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European Network of
Transmission System Operators
for Electricity

ENTSO-E Settlement Process

(ESP)

Implementation Guide

2010-10-08

DOCUMENT APPROVED
VERSION 1.2

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Revision History

Version	Release	Date	Paragraph	Comments
1	0	2004-04-29		Initial release. Approved for publication by ETSO SC 2004-04-15. This version of the guide is being released by TF14 for pilot testing.
1	1	2005-10-04		Introduction of a "domain" attribute in the header class of the Energy Account Report and an "accounting point" attribute in the time series class.
1	2	2010-10-08		Correction of a document error to bring the DtdVersion and DtdRelease tag names into line with the published XML schema Removed Acknowledgement Document paragraph in compliance with all other ENTSO-E Documentation Changed the layout to the ENTSO-E template Suppressed the use of referencing to the central website for schema or dtd
				Approved on 2010-10-20 by Market Committee

95

96 **1 OBJECTIVE**

97 The objective of this implementation guide is to make it possible for software vendors to
98 develop an IT application for market players that can exchange electricity market settlement
99 information, such as finalised schedules, regulation data, aggregated metered information
100 and imbalance reports, to all concerned parties within a given balance area.

101 The implementation guide is one of the building blocks for using UML (Unified Modelling
102 Language) based techniques in defining processes and documents for interchange between
103 actors in the electrical industry in Europe.

104 The initial conception of this guide has been based on an agreed generic imbalance
105 settlement process.

106 The main concern of Imbalance settlement responsible parties is on the secure and reliable
107 operation while facilitating electricity market procedures.

108 It is the intention of the ENTSO-E WG EDI (previously ETSO TF14) to make this
109 implementation guide the second building block based on the ENTSO-E platform. The
110 ENTSO-E WG EDI objective is that the different market participants and associations use
111 this platform in a co-ordinated manner.

112 The guide is targeted basically towards business-to-business application interfaces using the
113 full power of the acknowledgment process. However, it may be equally put into place in a
114 more user-orientated fashion through a web-based service where the key elements of the
115 acknowledgement process are implicit in the service itself.

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2 IMBALANCE SETTLEMENT PROCESS OVERVIEW

The electricity market in Europe is now opening. Some countries have opened the market completely and others have started the process. A central part of any national legal requirements in the electricity market is that each party in the market shall be in balance. This means that the quantity of electricity produced and/or consumed must be equal to the quantity contracted in the market. The procedure to calculate any imbalance between what is contracted to, contracted from and what is really consumed/produced by a balance responsible party and the invoicing of any differences is called "imbalance settlement".

The full balancing process can be broken down into three phases:

1. *A planning phase*, where balance responsible parties (e.g. trade responsible, production responsible, consumption responsible parties, etc.) calculate in advance the consumption/production of all involved parties for the day ahead. At the conclusion of this phase the system operator informs each balance responsible party of what has been accepted of their schedules and informs the entity responsible for imbalance settlement, called the "imbalance settlement responsible" of all the schedules in question. Such schedules are termed "finalised schedules" in this guide.

2. *An operation phase*, where the schedule that has been determined during the planning phase (finalised schedule) is executed. The system operator, to ensure system balance at any moment, handles any deviations between production, consumption and unforeseen congestion. Such adjustments are known as "regulation data" within this document.

3. *A settlement phase*, where following the date of operation, the metered data aggregator sends the data to the imbalance settlement responsible. The imbalance settlement responsible, along with complementary data received from other sources, then carries out the imbalance settlement itself.

The electronic documents defined in this guide cover the final phase of the imbalance settlement process, *the settlement phase*.

This document describes the general settlement process that is intended for use within several categories of settlement.

It provides a standard enabling a uniform layout for the transmission of aggregate settlement data between the European electricity system operators, producers, suppliers and traders and all imbalance settlement responsible organizations. This shall ensure a common interface between different software solutions.

2.1 DEFINITION

The documents defined in this implementation guide enable imbalance settlement responsible parties to receive aggregated finalised schedules, regulation data and actual metered information and to send imbalance reports to the responsible parties (consumption, production, capacity, etc.) through the use of an electronic data interchange interface.

154

155 2.2 SCOPE OF THE SETTLEMENT PROJECT WITHIN THE ROLE MODEL

156 The Role model details and definitions can be found in the document "ENTSO-E Harmonised Role Model". This document is available
157 on the ENTSO-E website.

158
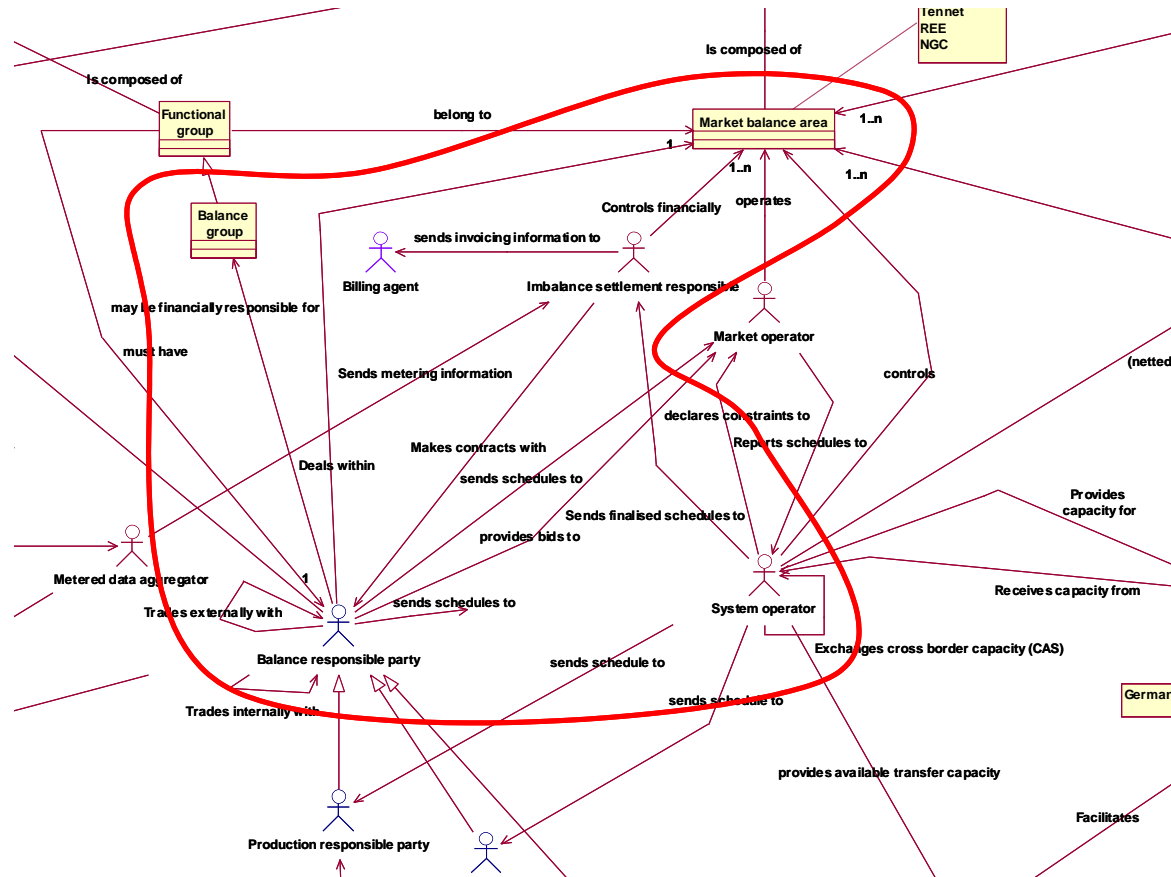
FIGURE 1: SCOPE OF THE SETTLEMENT PROCESS IN ROLE MODEL

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160 Note: Accounting point to be included once approved in the role model

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161 ## 2.3 OPERATIONAL SCENARIO

162 ### 2.3.1 THE OVERALL CONTEXT
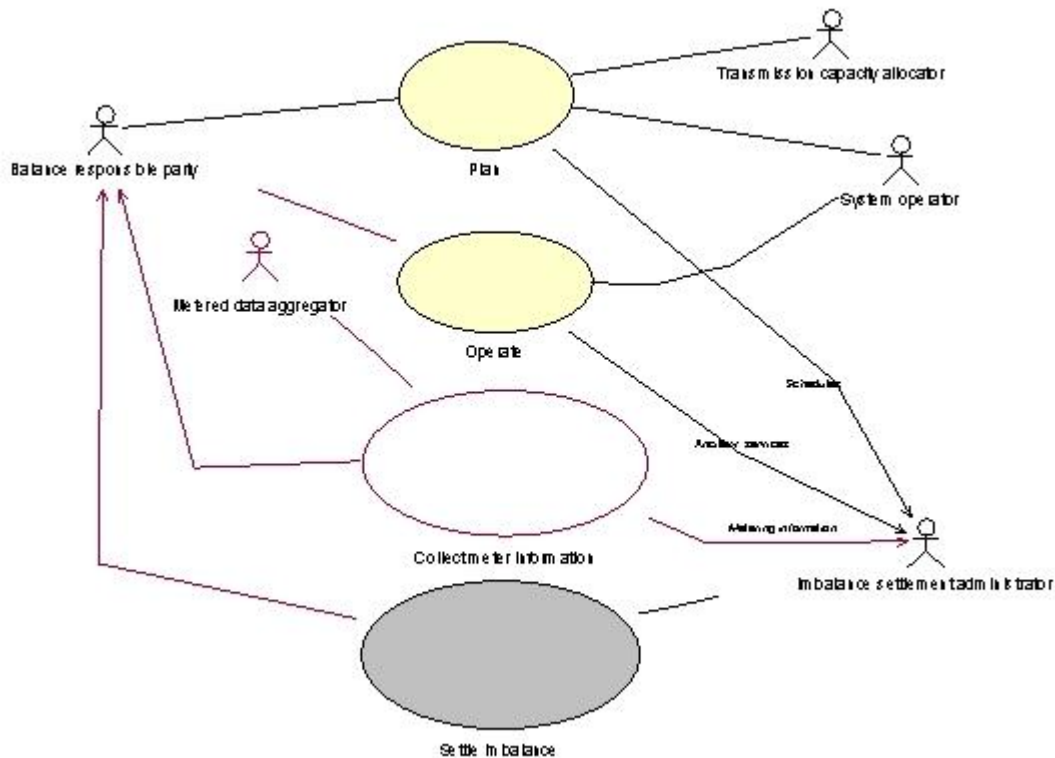
163

164 **FIGURE 2: OVERALL USE CASE**

165 Within this perspective there are three principal activities that can be identified (the collection
166 of metering information, although a significant activity, is not within the imbalance settlement
167 scope). These, as shown in Figure 2 are:

168 1. *The planning activity*. The principal deliverable of this phase is a set of time series
169   schedules (called finalised schedules) that have gone through their validation process
170   (conformity, matching, plausibility and acceptance).

