



1 SECTION

2 **0** **General Message**
3 **Guidelines**

4 *Version 5.1*



5

6

7 ***EASEE-gas/Edig@s Workgroup***

8 ***Document version: 3***

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46 1 INTRODUCTION

47 The following rules are applicable for all the messages developed from version 5.0 of the *Edig@s* Message
48 Implementation Guidelines:

49 1.1 EDIG@S DOCUMENT UNIQUENESS

50 An Edig@s document shall be identified by the identification of the issuer of the message, the document
51 identification and the document version. Each document shall have a new identification which shall be
52 unique over time.

53 1.2 TIME IDENTIFICATION

54 *Edig@s* strongly recommends using UTC as the standard time metrology in the messages as
55 recommended in the CBP 2003-002/01. When parties involved are located in different time zones this will
56 largely simplify the correct definition and understanding of the time indications. Additionally the annual
57 switch to and from daylight saving time does not affect UTC.

58 Dates and times shall use the standardised format from ISO 8601(i.e. a date and time shall be expressed
59 as:

60 YYYY-MM-DDThh:mm:ssZ

61 whereas a date and time interval shall be expressed as

62 YYYY-MM-DDThh:mmZ/ yyyy-mm-ddThh:mmZ

63 **In the above formulae the following terms mean:**

64 **YYYY = Year;**

65 **MM = month;**

66 **DD = day;**

67 **hh = hour;**

68 **mm = minutes;**

69 **ss = seconds.**

70 **ATTENTION:**

71 **It is mandatory that all times included in a message are provided with the same time**
72 **definition.**

73 1.3 VALUES FOR HOUR DEFINITION

74 The identification of an hourly period in the *Edig@s* messages is done according to the following rules:

75 ➤ Values for hours range from **00h** to **23h**

76 I.e.: the last hour of a day is from **23h00** till **00h00**

77 the first hour of the next day is from **00h00** till **01h00**

78 It is thus clear that the first hour in a combination is always inclusive and the last hour of
79 a combination is always exclusive.

80 ➤ Values for minutes range from 00 to 59

81 E.g.: 03:00, 03:01, 03:02, ..., 03:58, 03:59, 04:00

82 1.4 DAYLIGHT SAVING TIME

83 As indicated above the use of UTC, as strongly recommended by *Edig@s*, makes the messages
84 independent of any impact due to Daylight Saving Time.

85 However on the change to daylight saving time (summertime) the day in question has only 23 hours. On
86 contrary on the change from daylight saving time (wintertime) the day in question has 25 hours.

Switch to daylight saving time e.g. CEST	
	UTC
1 st hour	05:00Z/06:00Z
2 nd hour	06:00Z/07:00Z
...	...
20 th hour	00:00Z/01:00Z
21 st hour	01:00Z/02:00Z
22 nd hour	02:00Z/03:00Z
23 rd hour	03:00Z/04:00Z

87 **Switch from daylight saving
time e.g. CET**

	UTC
1 st hour	04:00Z/05:00Z
2 nd hour	05:00Z/06:00Z
...	...
20 th hour	23:00Z/00:00Z
21 st hour	00:00Z/01:00Z
...	...
22 nd hour	01:00Z/02:00Z
23 rd hour	02:00Z/03:00Z
24 th hour	03:00Z/04:00Z
25 th hour	04:00Z/05:00Z

88

89 1.5 VALIDITY PERIOD SCOPE

90 The concatenation of the time intervals in an electronic document shall cover the complete validity
91 period. Any exceptions to this rule shall be explicitly defined in the documentation of the relevant
92 implementation guides.

93 1.6 CHANGING PREVIOUSLY ISSUED MESSAGES

94 A previously issued message has a unique document identification as well as a version. If a change takes
95 place, and the revised message has to be issued, then the document identification remains unchanged
96 and the version is increased.

