

This document is a preview generated by EVS

Framework for energy market communications -- Part 451-1: Acknowledgement business process and contextual model for CIM European market

EESTI STANDARDI EESSÖNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62325-451-1:2014 sisaldb Euroopa standardi EN 62325-451-1:2013 inglisekeelset teksti.	This Estonian standard EVS-EN 62325-451-1:2014 consists of the English text of the European standard EN 62325-451-1:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.12.2013.	Date of Availability of the European standard is 20.12.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.200

Standardite reproduutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

English version

**Framework for energy market communications -
Part 451-1: Acknowledgement business process and contextual model for
CIM European market
(IEC 62325-451-1:2013)**

Cadre pour les communications pour le
marché de l'énergie -
Partie 451-1: Processus métier d'accusé
de réception et modèle contextuel pour le
marché européen CIM
(CEI 62325-451-1:2013)

Kommunikation im Energiemarkt -
Teil 451-1: Geschäftsprozessnachweis
und kontextbezogenes CIM-Modell für den
europäischen Markt
(IEC 62325-451-1:2013)

This European Standard was approved by CENELEC on 2013-11-11. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 57/1381/FDIS, future edition 1 of IEC 62325-451-1, prepared by IEC/TC 57, "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62325-451-1:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-08-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-11-11

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62325-451-1:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62325-301	NOTE	Harmonised as EN 62325-301.
IEC 62325-451 (series)	NOTE	Harmonised as EN 62325-451 (series).
ISO 15000-5	NOTE	Harmonised as EN ISO 15000-5.

Annex ZA
(normative)**Normative references to international publications
with their corresponding European publications**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC/TS 61970-2	2004	Energy management system application program interface (EMS-API) - Part 2: Glossary	CLC/TS 61970-2	2005
IEC 62325-351	-	Framework for energy market communications - Part 351: CIM European market model exchange profile	FprEN 62325-351 ¹⁾	-
IEC 62325-450	2013	Framework for energy market communications - Part 450: Profile and context modelling rules	EN 62325-450	2013
IEC 62361-100	-	Harmonization of quality codes across TC 57 -FprEN 62361-100 ¹⁾ Part 100: Naming and design rules for CIM profiles to XML schema mapping	-	-

¹⁾ At draft stage.

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	8
4 Document contextual model and message assembly model basic concepts	10
4.1 Overview	10
4.2 European style market package structure	11
4.3 From the European style market profile to the document contextual model	12
4.4 From the document contextual model to the message assembly model	13
4.5 From the assembly model to the XML schema	14
5 The acknowledgment business process	14
5.1 Business process definition	14
5.1.1 General	14
5.1.2 Technical acknowledgment	15
5.1.3 Application acknowledgment	15
5.2 Business rules for the acknowledgment document	16
5.2.1 General	16
5.2.2 Time	16
5.2.3 Reason	16
6 Contextual and assembly models	17
6.1 Acknowledgement contextual model	17
6.1.1 Overview of the model	17
6.1.2 IsBasedOn relationships from the European style market profile	18
6.1.3 Detailed Acknowledgement contextual model	19
6.2 Acknowledgement assembly model	24
6.2.1 Overview of the model	24
6.2.2 IsBasedOn relationships from the European style market profile	25
6.2.3 Detailed Acknowledgement assembly model	25
6.2.4 Datatypes	30
6.2.5 Enumerations	33
7 XML schema	33
7.1 XML schema URN Namespace rules	33
7.2 Code list URN namespace rules	34
7.3 URI rules for model documentation	34
7.3.1 Datatype	34
7.3.2 Class	34
7.3.3 Attribute	34
7.3.4 Association end role name	35
7.4 Acknowledgement_MarketDocument schema	35
7.4.1 Schema Structure	35
7.4.2 Schema description	37
Bibliography	40

