1

European Network of
Transmission System Operators
for Electricity

THE ENERGY IDENTIFICATION CODING SCHEME (EIC) REFERENCE MANUAL

2011-01-20

VERSION 4.4

Table of Contents

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Table of figures

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Copyright notice:

Maintenance notice:

THIS DOCUMENT IS MAINTAINED BY THE ENTSO-E WG EDI. COMMENTS OR REMARKS ARE TO BE PROVIDED AT cio@entsoe.eu

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

71

REVISION HISTORY

Version	Release	Date	Paragraphs	Comments
1	0	2001-05-24		Initial publication.
2	0	2002-06-20		Correction to remove the use of the asterisk character (*) in the code since the code could be used in a filename.
2	1	2002-11-10		General revision to incorporate all the facilities and requirements of an issuing office.
2	2	2003-02-05		Suppress the use of the asterisk in section 3.3 and clarify the use of the hyphen character in Annex 1.
2	3	2003-06-30	General Annex 4	Correct page numbering. Add correct XML document structure for the transmission of EIC codes in addition to providing more descriptive information about the information to be supplied to ETSO.
3	0	2004-09-30	Section 1 Section 3 Annex 4 Annex 5	Update of the introduction section to bring it into line with the current situation to define the new type code “W” for units. Specify more responsibilities for the central issuing offices and additional responsibilities for the local issuing offices. Modify the DTD to incorporate the EIC responsible party and to provide explanatory text. Explanation of the use of the EIC parent.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Version	Release	Date	Paragraphs	Comments
			Annex 6	Explanation of the use of the EIC responsible party.
4	0	2005-05-11		General revamping of the document to incorporate the extension of the coding system to the Energy market, to permit the code to be used locally as well as nationally and to detail the use of the balance group object type.
4	1	2008-02-04	1 2 3.3.3 3.4 3.5.1 3.5.2 3.5.2.1 3.5.2.2 3.6 3.7 Old 3.7 3.8 Annex 2 Annex 4.1 4.2 4.3	Editorial + addition of new type Editorial + clarification Editorial + new type (tie line) Editorial Editorial + clarification Editorial + clarification New (old 3.5.2.1) Clarification Editorial + Clarification New Workflow deleted and integrated into previous chapters Editorial Clarification (old 4.1 deleted) modified schema representation (old 4.2) (old 4.3) added specific Function possibilities New -XML Schema
4	2	2008-04-22	General 3.7	Ensured that the explanation of the Display name always referred to uniqueness by category. Corrected the workflow
4	3	2009-06-08	3.5	Definition of authorized Local Issuing Office.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Version	Release	Date	Paragraphs	Comments
4	4	2010-12-17		Addition of the EIC Type "V", Location. Updated the Reference Manual to reflect the changeover to ENTSO-E. Approved 2011-01-20 by the ENTSO-E Market Committee

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

1 INTRODUCTION

Electronic Data Interchange in the European Energy Market requires a common identification scheme to be effective. All Market Participants (traders, producers, qualified consumers, etc.) have the possibility to act in different market areas. System Operators have to exchange information amongst themselves concerning the market participants in question as well as with the market participants. In Addition there are many other objects that require identification for information interchange to be successful (tie lines, resource objects, etc.). In order to do this a reliable identification scheme is a necessity.

The primary, but not exhaustive, list of objects that need to be identified are:

A. Parties: System Operators, traders, producers, consumers, power exchanges, grid operators, suppliers, agents, service providers, etc.
B. Areas: Local grids where metering points are situated, market balance areas consisting of a number of local grids, control areas, etc.
C. Measurement Points: cross border connections, settlement or accounting points, etc.
D. Resource objects: The objects that generate, or consume energy.
E. Tie-lines: The physical lines that connect two Market Balance Areas.
F. Locations: The physical or logical places where a party or the IT system of a party is or could be located.

In 2002, the ETSO Task Force EDI "Electronic Data Interchange" investigated the use of identification schemes in the member countries. The results of this study showed that most countries were using national identification schemes that were unsuitable for use at a European level.

The ETSO Task Force EDI (TF EDI) envisaged the possibility of making one of the national identification schemes a European standard. However, the candidate schemes were deemed unsuitable for widespread use as they did not provide the necessary guarantees to be a robust coding scheme. TF EDI also looked into the use of several international identification schemes that could eventually be used for the energy market. The schemes in question, however, contained specific constraints for their use that prevented their adoption at a European level.

In conclusion, TF EDI considered that it would be better to establish a new energy identification scheme that combines the optimization of allocation costs and provides all the services that are felt needed for the energy market.

TF EDI therefore introduced an identification scheme, which provides an easy migration path for existing national schemes, in a format that makes it suitable for general electronic data interchange. This new Energy Identification Coding scheme - EIC - is described in the rest of this paper.

The ETSO Steering Committee approved the Energy Identification Coding scheme on the 14th of May 2002.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

2 GENERAL REQUIREMENTS FOR THE ADMINISTRATION OF EIC

A successful identification scheme requires that the allocated codes are stable over time. This implies that the significance of a code should always remain constant.

EIC Issuing Offices shall ensure that:

1. Issued codes shall be globally unique. The basic principal is that only one code is allocated per organisation.
2. Once a code is allocated to identify an entity, it shall only be changed if the entity's status changes. Consequently, for example if an organisation merely changes its name, its code shall not be modified.
3. Only System Operators, Market Operators, Imbalance Settlement Responsible organisations and regulators are allowed to request new area identifications. Areas used in inter System Operator data interchange shall be named centrally.

An identification scheme also requires a certain number of services. These services should include, for example:

1. The correct allocation of codes;
2. The management of the code lists (inquiry, inactivation and modification);
3. Information on the significance of codes;
4. Contact details about the designated organisations;
5. Communication parameters (e-mail, http, network address, etc.).

3 ENERGY IDENTIFICATION CODING SCHEME - EIC

3.1 INTRODUCTION

ENTSO-E, through its Market Committee Working Group EDI, has defined the coding system and the administrative organization to manage and maintain the EIC.

The coding scheme is under the responsibility of ENTSO-E. However, the overall assignment and management of the codes will be carried out by ENTSO-E authorised organisations or associations in compliance with an agreed basic set of rules.

Such organisations will typically be national energy organisations or European energy associations. On reception of the ENTSO-E authorisation, they may assign codes to their members and to other bodies or entities on a previously agreed basis.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

The most important use of EIC is for party coding. With different market rules and practices in the national markets today's use of EIC will vary slightly from country to country. However the objective of EIC is to end up with a harmonized way of identifying parties for data interchange in the Internal Energy Market. This harmonization process is carried out at meetings with all the local issuing offices.

The ENTSO-E vision for party identification is that an international party uses the same EIC code in all markets for his wholesale activities. This is especially important for his energy flows between the different national areas, as this will facilitate the validation of these flows between the System Operators. Validation of cross border flows is a prerequisite for keeping the European network stable.

For retail market data interchange a more detailed approach will generally be needed and national subsidiaries of the international companies will need to be identified. In this way an international group may end up with many party codes for its activities in different parts of the market.

3.2 ADMINISTRATIVE ORGANIZATION

The administrative organization is composed of a two level structure:

Level 1: Central Issuing Office

The Central Issuing Office is under the direct responsibility of ENTSO-E. ENTSO-E Secretariat , on behalf of ENTSO-E, will perform the functions of the Central Issuing Office as long as the group remains in existence.

