

Electricity Information Exchange Protocols (EIEP)

EIEP 1: Detailed ICP billing and volume information Regulated

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

Contents

1	EIEP1: Detailed ICP billing and volume information	1
2	Table of codes used in EIEP1	15

1 EIEP1: Detailed ICP billing and volume information

Title:	EIEP1 – Detailed ICP billing and volume information
Version:	11.0
Application:	<p>This protocol allows:</p> <ol style="list-style-type: none"> 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.
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
<p>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.</p> <p>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.</p> <p>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.</p> <p>The billing information contained in an EIEP1 format file must use one of the following reporting methodologies:</p> <ul style="list-style-type: none"> • As billed • Incremental as billed normalised • Replacement RM normalised • Incremental RM normalised <p>The reporting methodology to be used must be as agreed and recorded in writing, or otherwise the distributor may specify its 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.</p> <p>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.</p> <p>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.</p> <p>Traders may then use the information provided by distributors in their EIEP1 files to reconcile the network</p>

Description of when this protocol applies
charges at detailed level.

Business requirements
<ol style="list-style-type: none"> 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 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 that the EIEP1 revision month files be provided to the distributor 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: <ol style="list-style-type: none"> (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: <ul style="list-style-type: none"> 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 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

Business requirements

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;
 - (f) late processing of switches;
 - (g) switch read changes;
 - (h) late processing of meter changes;

Business requirements

- (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' 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 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.

'As billed' methodology

26. 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

Business requirements

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. 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. 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. The end date for as billed must be the 'bill to' date on the bill to the customer.

30. 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. 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
- (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.

Business requirements

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.
38. 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

39. '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.
40. 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 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 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

Business requirements

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.

41. Each revision file must have a 'file status' of R (replacement) as file type.

'Incremental RM normalised' methodology

42. '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.

43. 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;
- (d) 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

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

45. 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.

Business requirements

The replacement methodology requires multiple reporting, billing, settlement and reconciliation processes for each month.

46. 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.
47. 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 liveness (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.
48. 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).
49. 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.
50. 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.
51. 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.
52. 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
<p>1. If there are any conflicts between this document and the Code, the Code takes precedence.</p> <p>2. In general, all participants must provide the recipient with:</p> <ul style="list-style-type: none"> (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. <p>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.</p> <p>4. It is the responsibility of participants to comply with the Privacy Act when exchanging customer information.</p>

