



**Redlined Extract of CVA Data Catalogue Annex C v15.0 showing changes  
proposed by CP1223**

Annex C: ~~System Operator~~Transmission Company EDL  
Specification  
**CONTENTS**

**'No Changes to the Contents'**

# 1 Introduction

Electronic Dispatch Logging is the existing principal mechanism by which power stations in the existing Pool receive instructions from the ~~System Operator Transmission Company~~ and redeclare availability and dynamic parameters to the ~~System Operator Transmission Company~~.

Under NETA within the rolling Balancing Mechanism window, the balancing of the power system is the ~~System Operator Transmission Company~~'s sole responsibility. A secure, reliable and proven system for issue and acceptance of balancing instructions is a pre-requisite for the ~~System Operator Transmission Company~~ prior to first operation of the power system under NETA. The EDL approach has been adopted for NETA as it is familiar to many and therefore represents a low risk to the NETA programme against the target implementation date.

EDL is the means by which a Control Point for a single or number of BMUs communicates with the ~~System Operator Transmission Company~~. Any Control Point who wishes to receive balancing market instructions and Ancillary Services instructions from the System Operator under NETA must have an EDL link to the ~~System Operator Transmission Company~~. An overview of the interfaces with the ~~System Operator Transmission Company~~ under NETA was given in a DISG paper 19/01.

Logically the EDL system comprises four layers; Application, Communication, Server and Wide-area Network as illustrated in Figure 1.

- Application Layer. This contains the Man-Machine User Interface and other supporting processes. This layer is provided entirely by each of the ~~System Operator Transmission Company~~ and the Company responsible for the Control Point to meet their own individual requirements.
- Communication Layer<sup>1</sup>. This provides the interface between the application layer (often via a database) and the server layer (via messages). It is primarily the Communications Layer which implements the interface described in this document. This layer is provided by each of the ~~System Operator Transmission Company~~ and the Company responsible for the Control Point to meet both their own individual requirements and the functional requirements of the EDL Server Layer.
- Server Layer. This is that part of the Wide-area Network Layer which transfers data between origins and destinations within a network-server domain (transparent task to task communication) to provide the message delivery system. This layer is provided by the ~~System Operator Transmission Company~~.
- Wide-area Network layer. For present purposes, this may be taken to include the lower layers (i.e. physical and data link layers) of the required communications stack. It may be TCP/IP (the ~~System Operator Transmission Company~~'s preferred option) provided by any platform vendor or DECnet provided by Compaq.

**Figure 1. 'No Changes'**

**Figure 2. 'No Changes'**

**1.1 'No Changes'**

**1.2 'No Changes'**

**1.3 'No Changes'**

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<sup>1</sup> Not to be confused with the seven Communications Layers of the ISO OSI Model

## 2 Message Structure Details

### 2.1 Message Guidelines - General Description

All messages are simple ASCII text strings to aid development of Application and Communication layers by all parties. With the exception of Server Messages the messages comprise three parts.

- A message Prefix Part
- A message Header Part
- A message Data Part

The message Prefix Part is not transmitted between computer systems. It is used for communication between the Communications Layers and the Server Layers of the system on each node.

Message Prefix Parts are removed by the Server Layer from messages received from the Communication Layer before sending the messages to the Wide-area Network Layer for transmission.

Messages Prefix Parts are added by the Server Layer to messages received from the Wide-area Network Layer before sending the messages to the Communication Layer.

The message Header Part is constructed by the Communication Layers.

The message Data Part is constructed by the Communication Layer, usually based on information from the Application Layer, although some messages are originated by the Communications Layer.

This separation between Header & Data Parts is notional. In practice some elements of the Data Part will be processed by the Communications Layers. Furthermore the boundary between Header and Data Parts has been deliberately constructed such that the common components of all messages are arranged at the beginning of the Data Part and so may be viewed as either Header or Data Parts.

All dates and times<sup>2</sup> are referenced to Greenwich Mean Time.

