	PRICE CAT CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED / VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0000000997B3	01/10/2007	31/10/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.125	F	31	3.88
DET	0000000997B3	01/10/2007	31/10/2007	-	kWh	689	RD	GFD0331	UNET	-	G100/24UC	0.0736	V	-	50.71
DET	0000000997B3	01/11/2007	30/11/2007	-	-	-	ES	GFD0331	UNET	-	G100	0.125	F	30	3.75
DET	0000000997B3	01/11/2007	30/11/2007	-	kWh	540	ES	GFD0331	UNET	-	G100/24UC	0.0736	V	-	39.74
DET	0000000997B3	01/12/2007	31/12/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/12/2007	31/12/2007	-	kWh	299	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	24.04
DET	0000000997B3	01/01/2008	31/01/2008	-	-	-	ES	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/01/2008	31/01/2008	-	kWh	498	ES	GFD0331	UNET	-	G100/24UC	0.0804	V	-	40.04
DET	0000000997B3	01/02/2008	29/02/2008	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	29	4.35
DET	0000000997B3	01/02/2008	29/02/2008	-	kWh	242	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	19.46

REGISTER CONTENT CODE	PERIOD OF AVAILABILITY	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
-	-	200710	402408386	2701721110	-	-	-
UN	24	200710	402408386	2701721110	-	-	X
-	-	200711	402408386	2701721110	-	-	-
UN	24	200711	402408386	2701721110	-	-	X
-	-	200712	402408386	2701721110	-	-	-
UN	24	200712	402408386	2701721110	-	-	X

-	-	200801	402408386	2701721110	-	-	-
UN	24	200801	402408386	2701721110	-	-	X
-	-	200802	402408386	2701721110	-	-	-
UN	24	200802	402408386	2701721110	-	-	X

(b) Prior period correction – reversals of data previously reported (separate reversal rows for each report month), corrected data across entire date range plus 1 month with only split being the price change on 1/12/07

RECORD TYPE	ICP	START DATE	END DATE	PRICE CATEGORY CODE	UNIT OF MEASURE	UNIT QUANTITY	METER READ STATUS	POC	NETWORK PARTICIPANT IDENTIFIER	SPARE	PRICE COMPONENT CODE	DELIVERY PRICE	FIXED / VARIABLE	CHARGEABLE DAYS	NETWORK CHARGE
DET	0000000997B3	01/10/2007	31/10/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.125	F	31	3.88
DET	0000000997B3	01/10/2007	31/10/2007	-	kWh	689	RV	GFD0331	UNET	-	G100/24UC	0.0736	V	-	50.71
DET	0000000997B3	01/11/2007	30/11/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.125	F	30	3.75
DET	0000000997B3	01/11/2007	30/11/2007	-	kWh	540	RV	GFD0331	UNET	-	G100/24UC	0.0736	V	-	39.74
DET	0000000997B3	01/12/2007	31/12/2007	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/12/2007	31/12/2007	-	kWh	299	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	24.04
DET	0000000997B3	01/01/2008	31/01/2008	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	31	4.65
DET	0000000997B3	01/01/2008	31/01/2008	-	kWh	498	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	40.04
DET	0000000997B3	01/02/2008	29/02/2008	-	-	-	RV	GFD0331	UNET	-	G100	0.15	F	29	4.35
DET	0000000997B3	01/02/2008	29/02/2008	-	kWh	242	RV	GFD0331	UNET	-	G100/24UC	0.0804	V	-	19.46
DET	0000000997B3	01/10/2007	30/11/2007	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	61	9.15
DET	0000000997B3	01/10/2007	30/11/2007	-	kWh	73740	RD	GFD0331	UNET	-	G100/24UC	0.0736	V	-	5427.26
DET	0000000997B3	01/12/2007	31/03/2008	-	-	-	RD	GFD0331	UNET	-	G100	0.15	F	122	18.3
DET	0000000997B3	01/12/2007	31/03/2008	-	kWh	88680	RD	GFD0331	UNET	-	G100/24UC	0.0804	V	-	7129.87

REGISTER CONTENT CODE	PERIOD OF AVAILABILITY	REPORT MONTH	CUSTOMER NO	CONSUMER NO	INVOICE DATE	INVOICE NO	ENERGY FLOW DIRECTION
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110	-	-	-
UN	24	200803	402408386	2701721110	-	-	X
-	-	200802	402408386	2701721110	-	-	-
UN	24	200802	402408386	2701721110	-	-	X
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X
-	-	200803	402408386	2701721110			
UN	24	200803	402408386	2701721110			X

Appendix B Regulating a single billing methodology: draft EIEP2 for Options 1, 2 and 3

Electricity Information Exchange Protocols (EIEP)

EIEP2: Aggregated billing and volume information (Option 1)

Regulated

Draft for consultation on regulating a single standard reporting methodology ~~Effective from 1 October 2019~~

Version control

Version	Date amended	EIEP Ref	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP2	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP2	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content
11	2 October 2018	EIEP2	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Requirements for New Zealand Daylight Time adjustment techniques, consistent with the corresponding changes made to EIEPs 1 and 3. Change 'Price category code" field to 'Price description", and amend the validation rule, consistent with the changes to EIEP1 Amend file types for distributor to trader files Amend the 'Unit or measure' table, consistent with the changes to EIEP1
11.1 draft	20 November 2018	EIEP2	This is option 1 for consultation. Amendments reflect mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for both interposed and conveyance arrangements

Contents

1 EIEP2: Aggregated billing and volume information

Title:	**EIEP2: Aggregated billing and volume information**
Version:	11.1 draft (Option 1 in the consultation paper)
Application:	This protocol allows: a) traders to provide aggregated EIEP1 billing and volume information to distributors b) distributors to provide aggregated information to traders that supports the distributor's invoice and enables reconciliation of the distributor's network charges covered by the file
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies

A data file formatted in accordance with EIEP2 is to be forwarded:

- by the trader to the distributor to provide billing information that enables the calculation of network charges for aggregated categories of ICPs; and
- by the distributor to the trader to support the distributor's invoice for fixed and/or variable network charges for aggregated categories of ICPs.

Unless a distributor has requested otherwise, and the trader agrees, EIEP2 must be used where a distributor has specified time blocked periods for the application of delivery prices.

This protocol is particularly useful for distributors that calculate network charges based only on aggregate fixed and/or variable data provided by the trader or reconciliation manager.

Where chargeable quantities derived from reconciled volumes are used for billing of variable network charges (e.g. where the distributor has GXP peak demand and/or GXP volume based pricing), the parties may agree that the distributor will provide an EIEP2 file for the variable network charges and an EIEP1 file for the fixed network charges.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, a trader must deliver any EIEP2 file containing billing information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.

~~3.~~4. Unless otherwise agreed between the parties, traders must deliver EIEP2 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is

Business requirements

provided to the reconciliation manager on the 13th business day, traders may provide EIEP2 revision month files to the distributor any day between the 13th business day and 5th business day of the following month.

4.5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP2 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.

5.6. A trader or distributor must only use codes that are:

(a) stipulated in this document; or

(b) approved and published by the Electricity Authority; or

(c) determined in the registry and reconciliation functional specifications; or

(d) in the case of price category codes or price component codes, these must be those in the distributor's published delivery price schedule.

6.7. Information relating to individual price component codes must be formatted on separate lines.

7.8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.

8.9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.

9.10. Information is to be provided in accordance with the following status codes unless otherwise specified:

O Optional
M Mandatory
C Conditional - Mandatory if available,~~,~~ otherwise Null (also refer to validation rules)

10.11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.

11.12. If both EIEP1 and EIEP2 files are provided for ICP priced networks, the sum of the EIEP1 quantities by price component code must match the corresponding aggregate total quantities by price component code in the EIEP2 file for same report month.

12.13. Injection and extraction is to be shown with the energy flow direction indicator, where "X" (extraction/volume consumed) together with a positive unit quantity represents electricity leaving the network, and "I" (injection as a result of generation) together with a positive unit quantity represents electricity entering the network (e.g. from embedded generation).

13.14. Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding the delivery price for injection may be $0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file, and must not be netted off against each other or be summated as this would result in incorrect interpretation of the data

14.15. The data in an EIEP2 file must cover a complete calendar month, unless the sender makes it clear that a different period applies.

15.16. The 'report month' provided in the report detail section must be the same as the 'report month' used in the header.

16.17. If the trader or distributor becomes aware of a format error or the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.

17.18. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file is required.

18.19. Recipients of EIEP2 files should be prepared to receive 'I' (initial), 'R' (complete replacement) and 'X' (partial replacement) files. The first file for the report month should have file status I (initial). Subsequent files should either be R (full replacement) or X (partial replacement). On receiving an R

Business requirements
file, the recipient must remove all previous data for that report month and replace it with the data from the new file. ~~19.~~20. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the "trading period run on technique" which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements
1. If there are any conflicts between this document and the Code, the Code will take precedence. 2. In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. 3. A number of data transfers are required between participants in order for the EIEP process to take place. Unless the relevant participants have agreed not to use the EIEP, these data transfers must be those required by the EIEP. At all times data transfers must take place in a secure and predictable manner. 4. It is the responsibility of participants to meet the principles of the Privacy Act when exchanging customer information.

Data inputs
Information from a participant's billing system and/or reconciliation submission files.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Header record type	Char 3	M	M	HDR – indicates the row is a header record type
File type	Char 7	M	M	To identify the types of information the files contain (see file specifications below)
Version of EIEP	Num 3.1	M	M	Version of EIEP protocol that is being used for this file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Sender	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	M	M	Participant identifier of party on whose behalf data is provided.
Recipient participant identifier	Char 4	M	M	Valid recipient participant identifier
Report run date	DD/MM/YYYY	M	M	Date the report is run
Report run time	HH:MM:SS	M	M	Time the report is run
Unique file identifier	Char 15	M	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	M	Total number of DET records in report
Report period start date	DD/MM/YYYY	M	M	Report run start date (inclusive)
Report period end date	DD/MM/YYYY	M	M	Report run end date (inclusive)
Report month	YYYYMM	M	M	The month the report is run for.
Utility type	Char 1	M	M	Type of energy supply: G = Gas; or E = Electricity
File status	Char 1	M	M	I = Initial or R = Replacement or X = Replace only those ICPs contained in this replacement file

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Detail record type	Char 3	M	M	DET – indicates the row is a detail record.
Region	Char 20	M	M	Name of POC or region (group of POCs). Use “ALL” when information represents a total for the price component code.
Distributor participant identifier	Char 4	M	M	Valid code of the network participant

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Price description	Char 75	O	O	Null unless required to further describe the price code.
Price component code	Char 25	M	M	Price component code[1] as per the distributor's published delivery price schedule
Delivery price	Num 12.6	M	M	Fixed or variable delivery price[2] as per the distributor's published delivery price schedule. The delivery price is to be expressed in $ excl GST and net of prompt payment discount.
Fixed/Variable	Char 1	M	M	F (Fixed) or V (Variable)
ICP Count	Int 6	M	C	Count of ICPs in category (not required for SUMRECN files)
Chargeable days	Int 7	M	C	Sum of chargeable days between Start date and End date (both dates inclusive) for all ICPs represented in the record (not required for SUMRECN files)
Energy flow direction	Char 1	M	M	An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Refer to business rules in relation to same price component code options for both X and I.
Peak charge date	DD/MM/YY YY	C	C	Where relevant, indicates the date that the load for the peak charge is taken from.
Peak charge trading period	Int 2	C	C	Where relevant, indicates the trading period (of the date above) that the load for the peak charge is taken from.
Unit of measure	Char 25	M	M	The type of unit applicable to the value in the 'Unit quantity' field, as per the distributor's published delivery price schedule[3] (examples are in table 3)
Unit quantity	Num12.2	M	M	Total unit quantity as appropriate to the 'Unit of measure' field

[1] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

[2] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

[3] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Network charge	Num 11.2	C	M	The total network charge (in $ excluding GST and net of any prompt payment discount) Mandatory where the information supports an invoice.
Report month	YYYYMM	M	M	The month the report is run for, must match the month given in the header for 'Report Month'.
Invoice or invoice reference number	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following:
   (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or
   (b) a line feed character (ASCII character 10) commonly used in Unix based programs, or
   (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files are defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, are to be case insensitive.
5. Each data file will contain only one header, but may contain any number of detail records.
6. The first record of a file contains 'Header" information followed by one or more detail lines.
7. Each file created will have a file name as outlined below and must have names that are unique within any month.

   Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + 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_SUMMAB_200007_20000802_ UniqueID.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]
8. The format provides for a number of different file types supporting either of the following:
   (a) For trader to distributor files, a summary total of an EIEP1 file (with matching total days, kWh, and dollars by region by price component code) where the file type corresponds to a total of the file types defined in EIEP1 as follows:
   - ~~SUMMMAB provides summary totals for an EIEP1 ICPMMAB file~~
   - SUMHHAB provides summary totals for an EIEP1 ICPHHAB file
   - ~~SUMMMNM provides summary totals for an EIEP1 ICPMMNM file~~
   - SUMMMRM provides summary totals for an EIEP1 ICPMMRM file
   - ~~SUMMMSP provides summary totals for an EIEP1 ICPMMSP file~~

   (b) For distributor to trader files, the following file types:
   - SUMHHR if split billing file for HHR ICPs
   - SUMNHH if split billing file for HHR ICPs

Protocol specifications
• SUMALL if single billing file for both HHR and NHH ICPs • SUMRECN if the billing file is for chargeable quantities derived from reconciled volumes, used where the distributor has GXP peak demand and/or GXP volume based pricing

Data outputs
Completed file for transmission.