97 The new version of the document completely replaces the previous version of the document.

98 1.7 UNITS USED IN MESSAGES

99 In line with the EASEE-Gas Recommendation "CBP Harmonisation of Units" *Edig@s* recommends the use
100 of the following unit standards in the *Edig@s* messages

101 Pressure: bar
102 Energy: kWh (with a combustion reference temperature of 25°C)
103 Volume: m³ (at 0°C and 1.01325 bar) (normal m³)
104 Gross Calorific Value: kWh/m³ (normal m³), with a combustion reference temperature of 25°C

105 In case other unit references or scales are used within *Edig@s* messages, a bilateral operating agreement
106 between the sending and receiving parties shall state the references used. No conversion parameters
107 shall be included in the *Edig@s* message in case other references are used for pressure, energy, volume
108 or Gross Calorific Value.

109 1.8 CODE VALUES

110 When coded entries are required, the valid code values can either be found:

- 111 ➤ In the Attribute description if the codelist is restricted;
- 112 ➤ In the *Edig@s* code list if the code list is not restricted.

113 The definition of the various code values is only provided in the relevant list in the *Edig@s* Code list.

114 **Attention:**

115 Missing code values should be reported to the *Edig@s* Workgroup who will arrange for adequate action.
116 See the *Edig@s* Maintenance Procedure.

117 1.9 EXAMPLES

118 Examples, where provided, illustrate how message templates can be implemented. Those examples are
119 fictitious and DO NOT necessarily represent an actual operational situation. Under actual operational
120 conditions those messages may be more complex while involving more information. Since such examples
121 are only illustrative it MUST NEVER be used as a basis for programming or implementing this message.

122 1.10 FLOW DIRECTION CONVENTION

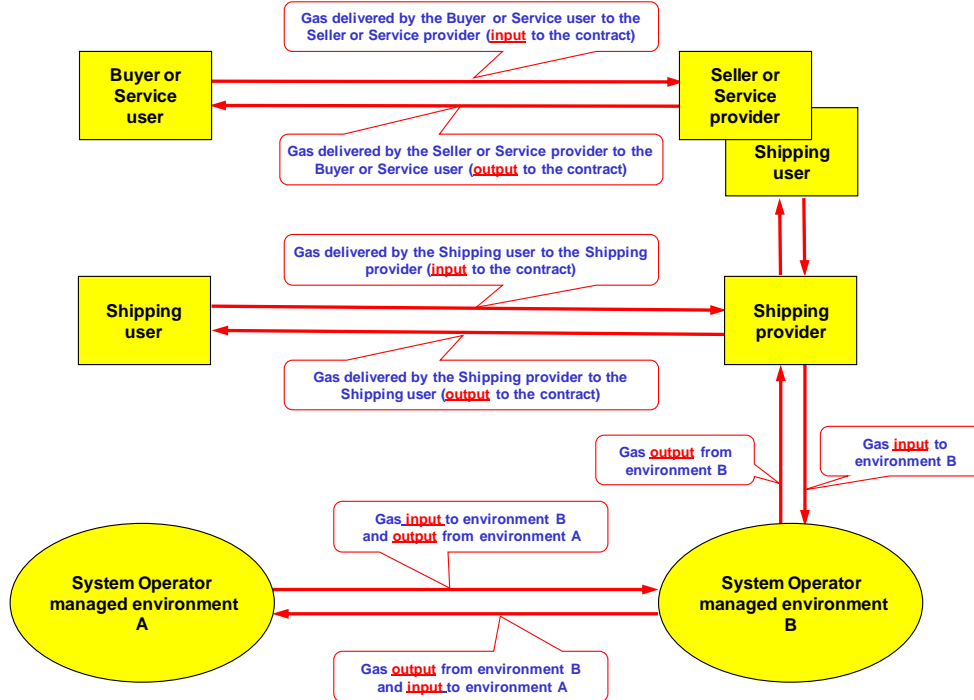
123 An Input quantity is the quantity entering a system (pipeline, storage, ...) operated by a System Operator
124 (Transmission System Operator (TSO), Storage System Operator (SSO), ...).

125 An Output quantity is the quantity exiting a system (pipeline, storage, ...) operated by a System Operator
126 (TSO, SSO, ...).

127 In all messages exchanged between System Operator and Shipper, Input and Output are related to the
128 system operated by the System Operator.

