

Message handbook for UIC Railway Energy Metered Data for Billing

Implementation guide for ACKNOWLEDGEMENT MESSAGE

EDIFACT-message:	APERAK
EDIFACT-version:	D
EDIFACT-release:	05A
IG-status:	Approved
IG-version:	1.0
IG-revision:	A
IG-date:	December 22 nd , 2009

C O N T E N T

1	INTRODUCTION.....	3
2	GENERAL DESCRIPTION OF THE APERAK MESSAGE	4
2.1	FUNCTIONAL DEFINITION	4
2.2	PRINCIPLES	4
3	REFERENCES.....	5
3.1	PRECEDENCE.....	5
4	QUALITY ASSURANCE.....	6
4.1	VERSION NUMBER.....	6
4.2	CHANGE LOG	6
5	SPECIAL CONDITIONS.....	6
6	OVERVIEW OF THE MESSAGE.....	7
6.1	CLASS DIAGRAM FOR APERAK	7
6.2	CUE LIST	8
6.3	MESSAGE DIAGRAM.....	9
6.4	SEGMENT TABLE	10
7	DETAILED DESCRIPTION OF THE MESSAGE.....	11
	APPENDIX A – MESSAGE EXAMPLES	20
A.1	EXAMPLES TO BE ADDED.....	20

1 INTRODUCTION

This document is an Implementation Guide (IG) for the Acknowledgement message, to be used for Railway Energy Billing. The IG describes the EDIFACT-message APERAK in detail.

This IG is based on the "Message handbook for ebIX", which contains a set of IG's for different messages used in the energy industry and ebIX common rules and recommendations. The ebIX common rules and recommendations contain common descriptions for the different Implementation Guides. This includes relationships between the different message types, use of codes and code lists, special conditions within and between countries (such as use of time zones), terms and notation, use of header and trailer segments (UNB and UNZ), etc.

The objective of this document is to achieve harmonisation within the European railway and energy industry.

Process descriptions are available in the ebIX document Recommendations for acknowledgement and error handling.

2 GENERAL DESCRIPTION OF THE APERAK MESSAGE

2.1 Functional Definition

The function of this message is:

- a) to inform a message issuer that his message has been received by the addressee's application and has been rejected due to errors encountered during its processing in the application.
- b) to acknowledge to a message issuer the receipt of his message by the addressee's application.

2.2 Principles

If an error is detected at the application level, which prevents its complete processing, an APERAK message is sent to the original message issuer giving details of the error(s) encountered. If no error has been detected and when an acknowledgement is necessary (e. g. when no dedicated answer to the original message exists) an APERAK message is sent specifying the reasons for acknowledgement.

In case of an application error, the APERAK message will need manual processing e. g. when the underlying reason is a programming error. In case of acknowledgement the APERAK message may be automatically or manually processed at the recipient's discretion.

The information is transferred as:

- General information
- Reference to received message

In case of error: Error information

3 REFERENCES

This Implementation guide is based on the following documents.

- [1] UN/EDIFACT directory, D.05A, <http://www.unece.org/trade/untdid/>
- [2] ebIX common rules and recommendations, <http://www.ebix.org/>
- [3] ISO 9735, version 2, 1990.11.01, <http://www.unece.org/trade/untdid/>
- [4] ebIX model for metered data, www.ebix.org
- [5] ebIX Code list, www.ebix.org
- [6] ebIX Core component registry, www.ebix.org
- [7] UIC Leaflet 930 for Exchange of data in connection with cross-border railway energy settlement

3.1 Precedence

If there should be any conflict regarding this Implementation guide or between this Implementation guide and other documents, the following precedence shall be used:

- 1 UN/EDIFACT directory, D.05A [1]
- 2 ebIX common rules and recommendations [2]
- 3 UIC Leaflet 930 for exchange of data in connection with cross-border railway energy settlement **Erreur ! Source du renvoi introuvable.**
- 4 This Implementation guide.

In this Implementation guide the EDIFACT message type is described in different ways. If there should be any conflict regarding the different descriptions, the detailed description in the last chapter should be used.

4 QUALITY ASSURANCE

This document is written by EdiSys AS on behalf of the UIC Railway Energy Billing project.

4.1 Version number

The Implementation Guide will have 2 levels of version numbering. This will be Version and Release. In addition there will be a Revision number.

- The Version number (first number) will be updated when there have been major changes like new versions of the message type.
- The Release number will be updated when there have been small changes to the IG, like adding new segments, new data elements etc. within the EDIFACT directory. These changes shall not influence existing implementations.
- The Revision number will be updated when there have been minor changes, like correction of examples, adding new codes etc. These changes shall not influence existing implementations.