2 Table of codes used in EIEP2

2.1 Table 1 List of attributes to define data fields used in EIEP2

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place.	NUM (6.2) 123.45 1234.0 -12.32
		For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	NUM (6.3) -0.123 23.987 987.000 8
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME	Time	ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15

Logical format	Data type	Rules	Example
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP2

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	~

2.3 Table 3 Unit of measure table

Unit	Description
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power), or capacity
kVAh	kilovolt ampere hour energy (apparent energy)

Unit	Description
kVA	kilovolt ampere demand (apparent power), or capacity rating
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVA-km	kilovolt ampere capacity multiplied by kilometres
Con or ICP	used for per connection or per ICP per day delivery prices
Equipment	typically used for specific dedicated equipment (e.g. transformers)
Fixture	typically used for per fixture delivery prices associated with streetlighting
Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's delivery price schedule.	

Electricity Information Exchange Protocols (EIEP)

EIEP2: Aggregated billing and volume information (Option 2)

Regulated

Draft for consultation on regulating a single standard reporting methodology~~Effective from 1 October 2019~~

Version control

Version	Date amended	EIEP Ref	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP2	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP2	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content
11	2 October 2018	EIEP2	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Requirements for New Zealand Daylight Time adjustment techniques, consistent with the corresponding changes made to EIEPs 1 and 3. Change 'Price category code" field to 'Price description", and amend the validation rule, consistent with the changes to EIEP1 Amend file types for distributor to trader files Amend the 'Unit or measure' table, consistent with the changes to EIEP1
11.1 draft	20 November 2018	EIEP2	This is option 2 for consultation. Amendments reflect mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of replacement RM normalised with the right of the parties to agree to as billed

Contents

1 EIEP2: Aggregated billing and volume information

Title:	**EIEP2: Aggregated billing and volume information**
Version:	11.1 draft (Option 2 in the consultation paper)
Application:	This protocol allows: a) traders to provide aggregated EIEP1 billing and volume information to distributors b) distributors to provide aggregated information to traders that supports the distributor's invoice and enables reconciliation of the distributor's network charges covered by the file
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies

A data file formatted in accordance with EIEP2 is to be forwarded:

- by the trader to the distributor to provide billing information that enables the calculation of network charges for aggregated categories of ICPs; and
- by the distributor to the trader to support the distributor's invoice for fixed and/or variable network charges for aggregated categories of ICPs.

Unless a distributor has requested otherwise, and the trader agrees, EIEP2 must be used where a distributor has specified time blocked periods for the application of delivery prices.

This protocol is particularly useful for distributors that calculate network charges based only on aggregate fixed and/or variable data provided by the trader or reconciliation manager.

Where chargeable quantities derived from reconciled volumes are used for billing of variable network charges (e.g. where the distributor has GXP peak demand and/or GXP volume based pricing), the parties may agree that the distributor will provide an EIEP2 file for the variable network charges and an EIEP1 file for the fixed network charges.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, a trader must deliver any EIEP2 file containing billing information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.

~~3.~~4. Unless otherwise agreed between the parties, traders must deliver EIEP2 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is

Business requirements

provided to the reconciliation manager on the 13th business day, traders may provide EIEP2 revision month files to the distributor any day between the 13th business day and 5th business day of the following month.

4.5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP2 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.

5.6. A trader or distributor must only use codes that are:

(a) stipulated in this document; or

(b) approved and published by the Electricity Authority; or

(c) determined in the registry and reconciliation functional specifications; or

(d) in the case of price category codes or price component codes, these must be those in the distributor's published delivery price schedule.

6.7. Information relating to individual price component codes must be formatted on separate lines.

7.8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.

8.9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.

9.10. Information is to be provided in accordance with the following status codes unless otherwise specified:

O Optional
M Mandatory
C Conditional - Mandatory if available,~~,~~ otherwise Null (also refer to validation rules)

10.11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.

11.12. If both EIEP1 and EIEP2 files are provided for ICP priced networks, the sum of the EIEP1 quantities by price component code must match the corresponding aggregate total quantities by price component code in the EIEP2 file for same report month.

12.13. Injection and extraction is to be shown with the energy flow direction indicator, where "X" (extraction/volume consumed) together with a positive unit quantity represents electricity leaving the network, and "I" (injection as a result of generation) together with a positive unit quantity represents electricity entering the network (e.g. from embedded generation).

13.14. Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding the delivery price for injection may be $0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file, and must not be netted off against each other or be summated as this would result in incorrect interpretation of the data

14.15. The data in an EIEP2 file must cover a complete calendar month, unless the sender makes it clear that a different period applies.

15.16. The 'report month' provided in the report detail section must be the same as the 'report month' used in the header.

16.17. If the trader or distributor becomes aware of a format error or the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.

17.18. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file is required.

18.19. Recipients of EIEP2 files should be prepared to receive 'I' (initial), 'R' (complete replacement) and 'X' (partial replacement) files. The first file for the report month should have file status I (initial). Subsequent files should either be R (full replacement) or X (partial replacement). On receiving an R

Business requirements
file, the recipient must remove all previous data for that report month and replace it with the data from the new file. ~~19.~~20. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the "trading period run on technique" which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements
1. If there are any conflicts between this document and the Code, the Code will take precedence. 2. In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. 3. A number of data transfers are required between participants in order for the EIEP process to take place. Unless the relevant participants have agreed not to use the EIEP, these data transfers must be those required by the EIEP. At all times data transfers must take place in a secure and predictable manner. 4. It is the responsibility of participants to meet the principles of the Privacy Act when exchanging customer information.

Data inputs
Information from a participant's billing system and/or reconciliation submission files.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Header record type	Char 3	M	M	HDR – indicates the row is a header record type
File type	Char 7	M	M	To identify the types of information the files contain (see file specifications below)
Version of EIEP	Num 3.1	M	M	Version of EIEP protocol that is being used for this file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Sender	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	M	M	Participant identifier of party on whose behalf data is provided.
Recipient participant identifier	Char 4	M	M	Valid recipient participant identifier
Report run date	DD/MM/YYYY	M	M	Date the report is run
Report run time	HH:MM:SS	M	M	Time the report is run
Unique file identifier	Char 15	M	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	M	Total number of DET records in report
Report period start date	DD/MM/YYYY	M	M	Report run start date (inclusive)
Report period end date	DD/MM/YYYY	M	M	Report run end date (inclusive)
Report month	YYYYMM	M	M	The month the report is run for.
Utility type	Char 1	M	M	Type of energy supply: G = Gas; or E = Electricity
File status	Char 1	M	M	I = Initial or R = Replacement or X = Replace only those ICPs contained in this replacement file

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Detail record type	Char 3	M	M	DET – indicates the row is a detail record.
Region	Char 20	M	M	Name of POC or region (group of POCs). Use “ALL” when information represents a total for the price component code.
Distributor participant identifier	Char 4	M	M	Valid code of the network participant

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Price description	Char 75	O	O	Null unless required to further describe the price code.
Price component code	Char 25	M	M	Price component code[1] as per the distributor's published delivery price schedule
Delivery price	Num 12.6	M	M	Fixed or variable delivery price[2] as per the distributor's published delivery price schedule. The delivery price is to be expressed in $ excl GST and net of prompt payment discount.
Fixed/Variable	Char 1	M	M	F (Fixed) or V (Variable)
ICP Count	Int 6	M	C	Count of ICPs in category (not required for SUMRECN files)
Chargeable days	Int 7	M	C	Sum of chargeable days between Start date and End date (both dates inclusive) for all ICPs represented in the record (not required for SUMRECN files)
Energy flow direction	Char 1	M	M	An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Refer to business rules in relation to same price component code options for both X and I.
Peak charge date	DD/MM/YY YY	C	C	Where relevant, indicates the date that the load for the peak charge is taken from.
Peak charge trading period	Int 2	C	C	Where relevant, indicates the trading period (of the date above) that the load for the peak charge is taken from.
Unit of measure	Char 25	M	M	The type of unit applicable to the value in the 'Unit quantity' field, as per the distributor's published delivery price schedule[3] (examples are in table 3)
Unit quantity	Num12.2	M	M	Total unit quantity as appropriate to the 'Unit of measure' field

[1] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

[2] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

[3] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Network charge	Num 11.2	C	M	The total network charge (in $ excluding GST and net of any prompt payment discount) Mandatory where the information supports an invoice.
Report month	YYYYMM	M	M	The month the report is run for, must match the month given in the header for 'Report Month'.
Invoice or invoice reference number	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following:
   (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or
   (b) a line feed character (ASCII character 10) commonly used in Unix based programs, or
   (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files are defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, are to be case insensitive.
5. Each data file will contain only one header, but may contain any number of detail records.
6. The first record of a file contains 'Header" information followed by one or more detail lines.
7. Each file created will have a file name as outlined below and must have names that are unique within any month.

   Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + 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_SUMMAB_200007_20000802_ UniqueID.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]
8. The format provides for a number of different file types supporting either of the following:
   (a) For trader to distributor files, a summary total of an EIEP1 file (with matching total days, kWh, and dollars by region by price component code) where the file type corresponds to a total of the file types defined in EIEP1 as follows:
   - SUMMMAB provides summary totals for an EIEP1 ICPMMAB file
   - SUMHHAB provides summary totals for an EIEP1 ICPHHAB file
   - ~~SUMMMNM provides summary totals for an EIEP1 ICPMMNM file~~
   - SUMMMRM provides summary totals for an EIEP1 ICPMMRM file
   - ~~SUMMMSP provides summary totals for an EIEP1 ICPMMSP file~~

   (b) For distributor to trader files, the following file types:
   - SUMHHR if split billing file for HHR ICPs
   - SUMNHH if split billing file for HHR ICPs

Protocol specifications
• SUMALL if single billing file for both HHR and NHH ICPs • SUMRECN if the billing file is for chargeable quantities derived from reconciled volumes, used where the distributor has GXP peak demand and/or GXP volume based pricing

Data outputs
Completed file for transmission.

2 Table of codes used in EIEP2

2.1 Table 1 List of attributes to define data fields used in EIEP2

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place.	NUM (6.2) 123.45 1234.0 -12.32
		For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	NUM (6.3) -0.123 23.987 987.000 8
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME	Time	ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15

Logical format	Data type	Rules	Example
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP2

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	~

2.3 Table 3 Unit of measure table

Unit	Description
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power), or capacity
kVAh	kilovolt ampere hour energy (apparent energy)

Unit	Description
kVA	kilovolt ampere demand (apparent power), or capacity rating
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVA-km	kilovolt ampere capacity multiplied by kilometres
Con or ICP	used for per connection or per ICP per day delivery prices
Equipment	typically used for specific dedicated equipment (e.g. transformers)
Fixture	typically used for per fixture delivery prices associated with streetlighting
Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's delivery price schedule.	

Electricity Information Exchange Protocols (EIEP)

EIEP2: Aggregated billing and volume information (Option 3)

Regulated

Draft for consultation on regulating a single standard reporting methodology ~~Effective from 1 October 2019~~

Version control

Version	Date amended	EIEP Ref	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP2	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP2	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content
11	2 October 2018	EIEP2	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Requirements for New Zealand Daylight Time adjustment techniques, consistent with the corresponding changes made to EIEPs 1 and 3. Change 'Price category code" field to 'Price description", and amend the validation rule, consistent with the changes to EIEP1 Amend file types for distributor to trader files Amend the 'Unit or measure' table, consistent with the changes to EIEP1
11.1 draft	20 November 2018	EIEP2	This is option 3 for consultation. Amendments reflecting mandating a single standardised EIEP1 reporting methodology of replacement RM normalised for interposed arrangements, and for conveyance arrangements mandating a default reporting methodology of as billed with the right of the parties to agree to replacement RM normalised

Contents

1 EIEP2: Aggregated billing and volume information

Title:	**EIEP2: Aggregated billing and volume information**
Version:	11.1 draft (Option 3 in the consultation paper)
Application:	This protocol allows: a) traders to provide aggregated EIEP1 billing and volume information to distributors b) distributors to provide aggregated information to traders that supports the distributor's invoice and enables reconciliation of the distributor's network charges covered by the file
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies

A data file formatted in accordance with EIEP2 is to be forwarded:

- by the trader to the distributor to provide billing information that enables the calculation of network charges for aggregated categories of ICPs; and
- by the distributor to the trader to support the distributor's invoice for fixed and/or variable network charges for aggregated categories of ICPs.

Unless a distributor has requested otherwise, and the trader agrees, EIEP2 must be used where a distributor has specified time blocked periods for the application of delivery prices.

This protocol is particularly useful for distributors that calculate network charges based only on aggregate fixed and/or variable data provided by the trader or reconciliation manager.

Where chargeable quantities derived from reconciled volumes are used for billing of variable network charges (e.g. where the distributor has GXP peak demand and/or GXP volume based pricing), the parties may agree that the distributor will provide an EIEP2 file for the variable network charges and an EIEP1 file for the fixed network charges.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.
2. Where information is to be transferred using email, the contents must be delivered in a secure manner and password protected.
3. Unless otherwise agreed between the parties, ~~a~~ traders must deliver any EIEP2 file containing billing information for the previous month to the distributor by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.

~~3.~~4. Unless otherwise agreed between the parties, traders must deliver EIEP2 'replacement RM normalised' revision month files to distributors by 1700 hours on the 5th business day of the month following the month in which the revised submission information for the corresponding reconciliation revision month was delivered to the reconciliation manager. As revised submission information is

Business requirements

provided to the reconciliation manager on the 13th business day, traders may provide EIEP2 revision month files to the distributor any day between the 13th business day and 5th business day of the following month.

4.5. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP2 will identify the reconciliation participant. The appointment of an agent must be a permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.

5.6. A trader or distributor must only use codes that are:

(a) stipulated in this document; or

(b) approved and published by the Electricity Authority; or

(c) determined in the registry and reconciliation functional specifications; or

(d) in the case of price category codes or price component codes, these must be those in the distributor's published delivery price schedule.

