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Okvir za komunikacije na trgu z električno energijo - 451- 4. del: Poslovni proces za dogovor in uskladitev, kontekstni in združevalni modeli evropskega trga

Framework for energy market communications - Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

Kommunikation im Energiemarkt - Teil 451-4: Abwicklungs- und Abstimmungsgeschäftsprozesse, kontextbezogene Modelle und Einbindungsmodelle für den europäischen Markt

Cadre pour les communications pour le marché de l'énergie - Partie 451-4: Processus métier de règlement des écarts et de réconciliation, modèles contextuels et modèles d'assemblage pour le marché européen

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Framework for energy market communications -
Part 451-4: Settlement and reconciliation business process,
contextual and assembly models for European market
(IEC 62325-451-4:2017)

Cadre pour les communications pour le marché de l'énergie
- Partie 451-4: Processus métier de règlement des écarts et
de réconciliation, modèles contextuels et modèles
d'assemblage pour le marché européen
(IEC 62325-451-4:2017)

Kommunikation im Energiemarkt -
Teil 451-4: Abwicklungs- und
Abstimmungsgeschäftsprozesse, kontextbezogene Modelle
und Einbindungsmodelle für den europäischen Markt
(IEC 62325-451-4:2017)

This European Standard was approved by CENELEC on 2017-05-16. 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.

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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

EN 62325-451-4:2017**European foreword**

The text of document 57/1737/CDV, future edition 2 of IEC 62325-451-4, 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 62325-451-4:2017.

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) 2018-02-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-05-16

This document supersedes EN 62325-451-4:2015.

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Endorsement notice

The text of the International Standard IEC 62325-451-4:2017 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 61968-11	NOTE	Harmonized as EN 61968-11.
IEC 61970-301	NOTE	Harmonized as EN 61970-301.

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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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC/TS 61970-2	-	Energy management system application program interface (EMS-API) - Part 2: Glossary	CLC/TS 61970-2	-
IEC 62325-301	-	Framework for energy market communications - Part 301: Common information model (CIM) extensions for markets	EN 62325-301	-
IEC 62325-351	-	Framework for energy market communications - Part 351: CIM European market model exchange profile	EN 62325-351	-
IEC 62325-450	2013	Framework for energy market communications - Part 450: Profile and context modelling rules	EN 62325-450	2013
IEC 62325-451-1	-	Framework for energy market communications - Part 451-1: Acknowledgement business process and contextual model for CIM European market	EN 62325-451-1	-
IEC 62325-451-2	-	Framework for energy market communications - Part 451-2: Scheduling business process and contextual models for European market	EN 62325-451-2	-
IEC 62361-100	-	Power systems management and associated information exchange - Interoperability in the long term - Part 100: CIM profiles to XML schema mapping	EN 62361-100	-

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INTERNATIONAL STANDARD



**Framework for energy market communications –
Part 451-4: Settlement and reconciliation business process, contextual and
assembly models for European market**

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CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references	9
3 Terms and definitions	10
4 Document contextual model and message assembly model basic concepts	11
4.1 Overview.....	11
4.2 European style market package structure	12
4.3 From the European style market profile to the document contextual model	14
4.4 From the document contextual model to the message assembly model.....	14
4.5 From the assembly model to the XML schema	14
5 The settlement and reconciliation business process	14
5.1 Balance responsible party and settlement.....	14
5.2 Overall business context.....	16
5.3 Use cases.....	16
5.4 Process flow	18
5.5 Business rules for the settlement and reconciliation process.....	20
5.5.1 General.....	20
5.5.2 Attributes area_Domain.mRID and domain.mRID and quantity.....	21
5.5.3 Dependency matrix for type processType and businessType	21
5.5.4 Dependency of attributes of the TimeSeries.....	22
5.5.5 Rules governing the Point class.....	23
5.5.6 Attribute price.amount.....	23
6 Contextual and assembly models.....	24
6.1 Energy account contextual model.....	24
6.1.1 Overview of the model	24
6.1.2 IsBasedOn relationships from the European style market profile.....	24
6.1.3 Detailed Energy account contextual model	25
6.2 Energy account assembly model.....	33
6.2.1 Overview of the model	33
6.2.2 IsBasedOn relationships from the European style market profile.....	35
6.2.3 Detailed Energy account assembly model.....	35
6.2.4 Primitives	39
6.2.5 Datatypes	39
6.2.6 Enumerations	48
7 XML schema.....	48
7.1 XML schema URN namespace rules	48
7.2 Code list URN namespace rules.....	49
7.3 URI rules for model documentation	49
7.3.1 Datatype.....	49
7.3.2 Class	49
7.3.3 Attribute.....	50
7.3.4 Association end role name.....	50
7.4 EnergyAccount_MarketDocument schema	50
7.4.1 Schema Structure	50
7.4.2 Schema description	53