171 2. *The operational activity* that ensures that the different schedules are correctly
172   implemented. This means that the planned production is available to cater for the
173   planned consumption. It also has to ensure that any deviations from the various
174   schedules (production, capacity, consumption, etc.) are catered for. Information from this
175   phase is required in order to correctly determine market imbalances. Such information is
176   termed regulation data.

177 3. ***The imbalance settlement activity that is the subject matter of this implementation
178   guide and will be further detailed below***. This activity takes place once everything has
179   been completed. It may be spread over a defined lapse of time. It is composed of three
180   basic activities. The first activity receives all the schedules that have been agreed and
181   regulation data that has been required for balancing the area. The second activity
182   recuperates the measured values of the delivered products. The final activity reconciles

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| 183 | these values, identifies the imbalances and establishes the imbalance settlement |
| 184 | amounts (this requiring pricing information that is market dependent). |

185   The pricing activity is normally completely independent of the technical and the online
186   processes. It is there to provide the rules to enable the involved parties to manage their
187   financial risks. At the end of the day the same activity is used to determine the price of all
188   deviations from the schedule. This activity has not been identified in Figure 2 since it is
189   essentially an independent activity.

190   ## 2.3.2 BREAKDOWN OF THE IMBALANCE SETTLEMENT PHASE
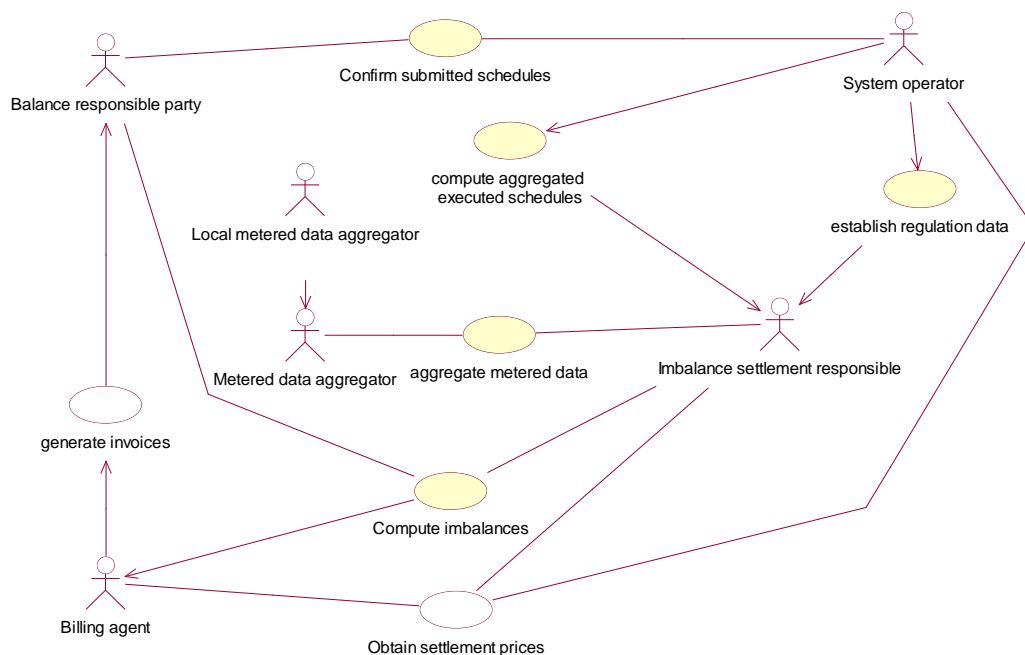
191
192   **FIGURE 3: INFORMATION EXCHANGE DURING THE IMBALANCE SETTLEMENT PHASE**

193   The imbalance settlement phase, outlined in Figure 3, describes the actors and principal use
194   cases of the imbalance settlement process.

195   The roles that take part in the imbalance settlement process are

196   ➢ System Operator, who provides the finalised schedule information and regulation
197   data.

198   ➢ Metering data aggregator, who provides the aggregated metered information. The
199   metered data aggregator may have local metered data aggregators that provide
200   initial aggregated input for consolidation and validation before being sent to the
201   imbalance settlement responsible.

202   ➢ Imbalance settlement responsible, who establishes the imbalances (quantities
203   and amounts).

204   ➢ Billing agent, who invoices the balance responsible party.

| 205 | ➢ Balance Responsible Party, who receives the settlement information. |

206 The basic data that is required for imbalance settlement includes the following:

207 208	➢ Finalised schedules that originate at the last stage of the ENTSO-E Scheduling process and could be day ahead, intraday or after the fact agreed schedules.
209 210 211 212	➢ Aggregated metered values for each balance responsible party and area (balance group, market balance area, distribution area, etc.). These consist of values for each schedule interval (for example 15 minutes or 60 minutes) for the whole accounting settlement period.
213 214 215	➢ Regulation data, such as ancillary services. This is established by the system operator and depends on local market rules and consists of the corrective time series information that has to be used to adjust the actual metered information.
216 217	➢ Settlement pricing information. This is outside the scope of this implementation guide and is dependent on local market rules.

218 The use cases that are within the scope of the imbalance settlement process are:

219 220	➢ Confirm submitted schedules, a use case that is a part of the ESS process and informs the Balance responsible party of the accepted schedules.
221 222	➢ Compute aggregated finalised schedule, a use case where the system operator determines the finalised schedules per area and party.
223 224	➢ Establish regulation data, a use case where the system operator determines the regulation data per area and per party.
225 226	➢ Aggregate energy data, a use case where the metered data aggregator aggregates the market and tieline meter information per area and per party.
227 228 229	➢ Compute imbalances, a use case where the imbalance settlement responsible establishes the imbalances and, depending on local market rules, the settlement amounts. These are established on a per area and per party basis.

230 The settlement cycle may be daily, weekly, monthly or yearly and must be tailored to suit
231 local market requirements.

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232 ## 3 SETTLEMENT SYSTEM INFORMATION REQUIREMENTS

233 ### 3.1 PROCESS FLOW
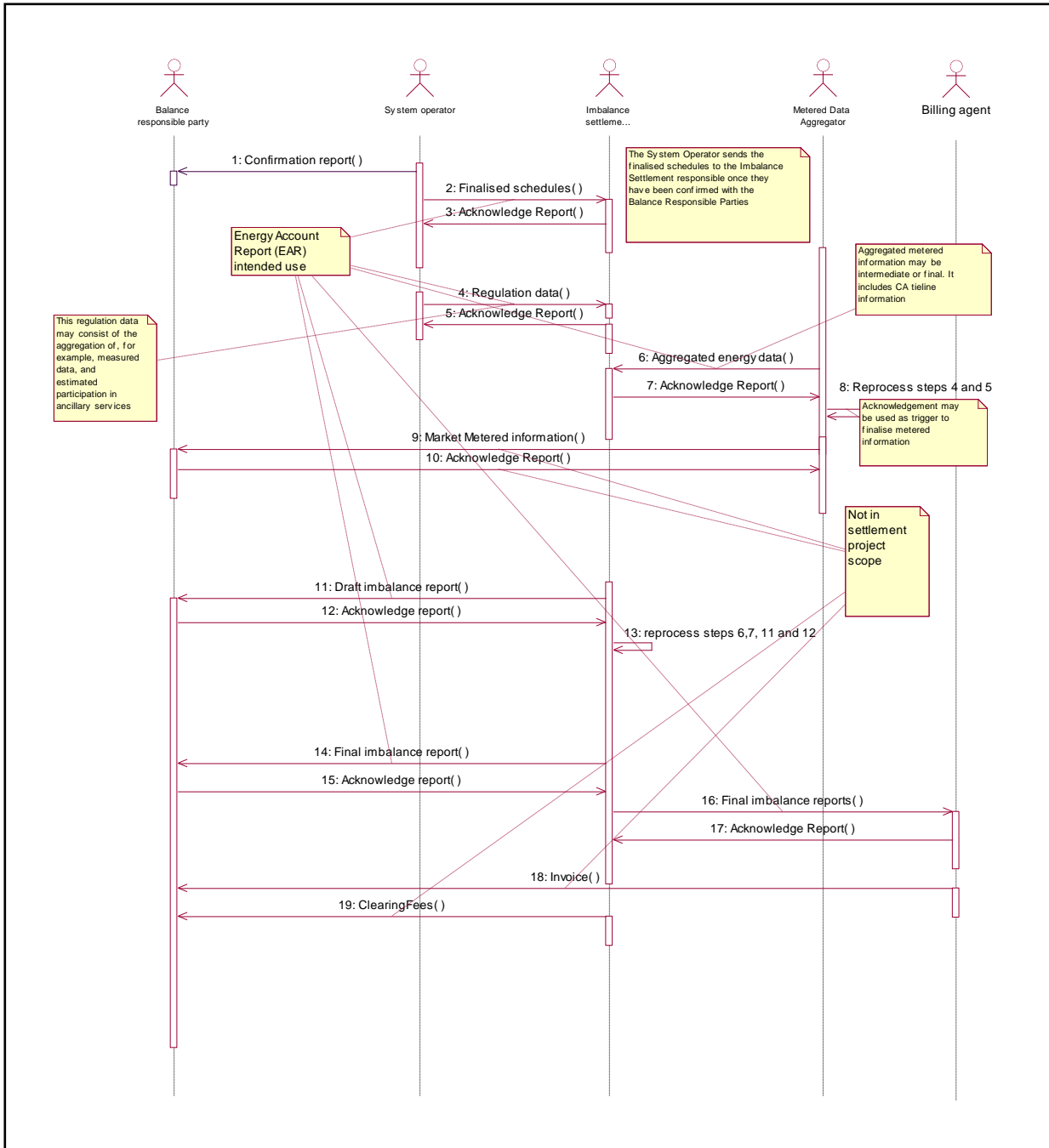
234

235 **FIGURE 4: TYPICAL SEQUENCE DIAGRAM OF THE INFORMATION FLOW FROM THE IMBALANCE SETTLEMENT RESPONSIBLE PERSPECTIVE**

236 The sequence diagram in Figure 4 outlines the information that is exchanged between the
237 different actors in the imbalance settlement phase of balance settlement process.