6.7. Information relating to individual price component codes must be formatted on separate lines.

7.8. Information provided in the file must be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.

8.9. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.

9.10. Information is to be provided in accordance with the following status codes unless otherwise specified:

O Optional
M Mandatory
C Conditional - Mandatory if available,~~,~~ otherwise Null (also refer to validation rules)

10.11. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.

11.12. If both EIEP1 and EIEP2 files are provided for ICP priced networks, the sum of the EIEP1 quantities by price component code must match the corresponding aggregate total quantities by price component code in the EIEP2 file for same report month.

12.13. Injection and extraction is to be shown with the energy flow direction indicator, where "X" (extraction/volume consumed) together with a positive unit quantity represents electricity leaving the network, and "I" (injection as a result of generation) together with a positive unit quantity represents electricity entering the network (e.g. from embedded generation).

13.14. Delivery price schedules should have different price component codes for extraction and injection delivery prices, notwithstanding the delivery price for injection may be $0.00/kWh. If this is not the case, the extraction and injection volumes must be represented as separate records in the file, and must not be netted off against each other or be summated as this would result in incorrect interpretation of the data

14.15. The data in an EIEP2 file must cover a complete calendar month, unless the sender makes it clear that a different period applies.

15.16. The 'report month' provided in the report detail section must be the same as the 'report month' used in the header.

16.17. If the trader or distributor becomes aware of a format error or the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue.

17.18. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as noted above, then a full replacement file is required.

18.19. Recipients of EIEP2 files should be prepared to receive 'I' (initial), 'R' (complete replacement) and 'X' (partial replacement) files. The first file for the report month should have file status I (initial). Subsequent files should either be R (full replacement) or X (partial replacement). On receiving an R

Business requirements
file, the recipient must remove all previous data for that report month and replace it with the data from the new file. ~~19.~~20. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the "trading period run on technique" which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements
1. If there are any conflicts between this document and the Code, the Code will take precedence. 2. In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current report period (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous report period (c) any additional information requested in respect of any report period. 3. A number of data transfers are required between participants in order for the EIEP process to take place. Unless the relevant participants have agreed not to use the EIEP, these data transfers must be those required by the EIEP. At all times data transfers must take place in a secure and predictable manner. 4. It is the responsibility of participants to meet the principles of the Privacy Act when exchanging customer information.

Data inputs
Information from a participant's billing system and/or reconciliation submission files.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Header record type	Char 3	M	M	HDR – indicates the row is a header record type
File type	Char 7	M	M	To identify the types of information the files contain (see file specifications below)
Version of EIEP	Num 3.1	M	M	Version of EIEP protocol that is being used for this file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Sender	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	M	M	Participant identifier of party on whose behalf data is provided.
Recipient participant identifier	Char 4	M	M	Valid recipient participant identifier
Report run date	DD/MM/YYYY	M	M	Date the report is run
Report run time	HH:MM:SS	M	M	Time the report is run
Unique file identifier	Char 15	M	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	M	Total number of DET records in report
Report period start date	DD/MM/YYYY	M	M	Report run start date (inclusive)
Report period end date	DD/MM/YYYY	M	M	Report run end date (inclusive)
Report month	YYYYMM	M	M	The month the report is run for.
Utility type	Char 1	M	M	Type of energy supply: G = Gas; or E = Electricity
File status	Char 1	M	M	I = Initial or R = Replacement or X = Replace only those ICPs contained in this replacement file

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Detail record type	Char 3	M	M	DET – indicates the row is a detail record.
Region	Char 20	M	M	Name of POC or region (group of POCs). Use “ALL” when information represents a total for the price component code.
Distributor participant identifier	Char 4	M	M	Valid code of the network participant

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Price description	Char 75	O	O	Null unless required to further describe the price code.
Price component code	Char 25	M	M	Price component code[1] as per the distributor's published delivery price schedule
Delivery price	Num 12.6	M	M	Fixed or variable delivery price[2] as per the distributor's published delivery price schedule. The delivery price is to be expressed in $ excl GST and net of prompt payment discount.
Fixed/Variable	Char 1	M	M	F (Fixed) or V (Variable)
ICP Count	Int 6	M	C	Count of ICPs in category (not required for SUMRECN files)
Chargeable days	Int 7	M	C	Sum of chargeable days between Start date and End date (both dates inclusive) for all ICPs represented in the record (not required for SUMRECN files)
Energy flow direction	Char 1	M	M	An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X"). Refer to business rules in relation to same price component code options for both X and I.
Peak charge date	DD/MM/YY YY	C	C	Where relevant, indicates the date that the load for the peak charge is taken from.
Peak charge trading period	Int 2	C	C	Where relevant, indicates the trading period (of the date above) that the load for the peak charge is taken from.
Unit of measure	Char 25	M	M	The type of unit applicable to the value in the 'Unit quantity' field, as per the distributor's published delivery price schedule[3] (examples are in table 3)
Unit quantity	Num12.2	M	M	Total unit quantity as appropriate to the 'Unit of measure' field

[1] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

[2] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

[3] Except where the delivery price is unbillable at the time of customer billing and forces the trader to repackage

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional	Distributor to Trader: Mandatory/ Optional/ Conditional	Validation rules
Network charge	Num 11.2	C	M	The total network charge (in $ excluding GST and net of any prompt payment discount) Mandatory where the information supports an invoice.
Report month	YYYYMM	M	M	The month the report is run for, must match the month given in the header for 'Report Month'.
Invoice or invoice reference number	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.

Protocol specifications

1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.
2. Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following:
   (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or
   (b) a line feed character (ASCII character 10) commonly used in Unix based programs, or
   (c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files are defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, are to be case insensitive.
5. Each data file will contain only one header, but may contain any number of detail records.
6. The first record of a file contains 'Header" information followed by one or more detail lines.
7. Each file created will have a file name as outlined below and must have names that are unique within any month.

   Sender + Utility Type (only "E" to be used) + Recipient + File Type + Report Month + Report Run Date + 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_SUMMAB_200007_20000802_ UniqueID.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_Char60.TXT]
8. The format provides for a number of different file types supporting either of the following:
   (a) For trader to distributor files, a summary total of an EIEP1 file (with matching total days, kWh, and dollars by region by price component code) where the file type corresponds to a total of the file types defined in EIEP1 as follows:
   - SUMMMAB provides summary totals for an EIEP1 ICPMMAB file
   - SUMHHAB provides summary totals for an EIEP1 ICPHHAB file
   - ~~SUMMMNM provides summary totals for an EIEP1 ICPMMNM file~~
   - SUMMMRM provides summary totals for an EIEP1 ICPMMRM file
   - ~~SUMMMSP provides summary totals for an EIEP1 ICPMMSP file~~

   (b) For distributor to trader files, the following file types:
   - SUMHHR if split billing file for HHR ICPs
   - SUMNHH if split billing file for HHR ICPs

Protocol specifications
• SUMALL if single billing file for both HHR and NHH ICPs • SUMRECN if the billing file is for chargeable quantities derived from reconciled volumes, used where the distributor has GXP peak demand and/or GXP volume based pricing

Data outputs
Completed file for transmission.

2 Table of codes used in EIEP2

2.1 Table 1 List of attributes to define data fields used in EIEP2

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place.	NUM (6.2) 123.45 1234.0 -12.32
		For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional. No leading zeros other than when the number starts with "0." Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	NUM (6.3) -0.123 23.987 987.000 8
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME	Time	ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15

Logical format	Data type	Rules	Example
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP2

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	~

2.3 Table 3 Unit of measure table

Unit	Description
kWh	kilowatt hour energy (real energy)
kW	kilowatt demand (real power), or capacity
kVAh	kilovolt ampere hour energy (apparent energy)

Unit	Description
kVA	kilovolt ampere demand (apparent power), or capacity rating
kVArh	kilovolt ampere reactive hour energy (reactive energy)
kVAr	kilovolt ampere reactive demand (reactive power)
kVA-km	kilovolt ampere capacity multiplied by kilometres
Con or ICP	used for per connection or per ICP per day delivery prices
Equipment	typically used for specific dedicated equipment (e.g. transformers)
Fixture	typically used for per fixture delivery prices associated with streetlighting
Note: This list is not exhaustive, alternative units of measure and descriptions may be used if contained in the distributor's delivery price schedule.	

Appendix C Regulating a standard delivery mechanism: draft EIEP5A file format

C.1 Attached is the draft EIEP5A, a solution proposal document, and a draft functional specification. The draft functional specification is for our preferred Option3, and includes delivery options for both the EIEP transfer hub and the registry. If another option proceeds, the specification will be modified accordingly.

Electricity Information Exchange Protocols (EIEP)

EIEP5A: Planned service interruptions
Draft for second EIEP consultation

Effective date pending outcome from further EIEP consultation

Version control

Version	Date amended	EIEP Ref	Comments
10	27 November 2013	EIEP5	Sender format field decreased from 50 to 20 characters.
10.1 draft	30 June 2017	EIEP5A	Amendments include: Outcome from split of former combined EIEP5 (Service interruptions) into separate EIEP5A (Planned service interruptions) and EIEP5B (Unplanned service interruptions) EIEPs Improvements to add clarity and consistency to content PLI (initial advice only) added, PLR repurposed for all revisions Optional URL and PLR revision reason fields added. Amended business requirements to specify each interruption event must be represented in its own file RES description row added to provide headers for manual interpretation of fields
11	2 October 2018	EIEP5A	Amendments include: Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Amended business requirements 11, 12 and 17 to ensure clarity for planned service interruption events that include multiple service interruptions Amended business requirement 14 to provide guidance for when a planned service interruption should be cancelled and replaced with a new event Add a new business rule setting out default notification periods EIEP5A to become a regulated EIEP Remove the additional description (DES) row New business requirement 23 to ensure clarity that active and inactive ICPs should be included in the file.
11.1	20 November 2018	EIEP5A	Amended to reflect EIEP5A Options 1-3 in the second EIEP consultation paper, mandating a delivery mechanism that does not include the status quo.

Contents

1 EIEP5A: Planned service interruptions

Title:	**EIEP5A: Planned service interruptions**
Version:	11.1 draft (Options 1-3 in the second EIEP consultation paper)
Application:	This protocol allows: (a) distributors to provide planned service interruption information to traders to enable traders to record details in their customer information systems and notify affected customers where required to do so by the relevant use of system agreement (b) MEPs to receive planned service interruption information
Participants:	Distributor/Registry/Trader/MEP
Code reference:	
Dependencies:	The use of system agreement between the distributor and the trader should also set out processes relevant to planned service interruptions (including which party is required to notify affected consumers) that the distributor and/or the trader must comply with.

Description of when this protocol applies

This protocol is used by distributors to advise traders of planned service interruptions and provide planned service interruption information to enable traders to record details in their customer information systems and to notify affected customers where required to do so by the relevant use of system agreement. MEPs may also receive planned service interruption information (EIEP5A files).

Business requirements

1. The distributor must upload EIEP5A files with the registry recipient code RGST to the EIEP transfer hub (Options 1-3) or registry SFTP (Options 2-3). With the registry SFTP (if applicable), the distributor must use the registry batch interface to upload files containing the standard registry HDR line followed by the EIEP5A format.
2. The registry then provides EIEP5A files via the EIEP transfer hub to each trader/MEP's EIEPinbox (Options 1-2, optional for Option 3) or registry SFTP (the default for Option 3), with customised content reflecting each trader/MEP's preferences (or defaults) as set out on the Supervisor screen, being:
    - all ICPs (the default) or only ICPs the trader/MEP is responsible for
    - excluding (the default) or including a description (DES) line
    - whether the MEP has elected to receive (the default) or not receive EIEP5A files.

~~1. The distributor and trader must agree on the file transport mechanism by which the distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.~~

~~2. Where information is required to be transferred using email, the contents must be delivered in a secure manner and password protected.~~

Business requirements

3. Where initial files include only ICPs the trader/MEP is responsible for in accordance with the Supervisor screen settings, the registry will provide additional notifications (EIEP5A files) to the gaining trader/MEP for ICPs associated with a trader/MEP switch (including backdated switches and switch withdrawals).

~~3.~~4. This protocol will be used in the timeframes as set out below, or ~~when required~~ as otherwise agreed between parties.

~~4.~~5. An agent may provide data on behalf of the distributor, in which case the header will identify the distributor. The appointment of an agent must be a permission function of the distributor and receiving traders/MEPs must allow for agents in their systems.

~~5.~~6. A distributor must only use codes that are:

(a) stipulated in this document;

(b) approved and published by the Electricity Authority; or

(c) determined in the registry and reconciliation functional specifications.

~~6.~~7. Information provided in the file will be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.

~~7.~~8. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.

~~8.~~9. Information is to be provided in accordance with the following status codes unless otherwise specified:

O	Optional
M	Mandatory
C	Conditional - Mandatory if available, otherwise Null (also refer to validation rules)

~~9. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader.~~

10. This file is to be used by distributors to give traders advice of a planned service interruption affecting certain ICPs, the area affected, planned service interruption reason, and planned service interruption date(s) and off/on times. There is also provision for an alternative date or dates and times if the planned service interruption cannot take place on the original date(s) and time(s).

11. This protocol provides for planned service interruption events where the event includes a single service interruption, and where the event includes multiple service interruption.

12. For an event that includes a single service interruption, the distributor provides a list of affected ICPs with the appropriate date(s) and single off/on time. For an event that includes more than one service interruption on the same, consecutive or near-consecutive days, for the same group (or largely the same group) of ICPs, the distributor provides a single file with a list of ICPs affected and the appropriate dates and off/on times, and the same unique distributor event number.

13. The protocol can also be used to advise of a previously notified planned service interruption being cancelled by means of the appropriate communication type code in the file, and the file must include all ICPs affected.