4.2 Change log

In addition to minor text corrections the following changes has been made to this version of the IG:

Ver.	Rel	Rev.	Date	Changes
D05A	1.0	A	20.12.2009	First approved version.

5 SPECIAL CONDITIONS

This MIG has been developed for use in exchange of data in connection with cross-border railway energy settlement.

6 OVERVIEW OF THE MESSAGE

6.1 Class diagram for APERAK

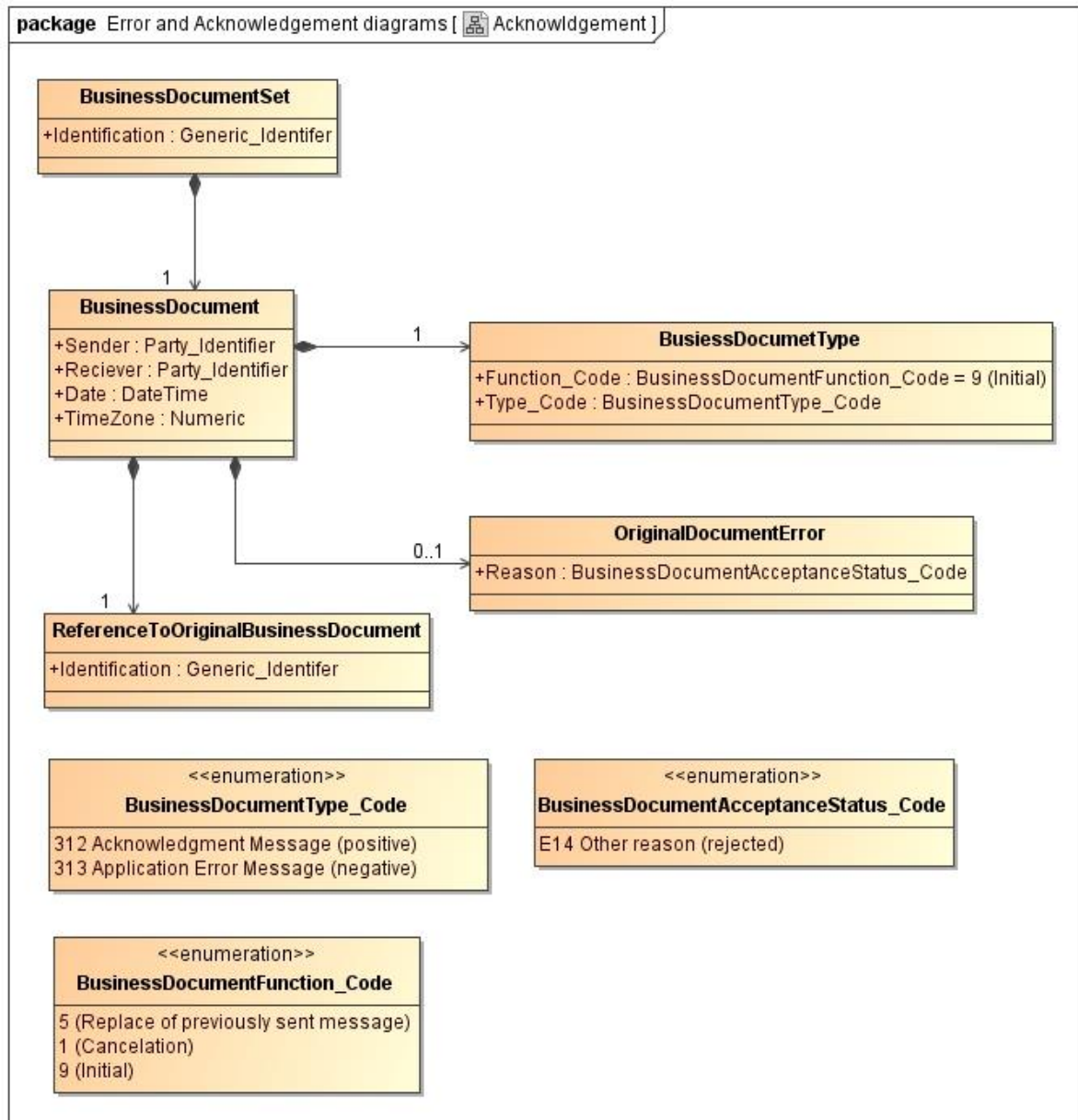


Figure 1 Class diagram for the Utility time series message Request for Metered Data

6.2 Cue list

Below is a table describing the EDIFACT message and the relationships to the attributes in the class diagram.