Times stamps within message Data Parts are to a resolution of one minute. The standard DEC-VMS format is used. i.e. dd-mmm-yyyy hh:mm. (17 characters). Note that the valid range of the time component is 00:00 to 23:59.

Time stamps within message prefix parts are to a resolution of 10ms. The standard DEC-VMS format is used. i.e. dd-mmm-yyyy hh:mm:ss.nn. (23 characters). Note that the valid range of the time component is 00:00:00.00 to 23:59:59.99.

Fields within the Prefix Parts and the Data Parts are delimited by a space character. All message parts are terminated with a ^ character.

Fields containing variable length text items are left justified and space filled.

Fields containing variable length numeric items are right justified and zero filled.

The leading character of the day part of a date/time field may be a space.

Messages consist of three types; control, instruction and submission. Select/deselect control messages are sent from the ~~System-Operator~~Transmission Company to a Control Point while path/nopath control messages are sent from a Control Point to the ~~System-Operator~~Transmission Company. These messages control the availability of a BM Unit both to be instructed by the ~~System~~

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<sup>2</sup> Inter-machine time comparisons should only be to a minute resolution

~~Operator Transmission Company~~ and to submit dynamic parameters. For instruction and submission messages to be exchanged, the ~~System Operator Transmission Company~~ must first have sent a select message while the Control Point must have sent a path message. Various message formats are defined for Ancillary Service instructions and Balancing Market Bid/Offer Acceptance instructions that are used by the ~~System Operator Transmission Company~~ to instruct a Control Point. Likewise, submission message formats are defined which allow a Control Point to submit various BM Unit dynamic parameters to the ~~System Operator Transmission Company~~. If an error is detected by the Control Point in an instruction message, or by the ~~System Operator Transmission Company~~ in a submission message, the text of the message, or the truncated part thereof containing a reference number and log time will be sent back to the originator together with a pre-defined error code.

## 2.2 'No Changes'

## 2.3 'No Changes'

## 2.4 Message Data Part

### 2.4.1 Control Messages

The Message Data Part for control messages is a maximum of 56 characters. The length and contents of control messages depends on the nature of the message, the options are detailed in 0.

**Table 9. Message Data Part for Control Messages**

Field Name	Start Position	Field Size	Description		Valid Type	Error Flag
Name	1	9	Control Point Name (VERSION message only) or BM Unit Name		All	
Ref Number	11	10	Message Reference Number		All	
Log Time	22	17	Time message logged by originating process		All	
Type	40	6	Specifies the type of control message and the structure of the type dependent message part.		N	
Type dependant			Type	Details		
			VERSION	See 0		
			SELECT	The Control Point is selected by the <del>System Operator Transmission Company</del> for EDL.		
			DESEL	The Control Point is de-selected by the <del>System Operator Transmission Company</del> for EDL		
			PATH	There is a path from the Control Point Communication Layer to the BM Unit operator.		
			NOPATH	There is NO path from the station		

Field Name	Start Position	Field Size	Description	Valid Type	Error Flag
			Communication Layer to the BM Unit operator		
Error Code	40, 47 or 52	4	See 0 for meaning	Any	E
Terminator	44, 39, 46, 51, or 56	1	Part terminator character "^"	All	

Dispatch Instructions to an individual BM Unit via EDL will only take place once a PATH message from the control point, and a SELECT message from the System Operator Transmission Company have been sent. All other states will result in Instructions being issued by voice telephone.

**Table 10. Control Error Messages**

Error Code	Description
C001	Invalid Control Point/BM Unit ID
C002	Invalid Control Type
C003	Unsupported Version Number
C004	Message arrived before VERSION accept

Submission and Control Messages can be issued at any time, irrespective of select and path states.

**Table 11. Message Data Part for Version Messages**

Field Name	Start Position	Field Size	Description
Type	40	6	VERSION
Version	47	4	Latest Supported EDL Interface Definition. The field is a formatted numeric value. e.g. 0021 to specify version 2.1. The version number is changeable and reflects the current level of messages supported at the <u>System Operator Transmission Company</u> and the Control Point.