14. Where the distributor wishes to revise any information previously provided in a file (except for a cancellation) due to rescheduling (change of date(s) and/or off/on times), a change to the list of ICPs affected, reason for the planned service interruption, area affected or feeder details, the distributor must provide an updated file using the appropriate communication type code for a revision, and the file must include all ICPs affected by the planned service interruption. Significant changes to the ICPs affected must be processed as a cancellation and new planned service interruption.

15. A notification for rescheduling is not required where a planned service interruption is simply being shifted to an alternative date and off/on times that have already been included in a file previously provided to traders.

16. Unless otherwise agreed, every notification file uploaded by the distributor must include all affected ICPs regardless of their trader as recorded on the registry.

Business requirements
17. Each file may only provide for a single planned service interruption event (which may include more than one interruption), and each initial advice file must have a unique distributor event number. 18. The distributor event number must be the original distributor event number used in the initial advice if revising or cancelling a planned service interruption previously communicated in an EIEP5A file. 19. The recipient is to ensure that they apply the files in the order that they are received, with the latest information being the most current. 20. Where, in accordance with the use of system agreement, traders are required to provide advance notification to affected customers of a planned service interruption the file will be used as a source file for a mail merge. 21. If the trader or distributor becomes aware of a format error or the file is incomplete, that party must advise the other party as soon as practical after becoming aware of the issue. 22. In the absence of alternative notification periods agreed between the parties, the distributor is expected to provide the following minimum notice periods to traders: (a) Initial advice (PLS): 10 business days (b) Initial advice for information only (PLI): 4 business days (c) Revision (PLR): 7 business days (i.e. it must be rescheduled if fewer than 7 business days remain) (d) Cancellation (PLC): 4 business days where practicable 23. For clarity, all active and inactive ICPs should be included within the file.

General requirements
1 If there are any conflicts between this document and the Code, the Code will take precedence. 2 In general, all participants must provide the recipient with: (a) accurate information for all points of connection at which they are responsible for the current consumption period (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous consumption period (c) any additional information requested in respect of any consumption period. 3 A number of data transfers are required between participants in order for the EIEP process to take place. These data flows if not previously agreed between participants are to be those recommended by the Authority. At all times data transfers must take place in a secure and predictable manner. 4 It is the responsibility of the parties to meet the principles of the Privacy Act when exchanging customer information.

Data inputs

Event data	Format	Distributor to Registry, Registry to Trader/MEP: Mandatory/Optional/Conditional	Validation rules

Event data	Format	Distributor to Registry, Registry to Trader/MEP: Mandatory/Optional/Conditional	Validation rules
Header record type	Char 3	M	HDR – indicates the row is a header record type
File type	Char 7	M	Planned Service Interruption PLINT
Version of EIEP	Num 3.1	M	Version of EIEP protocol that is being used for this file.
Sender	Char 20	C	Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of participant identifier	Char 4	C	Participant identifier of party on whose behalf data is provided. Mandatory if sender not a participant
Recipient Participant identifier	Char 4	M	Valid recipient participant identifier For distributor to registry files the recipient identifier must be RGST
Report run date	DD/MM/YYYY	M	Date the report is run
Report run time	HH:MM:SS	M	Time the report is run
Unique File identifier	Char 15	M	Number that uniquely identifies the file
Number of detail records	Num 8	M	Total number of records in report
Communication type code	Char 3	M	As per table of planned service interruption communication type codes following this EIEP
Distributor event number	Char 15	M	Distributor's unique reference number for the planned service interruption.
Spare		O	Null
Utility type	Char 1	M	G (Gas) or E (Electricity)

Event data	Format	Distributor to Registry, Registry to Trader/MEP: Mandatory/Optional/Conditional	Validation rules
Detail record type	Char 3	M	DET – indicates the row is a detail record.

Event data	Format	Distributor to Registry, Registry to Trader/MEP: Mandatory/Optional/Conditional	Validation rules
ICP identifier	Char 15	M	ICP identifier means a unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1
Feeder	Char 20	C	Transformer and feeder number if available.
Street/area affected	Char 255	M	Best description of locality affected if known
Interruption reason	Char 50	M	Reason for planned interruption
Number of interruptions notified	Num 1	M	Number of planned interruptions notified (up to a maximum of 5)
Distributor event number	Char 15	M	Distributor's unique reference number for service interruption
Interruption 1 start date	DD/MM/YYYY	M	Date first interruption to commence
Interruption 1 restore date	DD/MM/YYYY	M	Most accurate indication of date when power will be restored for first interruption
Interruption 1 start time	HH:MM	M	Start time for first interruption
Interruption 1 expected or actual restore time	HH:MM	M	Most accurate indication of time when power will be restored for first interruption
Interruption 1 alternative date	DD/MM/YYYY	C	Alternative date if first planned interruption cannot proceed on proposed start date. Mandatory if applicable, otherwise Null
Interruption 2 start date	DD/MM/YYYY	C	Date second interruption to commence Mandatory if applicable, otherwise Null
Interruption 2 restore date	DD/MM/YYYY	C	Most accurate indication of date when power will be restored for second interruption Mandatory if applicable, otherwise Null
Interruption 2 start time	HH:MM	C	Start time for second interruption Mandatory if applicable, otherwise Null

Event data	Format	Distributor to Registry, Registry to Trader/MEP: Mandatory/Optional/Conditional	Validation rules
Interruption 2 expected or actual restore time	HH:MM	C	Most accurate indication of time when power will be restored for second interruption Mandatory if applicable, otherwise Null
Interruption 2 alternative date	DD/MM/YYYY	C	Alternative date if second planned interruption cannot proceed on proposed start date. Mandatory if applicable, otherwise Null
Interruption 3 start date	DD/MM/YYYY	C	Date third interruption to commence Mandatory if applicable, otherwise Null
Interruption 3 restore date	DD/MM/YYYY	C	Most accurate indication of date when power will be restored for third interruption Mandatory if applicable, otherwise Null
Interruption 3 start time	HH:MM	C	Start time for third interruption Mandatory if applicable, otherwise Null
Interruption 3 expected or actual restore time	HH:MM	C	Most accurate indication of time when power will be restored for third interruption Mandatory if applicable, otherwise Null
Interruption 3 alternative date	DD/MM/YYYY	C	Alternative date if third planned interruption cannot proceed on proposed start date. Mandatory if applicable, otherwise Null
Interruption 4 start date	DD/MM/YYYY	C	Date fourth interruption to commence Mandatory if applicable, otherwise Null
Interruption 4 restore date	DD/MM/YYYY	C	Most accurate indication of date when power will be restored for fourth interruption Mandatory if applicable, otherwise Null
Interruption 4 start time	HH:MM	C	Start time for fourth interruption Mandatory if applicable, otherwise Null
Interruption 4 expected or actual restore time	HH:MM	C	Most accurate indication of time when power will be restored for fourth interruption Mandatory if applicable, otherwise Null

Event data	Format	Distributor to Registry, Registry to Trader/MEP: Mandatory/Optional/Conditional	Validation rules
Interruption 4 alternative date	DD/MM/YYYY	C	Alternative date if fourth planned interruption cannot proceed on proposed start date. Mandatory if applicable, otherwise Null
Interruption 5 start date	DD/MM/YYYY	C	Date fifth interruption to commence Mandatory if applicable, otherwise Null
Interruption 5 restore date	DD/MM/YYYY	C	Most accurate indication of date when power will be restored for fifth interruption Mandatory if applicable, otherwise Null
Interruption 5 start time	HH:MM	C	Start time for fifth interruption Mandatory if applicable, otherwise Null
Interruption 5 expected or actual restore time	HH:MM	C	Most accurate indication of time when power will be restored for fifth interruption Mandatory if applicable, otherwise Null
Interruption 5 alternative date	DD/MM/YYYY	C	Alternative date if fifth planned interruption cannot proceed on proposed start date. Mandatory if applicable, otherwise Null
Revision reason	Char 50	O	Reason for revision (PLR communication type code)
URL	Char 50	O	URL for updated or additional information if available on distributor's website

Protocol specifications
1 The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields. 2 Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following: (a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or (b) a line feed character (ASCII character 10) commonly used in Unix based programs, or (c) a carriage return character (ASCII character 13) commonly used in Mac based programs. 3 Data fields within files are defined using the attributes in the table following these specifications. 4 Matching of file names, code list values, etc, are to be case insensitive. 5 Each data file will contain only one header by may contain any number of detail records. 6 The first record of a file contains 'Header" information followed by zero or more detail lines. 7 The following file naming convention is to be used with this file: Sender + Utility Type + Recipient + File Type + Report Month + Report Run Date + 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_ PLINT_200007_20000802_1232.TXT [Char4_Char1_Char4_ Char7_yyyymm_yyyymmdd_UniqueID.TXT

Data outputs

2 Table of codes used in EIEP5A

2.1 Table 1 List of attributes to define data fields used in EIEP5A

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (i.e. no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (i.e. a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place.	NUM (6.2) 123.45 1234.0 -12.32 NUM (6.3)

Logical format	Data type	Rules	Example
		For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use “0”) Trailing zeros are optional.	-0.123 23.987 987.000 8
		No leading zeros other than when the number starts with “0.” Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only). As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created. Where customer names require separation, a tilde character (~) should be used. Fields must not contain any leading or trailing spaces.	The quick brown fox
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME	Time	ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2 Table 2 ASCII character set for use within fields of EIEP5A

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	~

2.3 Table 3 Planned service interruption communication type codes for use in EIEP5A

Communication type code	Description
PLS	Planned Service Interruption - Initial Advice. To be used where the trader is required to notify affected customers.
PLI	Planned Service Interruption – Initial advice for information only, customers already notified. To be used where the distributor is required to notify or has optionally notified affected consumers.
PLR	Planned Service Interruption – Revision (other than a cancellation). Used to revise any information previously provided in a file which may be due rescheduling (change of date(s) and/or off/on times), change to the list of ICPs affected, reason for the planned service interruption, area affected or feeder details.
PLC	Planned Service Interruption – Cancellation

13 NOVEMBER 2018

SOLUTION PROPOSAL

Electricity Authority

Draft CR-1208 EIEP5A Registry Format

jade™

business solutions

www.jadeworld.com

Version	Date	Reason for Change	Changed By
draft	30/11/2017	Initial	Jade Software Corporation
Draft v2	11/05/2018	Comments from consultation	Jade Software Corporation
Draft v3	06/06/2018	Comments from consultation	Jade Software Corporation
Draft v4	23/08/2018	Draft for EIEP consultation	Authority
Draft v5	13/11/2018	Final draft for EIEP consultation	Authority

Table of Contents

Objective

Distributors are required to notify affected consumers directly and/or provide planned service interruption information to traders to enable the trader to:

- notify its affected customers
- record details in their customer information systems so they can: (i) proactively contact or respond to queries from critical customers, and (ii) respond with correct information to 'no power' calls from customers.

With the decision to make EIEP5A a regulated EIEP, the planned service interruption information provided to traders will have to comply with EIEP5A.

Currently, EIEP5A files are required to contain all affected ICPs and are delivered to each trader via email (the default) or via the Registry EIEP transfer hub (where agreed).

The Authority is proposing an enhanced delivery mechanism, as outlined in this solution proposal, that provides for:

- MEPs to be able to elect to receive EIEP5A files
- alternative delivery channels for distributors and traders
- customisation of output files to reflect trader preferences (e.g. all ICPs or only those ICPs of interest to the trader (split files))
- functionality to address the risks associated with split files of missed notifications arising from trader switches (including backdated switches and switch withdrawals) completing during the notification window.

To standardise the provision of planned service interruption information to traders that provides the above customisation and functionality, the EIEP5A format will be consolidated into the Registry. Distributors will supply planned service interruption information to the Registry which will then disseminate the information to affected participants including both Traders and MEPs.

The Registry uses a standard header (HDR) record which is incompatible with the existing EIEP5A HDR record. To avoid cost on Distributors who have invested in using the EIEP5A format and EIEP hub, the Registry will accept files from either the sFTP server or EIEP hub.

Files received from the EIEP hub will be transferred to the sFTP server to allow processing to commence at a common entry point. If necessary, the Registry will automatically create and insert a standard Registry HDR record. Results of file validation will be returned to the files point of origin.

User Story

As a trader in the electricity market I want to receive planned service interruption notifications and information via a channel and in a form (customised to some extent to reflect our preferences) that enables us to efficiently process and record details of notifications to existing customers and customers who switch to us with a completion date within the notification window (including backdated switches and switches subsequently withdrawn). I would also like to be

able to access specific planned service interruption information at any time on the Registry, and be confident that it is up to date and relevant to the relationship I have, or wish to have, with an ICP.

Brief Description

Distributors will submit a list of ICPs to the Registry with a set of planned service interruption times, the Registry will ensure affected participants are notified of the service interruption.

An affected participant includes:

- the current Trader;
- the current MEP;
- if a trader switch is in progress (including backdated switches and switches subsequently withdrawn): the gaining Trader involved in the switch;
- if a MEP switch is in progress: the gaining MEP involved in the switch.

A distributor may amend previously supplied planned service interruption information at any time prior to the outage, and the Registry will convey the revised information to the affected participants. Amendments may include:

- Variations to the outage dates and/or times
- Addition of new ICPs
- Removal of previously supplied ICPs
- Cancellation of interruptions to previously supplied ICPs

The Registry will monitor ICPs affected by planned service interruptions, and where a change in responsibility occurs the Registry will ensure the gaining participant is informed of the planned interruption.

Related Documents

CR-1208 EIEP5A Appendix A.docx

Business Requirements

Planned Service Interruption (PLINT)

A distributor may submit a file in either the EIEP5A file format using the EIEP hub, or the Registry file format using the standard batch interface.

Load of PLINT Information using Standard Batch Interface

The Registry must provide a batch interface allowing a distributor to upload Planned Service Interruption (PLINT) file.