238   The information flows outlined in Figure 4 can be described as follows:

1. *Confirmation report (1)* is the last step of the ESS process, the agreed schedules may be day ahead, intraday or after the fact schedules.

2. *Finalised schedules (2)* are the actual aggregated schedules that have been used for operational purposes.

3. *Regulation data (4)* is sent from the System operator to the imbalance settlement responsible. This regulation data may consist of the aggregation of, for example, measured data, and estimated participation in ancillary services.

4. *Aggregated energy data (6)* is sent from the meter data aggregator to the imbalance settlement responsible that contains the aggregated meter values of all the market areas, balance units and market relevant tielines.

5. *Acknowledgement report (3, 5, 7, 12, 15 and 17)* is sent to acknowledge reception of a previously received document and eventually to report error conditions. A particular case can be made of the acknowledgement report to trigger a final aggregated energy document from the metered data aggregator.

6. *Market metered information (9) and its corresponding acknowledgement (10)* is outside the scope of the settlement process. This particular process can be found within the downstream operational process for metered data collection.

7. *Draft Imbalance report (11)* contains the values calculated by the imbalance settlement responsible on the basis of aggregated metered data, finalised schedules and regulation data. At this level, the price is assumed to be known by the imbalance settlement responsible thus enabling the settlement amount to be calculated. In TSO to TSO exchanges, such as inadvertent energy exchange, only the mega-watt hour values (the energy values) are of interest.

8. *Final imbalance report (14 per individual balance responsible party and 16 for all balance responsible parties)* is the result of the reprocessing(s) in step 13. This is the final report of the draft described above

9. *Invoice (18)* is prepared by the billing agent based on the final imbalance report and is not within the scope of the imbalance settlement process.

10. *Clearing fees (19)* for imbalance settlement management may have to be charged to the balance responsible party depending on local market rules. This is not within the scope of the imbalance settlement process.

270   The imbalance settlement process may be nested within settlement accounting periods (for
271   example, monthly periods may be nested within quarterly, half-yearly or yearly periods).

272   The reconciliation process to handle divergences between invoiced values and finalised
273   results are catered for in the settlement process as a special case of the illustrated process.
274   It is in effect a mix of the reiterations of points 6 through 15. For example, the refining of a
275   standard profile using metered values is carried out under the reconciliation process.

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1.1 IMBALANCE SETTLEMENT INFORMATION FLOWS

278
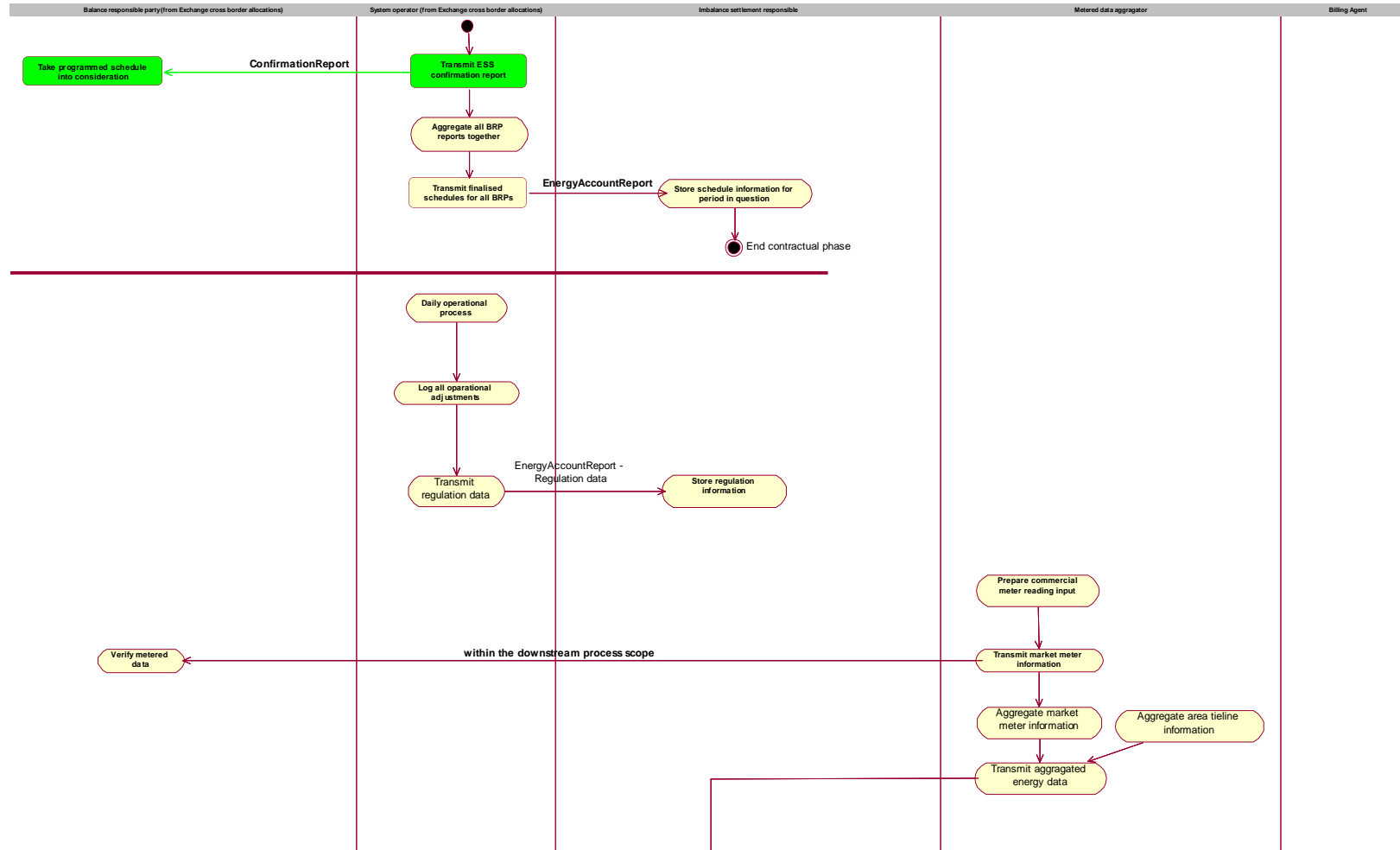
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FIGURE 5: THE IMBALANCE SETTLEMENT PROCESS

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283
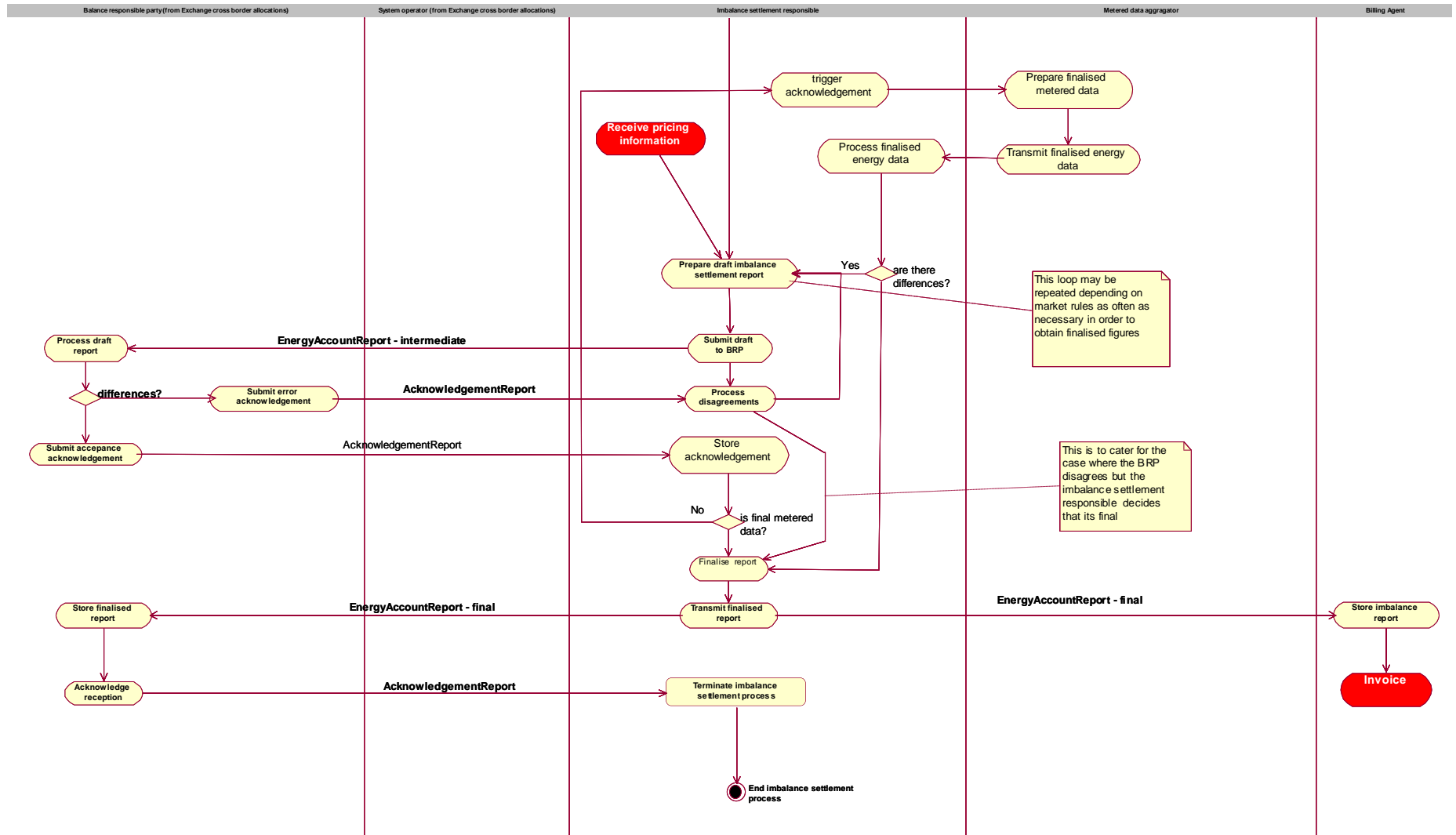
FIGURE 6: THE IMBALANCE SETTLEMENT PROCESS

