

# Principles of the Electricity Information Exchange Protocols (EIEP)

Version 3.0

## Version control

Version	Date amended	Comments
V1.0	12 August 2005	Draft for review
V1.1	29 August 2005	Added process for review and change
V1.2	18 May 2006	Updated for approval from the Electricity Commission Board
V2.0	7 June 2006	Electricity Commission Board approved
V3.0	6 October 2008	Updated into a guide for using the EIEPs in the Electricity Commission style

## Related documents

Document	Type	Description
Electricity Governance Rules 2003	Guide	Rules governing the Electricity Industry
DFRC	List	Listing of all currently available formats and reports and association between documents
Change request proposal	Form	Official form for requesting a protocol change (can also be any written notification)

## **Glossary of abbreviations and terms**

<b>Board</b>	Electricity Commission Board
<b>Commission</b>	Electricity Commission
<b>Regulations</b>	Electricity Governance Regulations 2003
<b>Rules</b>	Electricity Governance Rules 2003



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## **Background and introduction**

1. The Electricity Information Exchange Protocols (EIEP) were created to facilitate exchange interfaces between electricity industry participants and service providers for both the provision of data files and/or report files.
2. Many new protocols have been established, with work continuing on others. It is recognised that alterations to these protocols, formats, and reports may be required if there are changes within the industry or the current protocols are not fulfilling their original intent.
3. These protocols are agreed between participants and are not mandatory.
4. Generally, the EIEP documents are broken into two sections:
  - (a) Protocol guideline:
    - (i) version control;
    - (ii) how the data file format is interpreted and used;
    - (iii) supporting field validation tables; and
    - (iv) naming standards;
  - (b) Data file format (or report layout):
    - (i) data items (fields) in that file;
    - (ii) structure of the data file;
    - (iii) rules for field population; and
    - (iv) example files.

## **Information exchange mechanisms**

5. There are two information exchange mechanisms:
  - (a) Electronic data file transfer; and
  - (b) Manual transfer.

## **Electronic data file transfer**

6. The majority of non-manual interfaces use electronic file transfer either via File Transfer Protocol (FTP) or HTTPS connectivity.
7. A data file is created on the source system, and is then transferred to a predetermined directory on the destination system by FTP operations or via a central hub webpage in the case of HTTPS operations.

## **Manual**

8. Some interfaces employ a manual mechanism. This means that the information is delivered by email, mail, telephone call, or fax from one person to another (perhaps in an electronic file attached to an email or written to a floppy disc).
9. More details of the manual mechanism are given where appropriate for a particular file format.

## **Information exchange specifications**

10. This section specifies the general principles that apply to all data files or reports that are defined and published in the EIEPs for either electronic or manual data file transfer.
11. The structure and content of these files are described in the data file format. The files are supported by the protocol guidelines to explain how they are interpreted and used.

## **Data file format**

12. All data will be provided using the single file format specified for each of the data transfer types, as defined in each EIEP.
13. Data within the file will be validated on a record-by-record basis.
14. The current available data formats in use are either Comma Separated Value (CSV) text formatted files or XML formatted files.
15. Each formatted file will consist of one or more records, with each record being a single line of text for CSV files, or an appropriately tagged XML file, as defined by the published file format document.

## **Report file format**

16. All data will be provided using the single report or metrics format specified for each of the report types, as defined in each EIEP.
17. All data provided in the defined report or metrics file will be in either tabular or graphical format as outlined in the specific format document.

## **Record formats**

18. Each file will consist of a standard header and a collection of data records, using the standard format and layout defined in each format document, to display each field.

## **Field types**

19. All fields that make up the records are written as ASCII data (see Table 2 for the defined ASCII character set).

**Table 1: List of attributes**

Logical format	Data type	Rules	Example
INT (n)	Integer	<ul style="list-style-type: none"> <li>• ASCII representation, no leading zeros or spaces, leading “-” if negative (no sign if positive)</li> <li>• maximum n digits</li> </ul> <p><i>field may have “-” and from 1 to n digits</i></p>	<p>12</p> <p>-1234</p>
NUM (n.d)	Decimal	<ul style="list-style-type: none"> <li>• ASCII representation, no leading zeros or spaces, leading “-” if negative (no sign if positive), but with a decimal point and fixed number of decimal digits</li> <li>• n must be greater than or equal to d</li> <li>• no leading zeros, except where n = d, then number starts “0.”</li> <li>• no trailing zeros</li> <li>• maximum n digits</li> <li>• maximum d digits after decimal point</li> <li>• maximum (n.d) digits before decimal point, except where n=d, then number starts with “0.”</li> </ul> <p><i>field may have “-”; from 1 to (n.d) digits and up to d digits.</i></p>	<p>decimal (6.2)</p> <p>123.45</p> <p>123456.00</p> <p>-12.32</p> <p>decimal (3.3)</p> <p>-0.123</p> <p>23.987</p> <p>987.000</p> <p>Zero must not be represented as a decimal point with no digits.</p>
CHAR (n)	Text	<ul style="list-style-type: none"> <li>• up to n characters</li> <li>• no leading spaces</li> <li>• no trailing spaces</li> </ul>	<p>The quick brown fox</p> <p>“The Quick, brown fox”</p>