The file submitted by a distributor must contain:

- a standard Registry header (HDR) line; followed by
- a second header (HDR) line (in accordance with the current EIEP5A header line); followed by
- 1 or more detail (DET) ICP service interruption lines.

The Registry must validate the header (HDR) lines. If information provided in either HDR line fails validation the entire file must be rejected, all detail lines must be rejected with an error stating failure is due to an error in a HDR record.

A distributor must supply a Distributor Event Number which uniquely identifies a planned service interruption for the submitting distributor; that is the Registry must identify a unique planned service interruption by a combination of distributor participant code and Distributor Event Number. A Distributor Event Number must not be reused; that is, if a Distributor Event Number already exists, and the planned service interruption has completed the entire file must be rejected.

The Registry must validate individual detail (DET) lines.

The Registry must return an acknowledgement file to the submitting distributor. The file must contain an acknowledgement for the HDR and DET input lines stating either:

- Success – error code 0
- Failure – non-zero error code.

The Registry must load interruption information for all valid DET lines.

Where all DET lines fail validation, the Registry must reject the entire file; that is a minimum of 1 DET line must pass validation for the file information to be loaded to the Registry.

Load of PLINT Information using EIEP Hub

An EIEP5A file submitted by a distributor to the Registry participant identifier; that is where the recipient is RGST, must:

a) be delivered to the Registry EIEPIn box with acknowledgments and notifications generated to the sender considering EIEP notification settings; and

b) transferred to the Registry participant's sFTP input batch directory to be processed in the same manner as a file submitted using the standard batch interface

The result of file validation must be returned to the submitting distributor's sFTP directory and EIEP hub.

File submitted to EIEP Hub in EIEP5A format

Before transferring the file to the Registry participant's sFTP input batch directory, the Registry must insert a valid standard header (HDR) line as the first line of the file so the file conforms with the Registry file format definition.

File submitted to EIEP Hub in Registry standard format

The Registry must transfer the file to the Registry batch toreg directory.

Replacing PLINT Information

A distributor may revise non-historical PLINT information, by submitting a replacement file with a Distributor Event Number matching an existing Distributor Event Number.

A replacement file is treated as a complete replacement of the existing PLINT information.

The Registry must validate a replacement file in the same manner as the original input file. If the replacement file is successfully validated:

- existing matched PLINT information must be replaced by the latest information, with a match obtained against the ICP identifier
- any additional ICPs must be added to the planned service interruption
- ICPs not present in the replacement file must be removed.

PLINT notification options

Planned Service Interruption receipt options

A planned service interruption notification must be delivered to the participant's Registry sFTP server (the default). The file must conform to the Registry file format.

In addition to mandatory batch file notification, a participant may elect to have an EIEP5A formatted file delivered to their EIEP hub input directory. The participant may elect to receive the file in either:

- Registry file format; that is including the standard Registry batch file HDR line, or
- EIEP format; that is excluding standard Registry batch file HDR line

Participant Planned Service Interruption receipt file output options

A MEP may elect to:

- receive planned service interruption information (the default); or
- not receive planned service interruption information.

A Trader may elect to receive notification of a planned service interruption with the notification to include:

- all ICPs affected (the default); or
- only ICPs the Trader is responsible for, including additional notifications where a Trader switch has a completion date between the initial notification and the date of the planned service interruption
- no description line (the default); or

a description (DES) line sitting below the standard batch interface header (HDR) line and above the EIEP5A header (HDR) line.

Registry Notifies of a planned service interruption

Subject to the relevant elections and defaults, a participant must be notified of a PLINT where that PLINT contains at least 1 ICP where the participant is:

a) the current Trader

b) the gaining Trader following a Trader switch with a completion date between the initial notification and the date of the planned service interruption, but only where the Trader has elected to receive notifications containing only the ICPs it is responsible for

c) the current MEP

d) the gaining MEP following a MEP switch with a completion date between the initial notification and the date of the planned service interruption.

The Registry must generate a notification file and deliver the file to the participants fromreg folder on the sFTP server, and optionally an EIEP5A formatted file to the participants EIEPIn folder on the EIEP hub.

Where a participant performs multiple roles on an ICP, for example where it is both a Trader and MEP, they must receive a single planned service interruption notification.

Where a planned service interruption has been cancelled notifications must only be sent to participants previously notified.

It is noted that EIEP5A specifies that significant changes to the ICPs affected by a planned service interruption should be processed as a cancellation and a new planned service interruption, rather than a revision. This business rule will not be enforced by the Registry.

Registry Notifies due to change of responsibility

Where an ICP is subject to a change in Trader/MEP responsibility occurring at a point after the load of PLINT information but before the date of the planned service interruption the Registry must notify the gaining Trader/MEP provided the gaining Trader/MEP has not already been notified (e.g. gaining Trader is not to be notified if it has elected to receive EIEP5A files containing all affected ICPs).

Participant ad-hoc request for Planned Service Interruption information

Batch and EIEP interface

A Distributor, Trader or MEP may request a resend of planned service interruption notifications. The resend request may be submitted by either batch file or on-line. The participant may request to receive information for:

- a specific distributor; that is all events supplied by a distributor; or
- a specific Distributor Event Number; that is a specific event supplied by a distributor; or
- all distributors; that is all events supplied by all distributors

The Registry must create a notification file and deliver each file to the participant in accordance with their notification and file format settings.

Web Service interface

Jade will provide a WSDL (SOAP) allowing participants to build a client application to call an API to return impending planned service interruptions.

To access ICP planned service interruptions;

1. A participant will poll the Registry supplying a logo, password and ICP identifier.
2. The Registry will validate
    a. the supplied credentials, and
    b. that the participant has authorisation to access the web service.
3. The Registry will send a response, the response will contain:
    a. An error stating
        i. access denied if the participant does not have authorisation to use the web service; or
        ii. invalid credentials have been supplied; or
    b. ICP impending planned service interruption information for the ICP supplied; or

c. if no ICP supplied, impending planned service interruption information relevant to the requesting participant; or

d. a “no ICP planned service interruptions” response.

There are two options for the web services interface:

1. new web services dedicated to PLINT information; or
2. provide an icp_details_v2 with planned outage information appended.

For a new dedicated web services, the participant supplies one or more filters of:

- ICP identifier: outage information for that ICP is returned. There may be 0, 1 or more sets of outage information returned (e.g. if ICP is involved in > 1 outage). If an ICP identifier is supplied then no restrictions on data visibility; that is, it follows the philosophy that if you know the ICP identifier you can view its information.
- Outage identifier: outage information for that outage is returned. As per the notification parameters this may be all ICP’s or only the requesters ICP’s. If they have no ICP’s involved in the outage an appropriate message is returned e.g. “No ICP’s for which you have responsibility are included in this planned outage”.
- Nothing: outage information, for all outages the requester has an ICP involved is returned.

The Registry may be required to set limits or enforce multiple calls to retrieve the information. This would depend on the size of the information.

Display ICP Impending Planned Interruption Information

The Registry must display, on the ICP summary page, summarised information concerning current and impending planned service interruptions. The information must be for non-cancelled interruptions only; that is where PLINT communication type code is one of:

- PLS
- PLI
- PLR

Display all ICP Service Interruption Information

The Registry must display a complete list of planned service interruption records for an ICP. The list may be filtered to show impending, current, historical or all planned service interruptions.

ICP Summary Screen

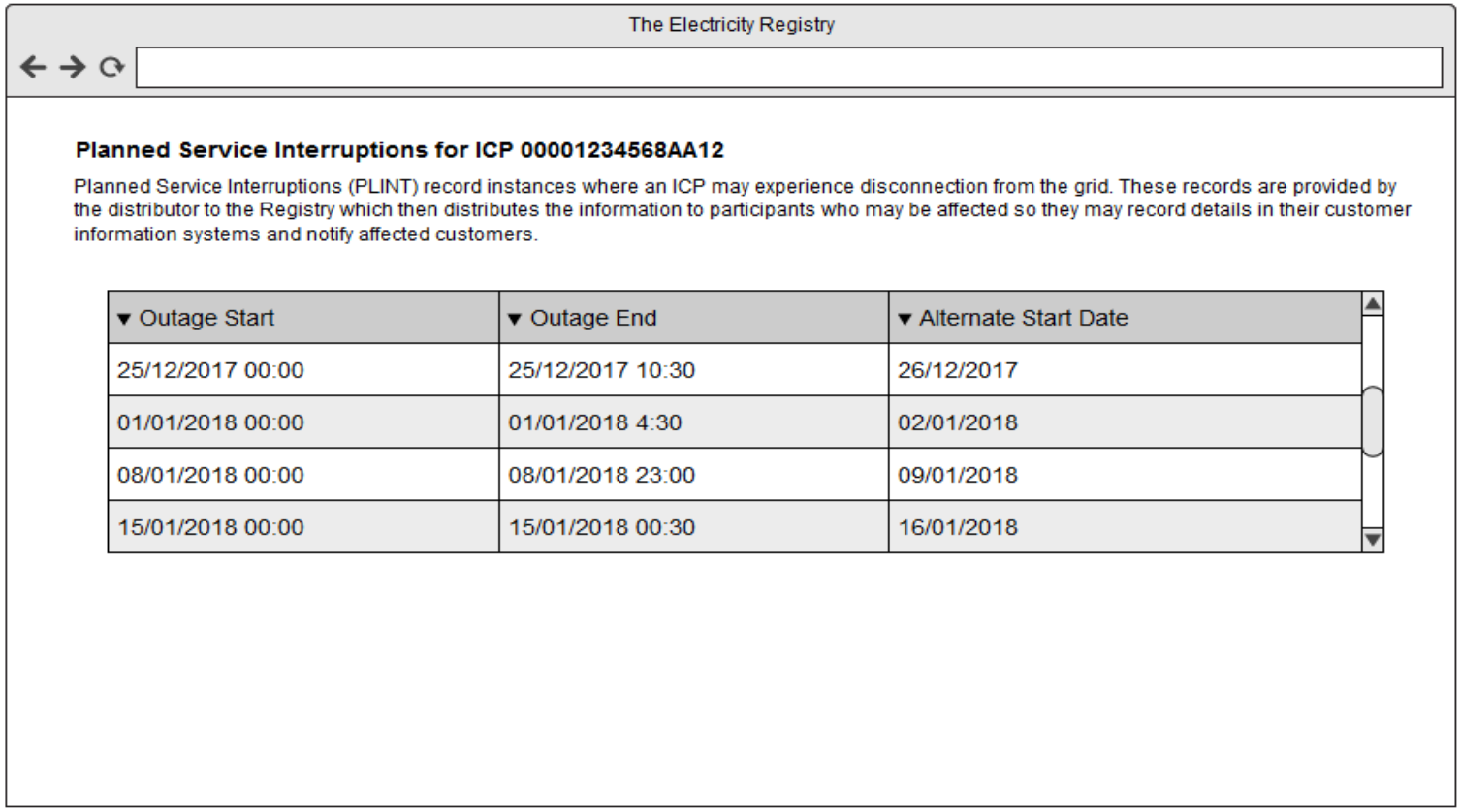
Where a complete set of summarised information cannot be displayed (due to space constraints) the summation information must indicate this by display of 3 full stops i.e. "…".

Summarised information must include current planned service interruption periods; that is historical planned service interruptions are excluded.

Where an ICP has impending non-cancelled planned service interruptions the user must be able to navigate to a screen displaying a complete (non-summarised) set of information (Planned Service Interruptions for ICP).

All Planned Service Interruptions for ICP (indicative)

Planned service interruption information for an ICP may be filtered to show impending, current, historical or all.



Registry PLINT Retention period

The Registry must retain planned interruption information for a period of 100 working days after the final planned service interruption period end date.

The Registry must retain the Distributor Event Number to ensure it cannot be reused.

Impact on Market Operations Service Provider (MSOP) systems or processes

No impact

Implementation

Schedule

To be agreed with the Authority.

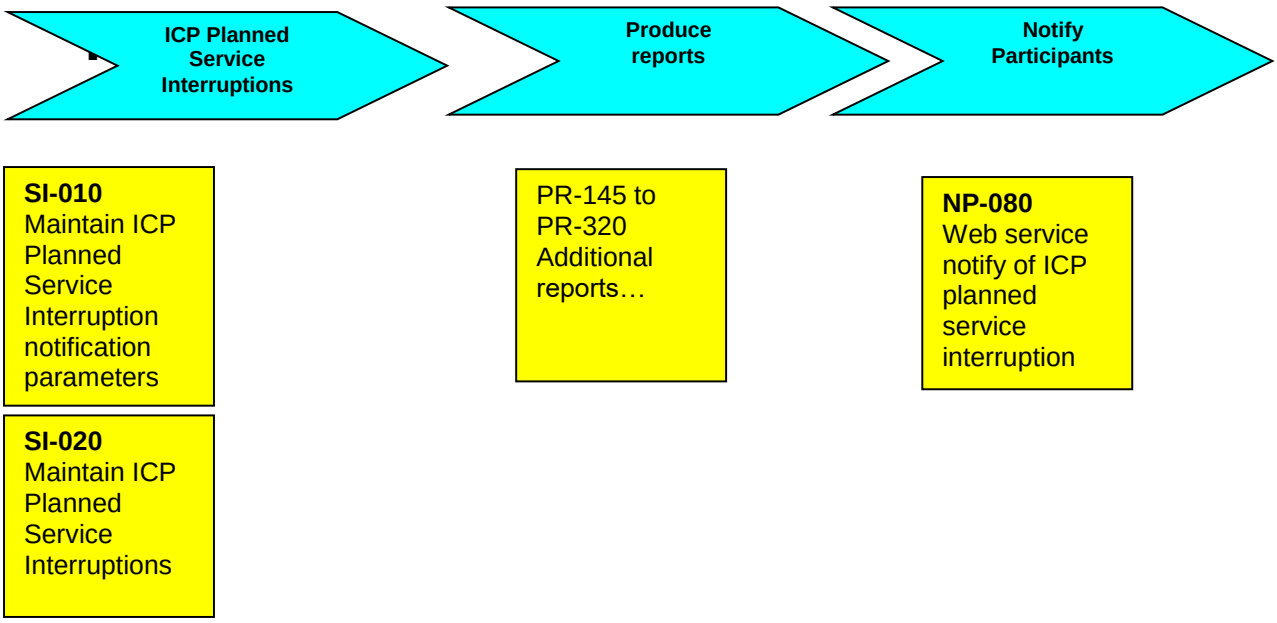
Resources

Project resources are available

Risk

None identified

Process Maps



Web Services

1.18 Web Services

Access to address search, ICP event history and ICP details enquiries are provided via Web Services. The facility provides Traders with a more efficient way for their Customer Service Representatives to access the Registry.