Level 2: Local Issuing Offices

The Local Issuing Offices act as agents of the Central Issuing Office. Each country or European association, which directly or indirectly is a part of the European internal market for energy, can have a Local Issuing Office (EIC issuing office). The Local Issuing Office can either be a separate legal body or a part of an existing body. It must have an official role in the energy market, i.e. being a TSO, Market Operator or Association of energy related companies. In order to qualify as a Local Issuing Office the applicant must apply to the ENTSO-E Secretariat (form is available on the ENTSO-E web site).

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

3.3 THE ENERGY IDENTIFICATION CODE - EIC

The Energy Identification Coding scheme is based on fixed length alphanumeric codes. The codes will contain information about the issuing office in addition to information on the object identified.

3.3.1 PERMITTED CHARACTERS

Permitted characters are numbers (0 to 9), capital letters (A to Z, English alphabet) and the sign minus (-). To avoid confusion, the check character shall use numbers (0 to 9) or the capital letters (A to Z).

3.3.2 OVERALL STRUCTURE

The structure of the EIC may be broken down as follows:

- A 2-character number identifying the issuing office assigned by ENTSO-E.
- One Character identifying the object type that the code represents.
- 12 digits, uppercase characters or minus signs allocated by the issuing office in compliance with general and local rules to identify the object in question (party, measurement point, area, etc.).
- 1 check character based on the 15 previous characters used to ensure the validity of the code.

3.3.3 OBJECT TYPES

Currently the following types of object have been identified in the coding scheme, other types of EIC code may be added with the agreement of ENTSO-E:

3.3.3.1 PARTY (EIC OBJECT TYPE X):

A party is allowed to have only one EIC code for a given organisation that has a legal standing within the Energy Internal European Market (IEM).

Examples: 10X1001A1001A248 for the Danish TSO energinet DK.

The EIC X code is generally used to identify a Balance or Trade Responsible Party in a data interchange. The party will obtain a party code at one of the Local Issuing Offices. However having an EIC code is not a reason to allow a party to participate in any energy market. To ensure this, the party has necessarily to be registered according to local market rules.

For the electricity wholesale market this requires a contract for balance responsibility in which the EIC party identification should be stated, together with the relevant balance group identifications, if such are used.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

For international trading groups it is recommended to use a single unique EIC code for identifying the party for cross border flows in all countries. If the legal party in the contract is a local subsidiary this party should be seen as an invoice party with its own EIC code with regard to electronic data interchange.

3.3.3.2 AREA (EIC OBJECT TYPE Y):

All areas involved in inter System Operator data interchange must be identified on a central basis. In some countries it is possible for a party to have several accounts for its imbalance settlement. These are called balance groups. Such Balance groups are to be identified by an EIC Y-code.

Examples: 10YDK-BALANCE-WM for the western balance area in Denmark.

Note: *At the start-up of the EIC coding system all the German balance groups were incorrectly assigned X-codes. Consequently, Balance groups that have already been assigned X-codes will remain valid in the countries using them*.

3.3.3.3 MEASUREMENT POINT (EIC OBJECT TYPE Z):

A measurement point identifies a physical or logical point that is used to identify an object where the measurement of energy takes place.

Refer to Annex 2 for details specifically concerning metering points.

3.3.3.4 RESOURCE OBJECT (EIC OBJECT TYPE W):

Different resource objects, such as production units, consumption plants, etc. need to be defined within the energy market. Objects such as these will be identified with the W-code.

3.3.3.5 TIE-LINE (EIC OBJECT TYPE T):

The physical lines that connect together two Market Balance Areas need to be identified to closely follow interconnection capabilities. These lines will be identified with the T-code.

3.3.3.6 LOCATION (EIC OBJECT TYPE V):

A location identifies a physical or logical place where a party or an IT system of a party is or could be located. A location has necessarily an EIC Responsible Party associated with it.

3.4 EIC CODE VALIDATION

The identification code may be easily validated by applying the ENTSO-E Check Character Algorithm. *(See Annex 1 for details).*

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

3.5 ISSUING OFFICES

The only Local Issuing Offices that have been authorized to issue EIC codes are those listed on the Central Issuing Office web page [www.eiccodes.eu or www.entsoe.eu].

The only lists of recognised EIC codes are the following ones:

- For international EIC codes, the Central Issuing Office list to be found on the Central Issuing Office web page;
- For local EIC codes, the Local Issuing Office list. These lists can be accessed through the list of the authorized Local Issuing Offices.

Any other code, which is not listed within those recognised EIC codes lists, is not an EIC code in the sense of the present document. Such a code is used under the sole responsibility of the organisation that has issued it.

Once an EIC code is published in the Central Issuing Office list there is no additional requirement for confirmation of the validity of the aforesaid EIC code.

3.5.1 CENTRAL ISSUING OFFICE

The Central Issuing Office shall be responsible for providing the 2-character EIC code that identifies the Local Issuing Offices.

It shall also be responsible for providing the 16-character EIC codes to any recognised electricity System Operator or area (used in inter-System Operator data interchange).

Electricity areas used in inter-System Operator data interchange shall be named directly by the Central Issuing Office.

Only System Operators, Market Operators and Imbalance Settlement Responsible organisations may request new area EIC identification codes.

ENTSO-E shall maintain a list of all Local Issuing Offices.

ENTSO-E, or the Central Issuing Office on his behalf, will on a weekly basis publish and maintain in its website the allocated international EIC codes as received from the Local Issuing Offices.

The Central Issuing Office may occasionally allocate EIC codes for parties not having a Local Issuing Office. In this context, as in the case where it allocates System Operator or area EIC codes, it shall respect the requirements that have been set forth for Local Issuing Offices.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

The Central Issuing Office shall provide minimum checks to ensure that codes proposed by the Local Issuing Offices are not in conflict with codes already existing in the code list or that the code format does not infringe the rules for the allocation of codes. Explicitly, the Central Issuing Office shall ensure that:

- The “EIC code” is unique within the central Registry;
- The “display name” is unique within the central Registry for each category of code;
- The “display name” respects the naming rules and only uses the permitted characters;
- The “last request date” is modified with each EIC code evolution;
- The “business function” is present;
- All mandatory fields are present;
- “EIC parent” or “EIC Responsible Party” codes, if assigned, exist in the central Registry. If one of these codes is made inactive, it shall ensure that all “EIC parent” or “EIC Responsible party” codes are replaced accordingly.

The central Registry shall contain the list of all internationally recognised EIC codes provided by the Local Issuing Offices.

The following basic information will be provided on the ETSO website:

EIC name	The official name assigned to the EIC code. For a Party code it shall identify the name of the party. For an Area code it shall identify the name of the area, etc.
Display name	A short name to be used for display on screen and verbal communication. Within each category (Party, area, metering point, etc.) the Display name shall be unique.
EIC parent	In case of a subsidiary or a sub-area, the EIC code of the owner.
EAN code	The GS1 code used by the party in markets using GS1 Global Location Number (GLN-13) instead of the EIC. This shall only be provided for EIC party codes.
VAT code	The VAT code of the company. This code shall only be assigned to Party EIC codes.
Function	The functional use of the code, e.g. "Balance Responsible Party", "Balance Group", etc.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

3.5.2 LOCAL ISSUING OFFICES

The Local Issuing Offices are authorised by ENTSO-E to supply EIC codes to any recognised energy organisation providing that they respect the minimum requirements set forth in this document.

A Local Issuing Office is responsible for the allocation and maintenance of the codes it issues and it shall maintain a list of all issued codes and standard data about the market participant identified by the code in its local Registry.