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284   The workflow diagram described in Figure 5 and Figure 6 shows the process flow for
285   imbalance settlement.

286   Initially the system operator compiles and aggregates all the balance responsible
287   schedules by party and area (this is currently the role that has responsibility for
288   scheduling within the ESS. However, a party other than the system operator, for
289   example, imbalance settlement responsible in the case of Austria, may handle such a
290   function. Such parties generally handle the internal schedules leaving the external
291   schedules to the system operator to handle). This information is sent to the imbalance
292   settlement responsible by a "*finalised schedule*" in an EAR structure. The imbalance
293   settlement responsible stores the information for later use in determining the
294   imbalances.

295   After the daily operational process has been executed, the system operator
296   aggregates together all the regulation data that impacts the imbalance process (i.e.
297   ancillary services). Such information is required in order to ensure that the
298   imbalances are correctly determined depending on local market rules. This
299   information is also communicated to the imbalance settlement responsible through
300   "*regulation data report*" in an EAR structure.
301   In a parallel process the metered data aggregator assembles and aggregates the
302   metered information for the market. A similar action is also carried out for the border
303   tielines. The first type of metering information is necessary in order to calculate the
304   imbalance of a party while the second type of metering information will be used to
305   calculate the imbalance of the balance area. This means the deviation between the
306   aggregated programmed cross-border schedules of all parties on the borders of the
307   control areas and the aggregation of all the metered values on the tielines.The
308   resulting information is then sent to the imbalance settlement responsible, generally in
309   an intermediate form. This information is also communicated to the imbalance
310   settlement responsible through an "*aggregated energy data report*" in an EAR
311   structure.

312   The imbalance settlement responsible on reception of the metered data prepares a
313   draft imbalance settlement report for transmission to the balance responsible parties
314   for validation. This information is communicated to the balance responsible parties
315   through an "*imbalance report*" in an EAR structure.

316   The balance responsible parties indicate their agreement or disagreement to the
317   imbalance settlement responsible through the use of an acknowledgement report.

318   In the case of disagreements, the imbalance settlement responsible takes the
319   necessary corrective action and may reissue the report.

320   At a given point in time in the process the imbalance settlement responsible, if he has
321   not yet received a final "*aggregated energy data report*", may request that the
322   metered data aggregator supply him with the finalised "*aggregated energy data
323   report*". This is generally subject to a cutoff delay.

324   On reception of the finalised "*aggregated energy data report*" the imbalance
325   settlement responsible verifies if any differences exist. In such a case, a draft
326   "*imbalance report*" is reissued to the balance responsible party.

327   When the imbalance settlement responsible has received a positive
328   acknowledgement from the balance responsible party concerning the draft imbalance
329   information, he will send a finalised "*imbalance report*" to the balance responsible

330   party. The imbalance settlement responsible sends a consolidated report to the billing
331   agent for invoicing. This information is communicated to the parties in question
332   through an EAR structure.

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333 # 4 ENERGY ACCOUNT REPORT IMPLEMENTATION

334 ## 4.1 INFORMATION MODEL
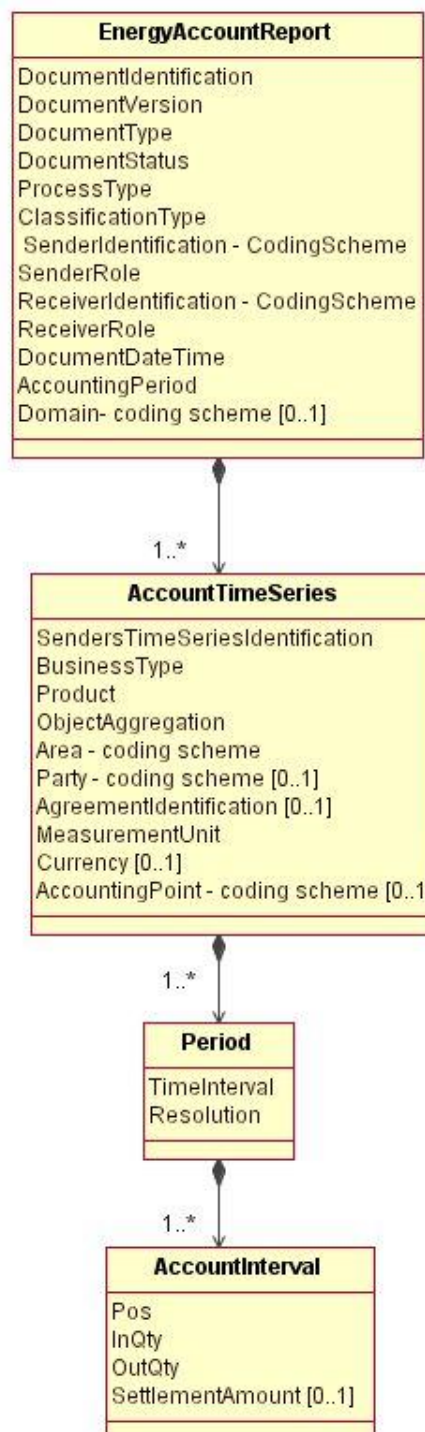
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336 **FIGURE 7: EAR INFORMATION MODEL**

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337 **4.2 RULES GOVERNING THE ENERGY ACCOUNT REPORT**
338 **IMPLEMENTATION**

339 ## 4.2.1 GENERAL RULES GOVERNING DOCUMENT CONTENT

340 ### 4.2.1.1 MAJOR CATEGORISATION OF DOCUMENT INFORMATION MATRIX

Document type	Business type	Process type
A09 - Finalised schedule	A02 - Internal trade A03- External trade explicit capacity A09 - IPP (Independent power producer)	A04 - System operation closure,
A10 - Regulation data report	A10 – Tertiary control A11 - Primary control A12 - Secondary control	A04 - System operation closure
A11 – Aggregated energy data report	A13 - Load profile A14 - Aggregated energy data A15 - Losses A16 - Transits (CBT)	A05 - Metered data aggregation
A12 - Imbalance report	A02 - Internal trade A03- External trade explicit capacity A09 - IPP (Independent power producer) A10 – Tertiary control A11 - Primary control A12 - Secondary control A13 - Load profile A14 - Aggregated energy data A15 - Losses A16 - Transits (CBT) A17 - Settlement deviation A18 - technical constraint deviation A19 – balance energy deviation A20 – imbalance volume A21 - inadvertent deviation A22 - Frequency control A23 - Balance management A24 – Total trade A30 - Internal inter-area trade	A06 - Imbalance settlement

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342 **4.3 ENERGY ACCOUNT REPORT CLASS SPECIFICATIONS**

343 4.3.1 DOCUMENT IDENTIFICATION

ACTION	DESCRIPTION
Definition of element	Unique identification of the document for which the time series data is being supplied.
Description	An Energy account report for a given set of time series and a given accounting period must have a unique identification assigned by the sender of the document for all transmissions to the receiver.
	All additions, modifications, or suppressions for the time series and accounting period must use the same identification.
Size	The identification of a document may not exceed 35 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None

344 4.3.2 DOCUMENT VERSION

ACTION	DESCRIPTION
Definition of element	Version of the document being sent. A document may be sent several times, each transmission being identified by a different version number that starts at 1 and increases sequentially.
Description	The document version is used to identify a given version of a time series set for a given accounting period.
	The first version number for a given document identification shall normally be 1.
	The document version number must be incremented for each retransmission of a document that contains changes to the previous version.
	The receiving system should ensure that the version number for a document is superior to the previous version number received.
Size	A version number may not exceed 3 numeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

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346   ### 4.3.3 DOCUMENT TYPE

ACTION	DESCRIPTION
Definition of element	The coded type of the document being sent.
Description	The document type identifies the information flow characteristics. **Refer to ENTSO-E Code list document for valid codes.** *Intended codes are:* A09 - Finalised schedule A10 - Regulation data report A11 - energy data report A12 - Imbalance report
Size	The document type value must be exactly 3 alphanumeric characters (no blanks).
Applicability	This information is mandatory.
Dependence requirements	None.