129 In all messages exchanged between System Operators, each System Operator declares Input and Output
130 in relation to his system (for instance: Input quantities sent from TSO1 to TSO2 with a DELORD-message
131 will become Output quantities in the corresponding DELRES-message sent from TSO2 to TSO1 and vice
132 versa).

133 In case the quantities do not directly relate to a system operated by a System Operator, for instance
 134 under Gas Sales Agreements or Service Agreements, Input quantities are quantities put into the contract
 135 and Output quantities are quantities delivered out of the contract. Quantities provided by a Seller to a
 136 Buyer are Output quantities (delivered out of the sales agreement). Quantities provided by a Shipping
 137 user to a Shipping provider are Input Quantities (into the shipping agreement).



138

139 **FIGURE 1 INPUT/OUTPUT MESSAGE DIRECTION**

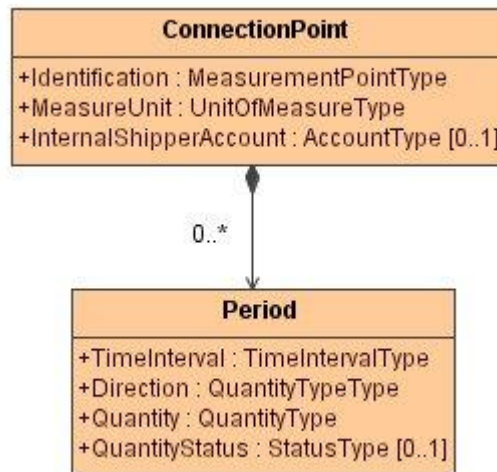
139

140 **1.11 DEBIT AND CREDIT DEFINITION**

141 A debit refers to a quantity that decreases a balance account.
 142 A credit refers to a quantity that increases a balance account.
 143 In the case where a balance value is provided, a debit balance value refers to a balance amount that is
 144 owed to the owner of the account.
 145 In the case where a balance value is provided, a credit balance value refers to a balance amount that is
 146 due by the owner of the account.

147 **1.12 THE DEFINITION OF INPUT AND OUTPUT TIME SERIES QUANTITIES**

148 In respect to the convention established under section 1.10, Flow Direction, an **Input quantity is the**
 149 **quantity entering a system operated by a System Operator** and an **Output quantity is the**
 150 **quantity exiting a system operated by a System Operator.**
 151 This information is provided in the Attribute "Direction" which is tightly coupled to the quantity itself and
 152 is normally found in the Period class.
 153 Consequently as long as there is no difference in the characterising information on which the Period class
 154 is dependent the direction, Z02 for input and Z03 for output may be mixed in the same Period set.



155
 156 In the above example the Period class is dependent on the Connection Point class. Consequently as long
 157 as there is the same connection point, and associated attributes, the Period class may be repeated.
 158 Otherwise a new Connection Point class with different attributes will be required.
 159 This implies that there is only one Connection Point class where its attributes remain the same.
 160 Consequently it is not possible to have a Connection Point class for input (Z02) and another for output
 161 (Z03).

162 1.13 QUANTITY ASSIGNMENT

163 All quantities assigned to the Quantity attribute shall only be expressed as a numeric value using the
 164 characters in the range 0 to 9 in addition to a single decimal sign. Only a negative decimal sign is
 165 permitted.

166 In addition all quantities with a unit of measure such as Kilowatts shall not contain a decimal sign since
 167 the sign is not an integral part of the quantity value and is generally used merely to express an additional
 168 concept.

169 Negative values are permissible for quantities with a unit of measure such as temperature since the sign
 170 is an integral part of the quantity value and expresses no additional concept.

171 1.14 MEASURE ASSIGNMENT

172 All values assigned to the MeasureUnit attribute shall respect the same rules defined for Quantity
 173 assignment.

174 1.15 ZERO QUANTITY VALUES

175 If a quantity has a value of zero then the following rules shall be followed to define the direction of the
 176 zero value:

- 177 1. If the complete time series is for an input direction then the zero quantity shall be input
- 178 2. If the complete time series is for an output direction then the zero quantity shall be output
- 179 3. If the time series is a mix of input and output directions then the zero quantity may be
 180 indifferently an input or an output direction.