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
<i>Header record type</i>	Char 3	M	M	HDR – indicates the row is a header record type
<i>File type</i>	Char 7	M	M	<p><u>For Trader to Distributor files:</u> If 'As billed' then ICPMMAB (for NHH) or ICPHHAB (for HHR) If 'Incremental As billed normalised' then ICPMMNM, if 'Replacement RM normalised' then ICPMMRM or if 'Incremental RM normalised' then ICPMMSP.</p> <p><u>For Distributor to Trader files:</u> 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</p>
<i>Version of EIEP</i>	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
<i>Sender</i>	Char 20	M	M	Name of sending party. Participant identifier to be used if the sender is a participant.
<i>Sent on behalf of participant identifier</i>	Char 4	M	M	Participant identifier of party on whose behalf volume data is provided.
<i>Recipient participant identifier</i>	Char 4	M	M	Valid recipient participant identifier
<i>Report run date</i>	DD/MM/YYYY Y	M	M	Date the report is run
<i>Report run time</i>	HH:MM:SS	M	M	Time the report is run
<i>Unique file identifier</i>	Char 15	M	M	Number that uniquely identifies the file
<i>Number of detail records</i>	Num 8	M	M	Total number of DET records in report
<i>Report period start date</i>	DD/MM/YYYY Y	M	M	Report run start date (inclusive)
<i>Report period end date</i>	DD/MM/YYYY Y	M	M	Report run end date (inclusive)
<i>Report month</i>	YYYYMM	M	M	The month the report is run for.
<i>Utility type</i>	Char 1	M	M	Type of energy supply; G = Gas; or E = Electricity
<i>File status</i>	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
<i>Detail record type</i>	Char 3	M	M	DET – indicates the row is a detail record.
<i>ICP identifier</i>	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
<i>Start date</i>	DD/MM/YYYY Y	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
<i>End date</i>	DD/MM/YYYY Y	C	M	End date of fixed or variable record. Mandatory unless as billed file and 'meter read status' equals UB
<i>Price description</i>	Char 75	O	O	Null unless required to further describe the price code.
<i>Unit of measure</i>	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.
<i>Unit quantity</i>	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.
<i>Meter read status</i>	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.
<i>POC</i>	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).
<i>Network participant identifier</i>	Char 4	M	M	Network participant identifier
<i>Spare</i>		O	O	Empty
<i>Price component code</i>	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
<i>Delivery price</i>	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
<i>Fixed/Variable</i>	Char 1	C	M	F (Fixed) or V (Variable). Mandatory unless as billed file and 'meter read status' equals UB
<i>Chargeable days</i>	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
<i>Network charge</i>	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.
<i>Register content code</i>	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.
<i>Period of availability</i>	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 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
<i>Report month</i>	YYYYMM	M	M	The month for which the report is run. Must match the month given in the header for 'Report Month'.
<i>Customer no</i>	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
<i>Consumer no</i>	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
<i>Invoice date</i>	DD/MM/YYYY Y	O	M	
<i>Invoice or invoice reference number</i>	Char 20	O	M	Populate with actual invoice number or a reference number which is quoted on the invoice to the trader.
<i>Energy flow direction</i>	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
<p>1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields.</p> <p>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:</p> <ul style="list-style-type: none"> (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. <p>3. Data fields within files must be defined using the attributes in the table following these specifications.</p> <p>4. Matching of file names, code list values, etc, must be case insensitive.</p> <p>5. Each data file must contain only one header but can contain any number of detail records.</p> <p>6. The first record of a file must contain 'Header' information followed by one or more detail lines.</p> <p>7. Each file created must have a file name as outlined below and must have names that are unique within any month.</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 40px;">e.g. TRUS_E_UNET_ICPMMAB_200007_20000802_UniqueID.TXT [Char4_Char1_Char4_Char7_yyyymm_yyyymmdd_Char60.TXT]</p> <p>8. The format must provide for a number of different trader to distributor file types supporting the following:</p> <ul style="list-style-type: none"> (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 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) File type ICPMMRM provides 'replacement 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. (f) 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	<p>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.</p> <p>Numbers only: ASCII characters 48 to 57, and 45 where applicable.</p>	<p>INT (4)</p> <p>12</p> <p>-1234</p>
NUM (n.d)	Decimal	<p>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.</p> <p>For integers, the decimal point is not required.</p> <p>A decimal point on its own must not be used to represent zero (use "0")</p> <p>Trailing zeros are optional.</p> <p>No leading zeros other than when the number starts with "0."</p> <p>Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.</p>	<p>NUM (6.2)</p> <p>123.45</p> <p>1234.0</p> <p>-12.32</p> <p>NUM (6.3)</p> <p>-0.123</p> <p>23.987</p> <p>987.000</p> <p>8</p>
CHAR (n)	Text	<p>Up to n characters (ASCII characters 32 to 43 and 45 to 126 only).</p> <p>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.</p> <p>Fields must not contain any leading or trailing spaces.</p>	The quick brown fox
DATE	Date	<p>ASCII format with: Year represented as:</p> <ul style="list-style-type: none"> — YYYY for century and year <p>Month represented as:</p> <ul style="list-style-type: none"> — MM to display leading zero <p>Day represented as</p> <ul style="list-style-type: none"> — DD to display leading zero <p>ASCII format for any separators used</p>	<p>YYYYMMDD e.g.</p> <p>20050216</p> <p>DD/MM/YYYY e.g.</p> <p>16/02/2005</p>
TIME		<p>ASCII in 24 hour format</p> <p>Hour represented as HH with leading zeros</p> <p>Minutes represented as MM with leading zeros</p> <p>Seconds represented as SS with leading zeros</p>	<p>HH:MM:SS e.g.</p> <p>13:15:01</p> <p>HH:MM</p> <p>e.g. 13:15</p>