General information about the message				
	UNH	M	1	(Message reference) (Message type)
	BGM	M	1	BusinessDocumentSet.Identification BusinessDocumentType.Type_Code BusinessDocumentType.Function_Code
	DTM	R	2	BusinessDocument.Date BusinessDocument.TimeZone
References				
	SG 2	R	1	
	RFF	M	1	ReferenceToOriginalBusinessDocument
Parties				
	SG 3	R	2	
	NAD	M	1	BusinessDocument.Reciever BusinessDocument.Sender
	CTA	C	1	Not Used
	COM	C	3	Not Used
Error status				
	SG 4	D	999	
	ERC	M	1	OriginalDocumentError.Reason
	FTX	O	1	Error description
	Reference to Serial Id.			
	SG 5	C	4	
	RFF	M	1	Not Used
Message trailer				
	UNT	M	1	Message trailer

6.3 Message diagram

The Message diagram below shows the subset of the standard EDIFACT message that is used in this IG. The segments and segment groups in grey are not used in this subset.

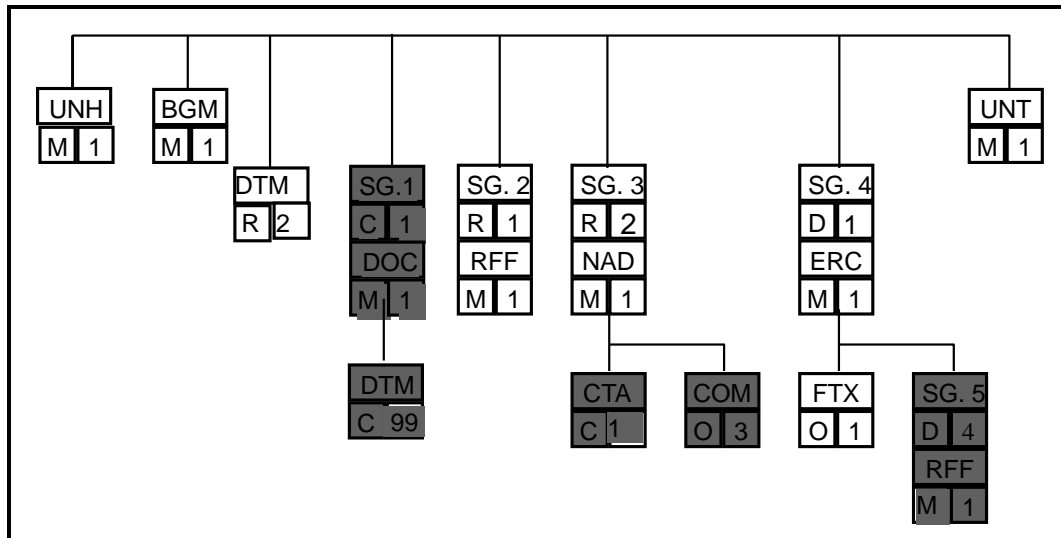


Figure 3 Message diagram for Acknowledgement message

Railway Energy Billing APERAK

6.4 Segment table


In this chapter the segment table for the Application error and acknowledgement message (APERAK) is shown by the way it is described in version D, release 05A of the EDIFACT directory. The segments and segment groups that are used in this IG are shown in bold type.

Pos	Tag Name	S	R	
0010	UNH Message header	M	1	
0020	BGM Beginning of message	M	1	
0030	DTM Date/time/period	C	9	
0040	FTX Free text	C	9	
0050	CNT Control total	C	9	
0060	----- Segment group 1 -----	C	9	-----+
0070	DOC Document	M	1	
0080	DTM Date/time/period	M	1	
0090	----- Segment group 2 -----	C	9	-----+
0100	RFF Reference	M	1	
0110	DTM Date/time/period	C	9	-----+
0120	----- Segment group 3 -----	C	9	-----+
0130	NAD Name and address	M	1	
0140	CTA Contact information	C	9	
0150	COM Communication contact	C	9	-----+
0160	----- Segment group 4 -----	C	999	-----+
0170	ERC Application error information	M	1	
0180	FTX Free text	C	1	
0190	----- Segment group 5 -----	C	4	-----+
0200	RFF Reference	M	1	
0210	FTX Free text	C	9	-----+
0220	UNT Message trailer	M	1	

7 DETAILED DESCRIPTION OF THE MESSAGE

In this chapter all segments and segment groups are specified in detail. In the left column you will find a list of the attributes used.

The EDIFACT segments listed are copies of those defined in the original UN/EDIFACT directory except for data elements defined as conditional (C) which are redefined using the ebIX classification.