It must ensure that the allocated codes are stable over time. This implies that the significance of a code should always remain constant,

- For organisations: A code shall be allocated to identify an organisation. A code defines explicitly the organisation in question. The organisation should be reflected in the text describing the company and it may be indicated in the name. Consequently, if the organisation merely changes its name, its code will not be modified.
- All allocated codes must respect the rules for establishing EIC codes as described in this document.

It is the responsibility of each Local Issuing Office to ensure that the codes under its responsibility remain current and respect the rules laid down in this document. This means that errors found by the Central Issuing Office or other Local Issuing Offices must be corrected.

A Local Issuing Office must also ensure to the best of its ability that the parties, to whom it has allocated codes, will inform it of any changes in the registration.

Each Local Issuing Office shall take all the measures possible to correct any anomaly reported to it and shall ensure that the anomaly is rectified in the shortest possible delay.

The following minimum services must be provided:

- A web page shall be developed to provide the necessary services including the download of the list of locally used EIC codes in compliance with the ENTSO-E XML schema. At a later stage more advanced data interchange can be introduced to automate the transmission of general information and of communications parameters to the participating parties.
- The verification in the central Registry that a code has not already been allocated for the party in question. If a code has already been allocated, the requestor of the code shall be informed of the code in question.
- The supply, to a request from an energy partner, of all the standard details concerning a party.
- All Local Issuing Offices shall send any updates of participant information provided by the parties.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

- Each Local Issuing Office might also require that their participants send a copy of their application request in an XML format validated through an appropriate XML Schema.
- The services must also include information about the unique GS1 code for the parties that are active in TSO areas using the GS1-GLN-13 coding scheme.
- The management of the code lists:
  - ✓ Inquiry about a code,
  - ✓ Suspension of a code,
  - ✓ Modification of company information concerning a code.

3.5.2.1 MANAGEMENT OF INTERNATIONAL EIC CODES

In addition of the minimum services described above, the following minimum services must be provided for allocation of international EIC codes:

- For the creation of an international EIC code, to supply the central Registry with all allocated international EIC codes and the standard information. Each Local Issuing Office shall send all internationally assigned codes to the Central Issuing Office containing the standard information and their allocated EIC codes. This information shall be sent to the Central Issuing Office by the Local Issuing Office using either the standard XML message or the web based form supplied with the Central Issuing Office EIC codelist download package. These messages will be validated through the appropriate XML Schema (XML Schemas are defined in Annex 4: XML message structure for EIC Code allocation). The uploaded information will be integrated into the central Registry once a week.
- Before an international EIC code may be deactivated, the Local Issuing Office in question shall send a deactivation request to the Central Issuing Office. The code in question will be published with the Central Issuing Office download to the Local Issuing Offices for a period of two months prior to its deactivation. If during that time a request is made for it not to be deactivated the code in question will be removed from the deactivation list. The Local Issuing Office in question will be informed of its removal. If, after the two month period no requests have been received the codes will be deactivated by the Central Issuing Office.
- Reactivation of an already deactivated EIC code. Where an EIC code identifying an object has been deactivated and a request is made to reactivate it for the same object, the Local Issuing Office may request its reactivation after it has ensured that the code in question is identifying the same object. The request for reactivation is sent to the Central Issuing Office who shall reactivate the code immediately.

It is the responsibility of each Issuing Office to ensure the correctness of the information supplied.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

3.5.2.2 MANAGEMENT OF NATIONAL EIC CODES

In addition of the minimum services already described, the following minimum services must be provided for the allocation of national EIC codes:

- Local Issuing Offices may assign EIC codes to local entities for national purposes that generally do not have an international interest. In this case the EIC code assigned shall not be submitted to the Central Issuing Office for publication in the central Registry. It must be remembered that a party that only participates in the local market may at some later date wish to participate in the international market. All the Local Issuing Office has to do in such a case is to transmit the EIC code information to the Central Issuing Office.
- Display names in the central Registry are required to be unique by category. This uniqueness check by category also applies to locally assigned codes. In order to ensure that a locally assigned EIC code has a display name that is guaranteed to be unique it shall begin with the two character international country code of the country in question. For example a local EIC code assigned in Switzerland shall have display name such as “CH-NAME”.
- When a locally assigned EIC code is given international status, the Local Issuing Office may modify the Display name accordingly but it must ensure that the Display name is unique within the central Registry for the category of the EIC code in question.
- Deactivation/reactivation of a national EIC code is under the sole responsibility of the Local Issuing Office.

3.6 LOCAL ISSUING OFFICE CREATION

To qualify as a Local Issuing Office the applicant must issue an application to the ENTSO-E Secretary General describing (download the form on the ENTSO-E web site):

- Name and address of the legal body;
- Documentation of EIC being required either according to the national legislation or market rules or by a majority of the market participants.

The ENTSO-E Secretary General will supply the successful applicant by post with a certificate acknowledging his Local Issuing Office status.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