1.18.2 Access to Notify of event change (NP-070). The facility allows a participant with ICP responsibilities; that is a Trader, Distributor or MEP, to poll the Registry and receive a response containing a batch of ICP notifications.

1.18.3 Access to ICP planned service interruption notification (NP-080). The facility allows a participant with ICP responsibilities; that is a Trader, Distributor or MEP, to poll the Registry and receive a response containing ICP planned service interruption information

SI-010 Maintain ICP planned service interruption notification parameters

Sub-process:	**SI-010 maintain ICP Planned service interruption notification parameters**
Process:	ICP planned service interruptions
Participants:	Traders, Metering Equipment Providers
Code references:	
Dependencies:	

Description:

A Registry user with supervisor privileges will be able to select whether notifications of ICP planned service interruptions are sent from the Registry.

By default, if no ICP service interruption notification parameters have been setup a trader participant will receive notification of all ICP identifiers in the planned service interruption file supplied by a distributor, provide they have at least 1 affected ICP. If a trader participant wishes to limit the notifications to their own ICP identifiers they must explicitly set the appropriate option.

An MEP will only receive notifications for those ICPs for which the MEP is currently the responsible participant.

A participant will be able to vary the file output format to suit back office systems; for example, a participant may select whether an ICP service interruption file includes a description (DES) line.

Planned service interruption information is delivered to the participant's sFTP server (the default), however, in addition to the default destination, a participant may request files are also delivered to their EIEP hub directory.

Business requirements:

1. Only a Registry user with supervisor privileges must be able to perform this function.
2. A supervisor must be able to select to receive ICP planned service interruption notifications.
3. By default, files must be delivered to the participant's Registry sFTP server.
4. Where a participant has multiple roles (for example, is both Trader and MEP), the settings must apply to all roles.
5. Once set the parameter settings must apply immediately to all ICP planned service interruption output sent to the participant.
6. A participant, for its participant identifier, must be able to select parameter settings to receive ICP planned service interruption notifications, which will include:
    a) Only ICPs for which they are responsible, or where participant is a trader
        i. ICPs where they are involved in a Trader switch or switch withdrawal as the gaining participant; or
        ii. all ICPs provided they are responsible for at least one ICP in the file.
7. Trader and MEP participants must be able to select parameter settings to receive ICP planned service interruption files with either:

a) A description (DES) line. If selected the DES line must appear after the HDR line; or

b) No DES line (the default)

8. Trader and MEP participants must be able to request service interruption files be delivered to their EIEP hub directory. If delivery to the EIEP hub is selected a participant may select to receive the file in:

    a) Registry format (with standard batch file HDR record); or

    b) EIEP format (no standard batch file HDR record)

Data inputs:
ICP planned service interruption settings for each participant role.

Processing:
System: 1. Validates ICP planned service interruption notification options. 2. Updates selected options

Data outputs:
Confirmation of options on screen Audit trail of changes

SI-020 Maintain ICP planned service interruption

Sub-process:	**SI-020 Maintain ICP planned service interruption**
Process:	ICP planned service interruptions
Participants:	Traders, Distributors, Metering Equipment Providers
Code references:	
Dependencies:	SI-010

Description:

Distributors must notify Traders of planned service interruptions, and provide planned service interruption information that enables traders to record details in their customer information systems, and notify affected customers where required to do so.

Planned service interruption information includes the ICPs and description of the area affected, interruption reason, distributor event number, and off/on dates and times.

Many distributors have built systems to transfer service interruption information through the EIEP hub using the EIEP5A format. This delivery mechanism will continue to be available as an option. Distributors will upload EIEP5A files to the EIEP hub with the Registry recipient code RGST, and the Registry will deliver EIEP5A files to affected participants (traders and MEPs) with customised outputs reflecting the recipient's preferences (or defaults).

Distributors may choose instead to upload a batch file containing similar information as EIEP5A to the registry sFTP server. With this option the Registry will:

- generate notification files (in the same format as EIEP5A but with the addition of a standard registry header) to the affected participant's fromreg folder on the sFTP server; and
- if required by the affected participant, provide an EIEP5A formatted file to the participant's EIEPIn folder on the EIEP hub.

Where the distributor chooses to upload a batch file using the sFTP server, the file must conform to standard Registry header conventions (i.e. contain a standard Registry header (HDR) record) as, the HDR record in the EIEP5A format does not conform to the Registry HDR.

Where the distributor uploads a planned service interruption file using the EIEP hub, the Registry will (if necessary) construct and insert a valid standard HDR record as the first line of the file before processing the file.

The Registry will validate the file, and advise affected participant identifiers of the ICP planned service interruptions. Results of the file validation will be returned to the sFTP server, or where a file point of origin is the EIEP hub the file validation results will also be delivered to the distributors EIEP hub directory.

Where the distributor wishes to revise planned service interruption information supplied in a previous file they will provide an updated file (with communication type PLR) that will be used as a complete replacement for the previously supplied planned service interruption information.

A MEP may also elect to receive (the default), or not receive, planned service interruption files.

Business requirements:
1. Maintenance of ICP planned service interruptions must only be performed by a Distributor 2. A file submitted via the sFTP server requires the inclusion of all mandatory elements of the Registry Planned Service Interruption file definition. 3. The file naming convention of a file submitted via the EIEP hub must: a. have a Recipient code of the Registry (RGST); and b. use a EIEP File Type of EIEP5A. 4. The file must be confirmed and acknowledged in accordance with the participant identifiers EIEP communication settings; and if the file does not contain the standard Registry HDR line the Registry must a. Construct a valid and standard Registry HDR record; and b. Insert the constructed HDR record as the first line of the file 5. The file must be transferred to the Registry sFTP server for validation and processing by the Registry. 6. If the file point of origin is the EIEP hub; results of file validation must be returned to the distributors EIEP hub input directory in addition to the sFTP server. 7. The Registry must record a unique ICP planned service interruption by a combination of the distributor's Participant Identifier and the Distributor Event Number. 8. Maintenance of an existing ICP planned service interruption must be performed by matching the files Distribution Event Number against an existing ICP planned service interruption identifier for the distributor. If maintenance of an existing ICP planned service interruption is performed: a. ICP identifiers in the replacement file must replace matching ICP identifiers from the previous maintenance; and b. ICP identifiers that are not already present in the Registry must be treated as additions to the planned service interruption; and c. ICP identifiers that are not present in the replacement file must be treated as cancellations; that is, they are removed from the planned service interruption 9. The Registry must notify affected participants of ICP planned service interruptions (communication type codes PLS, PLI), revisions (PLR) and cancellations (PLC). 10. Subject to the notification settings (or defaults) for each participant identifier, an affected participant must include: a. Current Trader b. Current MEP c. If the ICP identifier is involved in a Trader switch, the gaining Trader 11. Where an ICP planned service interruption is a cancellation, the Registry must notify participant s of the cancellation only if they have been previously notified. 12. Where an affected participant performs multiple roles on an ICP as a responsible participant; that is, both trader and MEP, they must receive only 1 ICP planned service interruption notification for the ICP.

Data inputs:
Distributor provided service interruption information. Each attribute on an input line is comma separated.

Attribute Input	Format	Mandatory /Optional	Comments
Record Type	Char 3	M	Must be one of • HDR – indicates the row contains planned service interruption specific header information • DES - indicates the row contains description information. The DES row is optional, a maximum of 1 DES row may be supplied. • DET - indicates the row contains detail panned service interruption information. The DET row is optional
HDR record type followed by			
File Type	Char 7	M	Must be PLINT
Version of EIEP	Numeric 3.1	M	Version of the EIEP protocol being used for this file. For example, 10.1
Sender	Char 20	M	Participant identifier.
Sent on behalf of Participant identifier	Char 4	O	Participant identifier of party on whose behalf data is provided. Not validated by the Registry
Recipient Participant identifier	Char 4	M	Valid recipient Participant identifier. Not validated by the Registry
Report run date	DD/MM/YYYY	M	Valid date.
Report run time	HH:MM:SS	M	Valid time, 24-hour format
Unique File identifier	Char 15	M	Number that uniquely identifies the file. Not validated by the Registry
Number of detail records	Numeric 8	M	Number of DET records
Communication Type Code	Char 3	M	Must be a valid Communication Type Code as per static data table.
Distributor Event Number	Char 15	M	Distributors unique reference number for the planned servicer interruption.
“spare”		O	Reserved for future use. Any value provided in this field must be discarded
DES record type. The DES line may be provided but is not validated nor loaded into the Registry. The intention is to minimise change for participants with pre-existing systems that currently generate a DES line.			
DET record type followed by			
ICP Identifier	Char 15	M	Must be a valid ICP identifier
Feeder	Char 20	O	Transformer and feeder number. Not validated by the Registry
Street/area affected	Char 255	M	Free format text description of locality affected.
Interruption reason	Char 50	M	Free format text description of interruption reason

Number of interruptions	Num 1	M	Number of planned interruptions. There must be a minimum of 1 interruption and maximum of 5. This must match the number of Interruption periods provided.
Distributor Event Number	Char 15	M	Distributors unique reference number for the planned servicer interruption. Must be identical to the Distributor Event Number defined in the HDR record
Distributor may specify up to 5 interruption periods numbered 1 through 5, 1 being the first interruption and 5 being the last. The following interruption date and time fields are repeated maximum 5 times. As a minimum, the first set of interruption information must be provided.			
Interruption “x” Start Date	DD/MM/YYYY	O	Commencement date of interruption
Interruption “x” Restore Date	DD/MM/YYYY	M/O	Most accurate indication of date when power will be restored for interruption “x”. Mandatory if Interruption Start Date is provided
Interruption “x” Start Time	HH:MM	M/O	Start time for first interruption. 24-hour format for example 21:00 (aka 9pm). Mandatory if Interruption Start Date is provided
Interruption “x” expected or actual restore time	HH:MM	M/O	Restore time for interruption. 24-hour format for example 21:00(aka 9pm). Mandatory if Interruption Start Time is provided. Must be after Interruption Start Time.
Interruption “x” alternative date	DD/MM/YYYY	O	Alternative Interruption Start Date if first planned interruption cannot proceed on Interruption “x” Start Date.
Revision Reason	Char 250	O	Free format. Reason for revision of planned service interruption (only if communication type code is PLR).
URL	Char 250	O	URL for updated or additional information if available from distributor’s website
Identifier “x” represents the interruption period 1 through 5.			
A distributor provides a planned service interruption file HDR,RQPLINT,NETA,RGST,14/01/2018,11:13:12,00000003,service interuption in Oxford HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,PLS,OX-88713,,E DET,0000000491AA176,,Oxford area school bay road,Building Demolition,.... DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....			

Processing:

System

1. Verifies the participant supplying the ICP planned service interruption file is currently in the role of distributor.
2. Validates the submitted ICP planned service interruption file
3. If the PLINT HDR row fails validation the entire file is rejected.
4. Adds, updates or cancels ICP planned service interrupt information
5. Supplies an acknowledgement file to the submitting distributor sFTP directory with the results of the ICP planned service interruption file validation.
6. If the file originated from the EIEP hub, supplies an acknowledgement file to the submitting distributor EIEP directory.
7. Alerts affected participants of ICP planned service interruption revisions or cancellations considering the participants ICP planned service interruption notification parameters.

Data outputs:

Acknowledgement file delivered to

- Distributors sFTP directory
- Distributors EIEP hub directory with following EIEP file naming convention:
  - Sender – RGST
  - Recipient – distributor Participant identifier
  - File Type – EIEP5A
  - Unique Id - Distributor Event Number and "ValidationResults"

  For example:

  RGST_E_NETA_EIEP5A_201503_20151203_ OX-88713ValidationResults

Updated ICP planned service interruptions for the submitting distributor for the unique distributor event number.