181 In the case of debit and credit zero values the same basic rules shall apply, namely:

- 182 4. If the complete time series is for debit values then the zero quantity shall be debit
- 183 5. If the complete time series is for credit values then the zero quantity shall be credit
- 184 6. If the time series is a mix of debit and credit values then the zero quantity may be
 185 indifferently a debit or a credit value.

186 1.16 DECIMAL MARK

187 The decimal mark is the point (".").

188 1.17 INTERNAL AND EXTERNAL ACCOUNT DEFINITIONS

189 An Internal Account corresponds to an account defined by a System Operator responsible for the area
 190 covered for a Shipper.

191 An External Account corresponds to an account defined by a System Operator that is not responsible for
192 the area and is known to both System Operators.

193 1.18 RULES CONCERNING THE USE OF A PARTICULAR CODING SCHEME FOR 194 PARTY IDENTIFICATIONS

195 For international trade all party identifications shall respect the CBP 2007-003/01 "Company's identifier
196 encoding". The recommended coding scheme shall in this case always be the Energy Identification Coding
197 scheme (EIC).

198 For internal trade it is recommended to use the same coding scheme but local rules may dictate the use
199 of other schemes.

200 1.19 EDIG@S PACKAGES

201 With the introduction of version 5.1 of the Edig@s, the concept of a "Package" has been enhanced. An
202 Edig@s package provides a homogeneous set of processes defined within the Edig@s scope Each process
203 and electronic document is identified by the targetNamespace URN which is broken down as follows:

204 "urn:easee-gas.eu:edigas:[Process]:[ElectronicDocument]:5:1".

205 The package in the targetNamespace is identified with the indication "5.1".

206 Parties opting to use the Edig@s standard should always implement the most recently published package.
207 All parties should make provisions to be able to handle at least two versions of the standard, one being
208 the latest published package.

209 Which package will be used between two parties should be agreed bilaterally in the Operational
210 Agreement or in the Interconnection Agreement.

211 Within the package an electronic document may evolve to cater for corrections or minor evolutions. This
212 is identified through the "release" attribute at the beginning of every electronic document. For example
213 "release="2" indicated that the XSD is compliant with the 2nd release of the electronic document.

214 An Edig@s revision of a package will only occur at a minimum of two years.

215 1.20 MULTIPLE VERSIONS OF EDIG@S MESSAGES

216 In order to be usable a standard needs to evolve and to adapt to changing operating environments as
217 well as to evolving and new market requirements. This is why there are multiple versions of an *Edig@s*
218 message.

219 Edig@s shall only make changes or evolutions to the last version of a message that has been published
220 on the *Edig@s* website.

221 New requirements resulting in a change of an existing message model (name, multiplicity, datatype,
222 constraint, relation, role, etc.) will result in a new model being issued and a new release of the message
223 structure in the current package.

224 There are two levels of version and release information provided in an XML schema instance:

- 225 1. The version and release of the document set of implementation guides (i.e. Version 5
226 Release 1). The information is provided in the default namespace of the XML schema
227 instance (i.e. urn:easee-gas.eu:edigas:[Process]:[ElectronicDocument]:5:1).
- 228 2. The release of the XML schema. This corresponds to the "document version" that can be
229 found on the cover page of the process where the document is used. This information is
230 provided in the "release" attribute associated with the XML schema root element. For
231 example

232 <AuctionBid_Document

233 xmlns="urn:easee-gas.eu:edigas:capacitytrading:auctionbiddocument:5:1"

234 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

235 release="2"

236 xsi:schemaLocation="urn:easee-gas.eu:edigas:capacitytrading:auctionbiddocument:5:1 urn:easee-gas-eu-
237 edigas-capacitytrading-auctionbiddocument-5-1.xsd">

238 <identification>a</identification>

239 Where in this example the "release = 2" corresponds to the "Document Version" of the
240 "Capacity Trading Process" implementation guide.

241 In the case of a corrigendum the following release structure shall be used:

- 242 • [document version][C][corrigendum version]
- 243 • Document version = existing document version of the process

244 • C = corrigendum

245 • Corrigendum version = latest corrigendum version.