347   ### 4.3.4 DOCUMENT STATUS

ACTION	DESCRIPTION
Definition of element	The coded status of the document being sent.
Description	The document status identifies the status of the information sent (e.g. intermediate, final, etc.). **Refer to ENTSO-E Code list document for valid codes.** *Intended codes are:* A01 - Intermediate A02 – Final
Size	The document status value must be exactly 3 alphanumeric characters (no blanks).
Applicability	This information is mandatory.
Dependence requirements	None.

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348   ### 4.3.5 PROCESS TYPE

ACTION	DESCRIPTION
Definition of element	The nature of the process that the document is directed at.
Description	The process type identifies the process to which the information flow is directed. **Refer to ENTSO-E Code list document for valid codes.** *Intended codes are:* A04 - System Operation closure A05 - Metered data aggregation A06 - Imbalance settlement
Size	The process type value must be exactly 3 alphanumeric characters (no blanks).
Applicability	This information is mandatory.
Dependence requirements	None.

349   ### 4.3.6 CLASSIFICATION TYPE

ACTION	DESCRIPTION
Definition of element	A type that is used to classify the document by aggregation or classification.
Description	The classification type identifies the aggregation or classification type of the document. **Refer to ENTSO-E Code list document for valid classification type codes.** *Intended codes are:* A01 - Detail A02 - Summary
Size	The classification type value must be exactly 3 alphanumeric characters (no blanks).
Applicability	This information is mandatory.
Dependence requirements	None.

350   4.3.7 SENDER IDENTIFICATION – CODING SCHEME

ACTION	DESCRIPTION
Definition of element	Identification of the party that is the owner of the document and is responsible for its content.
Description	The sender of the document is identified by a unique coded identification. This code identifies the party that is the "owner" of the information being transmitted in the document and who is responsible for its content.
	The codification scheme used for the coded identification is indicated by the coding scheme attribute. It is a 3 character alphanumeric code.
	Refer to ENTSO-E Code list document for valid coding scheme codes.
Size	The maximum length of a sender's identification is 16 alphanumeric characters.
	The maximum length of the coding scheme code is 3 alphanumeric characters.
Applicability	Both the identification and the coding scheme are mandatory.
Dependence requirements	None.

351   4.3.8 SENDER ROLE

ACTION	DESCRIPTION
Definition of element	Identification of the role that is played by the sender.
Description	The sender role, which identifies the role of the sender within the document.
	Refer to ENTSO-E Code list document for valid role codes.
Size	The maximum length of a sender role is 3 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

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352 ### 4.3.9 RECEIVER IDENTIFICATION – CODING SCHEME

ACTION	DESCRIPTION
Definition of element	Identification of the party who is receiving the document.
Description	The receiver of the document is identified by a unique coded identification.
	The codification scheme used for the coded identification is indicated by the coding scheme attribute. It is a 3 character alphanumeric code.
	Refer to ENTSO-E Code list document for valid coding scheme codes.
Size	The maximum length of a receiver's identification is 16 alphanumeric characters.
	The maximum length of the coding scheme code is 3 alphanumeric characters.
Applicability	Both the identification and the coding scheme are mandatory.
Dependence requirements	None.

353 ### 4.3.10 RECEIVER ROLE

ACTION	DESCRIPTION
Definition of element	Identification of the role played by the receiver.
Description	The receiver role, which identifies the role of the receiver within the document.
	Refer to ENTSO-E Code list document for valid role codes.
Size	The maximum length of a receiver role is 3 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

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354   ## 4.3.11   DOCUMENT DATE AND TIME

ACTION	DESCRIPTION
Definition of element	Date and time of the creation of the document.
Description	The date and time that the document was prepared for transmission by the application of the sender.
Size	The date and time must be expressed in UTC as YYYY-MM-DDTHH:MM:SSZ.
Applicability	This information is mandatory.
Dependence requirements	None.

355   ## 4.3.12   ACCOUNTING PERIOD

ACTION	DESCRIPTION
Definition of element	The beginning and ending date and time of the period covered by the document.
Description	This information provides the start and end date and time of the accounting period. The receiver will discard any time intervals outside the accounting period.
Size	The start and end date and time must be expressed as YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ.
Applicability	This information is mandatory.
Dependence requirements	None.

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356   4.3.13   DOMAIN - CODINGSCHEME

ACTION	DESCRIPTION
Definition of element	The domain covered within the Energy Account Report.
Description	The identification of the domain that is covered in the Energy Account Report. This will be frequently be the Market Balance Area that is the subject of the report. However, other domains may also be used as defined by local market rules to enable the particular balancing markets to be identified.
	The codification scheme used for the coded identification is indicated by the coding scheme attribute. It is a 3 character alphanumeric code.
	Refer to ENTSO-E Code list document for valid coding scheme codes.
Size	The maximum length of this information is 18 alphanumeric characters.
	The maximum length of the coding scheme code is 3 alphanumeric characters.
Applicability	This information is dependent.
Dependence requirements	Usage is defined by local market rules

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357 ## 4.4 RULES GOVERNING THE ACCOUNT TIME SERIES CLASS

358 ### 4.4.1 DEPENDENCY MATRIX

359 The Account time series has four attributes that are used depending on the following
360 set of conditions:

361

Attribute	Document Type	Process Type	Classification Type	Business Type	Object Aggregation
Party	ALL	ALL	A01 "detail"	ALL	A03 "Party"
Currency	A12 "Imbalance report"	A06 "imbalance settlement"	ALL	A17 "Settlement deviation", A18, "technical constraint deviation" A19 "balance energy deviation" A20 "imbalance volume"	ALL
Agreement Identification	A09 "finalised schedule" A11 "Aggregated energy data" A12 "Imbalance report"	A04 "system operation closure" A05 "metered data aggregation" A06 "imbalance settlement"	A01 "detail"	A02 "internal trade" A03 "external trade" A10 "tertiary control" A16 "transits" A09 "IPP"	ALL
Accounting Point	A11 "Aggregated energy data" A12 "Imbalance report	A05 "metered data aggregation" A06 "imbalance settlement"	A01 "detail"	All	A03 "Party"

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362   4.4.2 SENDERS TIME SERIES IDENTIFICATION

ACTION	DESCRIPTION
Definition of element	Sender's identification of the time series instance. This must be unique for the whole document and guarantee the non-duplication of all the attributes of the account time series class.
Description	A unique identification within the document assigned by the sender.
Size	The maximum size of a time series identification is 35 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

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363 ### 4.4.3 BUSINESS TYPE

ACTION	DESCRIPTION
Definition of element	Identifies the trading nature of an energy product.
Description	The nature of the time series for which the product is handled. **Refer to ENTSO-E Code list document for valid codes.** *Intended codes are:* A02 - Internal trade A03 - External trade A09 - IPP (Independent power producer) A10 – Tertiary control A11 - Primary control A12 - Secondary control A13 - Load profile A14 - Aggregated energy data A15 - Losses A16 - Transits (CBT) A17 - Settlement deviation A18 – Technical constraint deviation A19 – Balance energy deviation A20 – Imbalance volume A21 - Inadvertent deviation A22 - Frequency control A23 - Balance management A24 - Total trade
Size	The maximum length of this information is 3 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

364   ## 4.4.4 PRODUCT

ACTION	DESCRIPTION
Definition of element	Identification of an energy product such as power, energy, reactive power, transport capacity, etc.
Description	This identifies the product for which the time series is reporting. There is a different time series for each product. **Refer to ENTSO-E Code list document for valid codes.**
Size	The maximum length of this information is 13 numeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

365   ## 4.4.5 OBJECT AGGREGATION

ACTION	DESCRIPTION
Definition of element	Identifies how the object is aggregated.
Description	This identified to what extent the object is aggregated. **Refer to ENTSO-E Code list document for valid codes.** *Intended codes are:* A01 - Area A03 - Party
Size	The maximum length of this information is 3 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

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366   ## 4.4.6 AREA – CODING SCHEME

ACTION	DESCRIPTION
Definition of element	The area of concern for the imbalance settlement responsible that the time series addresses.
Description	The identification of the area (balance group, market balance area, control area, control block, coordination center zone, etc.) that the Imbalance settlement responsible handles.
	The codification scheme used for the coded identification is indicated by the coding scheme attribute. It is a 3 character alphanumeric code.
	Refer to ENTSO-E Code list document for valid coding scheme codes.
Size	The maximum length of the area code is 18 alphanumeric characters.
	The maximum length of the coding scheme code is 3 alphanumeric characters.
Applicability	**This information is mandatory**.
Dependence requirements	

367   ## 4.4.7 PARTY – CODING SCHEME

ACTION	DESCRIPTION
Definition of element	The party of concern for the time series.
Description	The identification of the party of concern.
	The codification scheme used for the coded identification is indicated by the coding scheme attribute. It is a 3 character alphanumeric code.
	Refer to ENTSO-E Code list document for valid coding scheme codes.
Size	The maximum length of this information is 16 alphanumeric characters.
	The maximum length of the coding scheme code is 3 alphanumeric characters.
Applicability	This information is dependent.
Dependence requirements	Refer to the matrix in 4.4.1 for dependency requirements.

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368   ### 4.4.8 AGREEMENT IDENTIFICATION

ACTION	DESCRIPTION
Definition of element	The identification of an agreement.
Description	This provides the identification of the agreement, such as a capacity agreement, that is relative to the time series
Size	The maximum length of this information is 35 alpha-numeric characters.
Applicability	This information is dependent.
Dependence requirements	Refer to the matrix in 4.4.1 for dependency requirements.

369   ### 4.4.9 MEASUREMENT UNIT

ACTION	DESCRIPTION
Definition of element	The unit of measure that is applied to the quantities in which the time series is expressed.
Description	The unit if measurement used for the quantities expressed within the time series. **Refer to ENTSO-E Code list document for valid codes.**
Size	The maximum length of this information is 3 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

370   ### 4.4.10   CURRENCY

ACTION	DESCRIPTION
Definition of element	The currency in which the monetary amount is expressed.
Description	The currency used for the monetary amount expressed within the time series. **Refer to ENTSO-E Code list document for valid codes.**
Size	The maximum length of this information is 3 alphanumeric characters respecting the standard ISO 4217.
Applicability	This information is dependent.
Dependence requirements	Refer to the matrix in 4.4.1 for dependency requirements.