Notification to affected participants of ICP service interruptions via:

- Batch File
- EIEP hub with following EIEP file naming convention:
  - Sender – Registry Participant identifier
  - Recipient – Participant identifier
  - File Type – EIEP5A
  - Unique Id - Distributor Event Number and "ServiceInterruption"

  For example:

  RGST_E_RETA_EIEP5A_201503_20151203_ OX-88713ServiceInterruption

Name	Format	Description
Input line	Char	Line as supplied in the distributor's input file
Result Code	Numeric	• Error code, else • 000 – no error

Acknowledgement file examples:

1. HDR line error with invalid Communication Type Code, HDR and all DET lines rejected:

HDR,RSACK,RGST,NETA,08/06/2018,14:27:12,00000003,service interuption in Oxford
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,**PZZ**,OX-88713,,E,815
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....815
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....815

2. HDR line error with invalid number of detail lines, HDR and all DET lines rejected:

HDR,RSACK,RGST,NETA,08/06/2018,14:27:12,00000003,service interuption in Oxford
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,**5**,PLR,OX-88713,,E,816
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....816
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....816

3. DET line rejected with ICP not found:

HDR,RSACK,RGST,NETA,08/06/2018,14:27:12,00000003,service interuption in Oxford
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,PLR,OX-88713,,E,000
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....000
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....103

Affected participant ICP planned service interruption file delivered to participants' fromreg directory. A Description line (DES) is provided according to a participants ICP service interruption notification parameters		
DES		
ICP Identifier		
Feeder		
Street/Area Affected		
Interruption Reason		
Number of Interruptions Notified		
Distributor Event Number		
Distributor may specify up to 5 interruption periods numbered 1 through 5, 1 being the first interruption and 5 being the last. The following literal fields are repeated 5 times with "x" representing the interruption period.		
Interruption "x" Start Date		
Interruption "x" Restore Date		
Interruption "x" Start Time		
Interruption "x" Expected or Actual Restore Time		
Interruption "x" Alternative Date		
Detail lines as provided in the distributors ICP planned service interruption file		
Input line	Char	Line as supplied in the distributor input file

File example with a description (DES) line:

HDR,RSPLINT,RGST,RETA,14/01/2018,11:13:12,00000004,service interuption in Oxford
DES,ICP Identifier, Feeder, Street/Area Affected.Interruption Reason...
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,PLR,OX-88713,,E
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....

File example with no description (DES) line:

HDR,RSPLINT,RGST,RETA,14/01/2018,11:13:12,00000003,service interuption in Oxford
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,PLR,OX-88713,,E
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....

NP-080 Web service notify of ICP planned service interruption

Sub-process:	**NP-080 Web Service notify of ICP planned service interruption**
Process:	Notify participants
Participants:	Distributors, Traders, Metering Equipment Providers
Code references:	
Dependencies:	SI-020

Description:

This function is concerned with provision of a web service to allow participants to query the ICP planned service interruptions against an ICP.

A participant polls the Registry requesting ICP planned service interruption information.

The Registry will respond with:

a) A rejection error; or

b) All impending ICP planned service interruptions; or

c) A "no ICP planned service interruptions" response.

Business requirements:

1. A participant calling the web service must:
    a) Fulfil a role that allows access to the web service; that is has a role of Trader, Distributor or MEP; and
    b) Have authorisation to use the Web Service from the Registry Manager
2. A participant calling the web service must provide a valid logon and password
3. A participant must be able to request impending planned service interruptions for an ICP
4. If there are no ICP planned service interruptions the Registry must return a message stating "No impending planned service interruptions for this ICP".
5. The Registry Manager may deactivate access to the web service.

Data inputs:

- Logon user ID and password
- ICP Identifier

Processing:

System:
1. Validates participant has provided a valid logon user ID and password 2. Validates participant access to the web service. If deactivated returns a response message: a) "Access to this Registry Web Service is deactivated. Please contact the Registry Manager". b) Logs the unauthorised access to the web service 3. Creates a response including all current or future dated planned service interruption records

Data outputs:
Web service response including: • ICP planned service interruption records (if any) • Message
The ICP planned service interruption information must contain information as per SI-020.

PR-320 Resend ICP service interruptions

Sub-process:	**PR-320 Resend ICP service interruptions**
Process:	ICP service interruptions
Participants:	Traders, Distributors, Metering Equipment Providers
Code references:	
Dependencies:	SI-010, SI-020

Description:
A Distributor, Trader or MEP participant may report on ICP planned service interruption records.

Business requirements:
1. A Distributor must be able to report ICP planned service interruption records they have submitted to the Registry. 2. A Trader or MEP must be able to report ICP planned service interruptions where they have at least 1 ICP involved in the service interruption. 3. The report must return either a. All ICP planned service interruptions; or b. A specific ICP planned service interruption

Data inputs:

- ICP planned service interruption notification parameters (SI-010).
- ICP planned service interruptions (SI-020).

Parameters:
Each parameter line is preceded by a line type identifier consisting of “PRAMnn” where nn refers to the parameter number.
Each attribute on an input line is comma separated.

Parameter Name	Type	Mandatory /optional	Description
Distributor participant identifier and Distributor event number	Char 19	O	Distributor participant identifier and unique distributor event number. If null then report all ICP planned service interruptions where the requesting participant has ICPs involved.

All ICPs (ignored for distributors)	Char 1	O	Y – report all ICP's involved in the planned service interruption N – report only ICPs where the participant is currently responsible in the role of MEP, Trader or gaining Trader in a switch. Null – default to planned service interruption notification settings For MEP this parameter defaults to N (a MEP may only view ICPs where they are the current MEP)
Include description line	Char 1	O	Y – output includes a DES line N – output does not include a DES line Null - default to planned service interruption notification settings (for a distributor request this equates to N)
File example requesting an individual ICP service interruption, with all ICPs and no DES line: HDR,RQPLINTLIS,RETA,RGST,23/09/2014,09:01:17,4,My ICP Service interruptions PRAM01,NETA123456,Y, File example requesting all ICP service interruptions including own ICPs with a DES line HDR, RQPLINTLIS,RETA,RGST,23/09/2014,09:01:17,4,My ICP Service interruptions PRAM01,N,Y			

Processing:

System:

1. Validates report selection criteria.
2. Reports ICP planned service interruptions considering participant ICP planned service interruption notification parameters
3. Delivers output to requesters fromreg directory
4. Delivers output to participants EIEPIn directory

Data outputs:

Each attribute on an output line is comma separated.

Name	Format	Description
HDR input line	Char	Line as supplied in the most recent distributor input file.
DET input line	Char	Line as supplied in the most recent distributor input file

File example where a single ICP planned service interruption requested:
HDR,RSPLINTLIS,RGST,RETA,23/09/2014,09:01:17, 00000003,My ICP Service interruptions
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,PLS,OX-88713,,E
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....

File example where all ICP planned service interruption requested and a DES line:
HDR,RSPLINTLIS,RGST,RETA,23/09/2014,09:01:17,00000008,My ICP Service interruptions
DES,ICP Identifier, Feeder, Street/Area Affected.Interruption Reason...
HDR,PLINT,1.0,NETA,,RETA,08/06/2018,14:22:00,6677991,2,PLS,OX-88713,,E
DET,0000000491AA176,,Oxford area school bay road,Building Demolition,....
DET,0000000493AA1F3,,Oxford area school bay road,Building Demolition,....
HDR,PLINT,1.0,NETA,,RETA,07/06/2018,09:22:00,6677800,1,PLS,AM-13,,E
DET,0000000575AA176,,Amberley 223 Main road,Power Pole Replacement,....
HDR,PLINT,1.0,NETA,,RETA,07/06/2018,09:22:00,666675,1,PLR,WA-99987,,E
DET,0000000677AA176,,Wanganui 33 Kings street,NSP replacement,....

Batch interface cross reference map

Process	Input Header	Output Header	Input Filename Example	Maintenance Acknowledgement Filename Example (if applicable)	Report Output Filename or delivered switch file (if applicable)	File naming Convention
Reports and Notifications						
PR-320 Resend ICP planned service interruptions	RQPLINTLIS	RSPLINTLIS	ResendMyPLINTRecords.txt		PSIendMyPLINTRecords.txt	**Same filename except first 3 character replaced**

QU-020 View ICP information

Sub-process:	**QU-020 View ICP information**
Process:	Make query online
Participants:	All users
Code references:	Clause 11.28 of the Code.
Dependencies:	QU-010

Description:
A user can view all the information about an ICP that includes its current attributes, history of changes, notifications delivered and audit details. The only exception to this is the channel reading value provided in CS and RR switch messages. This information is only viewable by users of the responsible participants at the Event Date of the switch.

Business requirements:

1. All approved users must be able to view all attributes of an ICP. However, the channel reading values provided in the CS and RR switch messages must only be available to the participants responsible for the ICP on the Event Date.
2. The details of the ICP must be displayed 'as at' a particular date including whether the ICP is the subject of any switch. All attributes that were applicable on the 'as at' day must be shown.
3. The user must be able to view for the ICP identifier all current or impending ICP planned service interruptions
4. The user must be able to view the history of the ICP identifier (i.e. all the events associated with an ICP) and all switch messages.
5. The user must be able to drill down from events to see the full details of the event, details of changes made, the notifications delivered and the audit details.
6. The user must be able to view and download a CSV version of events and switch transactions.
7. The user must be able to view a map of the location of the ICP using its stored GPS co-ordinates.
8. The user must be able to view reconciliation information including periods of responsibility of participants and NSP trading periods.
9. All screen layouts and contents must be agreed with the Authority, and must not be changed without the Authority's consent.

Data Inputs:

- ICP Identifier.
- 'As at' date – defaulted to today's date.
- ICP history filters – event/switch type, with or without changes.
- Map display option.
- CSV file download option

Processing:

For the ICP identified, the system:

Finds and displays the attributes, derived attributes (summary data), historical information, notifications, reconciliation information and audit details of the ICP that were applicable on the "As at' date.

Data outputs:

Summary Data:

The following attributes and derived attributes are displayed:

ICP Identifier

'As at' Date

ICP planned service interruptions

ICP switch status derived attributes:

- Trader Switch
- MEP Switch

Status Event attributes

- Event Date
- ICP Status
- Status Reason

Address Event attributes

- Event Date
- Physical Address Unit
- Physical Address Property Name
- Physical Address Number
- Physical Address Street
- Physical Address Suburb
- Physical Address Town
- Physical Address Region

- Physical Address Post Code

Network Event attributes

- Event Date
- Network participant Identifier
- POC
- Reconciliation Type
- Dedicated NSP
- Installation Type
- Unmetered Load Details – Distributor
- Shared ICP List
- Direct Billed Status

Pricing Event attributes

- Event Date
- Distributor Price category Code
- Chargeable Capacity
- Distributor Installation Details
- Distributor Loss Category Code

Trader Event attributes:

- Event Date
- Participant Identifier of Trader
- Proposed MEP
- Profile
- Unmetered Load Details for Trader
- ANZSIC
- Submission Type HHR
- Submission Type NHH

Metering Event attributes:

- Event Date
- MEP Participant Identifier
- HHR Flag
- NHH Flag
- PP Flag
- Meter Multiplier Flag
- Highest Metering Category

- Meter Channel Count

Metering Event derived attributes:

- C&I TOU
- AMI Comm
- AMI Non Comm
- Serial Numbers

ICP History and Audit Details:

Shows all events and switch transactions for a selected ICP. The information displayed for each is:

- Event Type
- Effective Date
- Input Date
- Input Time
- Audit Reference
- Input By Participant Identifier
- User's Participant Identifier
- Mode of input (screen or file)
- State of event (Active, Reversed or Replaced)

For reversed or replaced events the following extra information is shown:

- Reversal or Replacement date and time
- Audit reference
- Participant
- Input By Participant Identifier
- User's Participant Identifier
- Mode of input (screen or file)

View Details:

Shows a selected event or switch transaction's details either on screen or in CSV format - see ICP event maintenance and switching (sections 3.1 to 3.4) for formats. All CSV formatted details are downloadable.

Notifications:

Shows a selected event or switch transaction's notifications that were delivered, detailing:

- Notification Type
- Operation Type (input/reversal/replacement)
- Filename
- Date and time submitted

Reconciliation information:

Shows the periods of responsibility of reconciliation participant s of an ICP, identifying, per change of Trader, Network, POC Installation Type and Submission Type where the Status was 'active' with an Installation Types of 'Load' or 'Both':

- Start Date
- End Date
- Trader Participant Identifier
- Network Participant Identifier
- POC
- Installation Type
- Status
- Meter Type(s)

Shows an ICP's NSP trading periods, identifying per change of Trader, NSP, Installation Type, Reconciliation Type and Profile:

- Start Date
- End Date
- Trader Participant Identifier
- Network Participant Identifier
- POC
- Installation Type
- Reconciliation Type
- Status
- Profiles

ICP Planned service interruptions:

Shows all current or impending planned service interruptions record for an ICP detailing:

- Distributor event number
- Feeder
- Communication Type Code
- Interruption start date(s) and time(s)
- Interruption end date(s) and time(s)
- Interruption alternative start date
- Date and time submitted
- Revision Reason
- URL for additional information

RS-010 Make switch request (NT)

Sub-process:	**RS-010 Make switch request (NT)**
Process:	Traders switch ICP
Participants:	Traders
Code references:	Clauses 1 to 16 and 22 of Schedule 11.3 of the Code
Dependencies:	MP-020, PR-030, SI-020

Description:
The gaining Trader initiates a switch by sending a switch request message (NT) to the registry. The registry then forwards the request on to the losing Trader. Depending on the gaining Trader's notification parameter settings, the system can send a snapshot PR-030 report, for every ICP being switched, showing the current state of each event type of the ICP. Trader Default Situation A Trader in a Trader Default situation may not make a Switch Request to the Registry to gain responsibility for an ICP

Business requirements:

1. Only the gaining Trader can send an NT to the registry.
2. The current Status of an ICP as defined by the most recent Status event must be either inactive or active and must have an associated Metering event or have solely unmetered load.
3. There must not already be a Trader switch in progress for the ICP.
4. The switch type can be either a MI (move in switch) or TR (standard Trader switch) or a HH
5. Assignment of the switch type in an NT must conform with the following rules:

   a) If the latest Metering event (summary level) has an AMI Flag of "Y":

      i. and if the Highest Metering Category is 1, 2 or 9, then the switch type must be MI or TR.

      ii. and if the Highest Metering Category is 3, 4 or 5, then the switch type must be HH.

   b) If the latest Metering event (summary level) has an AMI Flag of "N":

      i. and if the Highest Metering Category is 1, 2 or 9 then

      - if the Submission Type will not change* then the switch type must be MI or TR.

      ii. and if the Highest Metering Category is 3, 4 or 5, then the switch type must be HH.

   Any switch type may be submitted for all other combinations of no metering, AMI Flag, Submission Type change* and Highest Metering Category i.e. that is not covered by a) or b) above.