Logical format	Data type	Rules	Example
		<ul style="list-style-type: none"> <li>if a field needs to contain the field separator it the data in that field must be enclosed in quotes.</li> </ul>	
DATE	Date	<ul style="list-style-type: none"> <li>ASCII format with:               <ul style="list-style-type: none"> <li>Year represented as:                   <ul style="list-style-type: none"> <li>– YY for year only</li> <li>– YYYY for century and year</li> </ul> </li> <li>Month represented as:                   <ul style="list-style-type: none"> <li>– M for no leading zero in single digit months</li> <li>– MM to display leading zero</li> <li>– MMM to display 3 “character” Month</li> <li>– MMMM to display full Month Name</li> </ul> </li> <li>Day represented as                   <ul style="list-style-type: none"> <li>– D for no leading zero in single digit days</li> <li>– DD to display leading zero</li> <li>– DDD to display 3 “character” day</li> <li>– DDDD to display full Day Name</li> </ul> </li> </ul> </li> <li>ASCII format for any separators used</li> </ul>	YYYYMMDD  20050216  DD-MM-YY  16-02-05  DD/MM/YYYY  16/02/2005  D/M/YY  16/2/05  DD-MMM-YYYY  16-Feb-2005
TIME	Time	<ul style="list-style-type: none"> <li>ASCII in 24 hour format</li> </ul>	HHMMSS

Logical format	Data type	Rules	Example
		<ul style="list-style-type: none"> <li>• Hour represented as HH with leading zeros</li> <li>• Minutes represented as MM with leading zeros</li> <li>• Seconds represented as SS with leading zeros</li> <li>• ASCII format for any separators used</li> </ul> <p>Note: both NZST and NZDT will be used and will be indicated as necessary</p>	<p>131501</p> <p>HH:MM:SS</p> <p>13:15:01</p> <p>HH:MM</p> <p>13:15</p>
DATETIME	Date/Time	<ul style="list-style-type: none"> <li>• ASCII format with same rules as both Date and Time Data Types</li> </ul>	<p>DD/MM/YYYY HH:MM</p> <p>16/02/2005 13:15</p> <p>YYYYMMDDHHMMSS</p> <p>20050216131501</p>
BOOLEAN	Boolean	<ul style="list-style-type: none"> <li>• One ASCII character:</li> <li>• T for True,</li> <li>• F for False</li> <li>• uppercase only</li> </ul>	<p>T</p> <p>F</p>
NULL	Null		

**Table 2: ASCII character set**

Character	ASCII
Space	32
!	33
"	34
#	35
%	37
&	38
'	39
(	40
)	41
*	42

Character	ASCII
+	43
,	44
-	45
.	46
/	47
0-9	48-57
:	58
;	59
=	61
?	63

Character	ASCII
@	64
A-Z	65-90
[	91
\	92
]	93
^	94
_	95
a-z	97-122
{	123
}	125

## **File naming**

20. Each file created will have a file name as outlined in the protocol guideline for each format and must have names that are unique within any month.

## **File naming convention**

21. The following file naming convention is to be used unless otherwise specified:

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\_ICPMMAB\_200007\_20000802\_1232.TXT  
[Char4\_Char1\_Char4\_Char7\_yyyymm\_yyyymmdd\_UniqueID.TXT]

22. The File Type portion of the file name is defined as part of the file header definition. The first record of a file contains Header information followed by zero or more detail lines.

## **Format, report, and guideline naming conventions**

23. Data format files shall be named in the following way:

xx\_format name\_version number.

Where xx represents:

FF to indicate a file format; or

RF to indicate a report format; or

PG to indicate a guideline document.