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371   4.4.11   ACCOUNTING POINT – CODING SCHEME

ACTION	DESCRIPTION
Definition of element	A point where the calculation of the energy produced or consumed is carried out. It may be a physical point situated at an extremity of a line; a virtual point that is an agreed position between two connections or an aggregation of physical or virtual points.
Description	The identification of the Accounting Point where the settlement information has been aggregated.
	The codification scheme used for the coded identification is indicated by the coding scheme attribute. It is a 3 character alphanumeric code.
	Refer to ENTSO-E Code list document for valid coding scheme codes.
Size	The maximum length of this information is 16 alphanumeric characters.
	The maximum length of the coding scheme code is 3 alphanumeric characters.
Applicability	This information is dependent.
Dependence requirements	Refer to the matrix in 4.4.1 for dependency requirements.

372   **4.5**   R<small>ULES GOVERNING THE</small> P<small>ERIOD CLASS</small>

373   There may be several period classes for a time series. The overall time interval
374   covered by the period shall be cover the complete accounting period.

375   The number of periods within a time series as characterized by the resolution must
376   completely cover the period's time interval.

377   If a time series is suppressed then the interval quantities are all zeroed out.

378   A senders minimal resolution must respect market rules.

379   4.5.1 T<small>IME</small> I<small>NTERVAL</small>.

ACTION	DESCRIPTION
Definition of element	The start and end date and time of the time interval of the period in question.
Description	This information provides the start and end date and time of the period being reported.
Size	The start and end date and time must be expressed in compliance with the following format: YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ.
Applicability	This information is mandatory.
Dependence requirements	None.

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380 ## 4.5.2 RESOLUTION

ACTION	DESCRIPTION
Definition of element	The resolution defining the number of periods that the time interval is divided.
Description	This information defines the resolution of a single period. The time interval must contain a whole number of periods as expressed by the resolution.
Size	The resolution is expressed in compliance with ISO 8601 in the following format: PnYnMnDTnHnMnS. Where nY expresses a number of years, nM a number of months, nD a number of days. The letter "T" separates the date expression from the time expression and after it nH identifies a number of hours, nM a number of minutes and nS a number of seconds. For example PT15M expresses a 15 minute resolution.
Applicability	This information is mandatory.
Dependence requirements	None.

381 ## 4.6 RULES GOVERNING THE ACCOUNT INTERVAL CLASS

382 The Account interval class contains the relative position within a time interval period,
383 the quantities associated with that position and eventually the total monetary amount
384 of the cost of any eventual imbalance.

385 The position must begin with 1 and increment by 1 for each subsequent position
386 forming a series of contiguous numbers covering the complete range of the period.

387 Any leading zeros in a position shall be suppressed.

388 Negative values are not allowed in time series quantities
389 Leading zeros in a quantity shall be suppressed before transmission.

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390   ## 4.6.1 DEPENDENCY MATRIX

Attribute	Document Type	Process Type	Classification Type	Business Type	Object Aggregation
Settlement amount	A12 "Imbalance report"	A06 "imbalance settlement"	ALL	A17 "Settlement deviation", A18, "technical constraint deviation" A19 "balance energy deviation" A20 "imbalance volume"	ALL

391   ## 4.6.2 POS

ACTION	DESCRIPTION
Definition of element	The relative position of a period within an account interval.
Description	This information provides the relative position of a period within an account interval.
Size	The relative position must be expressed as a numeric integer value beginning with 1. All leading zeros must be suppressed. The maximum number of characters is 6.
Applicability	This information is mandatory.
Dependence requirements	None.

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392 ## 4.6.3 IN QTY

ACTION	DESCRIPTION
Definition of element	The quantity of the product that enters the area for the position within the account interval in question.
Description	This information defines the quantity of the product that enters the area for the position within the account interval period. A decimal point value may be used to express values that are inferior to the defined unit of measurement. The decimal mark that separates the digits forming the integral part of a number from those forming the fractional part. (ISO 6093) shall always be a period ("."). All quantities are non-signed values.
Size	The maximum length of this information is 17 numeric characters (decimal mark included). The number of decimal places identifying the fractional part of the quantity depends on local market rules.
Applicability	This information is mandatory.
Dependence requirements	None.

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393   4.6.4 OUT QTY

ACTION	DESCRIPTION
Definition of element	The quantity of the product that leaves the area. For the position within the account interval in question.
Description	This information defines the quantity of the product that leaves the area for the position within the account interval period. A decimal point value may be used to express values that are inferior to the defined unit of measurement. The decimal mark that separates the digits forming the integral part of a number from those forming the fractional part. (ISO 6093) shall always be a period ("."). All quantities are non-signed values.
Size	The maximum length of this information is 17 numeric characters (decimal mark included). The number of decimal places identifying the fractional part of the quantity depends on local market rules.
Applicability	This information is mandatory.
Dependence requirements	None.

394   4.6.5 SETTLEMENT AMOUNT

ACTION	DESCRIPTION
Definition of element	The amount due for the account interval in question.
Description	This information defines the settlement amount taking into consideration the in and out quantities and the pricing scheme based on local market rules. A negative value indicates that the settlement amount is due by the party in question (party to be debited). If the amount is positive it is due by the imbalance settlement responsible (party to be credited). The decimal mark that separates the digits forming the integral part of a number from those forming the fractional part (ISO 6093) shall always be a period (".").
Size	The maximum length of this information is 17 numeric characters (decimal mark and sign, if used included).
Applicability	This information is dependent.
Dependence requirements	Refer to the matrix in 4.6.1 for dependency requirements.

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5 ACKNOWLEDGEMENT DOCUMENT IMPLEMENTATION

The Acknowledgement document fits into a general ENTSO-E acknowledgement process as outlined in the figure below.
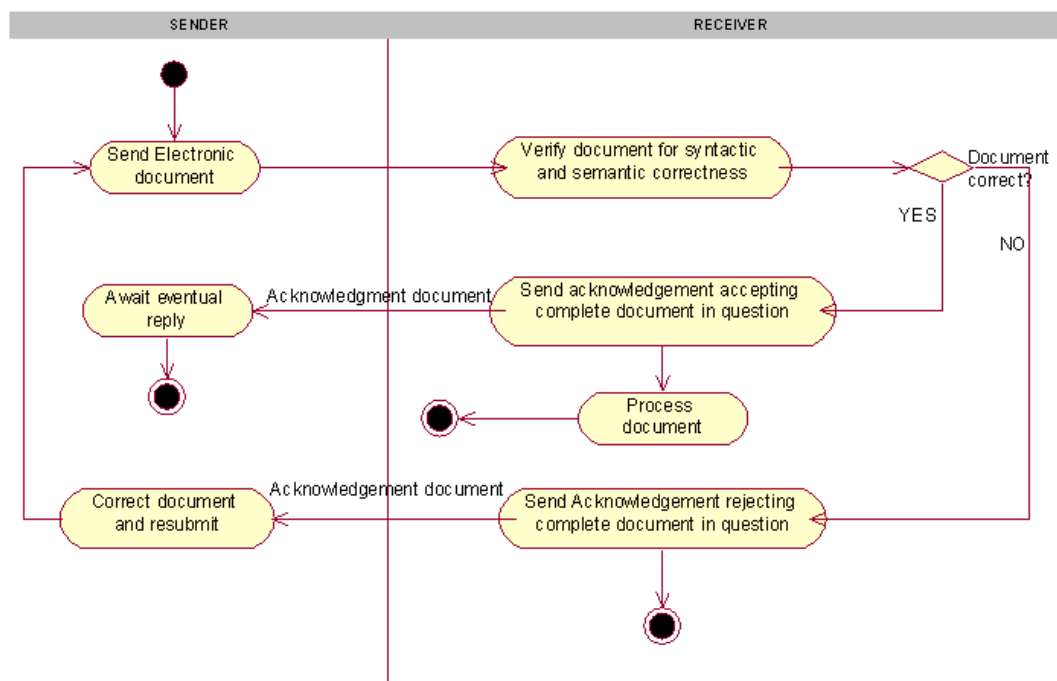
FIGURE 8: ACKNOWLEDGEMENT PROCESS

The Acknowledgement document shall be used in conjunction with the transmission of all electronic documents defined in the ESS process Information flow diagramme as requiring it for application acknowledgement.

When a document is received it will be verified at the application level to ensure that there are no faults in it that could prevent its correct processing.

A document that is valid after this verification which necessitates the generation of an application acknowledgement shall require the transmission of an ENTSO-E Acknowledgement document accepting in its entirety the document in question.

A document that has an error in it which necessitates the generation of an application acknowledgement shall require the transmission of an ENTSO-E Acknowledgement document that completely or partially rejects the document in question.

Note: The Acknowledgement document should be at least from version 4.0. It can be downloaded from the ENTSO-e website (www.entsoe.eu).