   *Submission Type will/will not change refers to the assignment of this ICPs attributes - Submission Type HHR and Submission Type NHH - by the system, once this switch has completed (as per the processing logic in RS-050).

   Submission Type will change when:

Current Submission Types	Post CS Submission Types
HHR = Y and NHH = N	(HHR = N and NHH = Y) or (HHR = Y and NHH = Y)
HHR = N and NHH = Y	(HHR = Y and NHH = N) or (HHR = Y and NHH = Y)
HHR = Y and NHH = Y	(HHR = Y and NHH = N) or (HHR = N and NHH = Y)

6. A Proposed Transfer Date must be provided if the switch type is MI or HH. The Proposed Transfer Date must be after the initial assignment and after any other completed switches which have not been withdrawn. The Proposed Transfer Date must be within the period that the gaining Trader has an active role of 'Trader'. Where the Proposed Transfer Date is not provided, the gaining Trader must be currently active in the role of 'Trader'.
7. The Address information provided on an NT must only be used by the losing Trader to confirm that the new Trader has identified the correct ICP. It must not be used to update the registry.
8. An audit trail and an acknowledgement must be generated for the NT.
9. The NT must be forwarded by the registry to the losing Trader in a file in the same format as input, and in accordance with their switch notify parameters.
10. Where the ICP has current or impending ICP planned service interruptions, and the gaining Trader has not previously been notified of the planned service interruption; the Registry must notify the gaining Trader in accordance with their ICP planned service interruption parameters.
11. An NT must not be corrected or reversed once it has been accepted by the registry; instead it must be withdrawn.
12. Once the NT has been accepted, all online queries relating to the ICP in question must highlight that a Trader switch is in progress.
13. As part of the NT message delivery and in accordance with the notification parameter settings of the gaining Trader, the system may also provide, immediately (and only to) the gaining Trader, a file containing the events 'as at' the Proposed Switch Date (or today's date where the Proposed Transfer Date is missing) and any events that have changed since that date for each ICP. The format of this file is the snapshot version of PR-030 – Event Detail Report. The report can be requested to be provided in csv or xml format which is a parameter setting within the notify parameters process (MP-020). The name of this file will be the same as the NT message with a file extension of ".eda".

    A Trader who is in a Trader Default situation may not submit an NT to the Registry

Data inputs:
Each attribute on an input line is comma separated. NT (notice of transfer) attributes are as follows:

Name	**Type**	**Mandatory/ optional**	**Description**
Record type	Char 1	M	Must be "P"

Name	Type	Mandatory/ optional	Description
ICP	Char 15	M	
Requesting Trader	Char 4	O	New Trader participant identifier. The Participant Identifier can be derived by the system.
Confirmation Address Unit	Char 20	O	
Confirmation Address Number/ RAPID number	Char 25	O	
Confirmation Address Street	Char 30	O	
Confirmation Address Suburb	Char 30	O	
Confirmation Address Town	Char 30	O	
Confirmation Post Code	Numeric 4	O	
Confirmation Address Region	Char 20	O	Address Region must be a valid Region as per Static Data table.
Confirmation Property Name	Char 75	O	
Proposed Transfer Date	DD/MM/YYYY	M/O	Mandatory if the Switch Type is MI or HH. The gaining Trader must be active in the role of 'Trader' on the Proposed Transfer Date or, if left blank, 'as at' todays date.
Switch Type	Char 2	M	Must be one of MI or TR or HH.
Proposed Profiles	Char 25	M	One or more Profiles separated by spaces. Each one must be valid for the requesting Trader on the Proposed Transfer Date.
Proposed ANZSIC	Char 7	O	Valid consumer's ANZSIC code,
User Reference	Char 32	O	Free text.
Example: HDR,RQSWITCHNT,RETB,RGST,16/07/2007,15:36:20,1, P,9999999999AB123,RETB,Unit1,127,Peel Street,Ohau,Twizel,9971,Canterbury,01/01/2009,MI,RPS MXP,A013100,NTSwitchUserRef			

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that the requesting Trader is allowed to input the NT.

3. Checks the Trader is not in a Trader Default situation
4. Rejects an NT with errors and returns it to the sender with the reason for the rejection.
5. Updates each ICP to indicate that a Trader switch is in progress.
6. Keeps a copy of the NT and completes the audit trail information for it.
7. Delivers the NT to the current Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters.
8. Identifies if the ICP has current or impending ICP planned service interruption records and, where the gaining trader has not previously been notified of the planned service interruption, notifies the gaining trader in accordance with the gaining Traders ICP planned service interruption notification parameters.
9. Deliver a snapshot PR-030 file to the new Trader, in accordance with their notify parameter settings.
10. Generates an acknowledgement to the gaining Trader.

Data outputs:

- ICP updated to indicate that a Trader switch is in progress and the NT has been received.
- Stored copy of the switch request message and its associated audit trail information.
- NT to forward to the losing Trader.
- ICP planned service interruption to the gaining Trader
- Acknowledgement.

Sub-process:	**RW-020 Acknowledges withdrawal request (AW)**
Process:	Trader withdraws switch
Participants:	Trader, Metering Equipment Provider
Code references:	Clauses 17 and 18 of Schedule 11.3 and Schedule 11.5 of the Code.
Dependencies:	RW-010

Description:
A Trader, having received a notice requesting a switch withdrawal, sends an acknowledge withdrawal (AW) message to the registry in reply. The acknowledgement can either accept or reject the withdrawal request.

Business requirements:
1. The Trader receiving a notice to withdraw a switch must respond to it by sending an AW to the registry.
2. There must be an immediately prior NW for the latest switch of the ICP and no matching AW.
3. A Trader must not submit a AW message where the result is a Trader in a Trader Default situation gaining responsibility for an ICP.
4. A Trader must only submit an AW acceptance message which would cause the ICP to become the responsibility of a Trader in a period where they were active in the role of 'Trader'.
5. The registry must keep a copy of the AW for a minimum of 3 months.
6. An audit trail and an acknowledgement must be generated for the AW.
7. The AW must be forwarded to the other Trader by the registry in a file and in accordance with their switch notify parameters.
8. The AW must be forwarded to the current MEP, unless they have been sent the AW as a result of also being the Trader.
9. An AW cannot be corrected or reversed once accepted by the registry.

Data inputs:

Each attribute on an input line is comma separated.

- AW (withdrawal acknowledgement)

Name	Type	Mandatory/ optional	Description
Record type	Char 1	M	Must be 'P' - premises.
ICP	Char 15	M	
Trader	Char 4	O	Trader Participant Identifier who submits the withdrawal acknowledgement. Can be derived by system.
Withdrawal Transfer Status	Char 1	M	A—withdrawal accepted. R—withdrawal rejected.

User Reference	Char 32	O	Free text.

Example:
HDR,RQSWITCHAW,RETB,RGST,10/07/2007,11:00:00,1
P,9999999999AB123,RETB,A,AW_UserReference

Processing:

System

1. Validates all attributes and checks their dependencies.
2. Checks that the responding Trader is allowed to send the AW message.
3. Checks the gaining Trader is not in a Trader Default situation.
4. Rejects an AW message with errors and returns it to the sender with a reason for the rejection.
5. If the AW message indicates that the withdrawal is accepted, cancels the latest switch. If it was a completed switch, any events inserted by the gaining Trader after the Actual Transfer Date of the switch are reversed except for Trader events that commenced an MEP switch where an MN acceptance was also submitted. In this instance, the system will replace these Trader events with details inherited from the prior Trader's latest Trader event, but with the Event Date and Proposed MEP attributes taken from the Trader event being replaced. The ICP is updated to indicate that a switch is no longer in the withdrawal process. Responsibility for the ICP reverts to the losing Trader.

   Cancels (removes) ICP service interruption information for the losing Trader; that is the Trader that does not have ICP responsibility is no longer be notified of interruption information. If required creates ICP service interruption information and notifies the gaining trader in accordance with the gaining Traders ICP service interruption notification parameters.
6. If AW indicates that the withdrawal is rejected and, prior to the commencement of the withdrawal being initiated, a Trader switch was in progress, the system restores the ICP to the *switch in progress* state. (The Trader switch can proceed or another withdrawal can be initiated.) If the withdrawal was for an already completed Trader switch, the system ends the withdrawal in progress for the ICP. (It is available for switching again.)
7. Forwards the AW to the other Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters.
8. Forwards the AW to the current Metering Equipment Provider of the ICP. All AW messages are batched together in one file and delivered overnight.
9. Completes the audit trail information of each event inserted and reversed as well as for the AW.
10. Generates an acknowledgement of the AW for the responding Trader.
11. Determines the affected parties of each event insertion, replacement and reversal and generates notifications to them, with reference to their notification parameters. The affected parties are the Distributor, gaining Trader, losing Trader, MEP and the Proposed MEP if there is an MEP switch in progress.
12. Each withdrawal initiation and acknowledgement pair of transactions, regardless of whether the acknowledgement is an acceptance or a rejection, resolves a switch withdrawal request.
13. A Trader event reversal may result in the MEP switch in progress status being set off.

Data outputs:

- ICP updated to indicate that the latest Trader switch is no longer being withdrawn.

- Stored copy of the AW and its associated audit trail information.
- AW to forward to the other Trader and MEP.
- Possible Trader and Status event reversals.
- Possible Trader event replacements.
- Possible MEP switch in progress status set off.
- Notifications.
- Acknowledgements.

Appendix D Regulating a standard delivery mechanism: proposed Code amendment for Option 4

D.1 Proposed Code amendment to give effect to implementing the registry maintenance file option (Option 4)

Schedule 11.1

Creation and management of ICPs, ICP identifiers and NSPs

…

7A **Distributors** to provide planned service interruption information to **registry**

(1) A **distributor** must, for each **ICP identifier** on the **distributor's network** subject to an impending planned service interruption, provide the planned service interruption information to the **registry**.

(2) If information about a planned service interruption affecting an **ICP identifier** provided to the **registry** in accordance with subclause (1) changes, the **distributor** must notify the **registry** of the change.

(3) The **distributor** must provide the information in subclause (1) no later than:

(a) for the initial advice where the **trader** is required to notify affected **consumers**, 10 **business days** before the interruption start date; or

(b) for the initial advice where the **distributor** is required to notify affected **consumers**, 4 **business days** before the interruption start date; or

(4) The **distributor** must provide the information in subclause (2) no later than:

(a) for a revision (other than a cancellation) of any information previously provided under this clause which may be due to rescheduling, change to the list of **ICP identifiers** affected, reason for the planned service interruption, area affected or feeder details, 7 **business days** before the interruption start date or otherwise the interruption must be rescheduled if fewer than 7 **business days** remain; or

(b) for a cancellation, not less than 4 **business days** prior to the interruption start date where practicable.

Q23. Do you have any comments on the drafting of the proposed amendment for Option 4?

Appendix E Format for submissions

Submitter	

Question		Comment
Q1.	Do you agree that in the interests of standardisation and efficiency we should mandate a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs? If not, please provide reasons.	
Q2.	If you agree that we should mandate a single standardised EIEP1 reporting methodology for trader to distributor files for NHH ICPs, do you agree that option 1 is the best option to implement. If not, please provide which of the Options 2 or 3 you prefer, and why?	
Q3.	As a trader, if you cannot currently provide replacement RM normalised files, please advise the estimated cost and time required to do so.	
Q4.	As a distributor, if your current system does not have the capability to process replacement RM normalised files (including at least a month 3 replacement file), or you have not commenced developing the capability, please advise the estimated cost and time required to do so.	
Q5.	Do you have any comments on the draft mark ups (attached as Appendices A and B) to EIEP1 and EIEP2 reflecting each of the three options?	
Q6.	If we decide to implement one of the options, do you agree with setting 1 April 2020 as the implementation	

	date, subject to a minimum lead time of 12 months from when we issue the decision paper? If not, please advise what you consider to be a more appropriate implementation date and lead time, and why.	
Q7.	Do you agree that in the interests of standardisation and efficiency we should mandate a delivery mechanism for EIEP5A planned service interruption information, instead of retaining the status quo? If not, please provide reasons.	
Q8.	If you agree that we should mandate a delivery mechanism, do you agree with our preferred option. If not which of the Options 1, 2 or 4 do you prefer, and why?	
Q9.	If we mandated a delivery mechanism as for Options 1 to 4, what system costs would you incur? Please list the costs for each option.	
Q10.	Do you have any comments on the draft mark ups of EIEP5A reflecting Options 1, 2 and 3?	
Q11.	Do you have any comments on the draft registry functional specification?	
Q12.	If the proposal proceeds, we intend to provide web services for planned outage information. Would you prefer a new dedicated web services for planned outage information or a a new version of icp_details with outage information appended? See Appendix C for further information.	
Q13.	Do you have any comments on the draft Code changes proposed for Schedule 11.1 reflecting Option 4?	
Q14.	Do you agree that six to 12 months is sufficient lead time	

	from the time the decision is issued to implement the proposed solution? If not, please advise what you consider to be a more appropriate implementation date and lead time, and why.	
Q15.	Do you agree with the costs and benefits of the proposed amendments? If not, why not?	
Q16.	What are your costs associated with making RM normalised the single standard reporting methodology for EIEP1? Please provide details.	
Q17.	Are there any other costs or benefits we have not identified?	
Q18.	Do you agree with the objectives of the proposed amendment? If not, why not?	
Q19.	Do you agree the benefits of the proposed amendment outweigh its costs? If not, why not?	
Q20.	Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.	
Q21.	If you prefer Option 4 over the other options, do you have any comments on the proposed Code drafting in Appendix D? If yes, please provide details.	
Q22.	Do you agree the Authority's proposed amendments comply with section 32(1) of the Act?	
Q23.	Do you have any comments on the drafting of the proposed amendment for Option 4?	