4 EIC CREATION, DEACTIVATION OR MODIFICATION WORKFLOW

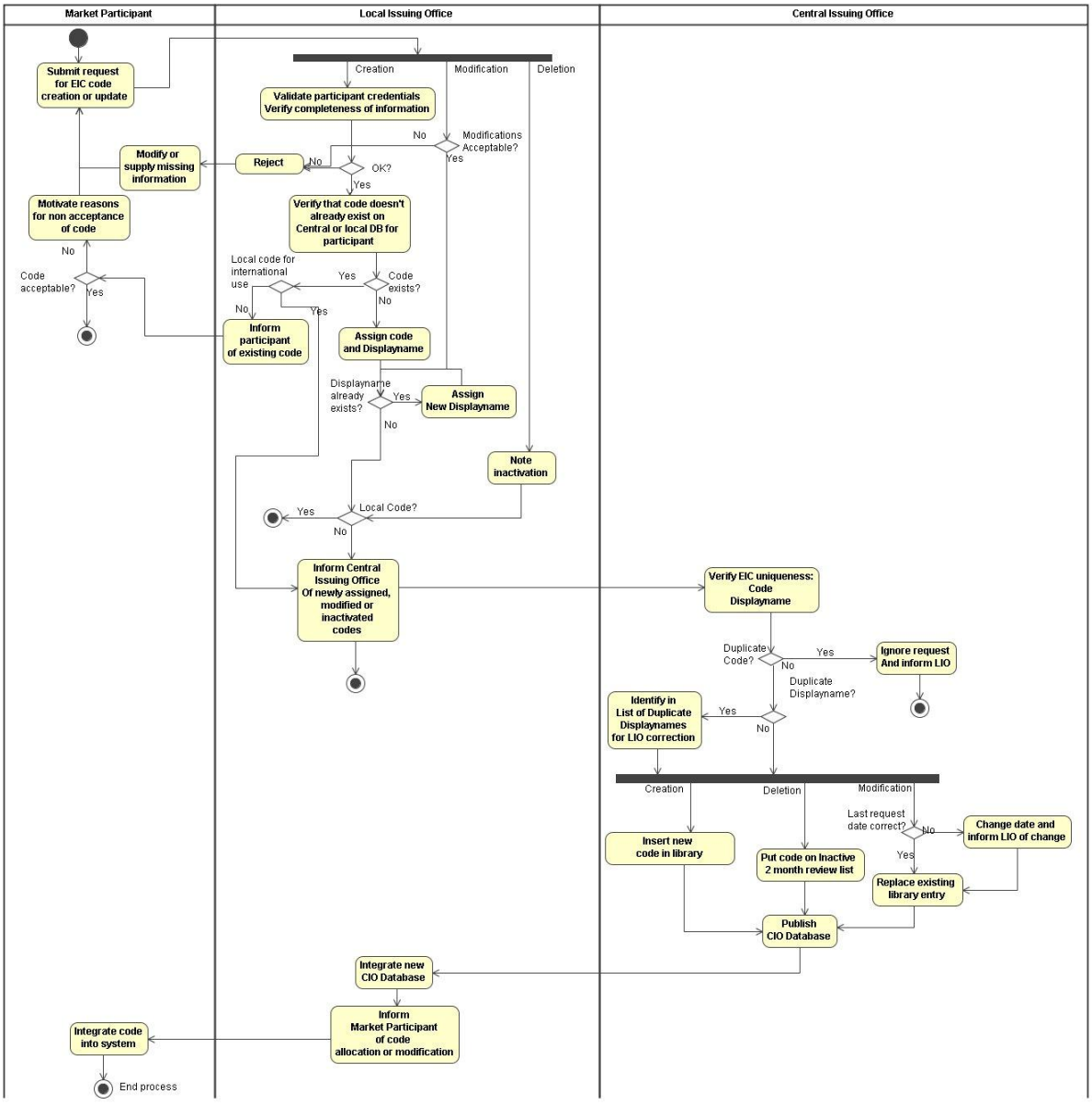

FIGURE 1: THE EIC PROCESS WORKFLOW

The EIC workflow process is divided into three distinct phases:

- The submission by the Market Participant;
- The validation, and allocation of an EIC code by the Local Issuing Office in its local Registry;
- In the case of an international EIC code, the verification and integration of the EIC code into the central Registry by the Central Issuing Office.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

1. Submission by the Market Participant. A Market Participant may request an EIC code from a Local Issuing office. It is also possible to request that the information associated with the EIC code be modified or that an EIC code may be deactivated. If the request is not acceptable for any reason (code already exists, incorrect Display name, etc.) the Market Participant is informed by the Local Issuing Office and may, if necessary, make a new request.

2. Validation and allocation by the Local Issuing Office. On reception of a Request for the creation of an EIC code the Local Issuing Office will initially validate the credentials of the requesting Market Participant. If there is any problem the Market Participant will be informed of the problem. In a second phase the Local Issuing Office shall verify in the local and central Registry to ensure that a code doesn't already exist. If a code already exists there are two possibilities:

    a. The code exists in the local Registry; the Market Participant could be making a request for the code to become an international code. If this is the case then the process continues. However, if this is not the case then the Market Participant is informed of the existing code.

    b. The code exists in the central Registry in which case the Market Participant is informed of the code's existence.

   Where a new code is required, the Local Issuing Office shall assign a Display Name if one has not already been proposed by the Market Participant. The Local Issuing Office then verifies that the Display Name does not already exist either in the local Registry or in the central Registry within the category of the EIC code. In the case where it already exists, the Local Issuing Office either reassigns a new Display Name or requests a new name from the Market Participant.

   For modification or deactivation requests the Local Issuing Office simply verifies that the Display name is not duplicated.

   Once these steps are successfully passed the Local Issuing Office informs the Central Issuing Office of the international EIC code requests.

3. Verification and integration by the Central Issuing Office of an international EIC code. On reception of an EIC code request, the Central Issuing Office verifies that all the required information is present and that there are no duplicate EIC codes nor are there duplicate Display Names. In the case of duplicate EIC codes the request is ignored and the Local Issuing Office is informed of the rejection. In the case of duplicate Display Names the request is accepted and the Local Issuing Offices are informed of the duplication. This requires immediate action by the Local Issuing Office. Once the verifications successfully carried out the central Registry is updated accordingly. The CIO also ensures that the Requested Date is superior to the Requested date in the central Registry. If not the date is changed to the current date and the LIO is informed of the change.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

5 MAINTENANCE AND ORGANISATION

Any coding scheme needs a body to maintain it to ensure that it satisfies market requirements. For the moment ENTSO-E Secretariat will maintain the code's structural definition as long as the group remains in existence.

ENTSO-E will provide a central Registry containing all the approved international EIC codes provided by the Local Issuing Offices. All new information provided by the Local Issuing Offices will be integrated into the central Registry once a week.

All Local Issuing Offices shall participate in the maintenance process of the central Registry as well as their local Registry.

Any proposed changes to the coding scheme must have the consensus of all participating bodies.

5.1 REGISTRY COSTS

ENTSO-E shall maintain a public Registry of the authorised issuing offices that have signed a standard contract with ENTSO-E.

ENTSO-E WG-EDI (office number 10) will issue the needed common codes at no cost. Local Issuing Offices may install a cost based fee depending on their market requirements. This fee shall not exceed the local GS1 fee for similar codes.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

6 ANNEX 1: THE ENTSO-E CHECK CHARACTER ALGORITHM

6.1 INTRODUCTION

This document outlines the algorithm for verifying the accuracy and validity of the Energy Identification Code. The Energy Identification Code is encoded with a "Check Character". A check character is a character added to the end of the code that validates the authenticity of the code. A simple algorithm is applied to the other digits or letters of the code which yields the check character. By running the algorithm, and comparing the check character you obtain with the check character encoded in the Energy Identification Code, it is possible to verify that the complete identification code has been correctly read and that they make a valid combination. Possible uses for this information:

- When a user has keyed in an identification code (or scanned it) and you want to validate it before sending it out in a schedule, for example.
- When issuing codes.

6.2 THE ENERGY IDENTIFICATION CODE

The Energy Identification Code will be based on fixed length alphanumeric codes. The codes will contain information about the Issuing Office as well as information of what kind of object is identified. Parties and areas will be identified with a 16 character alphanumeric code. The last character of the coding scheme represents the check character that is calculated from the other characters using the ENTSO-E algorithm. An example of a party code is 11XRWENET12345-**2** and an area is 11Y1234567890123.

The last character of each of these codes (2, and 3) represents the check characters of the numbers in question.

Calculation of the check character, General algorithm for all codes

Step 1:

The first 15 characters of the code are individualised as follows

1	**1**	**X**	**R**	**W**	**E**	**N**	**E**	**T**	**1**	**2**	**3**	**4**	**5**	**-**

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Step 2:

Where alphabetic characters are present, they are replaced by a numeric value as extracted from the following table:

CODE	0	1	2	3	4	5	6	7	8	9
VALUE	0	1	2	3	4	5	6	7	8	9

CODE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
VALUE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

CODE	S	T	U	V	W	X	Y	Z	-
VALUE	28	29	30	31	32	33	34	35	36

as follows :

1	1	33	27	32	14	23	14	29	1	2	3	4	5	36

Step 3:

Then, the positions are again weighted, beginning with the greatest value to the left and ending with a one at the far right.

1 1 33 27 3 1 2 1 2 1 2 3 4 5 3
2 4 3 4 9 6

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2

Step 4:

1	1	33	27	32	14	23	14	29	1	2	3	4	5	36

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2

Each digit is multiplied by its position weight

16	15	462	351	384	154	230	126	232	7	12	15	16	15	72

Step 5:

16	**15**	**462**	**351**	**384**	**154**	**230**	**126**	**232**	**7**	**12**	**15**	**16**	**15**	**72**

The products are then summed to give a total value: **2107**

Step 6:

Apply a modulo 37 (which corresponds to the total number of characters available) to the value 2107 with the formula (36 – MOD ((2107-1), 37)).