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6 XML DTD AND SCHEMA DEFINITIONS

6.1 ENERGY ACCOUNT REPORT – DTD DEFINITION

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="ear-xsl.xsl"?>
<!-- ENTSO-E Task Force 14 - DTD Version : 1 RELEASE : 1 -->
<!ELEMENT EnergyAccountReport (DocumentIdentification, DocumentVersion, DocumentType,
DocumentStatus, ProcessType, ClassificationType, SenderIdentification, SenderRole, ReceiverIdentification, ReceiverRole,
DocumentDateTime, AccountingPeriod, Domain, AccountTimeSeries+)>
    <!ATTLIST EnergyAccountReport DtdVersion CDATA #REQUIRED
    DtdRelease CDATA #REQUIRED>

    <!ELEMENT DocumentIdentification EMPTY>
    <!ATTLIST DocumentIdentification v CDATA #REQUIRED>

    <!ELEMENT DocumentVersion EMPTY>
    <!ATTLIST DocumentVersion v CDATA #REQUIRED>

    <!ELEMENT DocumentType EMPTY>
    <!ATTLIST DocumentType v CDATA #REQUIRED>
    <!--    See Document type valid codes and meanings in implementation guide    -->

    <!ELEMENT DocumentStatus EMPTY>
    <!ATTLIST DocumentStatus v CDATA #REQUIRED>
    <!--    See Document status valid codes and meanings in implementation guide -->

    <!ELEMENT ProcessType EMPTY>
    <!ATTLIST ProcessType v CDATA #REQUIRED>
    <!--    See role meanings in implementation guide -->

    <!ELEMENT ClassificationType EMPTY>
    <!ATTLIST ClassificationType v CDATA #REQUIRED>
    <!--    See meanings in implementation guide -->

    <!ELEMENT SenderIdentification EMPTY>
    <!ATTLIST SenderIdentification v CDATA #REQUIRED
                        codingScheme CDATA #REQUIRED>

    <!ELEMENT SenderRole EMPTY>
    <!ATTLIST SenderRole v CDATA  #REQUIRED>
    <!--    See role meanings in implementation guide -->

    <!ELEMENT ReceiverIdentification EMPTY>
    <!ATTLIST ReceiverIdentification v CDATA #REQUIRED
        codingScheme CDATA #REQUIRED>

    <!ELEMENT ReceiverRole EMPTY>
    <!ATTLIST ReceiverRole v CDATA #REQUIRED>
    <!--    See role meanings in implementation guide -->

    <!ELEMENT DocumentDateTime EMPTY>
    <!ATTLIST DocumentDateTime v CDATA #REQUIRED>

    <!ELEMENT AccountingPeriod EMPTY>
    <!ATTLIST AccountingPeriod v CDATA #REQUIRED>

    <!ELEMENT Domain EMPTY>
    <!ATTLIST Domain v CDATA #REQUIRED>
```

```
471
472        <!ELEMENT AccountTimeSeries (SendersTimeSeriesIdentification, BusinessType, Product, ObjectAggregation, Area,
473    Party?, AgreementIdentification?, MeasurementUnit, Currency?, AccountingPoint?, Period+)>
474
475        <!ELEMENT SendersTimeSeriesIdentification EMPTY>
476        <!ATTLIST SendersTimeSeriesIdentification v CDATA #REQUIRED>
477
478        <!ELEMENT BusinessType EMPTY>
479        <!ATTLIST BusinessType v CDATA #REQUIRED>
480        <!--    See Business type valid codes and meanings in implementation guide     -->
481
482        <!ELEMENT Product EMPTY>
483        <!ATTLIST Product v CDATA #REQUIRED>
484        <!--    See product valid codes and meanings in implementation guide   -->
485
486        <!ELEMENT ObjectAggregation EMPTY>
487        <!ATTLIST ObjectAggregation v CDATA #REQUIRED>
488        <!--    See object aggregation valid codes and meanings in implementation guide        -->
489
490        <!ELEMENT Area EMPTY>
491        <!ATTLIST Area v CDATA #REQUIRED
492            codingScheme CDATA #REQUIRED>
493
494        <!ELEMENT Party EMPTY>
495        <!ATTLIST Party v CDATA #REQUIRED
496                    codingScheme CDATA #REQUIRED>
497
498        <!ELEMENT AgreementIdentification EMPTY>
499        <!ATTLIST AgreementIdentification v CDATA #REQUIRED>
500
501        <!ELEMENT MeasurementUnit EMPTY>
502        <!ATTLIST MeasurementUnit      v CDATA #REQUIRED>
503        <!--    See measurement unit meanings in implementation guide     -->
504
505        <!ELEMENT Currency EMPTY>
506        <!ATTLIST Currency v CDATA #REQUIRED>
507        <!--    See currency codes in ISO 4712    -->
508
509        <!ELEMENT AccountingPoint EMPTY>
510        <!ATTLIST AccountingPoint v CDATA #REQUIRED
511                    codingScheme CDATA #REQUIRED>
512
513        <!ELEMENT Period (TimeInterval, Resolution, AccountInterval+)>
514
515        <!ELEMENT TimeInterval EMPTY>
516        <!ATTLIST TimeInterval v CDATA #REQUIRED>
517
518        <!ELEMENT Resolution EMPTY>
519        <!ATTLIST Resolution v CDATA #REQUIRED>
520
521        <!ELEMENT AccountInterval (Pos, InQty, OutQty, SettlementAmount?)>
522
523        <!ELEMENT Pos EMPTY>
524        <!ATTLIST Pos v CDATA #REQUIRED>
525
526        <!ELEMENT InQty EMPTY>
527        <!ATTLIST InQty v CDATA #REQUIRED>
528
529        <!ELEMENT OutQty EMPTY>
530        <!ATTLIST OutQty v CDATA #REQUIRED>
531
532        <!ELEMENT SettlementAmount EMPTY>
```

533   `<!ATTLIST SettlementAmount v CDATA #REQUIRED>`

534   6.2 ENERGY ACCOUNT REPORT – SCHEMA DEFINITION

535   6.2.1 ENERGY ACCOUNT REPORT – SCHEMA STRUCTURE
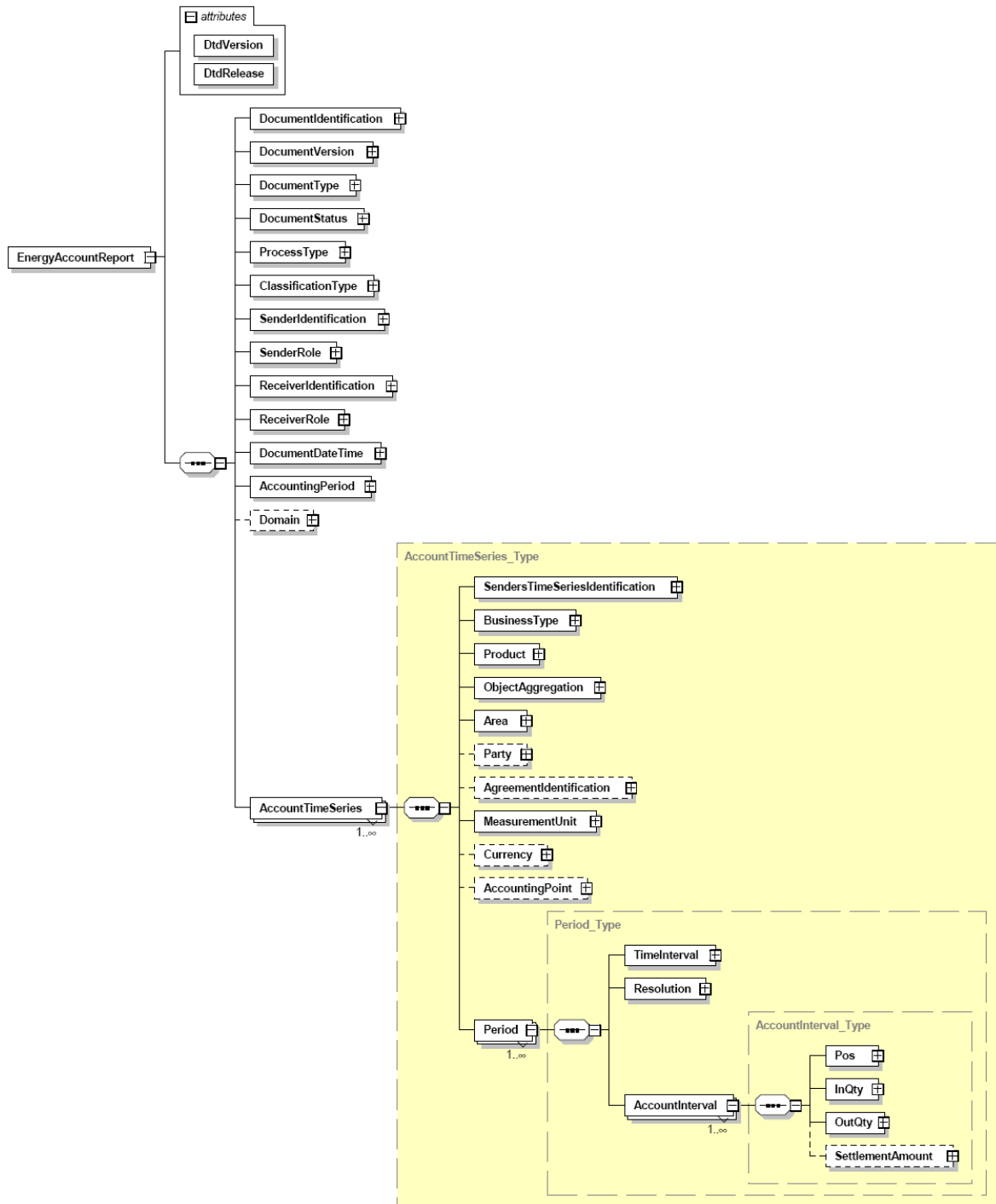
536

537   **FIGURE 9: XML SCHEMA STRUCTURE**

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6.2.2 ENERGY ACCOUNT REPORT – SCHEMA DEFINITION

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2008 sp1 (http://www.altova.com) by Michael Conroy (TEDIOR SARL) -->
<!-- edited with XMLSPY v2004 rel. 3 U (http://www.xmlspy.com) by user user (SEMA) -->
<xsd:schema xmlns:ecc="etso-core-cmpts.xsd" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified" ecc:VersionRelease="3.3">
        <xsd:import namespace="etso-core-cmpts.xsd" schemaLocation="../core/etso-core-cmpts.xsd"/>
        <!--
                        ENTSO-E Document Automatically generated from a UML class diagram using XMI.
                        Generation tool version 1.7
                -->
        <xsd:element name="EnergyAccountReport">
                <xsd:complexType>
                        <xsd:annotation>
                                <xsd:documentation/>
                        </xsd:annotation>
                        <xsd:sequence>
                                <xsd:element name="DocumentIdentification" type="ecc:IdentificationType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="DocumentVersion" type="ecc:VersionType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="DocumentType" type="ecc:MessageType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="DocumentStatus" type="ecc:StatusType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="ProcessType" type="ecc:ProcessType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="ClassificationType" type="ecc:ClassificationType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="SenderIdentification" type="ecc:PartyType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="SenderRole" type="ecc:RoleType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="ReceiverIdentification" type="ecc:PartyType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="ReceiverRole" type="ecc:RoleType">
                                        <xsd:annotation>
                                                <xsd:documentation/>
                                        </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="DocumentDateTime" type="ecc:MessageDateTimeType">
                                        <xsd:annotation>
```