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
kVAh	kilovolt ampere reactive hour energy (reactive energy)
kVA	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
<p>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.</p>	

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	ICPMNM	10 TRDR		TRDR	DIST	04/11/2012	4:04:5	40455	8	01/10/2012	31/10/2012	201210	E	I	
RECOR D 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			
N	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			
N	19	201210	17008953	220045683			X

3.2 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

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	0000009997B3	01/10/2007	31/10/2007				RD	GFD0331	UNET		G100	0.125	F	31	3.88
DET	0000009997B3	01/10/2007	31/10/2007		kWh	689	RD	GFD0331	UNET		G100/24UC	0.0736	V		50.71
DET	0000009997B3	01/11/2007	30/11/2007				ES	GFD0331	UNET		G100	0.125	F	30	3.75
DET	0000009997B3	01/11/2007	30/11/2007		kWh	540	ES	GFD0331	UNET		G100/24UC	0.0736	V		39.74
DET	0000009997B3	01/12/2007	31/12/2007				RD	GFD0331	UNET		G100	0.15	F	31	4.65
DET	0000009997B3	01/12/2007	31/12/2007		kWh	299	RD	GFD0331	UNET		G100/24UC	0.0804	V		24.04
DET	0000009997B3	01/01/2008	31/01/2008				ES	GFD0331	UNET		G100	0.15	F	31	4.65
DET	0000009997B3	01/01/2008	31/01/2008		kWh	498	ES	GFD0331	UNET		G100/24UC	0.0804	V		40.04
DET	0000009997B3	01/02/2008	29/02/2008				RD	GFD0331	UNET		G100	0.15	F	29	4.35
DET	0000009997B3	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	0000009997B3	01/10/2007	31/10/2007				RV	GFD0331	UNET		G100	0.125	F	-31	-3.88
DET	0000009997B3	01/10/2007	31/10/2007		kWh	-689	RV	GFD0331	UNET		G10024UC	0.0736	V		-50.71
DET	0000009997B3	01/11/2007	30/11/2007				RV	GFD0331	UNET		G100	0.125	F	-30	-3.75
DET	0000009997B3	01/11/2007	30/11/2007		kWh	-540	RV	GFD0331	UNET		G10024UC	0.0736	V		-39.74
DET	0000009997B3	01/12/2007	31/12/2007				RV	GFD0331	UNET		G100	0.15	F	-31	-4.65
DET	0000009997B3	01/12/2007	31/12/2007		kWh	-299	RV	GFD0331	UNET		G10024UC	0.0804	V		-24.04
DET	0000009997B3	01/01/2008	31/01/2008				RV	GFD0331	UNET		G100	0.15	F	-31	-4.65
DET	0000009997B3	01/01/2008	31/01/2008		kWh	-498	RV	GFD0331	UNET		G10024UC	0.0804	V		-40.04
DET	0000009997B3	01/02/2008	29/02/2008				RV	GFD0331	UNET		G100	0.15	F	-29	-4.35
DET	0000009997B3	01/02/2008	29/02/2008		kWh	-242	RV	GFD0331	UNET		G10024UC	0.0804	V		-19.46
DET	0000009997B3	01/10/2007	30/11/2007				RD	GFD0331	UNET		G100	0.15	F	61	9.15
DET	0000009997B3	01/10/2007	30/11/2007		kWh	73740	RD	GFD0331	UNET		G10024UC	0.0736	V		5427.26
DET	0000009997B3	01/12/2007	31/03/2008				RD	GFD0331	UNET		G100	0.15	F	122	18.3
DET	0000009997B3	01/12/2007	31/03/2008		kWh	88680	RD	GFD0331	UNET		G10024UC	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

-
-
-
-