The result is **2** that, since it is inferior to 10, the check character for the code is the same. Had it been superior to 9 it would have to be converted to a letter using the same mechanism as in Step 2.Thus the code is: 11XRWENET12345-**2**.

If the check character generated is the "-" character (result of the calculation equal to 36), one of the characters in the proposed code shall be changed in order to obtain a result which does not give a value of 36.

Strengths

Like any consecutive weighting system, this scheme detects 100% of all single digit errors and all transposition errors. Thus the system would detect that the code 10Z317973010277**Q** was incorrect.

The proposed algorithm is very beneficial insofar as it enables the use of the alphabet that significantly expands the potential limit of numbers available for use.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

7 ANNEX 2: METERING POINT CODING SCHEME EXAMPLE

Each grid or metering point administrator could obtain a series of codes from the Local Issuing Office to be used for identification:

- 2-character number for a national issuing office assigned by ENTSO-E;
- the letter "Z" to identify the fact that this is a metering point code;
- 12 digits or uppercase characters allocated by the Issuing Office in compliance with general and local rules. For example the code could be split into a part for the distribution operator the rest identifying the metering point;
- 1 character check character.

Example: 20Z123456789012E (national metering point code)

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

8 ANNEX 3: XML DOCUMENT STRUCTURE FOR EIC CODE ALLOCATIONS.

8.1 XML SCHEMA STRUCTURE

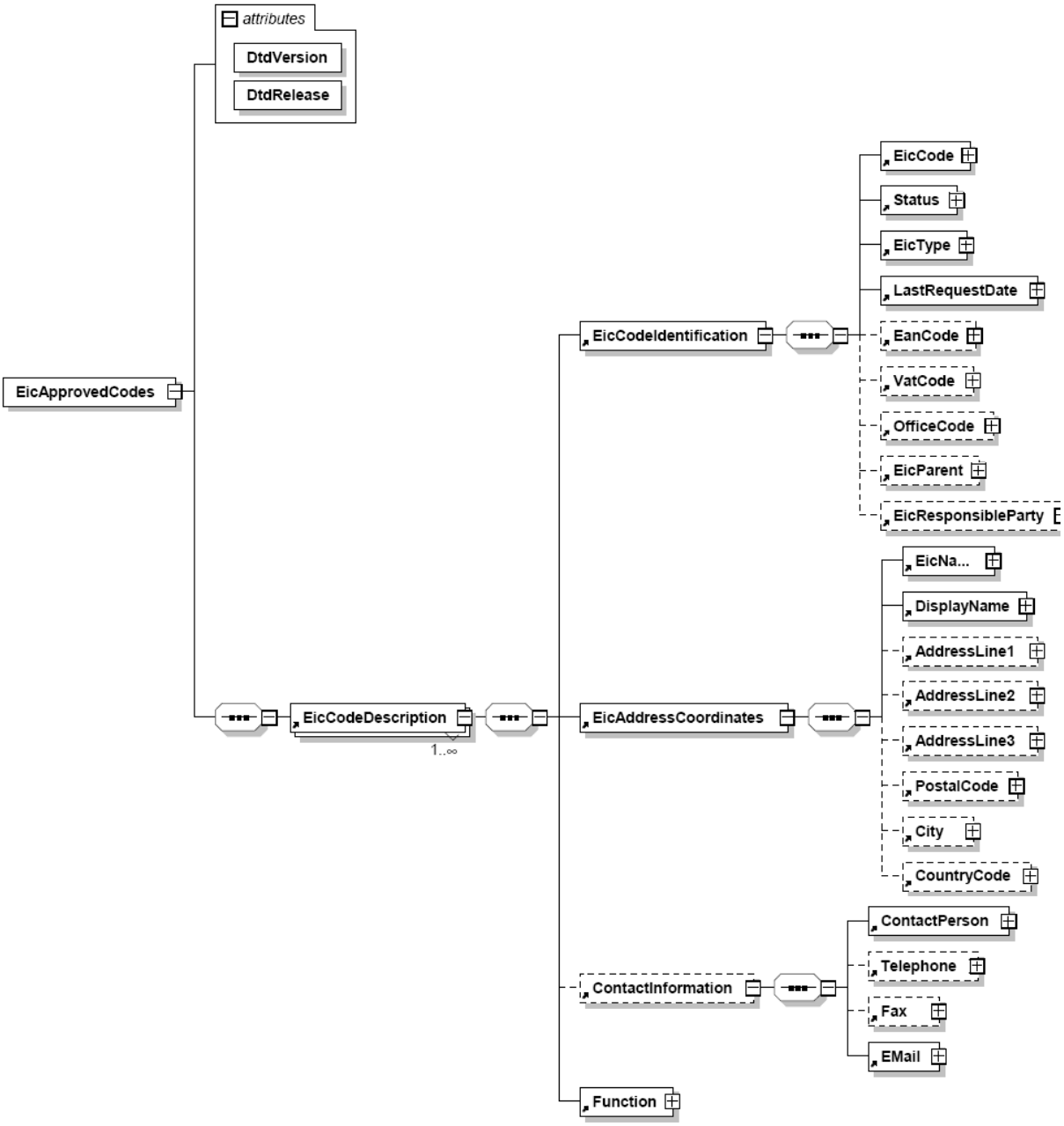

FIGURE 2: THE XML SCHEMA MODEL

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

522 8.2 ELEMENT DEFINITIONS

Data Element	Size	Comments
EicCode	16 characters fixed length	This element must have a valid check character
Status	1 character	The following coded values are permitted: C = Creation U = Update (The information about a code is to be modified. In this context the previous XML entry is entirely replaced by the current entry.) D = Make inactive (The information concerning this code is marked “inactive”. It is not possible to reallocate the same code to another object). R = Reactivate. An already deactivated EIC code is to be reactivated. Two codes exist for the complete file: A = Active, the code is active and valid I = Inactive, the code is inactive and may not be reissued.
EicType	The one character type of the EIC Code	The EIC type may be: Y = area identification X = party identification Z = metering point identification W = Resource Object identification T = Tie-line identification V = Location

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Data Element	Size	Comments
LastRequestDate	A date in the format : yyyy-mm-dd	The last request date represents the date of the addition, last modification or deletion to the code. This date shall be modified each time an EIC code is modified or made inactive.
EanCode	Fixed length 13 numeric characters	The GS1 GLN-13 code, if present, must consist of 13 numeric characters. The GS1 code shall only be provided for EIC “X” codes.
VatCode	Variable length 14 alpha-numeric characters	The VAT code generally consists of the 2 character country code followed by a variable length code of 12 alpha-numeric characters. All blanks, or presentation separators should be stripped from the code. The VAT code shall only be provided for EIC “X” codes.
OfficeCode	2 characters	The central issuing office may only assign this code. The element shall always be blank for Local Issuing Office transmissions.
EicParent	16 character fixed length	This code is a valid EIC code that must exist in the code list. It represents the root identification of a series of dependant EIC codes.
EicResponsibleParty	16 character fixed length	This code is a valid EIC code that must exist in the code list. It represents the party that is responsible for a domain (for example, a TSO is responsible for a balance area). This is mandatory for type “V” Location codes.
EicName	70 characters variable length alpha-numeric	The name of the party, area or metering point. Special language specific characters should be avoided if standard Latin characters can be used.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Data Element	Size	Comments
DisplayName	16 character variable length alpha-numeric field	The permitted letters are the uppercase characters “A” to “Z”, the minus sign “-“, the plus sign “+”, the underscore sign “_” or the numeric values “0” to “9”. Each Display name assigned must be unique within each EIC code category (“T” “W”, “X”, “Y” and “Z”, etc.)
AddressLine1, AddressLine2, AddressLine3	Each address line is variable length 70 alpha-numeric characters	
PostalCode	Variable length 10 alpha-numeric characters	
City	Variable length 35 alpha-numeric characters	
CountryCode	2 uppercase alphabetic characters	The 2 character code shall respect ISO 3166 2 character code identifications
ContactPerson for EDI matters	Variable length 70 alpha-numeric characters	
Telephone	Variable length 35 numeric characters	
Fax	Variable length 35 numeric characters	
EMail	Variable length 70 alpha-numeric characters	