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```
607                                                           <xsd:documentation/>
608                                                      </xsd:annotation>
609                                                 </xsd:element>
610                                                 <xsd:element name="AccountingPeriod" type="ecc:TimeIntervalType">
611                                                      <xsd:annotation>
612                                                           <xsd:documentation/>
613                                                      </xsd:annotation>
614                                                 </xsd:element>
615                                                 <xsd:element name="Domain" type="ecc:AreaType" minOccurs="0">
616                                                      <xsd:annotation>
617                                                           <xsd:documentation/>
618                                                      </xsd:annotation>
619                                                 </xsd:element>
620                                                 <xsd:element name="AccountTimeSeries" type="AccountTimeSeries_Type"
621     maxOccurs="unbounded"/>
622                                            </xsd:sequence>
623                                            <xsd:attribute name="DtdVersion" type="xsd:string" use="required"/>
624                                            <xsd:attribute name="DtdRelease" type="xsd:string" use="required"/>
625                                       </xsd:complexType>
626                                  </xsd:element>
627                                  <xsd:complexType name="AccountTimeSeries_Type">
628                                       <xsd:annotation>
629                                            <xsd:documentation/>
630                                       </xsd:annotation>
631                                       <xsd:sequence>
632                                            <xsd:element name="SendersTimeSeriesIdentification" type="ecc:IdentificationType">
633                                                 <xsd:annotation>
634                                                      <xsd:documentation/>
635                                                 </xsd:annotation>
636                                            </xsd:element>
637                                            <xsd:element name="BusinessType" type="ecc:BusinessType">
638                                                 <xsd:annotation>
639                                                      <xsd:documentation/>
640                                                 </xsd:annotation>
641                                            </xsd:element>
642                                            <xsd:element name="Product" type="ecc:EnergyProductType">
643                                                 <xsd:annotation>
644                                                      <xsd:documentation/>
645                                                 </xsd:annotation>
646                                            </xsd:element>
647                                            <xsd:element name="ObjectAggregation" type="ecc:ObjectAggregationType">
648                                                 <xsd:annotation>
649                                                      <xsd:documentation/>
650                                                 </xsd:annotation>
651                                            </xsd:element>
652                                            <xsd:element name="Area" type="ecc:AreaType">
653                                                 <xsd:annotation>
654                                                      <xsd:documentation/>
655                                                 </xsd:annotation>
656                                            </xsd:element>
657                                            <xsd:element name="Party" type="ecc:PartyType" minOccurs="0">
658                                                 <xsd:annotation>
659                                                      <xsd:documentation/>
660                                                 </xsd:annotation>
661                                            </xsd:element>
662                                            <xsd:element name="AgreementIdentification" type="ecc:IdentificationType" minOccurs="0">
663                                                 <xsd:annotation>
664                                                      <xsd:documentation/>
665                                                 </xsd:annotation>
666                                            </xsd:element>
667                                            <xsd:element name="MeasurementUnit" type="ecc:UnitOfMeasureType">
668                                                 <xsd:annotation>
669                                                      <xsd:documentation/>
670                                                 </xsd:annotation>
671                                            </xsd:element>
672                                            <xsd:element name="Currency" type="ecc:CurrencyType" minOccurs="0">
673                                                 <xsd:annotation>
674                                                      <xsd:documentation/>
675                                                 </xsd:annotation>
676                                            </xsd:element>
677                                            <xsd:element name="AccountingPoint" type="ecc:AreaType" minOccurs="0">
```

```xml
678                                        <xsd:annotation>
679                                                <xsd:documentation/>
680                                        </xsd:annotation>
681                                </xsd:element>
682                                <xsd:element name="Period" type="Period_Type" maxOccurs="unbounded"/>
683                        </xsd:sequence>
684                </xsd:complexType>
685                <xsd:complexType name="Period_Type">
686                        <xsd:annotation>
687                                <xsd:documentation/>
688                        </xsd:annotation>
689                        <xsd:sequence>
690                                <xsd:element name="TimeInterval" type="ecc:TimeIntervalType">
691                                        <xsd:annotation>
692                                                <xsd:documentation/>
693                                        </xsd:annotation>
694                                </xsd:element>
695                                <xsd:element name="Resolution" type="ecc:ResolutionType">
696                                        <xsd:annotation>
697                                                <xsd:documentation/>
698                                        </xsd:annotation>
699                                </xsd:element>
700                                <xsd:element name="AccountInterval" type="AccountInterval_Type" maxOccurs="unbounded"/>
701                        </xsd:sequence>
702                </xsd:complexType>
703                <xsd:complexType name="AccountInterval_Type">
704                        <xsd:annotation>
705                                <xsd:documentation/>
706                        </xsd:annotation>
707                        <xsd:sequence>
708                                <xsd:element name="Pos" type="ecc:PositionType">
709                                        <xsd:annotation>
710                                                <xsd:documentation/>
711                                        </xsd:annotation>
712                                </xsd:element>
713                                <xsd:element name="InQty" type="ecc:QuantityType">
714                                        <xsd:annotation>
715                                                <xsd:documentation/>
716                                        </xsd:annotation>
717                                </xsd:element>
718                                <xsd:element name="OutQty" type="ecc:QuantityType">
719                                        <xsd:annotation>
720                                                <xsd:documentation/>
721                                        </xsd:annotation>
722                                </xsd:element>
723                                <xsd:element name="SettlementAmount" type="ecc:AmountType" minOccurs="0">
724                                        <xsd:annotation>
725                                                <xsd:documentation/>
726                                        </xsd:annotation>
727                                </xsd:element>
728                        </xsd:sequence>
729                </xsd:complexType>
730    </xsd:schema>
```

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6.3 ENERGY ACCOUNT REPORT DATA INSTANCE

```
<EnergyAccountReport DtdVersion="1" DtdRelease="1">
        <DocumentIdentification v="1234"/>
        <DocumentVersion v="1"/>
        <DocumentType v="A09"/>
        <DocumentStatus v="A02"/>
        <ProcessType v="A01"/>
        <ClassificationType v="A01"/>
        <SenderIdentification v="5790000432752" codingScheme="A10"/>
        <SenderRole v="A04"/>
        <ReceiverIdentification v="10X000000000RTEM" codingScheme="A01"/>
        <ReceiverRole v="A05"/>
        <DocumentDateTime v="2001-06-02T09:00:00Z"/>
        <AccountingPeriod v="2001-06-02T22:00Z/2001-06-02T23:00Z"/>
        <AccountTimeSeries>
                <SendersTimeSeriesIdentification v="TS0001"/>
                <BusinessType v="A03"/>
                <Product v="8716867000016"/>
                <ObjectAggregation v="A01"/>
                <Area v="12Y000002347651H" codingScheme="A01"/>
                <Party v="11X000000340533X" codingScheme="A01"/>
                <AgreementIdentification v="R567"/>
                <MeasurementUnit v="MAW"/>
                <Period>
                        <TimeInterval v="2001-06-02T22:00Z/2001-06-02T23:00Z"/>
                        <Resolution v="PT15M"/>
                <AccountInterval>
                        <Pos v="1"/>
                                <InQty v="45"/>
                                <OutQty v="45"/>
                </AccountInterval>
                <AccountInterval>
                                <Pos v="2"/>
                                <InQty v="40"/>
                                <OutQty v="45"/>
                </AccountInterval>
                        <AccountInterval>
                                <Pos v="3"/>
                                <InQty v="45"/>
                                <OutQty v="45"/>
                </AccountInterval>
                        <AccountInterval>
                                <Pos v="4"/>
                                <InQty v="45"/>
                                <OutQty v="45"/>
                </AccountInterval>
                </Period>
        </AccountTimeSeries>
        </EnergyAccountReport>
```

Note: This example, for the sake of space, is only for the duration of one hour.

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783 7 COMMUNICATIONS INFORMATION

784 7.1 TEST INDICATION (DIFFERENTIATION BETWEEN LIVE AND TEST
785 TRANSMISSIONS)

786 Test indication information has not been built into the document since this is normally an
787 envelop function. Envelop information is outside the scope of this document as it is
788 dependent on the communications method employed.

789 The recommended method for testing is to obtain a separate communications address in
790 order to ensure that testing is carried out in a specific test environment.

791 7.1.1 USE OF A DATA INSTANCE THAT USES INDIFFERENTLY THE DTD OR
792 SCHEMA

793 In some contexts it may be of interest for the TSO to allow a market participant to use
794 indifferently a DTD or an XML schema. In this case the "DOCTYPE" instruction in the DTD
795 compliant instance or the schema instance (xsi) instruction in the schema compliant instance
796 are not used. This results in an XML document that does not identify the DTD or XML
797 Schema to which it is compliant. It is consequently up to the receiving party to use either the
798 DTD or Schema that it feels appropriate to validate the information instance. The initial XML
799 tag provides the information necessary to determine both the XML document name (i.e.
800 EnergyAccountReport, or AcknowledgementMessage) and the version and release used
801 (dtdVersion and dtdRelease) of the DTD or Schema being employed.

802 In the examples provided in paragraph 6 all the instances are shown using this method of
803 transfer.

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