246 For example if there is a first corrigendum for document version "2" the release value shall be "2C1".

247

1.21 THE USE OF “_”, “.” AND UPPER AND LOWER CAMALCASE IN XML SCHEMA TAG NAMES

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XML Schema tag names are constructed from the tag names provided in the document assembly model. The document assembly model is automatically generated from the document contextual model. The assembly process integrates several contextual classes into a more concise class whenever possible. The naming convention provided by the assembly process enables in a precise manner to be able to identify the referenced object in the document contextual model.

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The basic assembly rules are:

255

A class name of a contextual model class (Aggregate Business Information Entity – ABIE) begins with an upper case letter. In a multi word name, the beginning letter of every succeeding name is uppercase.

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257

- An attribute name of an ABIE contextual class always begins with a lower case letter. In a multi word name, the beginning letter of every succeeding name is uppercase.
- The role name of the “association end” to an ABIE contextual class always begins with an upper case letter. In a multi word name, the beginning letter of every succeeding name is uppercase.
- An underscore “_” separates a qualified name from a basic name that it is contextualising.

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A class name of an assembly model class (Message Business Information Entity – MBIE) begins with an upper case letter. In a multi word name, the beginning letter of every succeeding name is uppercase.

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264

- An attribute name of an MBIE assembly class always begins with a lower case letter. In a multi word name, the beginning letter of every succeeding name is uppercase.
- The role name of the “association end” to an MBIE assembly class always begins with an upper case letter. In a multi word name, the beginning letter of every succeeding name is uppercase.
- An underscore “_” separates a qualified name from a basic name that it is contextualising.

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When at assembly level, two aggregated ABIE contextual classes have been grouped into one MBIE assembly class:

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- The name of the assembly class is the name of the aggregating contextual class.
- All of the attributes of the aggregating contextual class become attributes of the assembly class.

272
273

The attributes of the aggregated class that have become attributes of the assembly class have the following naming rule:

274
275

- The name of the assembly class attribute is the name of the aggregated contextual class attribute prefixed with the contextual aggregation end role name followed by a period “.” and the first letter of the role name is reverted to lowercase.

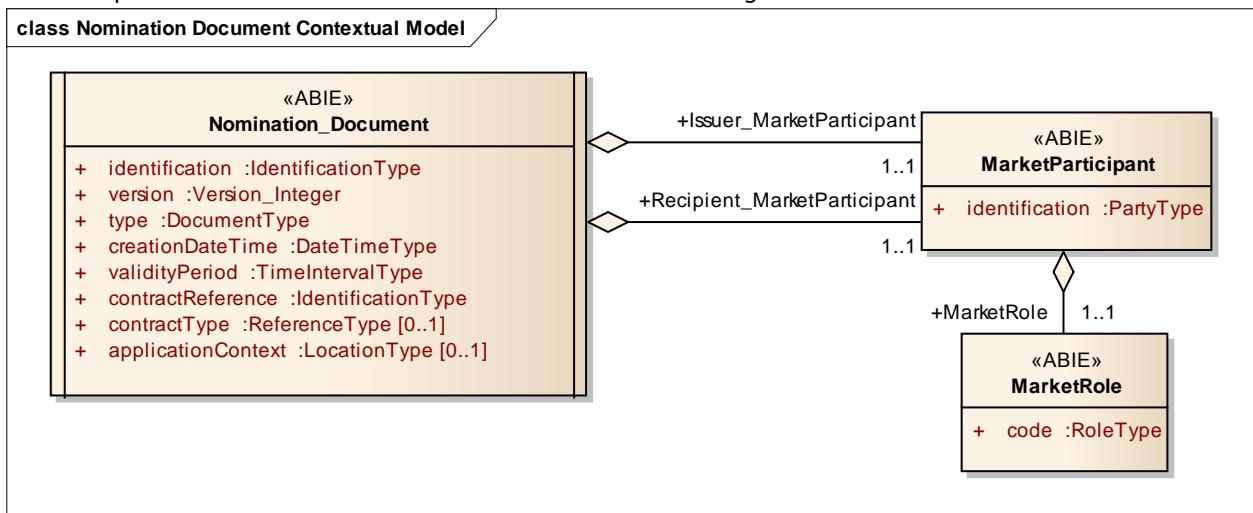
276
277
278

A typical example of the application of these rules can be found in every assembly document header with the tag name “issuer_MarketParticipant.marketRole.code”.