MESSAGE: APERAK

SG 0

Function:

Application error and acknowledgement message is sent between parties in the power industry, and is used to acknowledge messages.

Segments:

UNH, BGM, DTM

UNH

Message header

Function:

A service segment starting and uniquely identifying a message.

Classification:

Mandatory (M1).

Comments:

Example:

UNH+1+APERAK:D:05A:UN:R01A'

Message-reference

>

0062

MESSAGE REFERENCE NUMBER

M

an..14

The message reference uniquely identifies the message in the interchange. Typically by using a sequence number that identifies each message in the interchange. The first message will have reference number. 1, the second message will have reference number 2, etc. The reference can be set to 1 in the first message of the next interchange.

Message-type

>

S009

MESSAGE IDENTIFIER

M

0065

Message type identifier

M

an..6

Code: APERAK

0052

Message type version number

M

an..3

Code: D

0054

Message type release number

M

an..3

Code: 05A

0051

Controlling agency

M

an..2

Code: UN

0057

Association assigned code

R

an..6

Code: R01A

0068

COMMON ACCESS REFERENCE

X

an..35

S010

STATUS OF THE TRANSFER

X

0070

Sequence message transfer number

X

n..2

0073

First/last seq. mess. transfer. indicator.

X

a1

BGM Beginning of message
Function: A segment by which the sender uniquely identifies the Utilities time series message by means of its name and number and when necessary its function.
Classification: Mandatory (M1).
Comments:
Example: BGM+312+SSA1234+9'

Ref.	Name	Cl.	Form.	Description
C002	DOCUMENT/MESSAGE NAME	R		
1001	Document name code	R	an..3	Codes: 312 Acknowledgement of acceptance 313 Application error message (rejection)
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	X	an..3	
1000	Document name	X	an..35	
C106	DOCUMENT/MESSAGE IDENTIFICATION	R		
1004	Document identifier	R	an..35	Unique Id. of the message. Shall be unique over time for each party.
1056	Version identifier	X	an..9	
1060	Revision identifier	X	an..6	
1225	MESSAGE FUNCTION CODE	R	an..3	Codes: 9 Original message. 5 Replace of previously sent 1 Cancellation
4343	RESPONSE TYPE CODE	X	an..3	

DTM Date/time/period

Function: A segment specifying general dates related to the whole message and the time zone used in the message. The segment must be specified at least once to specify the message date as allocated by the sender.

Classification: Mandatory (M2).

Comments:

- Both “137, Message date” and 735, Time zone” are required.
- There shall be only one offset to UTC for each message that covers all dates in the message (not including UNB).
- Its recommended always setting the offset to UTC to zero.

Example: DTM+137:200611011241:203'
DTM+735:?+0000:406'

Date
Time zone

>

Ref.	Name	CL	Form.	Description
C507	DATE/TIME/PERIOD	M		
2005	Date or time or period function code qualifier	M	an..3	Codes: 137 Message date 735 Offset from Coordinated Universal Time (UTC)
2380	Date or time or period text	R	an..35	Date/time/period
2379	Date or time or period format code	R	an..3	Codes: 203 CCYYMMDDHHmm, (137) 406 ZHHMM, Offset from Coordinated Universal Time (UTC) where Z is plus (+) or minus (-). (735)

**MESSAGE: APERAK****SG 2**

Function: A group of segments giving references relating to the whole message.

Classification: Required (R1)

Comments: A reference to the object being acknowledged must be sent in this segment group.

Segments: RFF

RFF Reference

Function: A segment identifying a reference by its type and number.

Classification: Mandatory (M1)

Comments: A segment to indicate the reference number of the original document/message received.

Example: RFF+ACW:ABC12345'

Reference to
original
message

>

Ref.	Name	Cl.	Form.	Description
C506	REFERENCE	M1		
1153	Reference function code qualifier	M	an..3	Code: ACW Reference number to previous message
1154	Reference identifier	R	an..35	Reference to original message
1156	Line number	X	an..6	
4000	Reference version identifier	X	an..35	
1060	Revision number	X	an..6	

**MESSAGE: APERAK****SG 3**

Function: A group of segments identifying the parties with associated information relevant to the whole message, such as the sender and the receiver of the message.

Classification: Required (R2).

Comments: MR and MS are always required

Segments: NAD

NAD Name and address

Function: A segment for specifying the identification and/or the name and the address of the party, in coded or clear form, and the function relevant to the message. It is recommended that, if possible, only the coded form of the party ID should be specified.

Classification: Mandatory (M1).