## 2.4.2 Instruction Messages

### 2.4.2.1 Status Change Instruction Messages

The message Data Part for Status Change instruction messages is a maximum of 104 characters.

Note that Status Change instructions are to be issued for Ancillary Service purposes to change the operating state of a BM Unit, for example perhaps to instruct a Unit to synch to the declared FPN, or to instruct a Unit off. If a MW output level is to be instructed, a Bid/Offer Acceptance closed instruction must be issued.

**Table 12. Message Data Part for Status Change Instruction Messages**

Field Name	Start Position	Field Size	Description	Valid Type	Error Flag
Name	1	9	BM Unit Name	All	
Ref Number	11	10	Instruction Reference Number	All	
Log Time	22	17	Time message logged by originating process	All	

Field Name	Start Position	Field Size	Description	Valid Type	Error Flag
Start Instruction Code	40	5	This may be one of the following codes SYN, HTS or the numeric value 0.	N, T	
Start Reserve	46	3	Not used.	N, T	
Start Time	50	17	Start time of the instruction.	N, T	
Reason Code	68	3	Three character reason code applied to steam plant; the first character explains why the instruction was issued, the second character indicates whether the BM Unit is in frequency response mode.	N, T	
Target Instruction Code	72	5	This may be one of the following codes OFF, HTS, CHS or the numeric value 0.	N, T	
Target Reserve	78	3	Not used.	N, T	
Target Time	82	17	Target time of the instruction.	N, T	
Error Code	40, 100	4	See <b>Error! Reference source not found.</b> for meaning	Any	E, X
Terminator	39, 44, 99 or 104	1	Part terminator character "^"	All	

Participants and Vendors should contact the ~~System Operator~~ [Transmission Company](#) for an up-to-date list of reason codes and an accompanying explanation.

#### 2.4.2.2 'No Changes'

#### 2.4.2.3 Reason Code Instruction Messages

The message Data Part for a reason code instruction message is a maximum of 71 characters. This instruction sets the current reason code for a BM Unit. It is used, for example, to instruct a BM Unit's frequency response.

**Table 14. Message Data Part for Change of Reason Code Instruction Messages**

Field Name	Start Position	Field Size	Description	Valid Type	Error Flag
Name	1	9	BM Unit Name	All	
Ref Number	11	10	Instruction Reference Number	All	
Log Time	22	17	Time message logged by originating process	All	
Type	40	4	Type of instruction. REAS	N, T	
Reason Code	45	3	Three character reason code.	N, T	
Start Time	49	17	Start time of the instruction.	N, T	
Error Code	40, 67	4	See <b>Error! Reference source not found.</b> for meaning	Any	E, X
Terminator	39, 44, 66 or 71	1	Part terminator character "^"	All	

Participants and Vendors should contact the ~~System Operator~~ [Transmission Company](#) for an up-to-date list of reason codes and an accompanying explanation.

#### 2.4.2.4 'No Changes'

#### 2.4.2.5 'No Changes'

#### 2.4.2.6 'No Changes'

#### 2.4.3 'No Changes'

#### 2.4.4 Submission Error codes

A submission message is automatically acknowledged by the ~~System Operator~~Transmission Company using a message with the message Header Part "RW ^".

The submission undergoes syntax and validation checking. If the submission is valid, the return message with the message Header Part "RU ^" is sent to the Control Point; otherwise, if an error is encountered, a message with the message header part "RN E" is sent with a reason code appended.

**Table 24.** Submission Error Codes

Error Code	Description
R001	Invalid syntax
R002	Invalid BM Unit
R003	Value out of bounds
R004	Invalid run rate break point
R005	Invalid run rate
R006	Invalid combination of run rates/breakpoints
R007	Invalid run rate breakpoint; breakpoints not monotonically increasing
R008	FROM time does not predate TO time
R009	Invalid FROM time
R010	Invalid TO time
R011	FROM time must be equal to or after SUBMISSION time
R999	Contact the <del>System Operator</del> <u>Transmission Company</u>

#### 2.5 'No Changes'

#### 2.6 'No Changes'