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

<table>
<tr><th>Data Element</th><th>Size</th><th>Comments</th></tr>
<tr><td>Function</td><td>Extract one or several values from the list provided. Each function shall be separated by a comma (,).</td><td>
<table>
<tr><th>Role name</th></tr>
<tr><td>Balance group</td></tr>
<tr><td>Balance responsible party</td></tr>
<tr><td>Balance supplier</td></tr>
<tr><td>Capacity trader</td></tr>
<tr><td>Consumer</td></tr>
<tr><td>Consumption responsible party</td></tr>
<tr><td>Coordinating Scheduler</td></tr>
<tr><td>Grid access provider</td></tr>
<tr><td>Grid operator</td></tr>
<tr><td>Imbalance settlement responsible</td></tr>
<tr><td>Information Provider</td></tr>
<tr><td>Interconnection trade responsible</td></tr>
<tr><td>Market operator</td></tr>
<tr><td>Meter administrator</td></tr>
<tr><td>Meter operator</td></tr>
<tr><td>Metered data aggregator</td></tr>
<tr><td>Metered data collector</td></tr>
<tr><td>Metered data responsible</td></tr>
<tr><td>Metering point administrator</td></tr>
<tr><td>Nomination Validator</td></tr>
<tr><td>Party connected to grid</td></tr>
<tr><td>Producer</td></tr>
<tr><td>Production responsible party</td></tr>
<tr><td>Profile maintenance party</td></tr>
<tr><td>Resource Provider</td></tr>
<tr><td>System operator</td></tr>
<tr><td>Trade responsible party</td></tr>
<tr><td>Transmission capacity allocator</td></tr>
</table>
</td></tr>
</table>

523

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

8.3 XML SCHEMA

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:ecc="etso-core-cmpts.xsd" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified" ecc:VersionRelease="6.0">
	<xsd:import namespace="etso-core-cmpts.xsd" schemaLocation="etso-core-cmpts.xsd"/>
	<!--
		ETSO Document Automatically generated from a UML class diagram using XMI.
		Generation tool version 1.7
	-->
	<xsd:element name="EicApprovedCodes">
		<xsd:complexType>
			<xsd:annotation>
				<xsd:documentation/>
			</xsd:annotation>
			<xsd:sequence>
				<xsd:element name="EicCodeDescription" type="EicCodeDescription_Type"
maxOccurs="unbounded"/>
			</xsd:sequence>
			<xsd:attribute name="DtdVersion" type="xsd:string" use="required"/>
			<xsd:attribute name="DtdRelease" type="xsd:string" use="required"/>
		</xsd:complexType>
	</xsd:element>
	<xsd:complexType name="EicCodeDescription_Type">
		<xsd:annotation>
			<xsd:documentation/>
		</xsd:annotation>
		<xsd:sequence>
			<xsd:element name="EicCodeIdentification" type="EicCodeIdentification_Type"/>
			<xsd:element name="EicAddressCoordinates" type="EicAddressCoordinates_Type"/>
			<xsd:element name="ContactInformation" type="ContactInformation_Type" minOccurs="0"/>
			<xsd:element name="Function" type="ecc:TextType">
				<xsd:annotation>
					<xsd:documentation/>
				</xsd:annotation>
			</xsd:element>
		</xsd:sequence>
	</xsd:complexType>
	<xsd:complexType name="EicAddressCoordinates_Type">
		<xsd:annotation>
			<xsd:documentation/>
		</xsd:annotation>
		<xsd:sequence>
			<xsd:element name="EicName" type="ecc:IdentificationType">
				<xsd:annotation>
					<xsd:documentation/>
				</xsd:annotation>
			</xsd:element>
			<xsd:element name="DisplayName" type="ecc:IdentificationType">
				<xsd:annotation>
					<xsd:documentation/>
				</xsd:annotation>
			</xsd:element>
			<xsd:element name="AddressLine1" type="ecc:TextType" minOccurs="0">
				<xsd:annotation>
					<xsd:documentation/>
				</xsd:annotation>
			</xsd:element>
			<xsd:element name="AddressLine2" type="ecc:TextType" minOccurs="0">
				<xsd:annotation>
					<xsd:documentation/>
				</xsd:annotation>
			</xsd:element>
			<xsd:element name="AddressLine3" type="ecc:TextType" minOccurs="0">
				<xsd:annotation>
					<xsd:documentation/>
				</xsd:annotation>
			</xsd:element>
			<xsd:element name="PostalCode" type="ecc:CodeType" minOccurs="0">
				<xsd:annotation>
```


ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

```
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="City" type="ecc:TextType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="CountryCode" type="ecc:CodeType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                </xsd:sequence>
        </xsd:complexType>
        <xsd:complexType name="ContactInformation_Type">
                <xsd:annotation>
                        <xsd:documentation/>
                </xsd:annotation>
                <xsd:sequence>
                        <xsd:element name="ContactPerson" type="ecc:TextType">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="Telephone" type="ecc:TextType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="Fax" type="ecc:TextType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="EMail" type="ecc:TextType">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                </xsd:sequence>
        </xsd:complexType>
        <xsd:complexType name="EicCodeIdentification_Type">
                <xsd:annotation>
                        <xsd:documentation/>
                </xsd:annotation>
                <xsd:sequence>
                        <xsd:element name="EicCode" type="ecc:IdentificationType">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="Status" type="ecc:EicStatusType">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="EicType" type="ecc:EicType">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="LastRequestDate" type="ecc:MessageDateTimeType">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="EanCode" type="ecc:IdentificationType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
```