## **Format name**

24. The short description code that defines the format, for example 'EIEP1'.

## **Protocol guidelines**

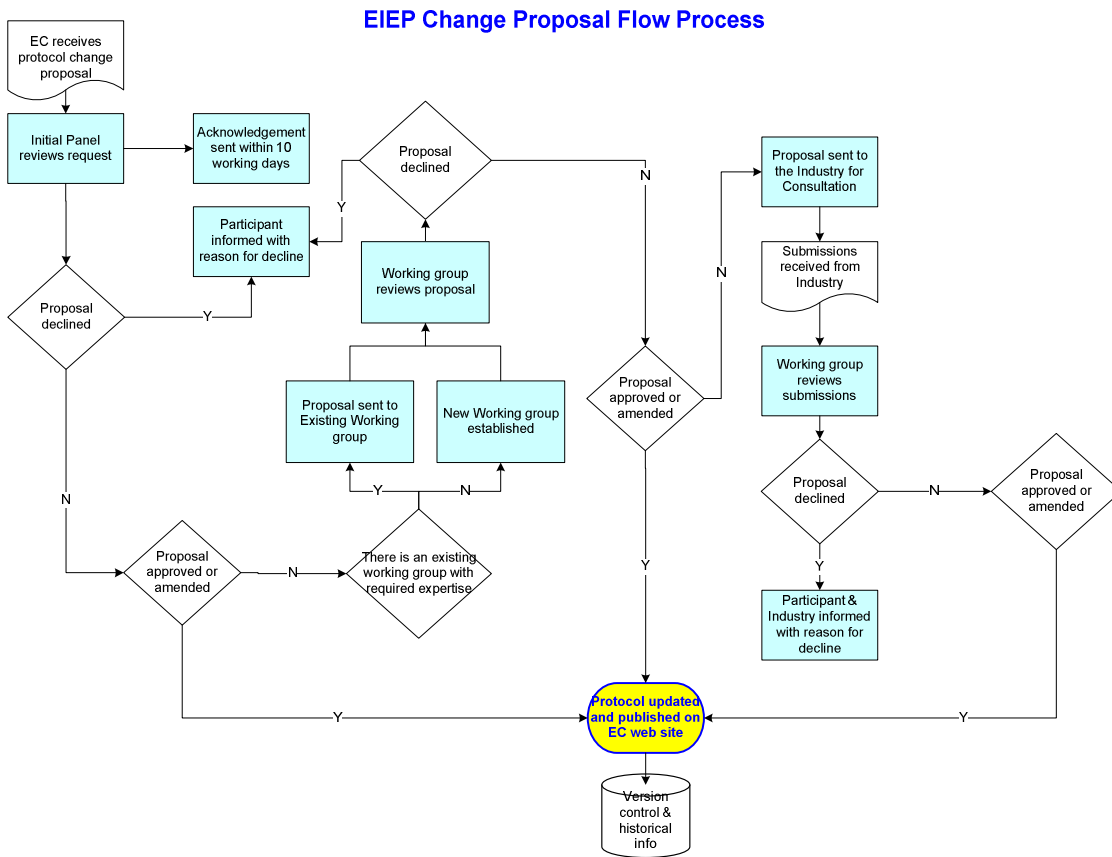
25. This section specifies how the guidelines are to be used in conjunction with the appropriate format.

## **Review and change process**

26. Any participant can initiate a proposal to change the formats, reports, or protocol guidelines (e.g. add or change fields) by submitting a change proposal form (or form equivalent) to the Commission. The form is available from the Commission's website.

## **Review process**

27. The Standing Data Formats Group (SDFG) will review the proposal through the review process. If the change is a simple one, they may recommend that the change be immediately approved, declined, or amended and the industry notified of the change. The documentation will be modified by the Commission accordingly.
28. The SDFG may recommend to the Commission that the proposal be sent out for consultation with the industry. If the Commission agrees and decides that industry consultation is necessary, the relevant protocol will be flagged as under review on the Commission's website and all parties notified (through the Commission Update). Industry participants may then make a submission on the proposed changes.
29. If approved (or amended), the Commission will inform the proposer and notify all industry participants. The applicable protocol documents will be updated and the changes will be published on the Commission's website and in the DFRC.
30. If the Commission declines the proposal, the proposer will be informed and given reasons for the decision.



## Effective date of change

31. The effective date of change will be advised along with the publication of the change. There may be a transition period if the change is significant enough to warrant this (advised at time of publication).

## Transparency

32. The process surrounding review of proposed protocol changes will be transparent to the industry. Any participant may request copies of any written material of the SDFG relating to the proposal (as per the Official Information Act); unless the Commission considers that the matter should be kept confidential.