Comments:

- The qualifier MS should be used to identify the party responsible for the data (originator) and the qualifier MR for the final recipient

Example: NAD+MR+1234567890123::9'

Receiver
SenderCoding
scheme

>

>

Ref.	Name	Cl.	Form.	Description
3035	PARTY FUNCTION CODE QUALIFIER	M	an..3	Codes: MR Message recipient MS Document/message issuer/sender
C082	PARTY IDENTIFICATION DETAILS	R		
3039	Party identifier	M	an..35	Party identification
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	R	an..3	Codes: 9 GS1 (EAN, International Article Numbering association) 12 UIC 305 ETSO/EIC (ETSO Identification Code)
C058	NAME AND ADDRESS	X		
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	

	C080	PARTY NAME	X		
	3036	Party name	X	an..35	
	3036	Party name	X	an..35	
	3036	Party name	X	an..35	
	3036	Party name	X	an..35	
	3036	Party name	X	an..35	
	3045	Party name format code	X	an..3	
	C059	STREET	X		
	3042	Street and number or post office box identifier	X	an..35	
	3042	Street and number or post office box identifier	X	an..35	
	3042	Street and number or post office box identifier	X	an..35	
	3042	Street and number or post office box identifier	X	an..35	
	3164	CITY NAME	X	an..35	
	C819	COUNTRY SUB-ENTITY DETAILS	X		
	3229	Country sub-entity name code	X	an..9	
	1131	Code list identification code	X	an..17	
	3055	Code list responsible agency code	X	an..3	
	3228	Country sub-entity name	X	an..70	
	3251	POSTAL IDENTIFICATION CODE	X	an..17	
	3207	COUNTRY NAME CODE	X	an..3	

**MESSAGE: APERAK****SG 4**

Function: A group of segments to identify the application error(s) within a specified received message and to give specific details related to the error type or to precise the type of acknowledgement.

Classification: Dependent (D999).

Comments: Shall be used when an error has occurred, i. e. when Message function code in BGM is 27 or 34.

Segments: ERC, FTX

ERC Application error information

Function: A segment identifying the type of application error or acknowledgement within the referenced message. It is advisable to explain the error code in the FTX segment in segment group 3.

Classification: Mandatory (M1).

Comments:

- Other error codes can be defined bilaterally.
- It is advised to state the field name and content that have caused an error in the FTX segment below, if possible.

Example: ERC+E14::260'

Error code

>

Ref.	Name	Cl.	Form.	Description
C901	APPLICATION ERROR DETAIL	M		
9321	Application error, coded	M	an..3	Code: E14 Other reason (an error description should be stated in the FTX segment if possible).
1131	Code list qualifier	X	an..3	
3055	Code list responsible agency, coded	R	an..3	Code: 12 UIC 260 ebIX (ediel)

FTX Free text

Function: A segment to provide explanation and/or supplementary information related to the specified application error or acknowledgement. E. g. the explanation may provide exact details relating to a generic error code. A segment with free text in clear form to give further clarification when required.

Classification: Optional (O1).

Comments:

- The segment is used if there is an error description connected to the error code in the ERC segment
- It is advised to state the field name and content that have caused an error, if possible.
- It is advised to use English language in free text fields.

Example: FTX+AAO+++Message received too late'

Error
description

>

Ref.	Name	Cl.	Form.	Description
4451	TEXT SUBJECT QUALIFIER	M	an..3	Code: AAO Error description
4453	TEXT FUNCTION, CODED	X	an..3	
C107	TEXT REFERENCE	X		
4441	Free text, coded	X	an..3	
1131	Code list qualifier	X	an..3	
3055	Code list responsible agency, coded	X	an..3	
C108	TEXT LITERAL	R		
4440	Free text	M	an..70	Error description
4440	Free text	O	an..70	Error description
4440	Free text	O	an..70	Error description
4440	Free text	O	an..70	Error description
4440	Free text	O	an..70	Error description
3453	LANGUAGE	X	an..3	

**MESSAGE: APERAK****SG 0**

Function: Summary section
Classification: Mandatory (M1).
Comments:
Segments: UNT

UNT Message trailer
Function: A service segment ending a message, giving the total number of segments in the message (including the UNH & UNT) and the control reference number of the message.
Classification: Mandatory (M1).
Comments:
Example: UNT+11+1'

Ref.	Name	Cl.	Form.	Description
0074	NUMBER OF SEGMENTS IN THE MESSAGE	M	n..6	Number of segments in the message, including UNH and UNT.
0062	MESSAGE REFERENCE NUMBER	M	an..14	Control reference number. Equal to 0062 in UNH

APPENDIX A – MESSAGE EXAMPLES

A.1 Examples to be added