Bibliography.....	59
Figure 1 – IEC 62325-450 modelling framework.....	12
Figure 2 – Overview of European style market profile dependency.....	13
Figure 3 – Balance responsible party relations.....	15
Figure 4 – Settlement/reconciliation use case	18
Figure 5 – Sequence diagram of the information flow.....	19
Figure 6 – Energy account contextual model.....	24
Figure 7 – Energy account assembly model.....	34
Figure 8 – EnergyAccount_MarketDocument XML Schema Structure 1/2.....	51
Figure 9 – EnergyAccount_MarketDocument XML Schema Structure 2/2.....	52
Table 1 – Dependency table for type, processType and businessType.....	22
Table 2 – Dependency table for TimeSeries attributes	23
Table 3 – Dependency table for price.amount attribute	23
Table 4 – IsBasedOn dependency.....	24
Table 5 – Attributes of Energy account contextual model::EnergyAccount_MarketDocument.....	25
Table 6 – Association ends of Energy account contextual model::EnergyAccount_MarketDocument with other classes	26
Table 7 – Attributes of Energy account contextual model::Currency_Unit.....	26
Table 8 – Attributes of Energy account contextual model::Domain	27
Table 9 – Attributes of Energy account contextual model::MarketAgreement.....	27
Table 10 – Attributes of Energy account contextual model::MarketEvaluationPoint	27
Table 11 – Attributes of Energy account contextual model::MarketParticipant	27
Table 12 – Association ends of Energy account contextual model::MarketParticipant with other classes	28
Table 13 – Attributes of Energy account contextual model::MarketRole.....	28
Table 14 – Attributes of Energy account contextual model::Measure_Unit.....	28
Table 15 – Attributes of Energy account contextual model:: Party_MarketParticipant.....	28
Table 16 – Attributes of Energy account contextual model::Point	29
Table 17 – Association ends of Energy account contextual model ::Point with other classes	29
Table 18 – Attributes of Energy account contextual model::Price	30
Table 19 – Attributes of Energy account contextual model::Process.....	30
Table 20 – Attributes of Energy account contextual model::Quantity	30
Table 21 – Attributes of Energy account contextual model::Reason	31
Table 22 – Attributes of Energy account contextual model::Series_Period	31
Table 23 – Association ends of Energy account contextual model::Series_Period with other classes	31
Table 24 – Attributes of Energy account contextual model::Time_Period.....	31
Table 25 – Attributes of Energy account contextual model::TimeSeries.....	32
Table 26 – Association ends of Energy account contextual model::TimeSeries with other classes	32
Table 27 – IsBasedOn dependency.....	35

Table 28 – Attributes of Energy account assembly model::EnergyAccount_MarketDocument	35
Table 29 – Association ends of Energy account assembly model::EnergyAccount_MarketDocument with other classes	36
Table 30 – Attributes of Energy account assembly model::Point.....	36
Table 31 – Association ends of Energy account assembly model:: Point with other classes	37
Table 32 – Attributes of Energy account assembly model::Reason.....	37
Table 33 – Attributes of Energy account assembly model::Series_Period.....	38
Table 34 – Association ends of Energy account assembly model:: Series_Period with other classes	38
Table 35 – Attributes of Energy account assembly model::TimeSeries	38
Table 36 – Association ends of Energy account assembly model:: TimeSeries with other classes	39
Table 37 – Attributes of ESMPDataTypes::Action_Status	40
Table 38 – Attributes of ESMPDataTypes::ESMP_DateTimeInterval	40
Table 39 – Attributes of ESMPDataTypes::Amount_Decimal	40
Table 40 – Restrictions of attributes for ESMPDataTypes::Amount_Decimal	40
Table 41 – Attributes of ESMPDataTypes::AreaID_String.....	41
Table 42 – Restrictions of attributes for ESMPDataTypes::AreaID_String	41
Table 43 – Attributes of ESMPDataTypes::BusinessKind_String	41
Table 44 – Attributes of ESMPDataTypes::ClassificationKind_String.....	41
Table 45 – Attributes of ESMPDataTypes::CurrencyCode_String	42
Table 46 – Attributes of ESMPDataTypes::EnergyProductKind_String	42
Table 47 – Attributes of ESMPDataTypes::ESMP_DateTime	42
Table 48 – Restrictions of attributes for ESMPDataTypes::ESMP_DateTime	42
Table 49 – Attributes of ESMPDataTypes::ESMPVersion_String	43
Table 50 – Restrictions of attributes for ESMPDataTypes::ESMPVersion_String.....	43
Table 51 – Attributes of ESMPDataTypes::ID_String.....	43
Table 52 – Restrictions of attributes for ESMPDataTypes::ID_String.....	43
Table 53 – Attributes of ESMPDataTypes::MarketRoleKind_String.....	44
Table 54 – Attributes of ESMPDataTypes::MeasurementPointID_String.....	44
Table 55 – Restrictions of attributes for ESMPDataTypes:: MeasurementPointID_String.....	44
Table 56 – Attributes of ESMPDataTypes::MeasurementUnitKind_String	44
Table 57 – Attributes of ESMPDataTypes::MessageKind_String	45
Table 58 – Attributes of ESMPDataTypes::ObjectAggregationKind_String.....	45
Table 59 – Attributes of ESMPDataTypes::PartyID_String.....	45
Table 60 – Restrictions of attributes for ESMPDataTypes::PartyID_String.....	45
Table 61 – Attributes of ESMPDataTypes::Position_Integer	46
Table 62 – Restrictions of attributes for ESMPDataTypes::Position_Integer	46
Table 63 – Attributes of ESMPDataTypes::ProcessKind_String	46
Table 64 – Attributes of ESMPDataTypes::Quality_String	46
Table 65 – Attributes of ESMPDataTypes::ReasonCode_String	47
Table 66 – Attributes of ESMPDataTypes::ReasonText_String.....	47
Table 67 – Restrictions of attributes for ESMPDataTypes::ReasonText_String.....	47