Figure 1 – IEC 62325-450 modelling framework	11
Figure 2 – Overview of European style market profile dependency.....	12
Figure 3 – Message assembly criteria	13
Figure 4 – Acknowledgement process	15
Figure 5 – Acknowledgement contextual model.....	18
Figure 6 – Acknowledgement assembly model	24
Figure 7 – Acknowledgement_MarketDocument XML schema structure – 1/2	36
Figure 8 – Acknowledgement_MarketDocument XML schema structure – 2/2	37
Table 1 – Codes used at the document header level	17
Table 2 – Codes used at the TimeSeries level when there is a Reason code of A03 at the document header level.....	17
Table 3 – Codes used at the Period level when there is a Reason code A03 at the document header level and a code A21 at the TimeSeries level	17
Table 4 – IsBasedOn dependency.....	19
Table 5 – Attributes of Acknowledgement contextual model::Acknowledgement_MarketDocument	19
Table 6 – Association ends of Acknowledgement contextual model::Acknowledgement_MarketDocument with other classes	20
Table 7 – Attributes of Acknowledgement contextual model::MarketParticipant	21
Table 8 – Association ends of Acknowledgement contextual model:: MarketParticipant with other classes	21
Table 9 – Attributes of Acknowledgement contextual model::MarketRole	21
Table 10 – Attributes of Acknowledgement contextual model::Reason	21
Table 11 – Attributes of Acknowledgement contextual model::Received_MarketDocument	22
Table 12 – Attributes of Acknowledgement contextual model::Receiver_MarketParticipant.....	22
Table 13 – Association ends of Acknowledgement contextual model::Receiver_MarketParticipant with other classes	22
Table 14 – Attributes of Acknowledgement contextual model::Time_Period.....	23
Table 15 – Association ends of Acknowledgement contextual model:: Time_Period with other classes	23
Table 16 – Attributes of Acknowledgement contextual model::TimeSeries.....	23
Table 17 – Association ends of Acknowledgement contextual model:: TimeSeries with other classes	24
Table 18 – IsBasedOn dependency.....	25
Table 19 – Attributes of Acknowledgement assembly model::Acknowledgement_MarketDocument	26
Table 20 – Association ends of Acknowledgement assembly model::Acknowledgement_MarketDocument with other classes	28
Table 21 – Attributes of Acknowledgement assembly model::Reason.....	28
Table 22 – Attributes of Acknowledgement assembly model::Time_Period	29
Table 23 – Association ends of Acknowledgement assembly model:: Time_Period with other classes	29
Table 24 – Attributes of Acknowledgement assembly model::TimeSeries	29

Table 25 – Association ends of Acknowledgement assembly model:: TimeSeries with other classes	30
Table 26 – Attributes of ESMPDataTypes::ESMP_DateTimeInterval	30
Table 27 – Attributes of ESMPDataTypes::ESMP_DateTime	30
Table 28 – Attributes of ESMPDataTypes::ESMPVersion_String	31
Table 29 – Attributes of ESMPDataTypes::ID_String	31
Table 30 – Attributes of ESMPDataTypes::MarketRoleKind_String	31
Table 31 – Attributes of ESMPDataTypes::MessageKind_String	31
Table 32 – Attributes of ESMPDataTypes::PartyID_String	32
Table 33 – Attributes of ESMPDataTypes::PayloadId_String	32
Table 34 – Attributes of ESMPDataTypes::ReasonCode_String	32
Table 35 – Attributes of ESMPDataTypes::ReasonText_String	32
Table 36 – Attributes of ESMPDataTypes::YMDHM_DateTime	33

INTRODUCTION

This International Standard is one of the IEC 62325-451-x series for deregulated energy market data exchanges based on the European style market profile. This standard, IEC 62325-451-1, defines the document contextual model, the message assembly model as well as the XML schema to be used for the acknowledgement process.

The principal objective of the IEC 62325 series of standards is to produce standards which facilitate the integration of market application software developed independently by different vendors into a market management system, between market management systems and market participant systems. This is accomplished by defining message exchanges to enable these applications or systems access to public data and exchange information independent of how such information is represented internally.

The Common Information Model (CIM) described in IEC 62325-301¹, IEC 61970-301 and IEC 61968-11 specifies the basis for the semantics for message exchange.

This European style market profile is based on different parts of the CIM IEC standard and specifies the content of the messages exchanged.

This document provides for the European-style market profile the generic technical and application acknowledgement document that can be used in all European style market processes. These market processes are based on the European regulations, and on the concepts of third party access and zonal market. This standard was originally based upon the work of the European Transmission System Operators (ETSO) Task Force EDI (Electronic Data Interchange) and then on the work of the European Network of Transmission System Operators (ENTSO-E) Working Group EDI.

¹ To be published.