279
280

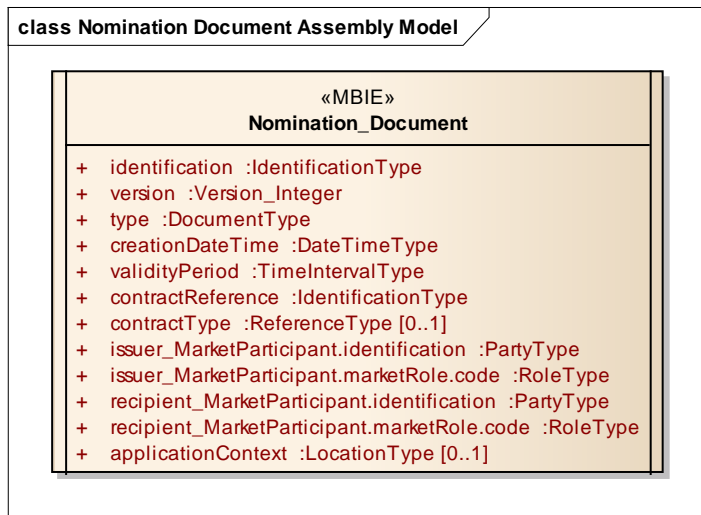
For example the ABIE contextual model indicates the following:

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This is transformed automatically into the following assembly model:



284

285 Where the four attributes:

- 286 • issuer_MarketParticipant.identification;
- 287 • issuer_MarketParticipant.marketRole.code;
- 288 • recipient_MarketParticipant.identification;
- 289 • recipient_MarketParticipant.marketRole.code;

290 have all been aggregated from the two classes MarketParticipant and MarketRole as well as the three

291 roles Issuer, Recipient and MarketRole as follows:

- 292 • The generic class "MarketParticipant" has been assembled into the class "MarketDocument" and becomes an attribute of MarketDocument".
- 293
- 294 • The role "Issuer" qualifies the generic class "MarketParticipant". However, because it is now an attribute of the class "MarketDocument" the first letter is transformed to lowercase.
- 295
- 296 • The generic class "MarketRole" has been assembled into the class "MarketParticipant" and becomes an attribute of "MarketParticipant". As an attribute of "MarketParticipant" the first letter of the class name is transformed to lowercase since it is not qualified and it is separated from "MarketParticipant" with a period.
- 297
- 298
- 299 • "code" is an attribute of the class "MarketRole" and is separated from it with a period."
- 300

301 1.22 USE OF MESSAGE RESTRICTION XSDS

302 All Edig@s message XSDs include in the base schema a schema that restricts the Edig@s codelist set to

303 allow only the codes permitted in the message in question. Figure 2 shows the case of an Edig@s

304 message that is compliant with the Edig@s standard.



305

306

FIGURE 2: SCHEMA SETUP THAT IS EDIG@S COMPLIANT

307 The standard Edig@s document schema includes within it a document restriction schema that contains all

308 the codes from the Standard Edig@s codelist that are permitted for use in the message. The Edig@s

309 schema is named "urn-easee-gas-eu-edigas-xyz-electronicdocument-n-m.xsd" Where this corresponds to

310 the target namespace of the document in question and where the ":"s have been replaced by a "-".

311 The electronic document restriction schema for a given message is named "urn-easee-gas-eu-edigas-xyz-

312 electronicdocument-n-m-restricted-codes.xsd" where the part "xyz-electronicdocument-n-m" is the same

313 as that of the message schema in which it is included.

314 The Edig@s schema design also permits a Transmission System Operator to add for local market use

315 additional codes over and above the permitted set of codes. In order to enable this possibility the local

316 code schemas as outlined in figure 3 have been added.