Table 68 – Attributes of ESMPDataTypes::Status_String	47
Table 69 – Attributes of ESMPDataTypes::YMDHM_DateTime	48
Table 70 – Restrictions of attributes for ESMPDataTypes::YMDHM_DateTime.....	48

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –**Part 451-4: Settlement and reconciliation business process,
contextual and assembly models for European market**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62325-451-4 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Removal of the attributes “quantity” and “secondary quantity” of the class “Point”;
- b) Introduction of the class “Quantity” from IEC 62351-351 UML package, with the following attributes “quantity” as mandatory and “quality” as optional, and create two association 1..1 between the class “Quantity” and the class “Point” with the role “In_Quantity” and “Out_Quantity”.

- c) Introduction of the class “Reason” from IEC 62351-351 UML package, with the following attributes “code” as mandatory and “text” as optional, and create an association 0..* from the class “Reason” to the class “Point” with the role “Reason”.

The text of this International Standard is based on the following documents:

CDV	Report on voting
57/1737/CDV	57/1804/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62325 series, published under the general title *Framework for energy market communications*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

This standard is one of the IEC 62325 series which define protocols for deregulated energy market communications.

The principal objective of the IEC 62325 series 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) specifies the basis for the semantics for this message exchange.

The European style market profile (ESMP) is based on different parts of the CIM IEC standard. The CIM is defined through a series of standards, i.e. IEC 62325-301, IEC 61970-301 and IEC 61968-11.

This document provides the settlement and reconciliation business process that can be used throughout a European style 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.

This document describes the settlement and reconciliation process for wholesale markets; it is brought to the attention of the reader that it is envisaged to initiate work on a combined reconciliation process for retail and wholesale markets.

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FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

1 Scope

Based on the European style market profile (ESMP) (IEC 62325-351), this part of IEC 62325-451 specifies a package for the settlement and reconciliation business process and the associated document contextual model, assembly model and XML schema for use within European style markets.

The relevant aggregate core components (ACCs) defined in IEC 62325-351 have been contextualised into aggregated business information entities (ABIEs) to satisfy the requirements of this business process. The contextualised ABIEs have been assembled into the relevant document contextual models. Related assembly models and XML schema for the exchange of information between market participants are automatically generated from the assembled document contextual models.

This part of IEC 62325 provides a uniform layout for the transmission of aggregated data in order to settle the electricity market. It is however not the purpose of this document to define the formula to be taken into account to settle or reconcile a market. The purpose of this document is only to enable the information exchange necessary to carry out the computation of settlement and reconciliation.

The settlement process or reconciliation process is the way to compute the final position of each market participant as well as its imbalance amounts.

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2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TS 61970-2, *Energy management system application program interface (EMS-API) – Part 2: Glossary*

IEC 62325-301, *Framework for energy market communications – Part 301: Common information model (CIM) extensions for markets*

IEC 62325-351, *Framework for energy market communications – Part 351: CIM European market model exchange profile*

IEC 62325-450:2013, *Framework for energy market communications – Part 450: Profile and context modelling rules*

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

IEC 62325-451-2, *Framework for energy market communications – Part 451-2: Scheduling business process and contextual model for CIM European market*

IEC 62361-100, *Power systems management and associated information exchange – Interoperability in the long term – Part 100: CIM profiles to XML schema mapping*