```
                        </xsd:element>
                        <xsd:element name="VatCode" type="ecc:IdentificationType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="OfficeCode" type="ecc:IdentificationType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="EicParent" type="ecc:IdentificationType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="EicResponsibleParty" type="ecc:IdentificationType" minOccurs="0">
                                <xsd:annotation>
                                        <xsd:documentation/>
                                </xsd:annotation>
                        </xsd:element>
                </xsd:sequence>
        </xsd:complexType>
</xsd:schema>
```

8.4 BASIC GROUND RULES

1. The character “&” should be avoided wherever possible. This character is used as an escape character by XML processors. If such a character is required then the string “&” should be used in the place of the “&” character alone.
2. All file extensions should be “.xml”.
3. The file character set content shall always be “UTF-8”.
4. The same Display Name is not allowed for different EIC codes within a category.

8.5 HOW TO VERIFY AN EIC CODE REQUEST

1. Interrogate approved EIC code list with display name to verify if it already exists.
2. Interrogate with EAN code to verify duplicate EIC code creations.
3. Interrogate with VAT code to verify duplicate EIC code creations.
4. If duplicate codes then request justification for duplicate code.
5. If duplicate display names for different entities then change display name.

8.6 CIO OUTPUT TO THE ISSUING OFFICES

After every update of the list of EIC codes the CIO will provide a file that will contain the following:

- eic-approved-codes.xsd – the Schema document structure;
- eic-approved-codes.xsl – a transformation tool enabling the list of all EIC codes in the code list;

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

- eic-approved-codes-xsd.xml – the XML file in compliance with the Schema of all approved EIC codes.
- Issuing-office.html – the base starter file that enables the EIC code list tools to be used (See figure 3).

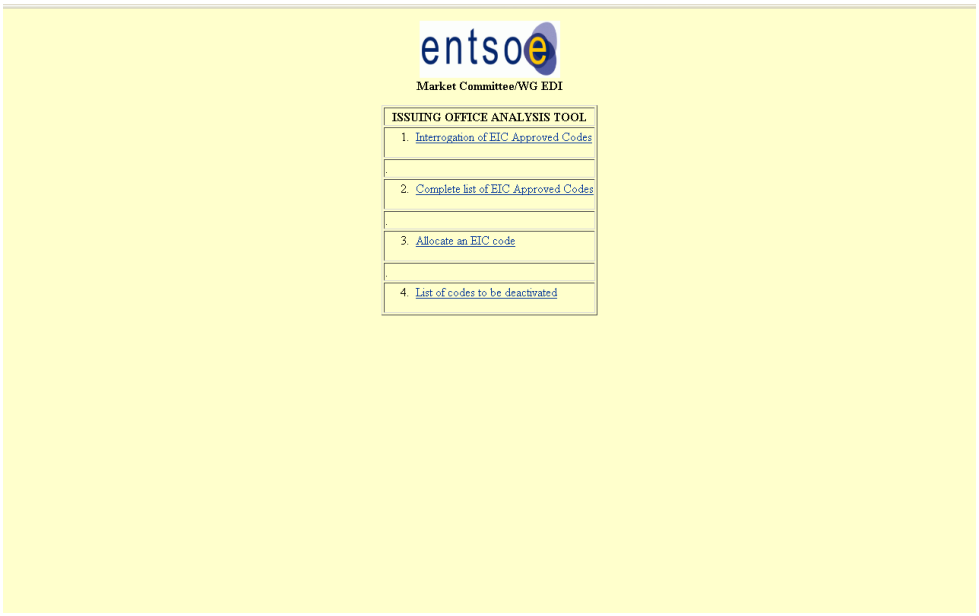

Figure 3: The Issuing Office Analysis html form

- eic-approved-code-interrogation.htm – an Interrogation tool of the XML file enabling an interrogation by EIC, EAN, VAT, Parent EIC or EIC Responsible Party(see figure 4).

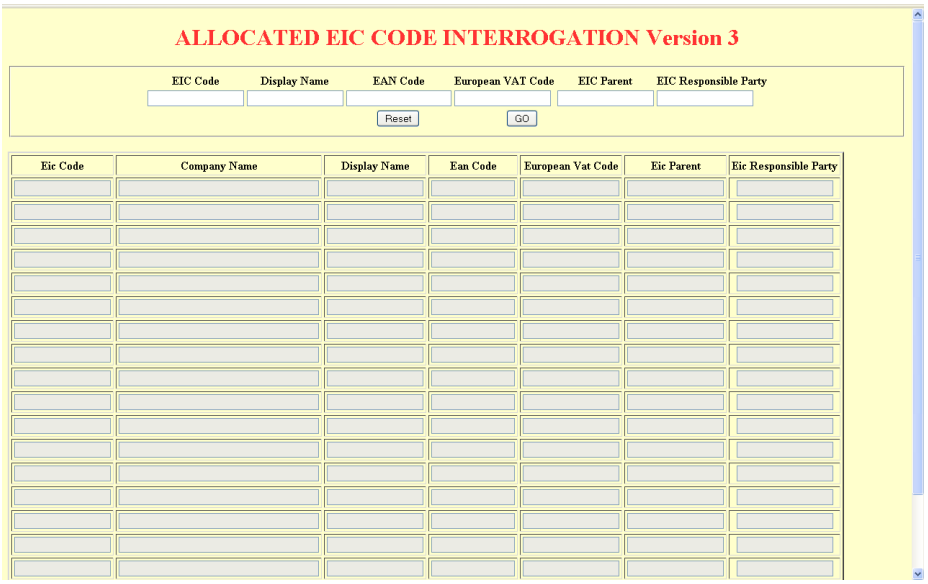

Figure 4: The Issuing Office EIC interrogation form

- allocate-eic-code.htm – a tool to permit the controlled capture of an EIC code. The form enables an XML compliant file to be sent to the CIO. (See figure 5).

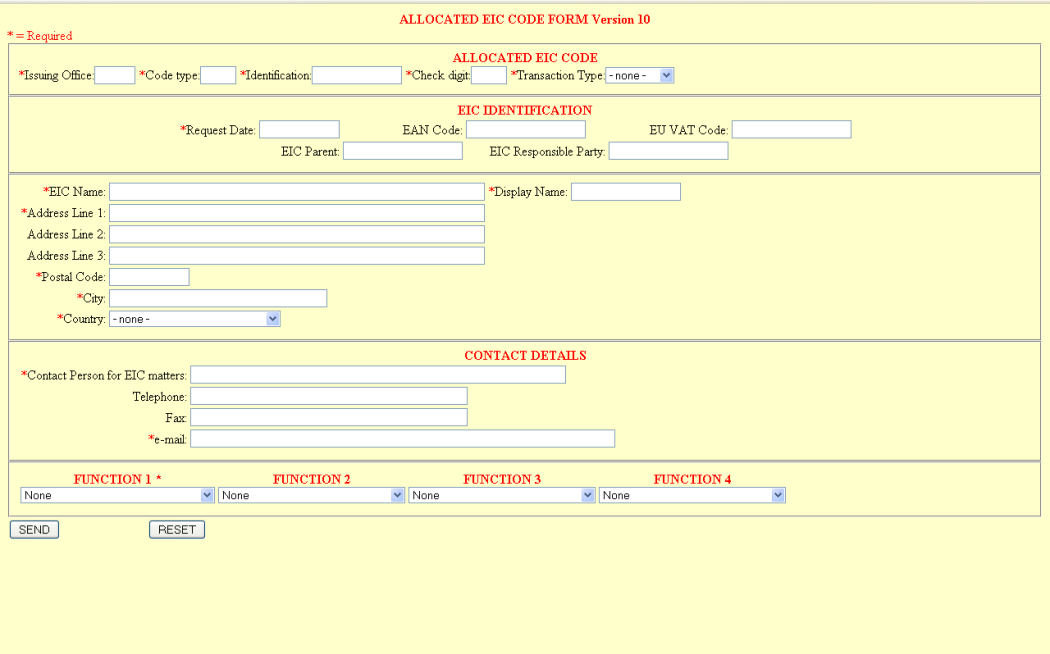

Figure 5: The Issuing Office EIC data capture form

Each Issuing Office will have a complete copy of the approved EIC codes. This includes all the information relative to the address and contact information. Such detailed information will not be provided on the website. It is up to each Issuing Office to correctly manage this information.