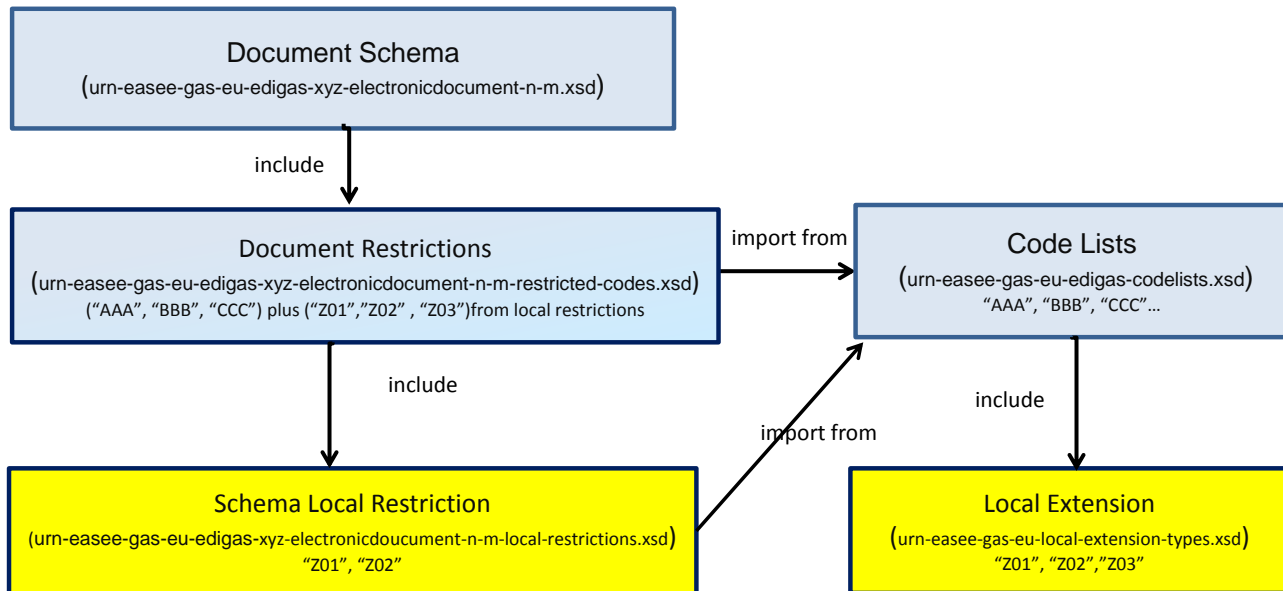


FIGURE 3: LOCAL CODE EXTENSION SCHEMA

In order to enable a Transmission System Operator to add local codes exclusively for use within the local market two codelist schema have been integrated into the standard schema set.

The first extension schema is associated with the standard set of codelists and contains all the codes that a Transmission System Operator wishes to use within the local market. This codelist "extends" in fact the standard codelist and any local codes that are to be permitted for use within the Edig@s document set must be added to this list.

The second extension schema is associated with the standard document restriction schema and enables the list of standard permitted restricted codes to be extended with the local codes. All codes used within this list must appear in the general local extension codelist. This schema is related to a specific message and has the name in the form "urn-easee-gas-eu-edigas-xyz-electronicdocument-n-m-local-restrictions.xsd" where "xyz-electronicdocument-n-m" corresponds to the message schema in question.

The release of a given set of electronic document schema will always contain these two codelist schema which by default only contain codes within the permitted codelist set. It is the responsibility of the Transmission System Operator to maintain these codelists up to date with any local variants that have been added for the local market. The addition of codes to these codelists makes the use of the Edig@s messages non-compliant with the standard.

Some local market conditions may restrict the standard restricted codelist even further. This is carried out through the modification of the "Document restrictions" XSD file. It should however be noted this makes the standard codelist restrictions non-compliant.

2 DOCUMENT CHANGE LOG

Version	Date	Description
1	2012-07-04	First release of the version 5.0 guidelines
2	2013-12-18	Addition of a guideline on the assembly XML Schema naming convention
3	2015-09-01	General editorial review and clarifications to section 1.20 and 1.21 with additional clarification of the "release" in the instance document