8.7 COMPLETING EIC INFORMATION FOR TRANSMISSION TO THE CIO

The “Allocate an EIC code” function can be used to prepare an XML document containing the approved EIC code information for transmission to the Central registry.

The form is as shown in figure 5. A number of zones are considered mandatory and have been indicated by an asterisk in red. When the send key is hit, the information captured on the form will be verified for coherence.

The following information is verified:

1. The length of each element.
2. The display name contains alphanumeric characters or a hyphen (“-“). Any lower case letters will automatically be converted to uppercase.
3. All the mandatory elements are filled with information (EIC Name, Display name, Address line 1, City, Postal code, Country (selected from the drop down menu), contact name, E-Mail, Function, Original request date, EIC code and Transaction Type (selected from a drop down menu).
4. The check character provided for the EIC code.
5. The check character provided for the GS1 code, if one is provided.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

8.8 ETSO WEBSITE CONTENT

The ENTSO-E CIO website will be updated with a subset of the approved code list and will contain the following information:

- EIC code
- EIC type
- EAN code
- VAT code
- EIC Parent
- EIC Responsible Party
- Update Status
- EIC name
- Display name
- Function
- Office code

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

9 ANNEX 4: USE OF THE EIC PARENT

The EIC parent allows an issuing office to define a hierarchy of parties, units or areas. It is simply necessary to place the EIC code of the parent entity in the EIC parent field of the child object to create the relationship parent-child between the two codes. Refer to figure 6 for an example of its use.

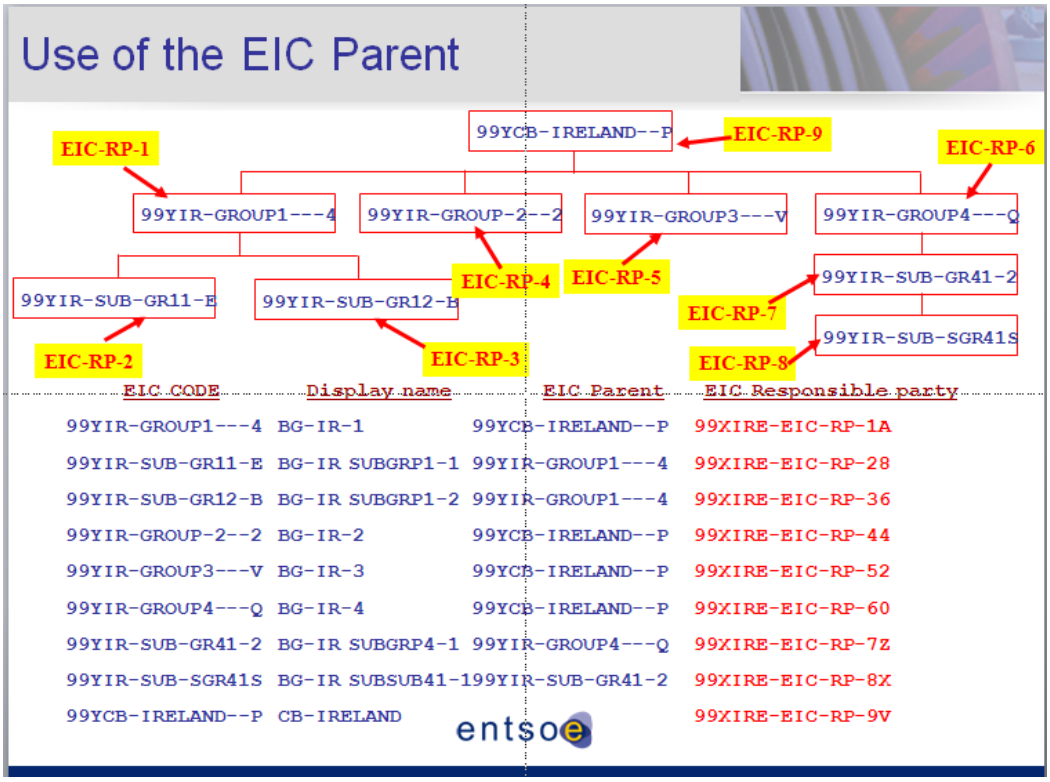

FIGURE 6:EIC PARENT USE

10 ANNEX 5: USE OF THE EIC RESPONSIBLE PARTY

In the case where domains, such as balance groups or balance areas, are defined it is useful to provide the identification of the party responsible for its management. This function is only possible with “V”, “Y”, “W” or “Z” EIC typed codes. In order to identify the party responsible for a domain for example, it is sufficient to enter the EIC party (“X”) code in the Eic ResponsibleParty field. Figure 7 shows an example of its use.

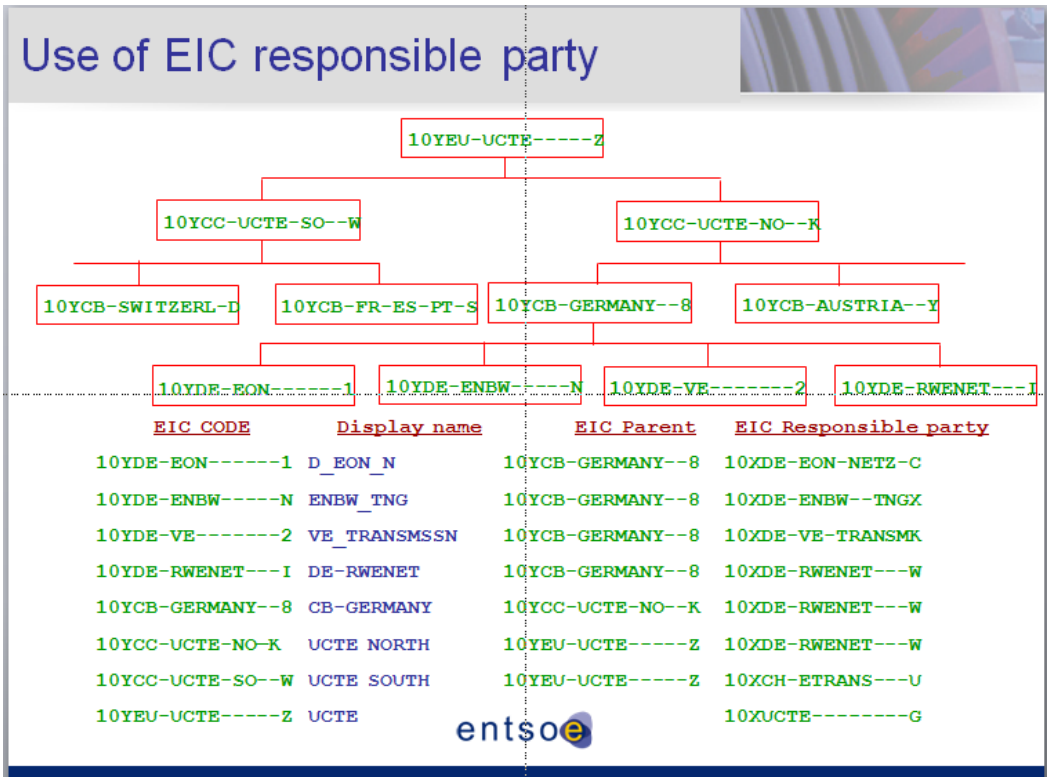

FIGURE 7: EIC RESPONSIBLE PARTY USE

In the case of Location (“V”) codes it is required to enter the identification of the organization that is responsible for the Location in the EIC Responsible Party field. Figure 8 shows an example of its use.

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

774

775 **FIGURE 8: EIC RESPONSIBLE PARTY FOR LOCATIONS**

ENTSO-E AISBL • Avenue Cortenbergh, 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu