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<p><b>TAXATION AND CUSTOMS UNION DG</b></p> <p><b>SUBJECT:</b></p> <p><b>Design Document for National Import Application (DDNIA)</b></p>		
<p><b>FRAMEWORK CONTRACT TAXUD/2013/CC/124</b></p> <p><b>SPECIFIC CONTRACT 09</b></p>		

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
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## Document History

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DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
DOCUMENT HISTORY	

Edi.	Rev.	Date	Description	Action (*)	Pages
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DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
DOCUMENT HISTORY	

Edi.	Rev.	Date	Description	Action (*)	Pages
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DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
DOCUMENT HISTORY	

Edi.	Rev.	Date	Description	Action (*)	Pages
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DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
TABLE OF CONTENTS	

## Table of Contents

<b>SECTION I</b>	<b>GENERAL INTRODUCTION.....</b>	<b>10</b>
I.1	DOCUMENT OVERVIEW .....	10
I.1.1	<i>Purpose of DDNA document.....</i>	<i>10</i>
I.1.2	<i>DDNA Structure.....</i>	<i>11</i>
I.1.3	<i>Purpose of the DDNIA volume .....</i>	<i>11</i>
I.1.4	<i>Scope of DDNIA volume .....</i>	<i>11</i>
I.1.5	<i>Intended audience .....</i>	<i>11</i>
I.1.6	<i>Structure of DDNIA volume.....</i>	<i>12</i>
I.1.7	<i>Document service information.....</i>	<i>14</i>
I.1.8	<i>Change history.....</i>	<i>14</i>
I.2	DEFINITIONS .....	17
I.2.1	<i>Definitions.....</i>	<i>17</i>
I.2.2	<i>Terminology.....</i>	<i>17</i>
I.2.3	<i>Acronyms and Abbreviations .....</i>	<i>17</i>
I.3	APPLICABLE AND REFERENCE DOCUMENTS .....	18
I.3.1	<i>Applicable documents .....</i>	<i>18</i>
I.3.2	<i>Reference documents .....</i>	<i>19</i>
I.3.3	<i>DDNIA usage policy .....</i>	<i>20</i>
I.4	SYMBOLISM AND CONVENTIONS USED .....	20
<b>SECTION II</b>	<b>SCOPE OF DEVELOPMENT .....</b>	<b>21</b>
II.1	INFORMATION EXCHANGE OVERVIEW.....	21
II.2	INFORMATION EXCHANGE MAP .....	21
<b>SECTION III</b>	<b>ICS PHASE 1.....</b>	<b>22</b>
III.1	INTRODUCTION .....	22
III.1.1	<i>Overview .....</i>	<i>22</i>
III.1.2	<i>Import Actors .....</i>	<i>23</i>
III.2	SCENARIOS AND SEQUENCE DIAGRAMS.....	24
III.3	SEQUENCE DIAGRAMS VERSUS STATE TRANSITION DIAGRAMS.....	24
III.4	SEQUENCE DIAGRAMS .....	24
III.4.1	<i>Core Flow .....</i>	<i>25</i>
III.4.2	<i>ENS submitted at the Office of Lodgement .....</i>	<i>26</i>
III.4.3	<i>Advanced Intervention Notification .....</i>	<i>28</i>
III.4.4	<i>No Risk identified at the Office of first Entry.....</i>	<i>30</i>
III.4.5	<i>Request for Diversion .....</i>	<i>31</i>
III.4.6	<i>Amendment Request.....</i>	<i>32</i>
III.4.7	<i>Rejections.....</i>	<i>34</i>
III.5	STATE TRANSITION DIAGRAMS.....	37
III.5.1	<i>Office of Lodgement.....</i>	<i>38</i>
III.5.2	<i>Office of first Entry .....</i>	<i>39</i>
III.5.3	<i>Actual Office of first Entry.....</i>	<i>43</i>
III.5.4	<i>Office of subsequent Entry.....</i>	<i>44</i>
III.6	TIMERS .....	46
III.6.1	<i>Timely Response Recommendations .....</i>	<i>46</i>
III.6.2	<i>CCN/CSI Related Timers .....</i>	<i>46</i>

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00

<b>SECTION IV</b>	<b>CENTRAL SERVICES .....</b>	<b>48</b>
IV.1	EXCHANGE OF STATISTICS AND AVAILABILITY DATA .....	48
IV.1.1	<i>Statistics management.....</i>	48
IV.2	MESSAGE EXCHANGES WITH CS/MIS ACROSS THE WEB .....	48
IV.2.1	<i>Introduction.....</i>	48
IV.2.2	<i>CS/MIS HTTP exchanges protocols.....</i>	48
IV.2.3	<i>CS/MIS manual mode of operation.....</i>	48
IV.3	MESSAGE EXCHANGES WITH CS/MIS VIA CCN/CSI .....	49
IV.3.1	<i>Sending IE411 data to CS/MIS .....</i>	49
IV.3.2	<i>Exchanges of requests/responses of MRN Follow up information .....</i>	49
<b>SECTION V</b>	<b>SYSTEMS ADMINISTRATION .....</b>	<b>50</b>
<b>SECTION VI</b>	<b>TECHNICAL MESSAGE STRUCTURE .....</b>	<b>50</b>
<b>SECTION VII</b>	<b>DESIGN PRINCIPLES .....</b>	<b>51</b>
VII.1	APPROACH .....	51
VII.2	CONSTRAINTS .....	51
VII.2.1	<i>Timing constraints .....</i>	51
VII.2.2	<i>Suspension of sending messages.....</i>	51
VII.3	EXCEPTION HANDLING .....	51
<b>SECTION VIII</b>	<b>EDIFACT MESSAGE FORMATTING .....</b>	<b>52</b>
<b>SECTION IX</b>	<b>XML MESSAGE FORMATTING.....</b>	<b>52</b>
<b>SECTION X</b>	<b>TRANSPORT OF MESSAGES VIA CCN/CSI.....</b>	<b>53</b>
X.1	THE CCN COMMUNICATION REMINDER .....	53
X.1.1	<i>Message Descriptor .....</i>	53
X.1.2	<i>The quality of service .....</i>	54
<b>SECTION XI</b>	<b>TRANSPORT OF MESSAGES VIA THE INTER(EXTRA)NET ....</b>	<b>55</b>

## List of Appendices

Appendix A1: Full Message Scope.....	Appendix
Appendix A2: Mandatory and Strongly Recommended Messages .....	Appendix
Appendix A3: Messages per Business Scope .....	Appendix
Appendix C: ICS Phase 1 Codelists.....	Appendix
Appendix C2: Applicability of Business Codelists per Domain .....	Appendix
Appendix J: ICS Phase 1 Correlation tables .....	Appendix
Appendix Q1: Technical Message Structures (Documented amendments) .....	Appendix

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00

Appendix Q2: Technical Message Structures (Messages & Rules and conditions).....	Appendix
Appendix R: XML Mapping.....	Appendix
Appendix X: XML Schemas.....	Appendix
Appendix Y: Data Groups & Transaction Hierarchy .....	Appendix
Appendix Z: Data Items.....	Appendix

## List of Figures

FIGURE 1: OVERVIEW OF INFORMATION EXCHANGES FOR ICS PHASE 1 .....	22
FIGURE 2: ICS PHASE 1 CORE FLOW.....	25
FIGURE 3: ENS SUBMITTED TO OFFICE OF LODGEMENT WITH MRN COMMUNICATED TO TRADER AT ENTRY FROM THE OFFICE OF LODGEMENT.....	26
FIGURE 4: ENS SUBMITTED TO OFFICE OF LODGEMENT WITH MRN COMMUNICATED TO TRADER AT ENTRY FROM THE OFFICE OF FIRST ENTRY .....	27
FIGURE 5: ADVANCED INTERVENTION NOTIFICATION AT THE OFFICE OF FIRST ENTRY AFTER SUBMISSION OF THE ENS AT THE OFFICE OF FIRST ENTRY .....	28
FIGURE 6: ADVANCED INTERVENTION NOTIFICATION AT THE OFFICE OF FIRST ENTRY AFTER SUBMISSION OF THE ENS AT THE OFFICE OF LODGEMENT .....	29
FIGURE 7: SUBSEQUENT OFFICES INVOLVED AND NO RISK IDENTIFIED AT THE OFFICE OF FIRST ENTRY .....	30
FIGURE 8: ACCEPTED DIVERSION AFTER REQUEST AT THE OFFICE OF FIRST ENTRY DECLARED .....	31
FIGURE 9: VALID AMENDMENT REQUEST AT THE OFFICE OF FIRST ENTRY BY THE PERSON LODGING THE ENS OR HIS REPRESENTATIVE .....	32
FIGURE 10: VALID AMENDMENT REQUEST AT THE OFFICE OF FIRST ENTRY BY THE PERSON LODGING THE ENS OR HIS REPRESENTATIVE AFTER THE ENS DATA HAS BEEN SENT TO OFFICES OF SUBSEQUENT ENTRY .....	33
FIGURE 11: INVALID ENS SUBMITTED AT THE OFFICE OF FIRST ENTRY .....	34
FIGURE 12: INVALID ENS SUBMITTED AT THE OFFICE OF LODGEMENT .....	34
FIGURE 13: INVALID AMENDMENT REQUEST .....	35
FIGURE 14: INVALID DIVERSION REQUEST AT THE OFFICE OF FIRST ENTRY DECLARED ..	36
FIGURE 15: STATE TRANSITION DIAGRAM FOR OFFICE OF LODGEMENT.....	38
FIGURE 16: STATE TRANSITION DIAGRAM FOR OFFICE OF FIRST ENTRY .....	40
FIGURE 17: STATE TRANSITION DIAGRAM FOR ACTUAL OFFICE OF FIRST ENTRY .....	43
FIGURE 18: STATE TRANSITION DIAGRAM FOR THE OFFICE OF SUBSEQUENT ENTRY .....	44
FIGURE 19: EXCEPTION AND EXPIRATION REPORTS.....	47



DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
LIST OF TABLES	

## List of Tables

TABLE 1: ACRONYMS AND ABBREVIATIONS .....	18
TABLE 2: APPLICABLE DOCUMENTS .....	19
TABLE 3: REFERENCE DOCUMENTS .....	19
TABLE 4: ROLE TYPES AND ORGANISATIONS IN IMPORT CONTROL .....	23
TABLE 5: STATES OF AN MRN AT AN OFFICE OF LODGEMENT .....	39
TABLE 6: STATES OF AN MRN AT AN OFFICE OF FIRST ENTRY .....	42
TABLE 7: STATES OF AN MRN AT AN ACTUAL OFFICE OF FIRST ENTRY .....	44
TABLE 8: STATES OF AN MRN AT AN OFFICE OF SUBSEQUENT ENTRY .....	45
TABLE 9: SUSPENSION OF SENDING MESSAGES FOR ICS PHASE 1.....	51
TABLE 10: THE EXCEPTIONAL CORRELID VALUES OF THE CCN/CSI MESSAGE DESCRIPTOR .....	54
TABLE 11: HIGH PRIORITY INFORMATION EXCHANGES FOR ICS PHASE 1 .....	54

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

## Section I General Introduction

### I.1 Document Overview

#### *I.1.1 Purpose of DDNA document*

The DDNA, the **Design Document for National Applications**, supersedes the DDNTA, the Design Document for National Transit Applications for NCTS Phase 3.2 and ECS. It specifies the design requirements to which any Customs Movement Application needs to conform.

The DDNA is **applicable to every Transit, Export and/or Import Control Application** and must be considered as a mandatory document for all implementation and verification activities.

The DDNA is aligned with [A1], [A2], [A4] and [R4].

Documents [A1] and [R4] contain the specifications for the entire NCTS (encompassing all Phases and sub-Phases), foreseeing a number of electronic and other (paper) Information Exchanges.

Document [A2] contains the functional specifications for ICS, foreseeing a number of electronic and other (paper) Information Exchanges.

Document [R7] contains the functional specifications for ECS, foreseeing a number of electronic and other (paper) Information Exchanges.

The DDNA consists of four volumes. One volume exists for each system (Transit, Export and Import) defining the design requirements of the specific system. One volume, defines common operations and methods for all systems namely the Design Document for Common Operations and Methods (DDCOM). For more information about DDNIA's purpose and structure, please refer to sections I.1.3 and I.1.6, respectively.

Information Exchanges are foreseen in the Common Domain (between National Administrations), in the National Domain (local to a National Administration), and in the External Domain (between National Administration and Traders). Common Domain exchanges will always take place via the CCN/CSI communication platform or the Inter(Extra)net. The different formatting and transport mechanisms will therefore be defined in detail in the DDNA. Moreover, additional design constraints and additional details on error and exception handling will be stated.

Within the Customs systems, the Central Project Team produces and maintains a number of Centrally Developed Customs Application (CDCA) tools (e.g. STTA, TTA, CS/RD2, and CS/MIS) in order to assist the NAs to implement, verify and operate their National Customs Application (NCA). All these CDCA tools must conform to this document, although their specification is not part of this document. In order to construct a NCA, the NA should therefore use this document, in order to decide which functionality remains to be implemented.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

### ***1.1.2 DDNA Structure***

The DDNA consists of the following four volumes:

- Design Document for National Transit Application volume (DDNTA);
- Design Document for National Export Application volume (DDNXA);
- Design Document for National Import Application volume (DDNIA);
- Design Document for Common Operations and Methods volume (DDCOM).

It is complemented by the Design Document for National Reference Data Application volume (DDRDA), after the migration to CS/RD2 that is based on SOA and used by more central and national applications.

### ***1.1.3 Purpose of the DDNIA volume***

This volume, which is the **Design Document for National Import Applications** is applicable to every NICA and must be considered as a mandatory document for all implementation and verification activities.

The purpose of this volume is twofold:

- To state unambiguously what needs to be developed. This will be achieved by specifying the sequences of Information Exchanges to be supported, as a number of message exchange protocols and the detailed structure and building rules of these Information Exchanges;
- To define how the Information Exchanges need to be performed and transported between the NICAs. The XML format, as the transport mechanism, is described in the DDCOM volume.

### ***1.1.4 Scope of DDNIA volume***

This volume is restricted to the electronic Information Exchanges within ICS and is aligned with [A2].

The [A4] defines the EBPs and IEs to be implemented and these are also specified in Appendix A of this volume. It also contains the specifications for ICS Phase 1, foreseeing a number of electronic exchanges.

It should be noted that [A4] identifies a certain number of mandatory Information Exchanges, while it provides only recommendations (or strong recommendations) for a number of other Information Exchanges. For the first category of (mandatory) Information Exchanges, DDNIA should therefore be considered as an applicable document, while for the latter category of (Recommended, Strongly Recommended or Optional) Information Exchanges, DDNIA should only be considered as a guideline with recommendations. The applicability of DDNIA is discussed further in this document (see Scope of development).

### ***1.1.5 Intended audience***

The intended audience for this document includes:

- Any person responsible for the functional specifications of ICS;
- Any person responsible for the development of software in the context of ICS;

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

- Any person responsible for the definition of tests for ICS;
- Any person within the affected service suppliers in the CCN/CSI projects responsible for the delivery of the required services to ICS;
- Any other authorised body affected by ICS, including Electronic Customs Coordination Group (ECCG), OLAF, and Traders Associations.

Readers are assumed to have a good understanding of the IT concepts and terminology used in this document. Also, it is assumed that readers are familiar with [A4] and [A2].

### ***1.1.6 Structure of DDNIA volume***

The DDNIA volume is structured in sections (further subdivided in chapters) and a number of appendices.

This document comprises the sections, chapters and lists of appendices summarised below:

**SECTION I GENERAL INTRODUCTION** includes the following chapters:

- Chapter 1 describes the **purpose** and the **scope** of DDNIA, the **intended audience**, the **internal structure** of the document, plus some document **service information**;
- Chapter 2 contains **definitions** used in this document (terminology, acronyms and abbreviations);
- Chapter 3 describes the **relationship of this document with other Customs baseline documents**. It defines dependencies with these documents and states the applicability of these documents. It also explains how this document, together with the other Customs documentation, should be used during the development and verification of any Customs application;
- Chapter 4 describes the **symbolism and the conventions** used in the various models included in this document. It also discusses the technical naming conventions used for the data dictionary that has been included in this document.

**SECTION II SCOPE OF DEVELOPMENT** discusses the items that need to be developed in ICS Phase 1 applications. Appendix A for ICS Phase 1 accompanies this section.

The following sections contain a detailed definition of the **message protocols** to be supported for the different Business Processes. These message protocols are described by a collection of **Sequence Diagrams**, supported by **State Transition Diagrams**. Each section deals with one of the following Business Process areas:

**SECTION III ICS** describes the Core Business for ICS Phase 1. In particular, it specifies the main Import Control scenarios.

**SECTION IV CENTRAL SERVICES** deals with the centralised collection and distribution of data that is of interest to the various MS for ICS Phase 1 and also covers availability reporting and statistics. It is subdivided as follows:

- Chapter 1 defines how statistics and availability data are exchanged;
- Chapter 2 defines the message protocols to be used for exchanges with the CS/MIS application via the Inter(Extra)net (for exchanges of statistics data and availability data);

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

- Chapter 3 defines the message protocols to be used for exchanges with the CS/MIS application via CCN/CSI.

**SECTION V SYSTEMS ADMINISTRATION** deals with issues such as logging and tracing and any other administration function to be foreseen.

**SECTION VI TECHNICAL MESSAGE STRUCTURE** defines the detailed technical structure of the Information Exchanges of ICS Phase 1.

**SECTION VII DESIGN PRINCIPLES** explains how the system, defined in the previous sections, needs to be built. Basically, every Information Exchange needs to be formatted in XML format and needs to be transmitted across one of two communications platforms (CCN/CSI or Inter(Extra)net). This section states a number of principles that are common, regardless of the message format and transportation mechanism:

- Chapter 1 discusses the overall **approach**;
- Chapter 2 discusses the usage of **character sets** and **Data Item conventions**;
- Chapter 3 defines **exception handling** (how ICS should prevent and handle failures, defects, errors or mistakes);
- Chapter 4 defines **constraints** (any restrictions that are applicable to ICS development).

#### **SECTION VIII EDIFACT message formatting**

The Section VI of DDCOM [A3] is not applicable to ICS Phase 1.

**SECTION IX XML message formatting** defines how messages need to be formatted in an XML format.

**SECTION X TRANSPORT OF MESSAGES VIA CCN/CSI** defines how messages need to be transported across the CCN/CSI communication platform. This section refers to DDCOM, with limited specific points regarding the Message Descriptor (MsgID) and the Quality of Service.

**SECTION XI TRANSPORT OF MESSAGES VIA THE INTER(EXTRA)NET** defines how messages need to be transported across the Inter(Extra)net communication platform.

- Chapter 1 **summarises all Information Exchanges and messages (including their format and usage)** for which Inter(Extra)net transport is to be foreseen.

#### **APPENDICES FOR ICS Phase 1**

- Appendix A presents all messages included in the scope of DDNIA for ICS Phase 1 and lists those which are 'mandatory' vs. 'strongly recommended';
- Appendix C contains a definition of all Codelists used for ICS Phase 1;
- Appendix J presents how the different Data Groups and Data Items are correlated to the ICS Phase 1 messages;
- Appendix Q contains the definition of all messages for ICS Phase 1;
- Appendix R contains the XML mapping of all Data Items and Data Groups of the ICS Phase 1 messages;
- Appendix X contains the XML Schemas of the ICS Phase 1 messages;

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

- Appendix Y and Appendix Z contain a data dictionary for all elements (Data Items and Data Groups) used to construct these messages.

### ***1.1.7 Document service information***

The different parts that make up DDNA will each be submitted individually to configuration and version control. Individual components may be upgraded and delivered separately.

Maintenance will be provided for this document. The Taxation and Customs Union DG will define and schedule the different deliveries.

Comments can be submitted to this document, either via organised reviews or via SYNERGIA calls to the Central Service Desk at ITSM (<https://itsmtaxud.europa.eu/smt/ess>).

Known errors to this DDNA will be maintained in the format of the Known Error List (KEL) published on the project web site.

Whenever a part of this document is referred to, reference will be given either to an entire section or an entire chapter (within a section) or a paragraph (for any other subdivision).

This document will be submitted as a Word file with the following naming convention:

- DDNIA-Main document-vy.zz.doc, where y and zz are version and revision numbers.

All appendices of ICS will be delivered as:

- DDNIA-Appendix X-vy.zz.DDD, where
  - X stands for the Appendix name;
  - y and zz are version and revision numbers;
  - DDD is the document type (PDF for Adobe Acrobat, DOC for MS Word, MDB for MS Access or ZIP for ZIP format).

### ***1.1.8 Change history***

#### **1.1.8.1 Changes in DDNIA version 8.00**

Version 8.00 incorporates the following changes:

- DDNA Known Error List (KEL) 0.24 has been incorporated, implementing KEL entries 281, 284, 287, 289, 290, 291, 294, 298, 299, 300, 301 and 304.

#### **1.1.8.2 Changes in DDNIA version 8.70**

Version 8.70 incorporates the following changes (**this version was created in a side branch to address urgent business needs**):

- DDNA Known Error List (KEL) 0.24a has been incorporated, implementing KEL entry 321.

#### **1.1.8.3 Changes in DDNIA version 9.00**

Version 9.00 incorporates the following changes (**WARNING: This version does NOT include the changes for KEL v0.24a**):

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

- DDNA Known Error List (KEL) 0.25 has been incorporated, implementing KEL entries 309, 310, 311, 314 and 316.

#### **I.1.8.4 Changes in DDNIA version 9.50**

Version 9.50 incorporates the following changes (**This version also includes the changes introduced within KEL v0.24a**):

- DDNA Known Error List (KEL) 0.25a has been incorporated, implementing KEL entry 323.

#### **I.1.8.5 Changes in DDNIA version 10.00**

Version 10.00 incorporates the following changes:

- DDNA Known Error List (KEL) 0.26 has been incorporated, implementing KEL entries 328, 331, 334, 335, 336, 337 and 344.

#### **I.1.8.6 Changes in DDNIA version 11.00**

Version 11.00 incorporates the following changes:

- DDNA Known Error List (KEL) 0.27 has been incorporated, implementing KEL entries 346 and 351.
- Corrections introduced after the review of version 10.10.

#### **I.1.8.7 Changes in DDNIA version 12.20**

Version 12.20 incorporates the following changes:

- DDNA RFC-List.28 has been incorporated, implementing RFC entries 356, 364 with impact on the main document, and RFC entries 358, 361, 363, 365, 366, 367, 368, 369, 370 with impact on the annexes.

#### **I.1.8.8 Changes in DDNIA version 12.40**

Version 12.40 incorporates the following changes:

- Implementing two emergency RFCs (RFC entries 383 and 384).

#### **I.1.8.9 Changes in DDNIA version 12.50**

Version 12.50 incorporates the following changes:

- Implementing the comments of NA-DE under the call IM130031.

#### **I.1.8.10 Changes in DDNIA version 13.00**

Version 13.00 incorporates the following changes:

DDNA RFC-List.29 has been incorporated implementing:

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DOCUMENT OVERVIEW	

- RFC#395 with impact on the annexes for R230/CL027, R133, C542/C540.
- TR0104 was adapted, to take into account the removal of IE111 and IE112.

In addition, the following corrections have been applied:

- In the context of the development of CS/RD2, it was decided by DG TAXUD/A3 that the business codelist CL016 ('Geo-Nomenclature Code') will not be maintained in CS/RD2 (it was also not maintained and not disseminated by CS/RD). In consequence, the CL016 was removed from CSE export and from Appendix C and C2. This correction should have no impact on the National Applications. (see IM113310 in SYNERGIA, RTC-21566 for DG TAXUD / CUSTDEV3);
- In the context of the development of CS/RD2, it was decided by DG TAXUD/A5 that the codelist Customs Offices that existed in CS/RD with no CLxxx identifier will be created in CS/RD2 as an RD entity with the codelist identifier CL141 (see IM151522/KE15234-KE15365 in SYNERGIA, RTC-19543 for DG TAXUD / CUSTDEV3, and see CS/RD2 application). The CL141 is mentioned in Appendices C, I, J and Q2.
- In the context of the development of CS/RD2, it was identified that the multiplicity of the data group "CUSTOMS OFFICE TIMETABLE LINE" was not consistent between [CD030B/CD031B] (9x) and [CD931B] (99x) in the DDNTA v19.40 (same for DDNXXA and DDNIA). It was decided by DG TAXUD that only one structure of the codelist CL141 (Customs Office) would be defined in the CS/RD2 application and used by CS/RD2 for the dissemination of the Customs Office List (COL). In consequence, the structure of the messages CD030B and CD031B has been modified to have the multiplicity of the data group "CUSTOMS OFFICE TIMETABLE LINE" corrected (i.e. '9x' replaced by '99x'). This correction has no impact on the National Applications, as long as there is no Customs Office with more than 9x the data group "CUSTOMS OFFICE TIMETABLE LINE" in the CD031B sent by the application CS/RD2.
- In the context of the development of CS/RD2, all the code lists that are specific to EOS have been removed from the DDNIA, and are documented in CS/RD2 only.
- The error reported in IM166212/KE15601 (RTC-21561 for DG TAXUD / CUSTDEV3) was fixed. The TR0099 remains applied on the External Domain messages (could be XML or EDIFACT) but removed from the Common Domain messages (XML only) of ICS. This correction has no impact on the NICA.
- The clarification requested by NA-FR and provided by DG TAXUD/A3 regarding the 'Customs Office of first Entry **Declared**' in the context of IM89681 - see the Known Error KE13237 in SYNERGIA (RTC-17774 for DG TAXUD / CUSTDEV3).
- In the context of the development of CS/RD2 (see IM195392, see RTC-17817 for DG TAXUD / CUSTDEV3), an analysis has been performed to ensure the compliance of XSD and database schema against EOS SPM-REQ-B annex. In consequence:
- Format for data item "REJECTION REASON.Rejection reason code" has been changed from "an1" to "an..2" for consistency reasons  
`<xs:element name="RejReaCod201" type="simple:Alphanumeric_1">`  
was replaced by



DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - DEFINITIONS	

<xs:element name="RejReaCod201" type="simple:Alphanumeric\_Max2">

- Format for data item “REASSESSMENT REASON.Reassessment reason code” has been changed from “n1” to “n..2” for consistency reason.

<xs:element name="ReaReaCod301" type="simple:Numeric\_1">

was replaced by

<xs:element name="ReaReaCod301" type="simple:Numeric2Max">.

## I.2 Definitions

### I.2.1 Definitions

Definitions of many of the terms used in this document may be found in the “Glossary of Terms” ([R1]). Definitions of the business terms relating to Import may also be found in [R5].

### I.2.2 Terminology

The corresponding chapter from DDCOM [A3] is applicable to ICS Phase 1.

### I.2.3 Acronyms and Abbreviations

The following acronyms are used in this document:

Acronyms	Description
AEO	Authorised Economic Operator
AIS	Automated Import System
ASCII	American Standard Code For Information Interchange
CCN/CSI	Common Communications Network / Common Systems Interface
CDCA	Centrally Developed Customs Application
COL	Customs Office List
CS/MIS	Central Services/Management Information System
DDCOM	Design Document for Common Operations and Methods
DDNA	Design Documentation for National Applications
DDNIA	Design Documentation for National Import Applications
DDNTA	Design Documentation for National Transit Applications
DDNXA	Design Documentation for National Export Applications
DDRDA	Design Documentation for Reference Data Application
EBP	Elementary Business Process
ECS	Export Control System
EDI	Electronic Data Interchange
EDIFACT	EDI for Administration, Commerce and Transport
ENS	Entry Summary Declaration
EORI	Economic Operator registration and Identification
FSS	Functional System Specification
FTSS	Functional Transit System Specification
ICS	Import Control System
IE	Information Exchange

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - APPLICABLE AND REFERENCE DOCUMENTS	

Acronyms	Description
IT	Information Technology
KEL	Known Error List
MS	Member State
NA	National Administration
NCA	National Customs Application
NCTS	New Computerised Transit System
NICA	National Import Control Application
OoFEnt	Office of first Entry
OoLdg	Office of Lodgement
OoSEnt	Office of subsequent Entry
RD	Reference Data
STTA	Standard Transit Test Application
TTA	Testing Transit Application
XML	eXtensible Mark-up Language

**Table 1: Acronyms and Abbreviations**

## I.3 Applicable and Reference documents

### I.3.1 Applicable documents

The following documents are applicable to this document:

Ref	Reference	Title	Version
A1	<a href="#">TSS-FSF-REL4</a>	FTSS 4.00	Corrigendum 1/2017
A2	<a href="#">FSS – AIS</a>	FTSS – AIS Addendum: ICS	Corrigendum 1/2017
A3	<a href="#">DDCOM</a>	Design Document for Common Operations and Methods	15.00
A4	<a href="#">ICS P1-SD</a>	The Business Scope of ICS Phase 1	13.00
A5	CD3-FQP	Framework Quality Plan	1.00
A6	TAXUD/2013/CC/124	Framework Contract	1.00
A7	SC09	Specific Contract 09 under the Framework Contract TAXUD/2013/CC/124	Dated 24/07/2013
A8	<a href="#">TOC &amp; SLA for Customs Trans-European Systems</a>	Terms of Collaboration & Service Level Agreement on Availability and Continuity	TOC v4.50 SLA v2.50

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - APPLICABLE AND REFERENCE DOCUMENTS	

**Table 2: Applicable Documents<sup>1</sup>**

Note that all documents listed above are applicable to this document (and are input to this document). Any change in any of the documents above is likely to have direct and immediate consequences for this document:

- The first document [A1] defines the overall system of NCTS;
- Document [A2] presents various business process threads of the Import Core business;
- Document [A3] is the Design Document for Common Operations and Methods;
- Document [A4] is the Scope Document for ICS Phase 1.

The Central Project Team will implement configuration management on all documents and CDCA software versions in order to assure coherence.

### ***1.3.2 Reference documents***

The following documents are also of interest to the NICA designer:

Ref	Reference	Title	Version
R1	TMP-GDL-GLSRY	Glossary of Terms	3.11
R2	eCu-TAS	eCustoms IT Architecture	1.00
R3	<a href="#">DDNXA</a>	Design Document for National Export Applications	11.00
R4	<a href="#">DDNTA</a>	Design Document for National Transit Applications	20.00
R5	TAXUD /734/2003	Import Control System (ICS) User Requirements	Final
R6	<a href="#">DDCOM-SD</a>	Scope Document Common Volume	15.00
R7	<a href="#">FSS – AES</a>	FSS – AES Addendum: ECS	Corrigendum 1/2017 <sup>2</sup>

**Table 3: Reference Documents**

The first document, [R1], contains the glossary applicable to NCTS, ECS and/or ICS (terminology, acronyms and abbreviations used in NCTS).

The second document provides an overview of the eCustoms IT Architecture [R2].

The [R3] and [R4] documents are the domain specific DDNA volumes for Export and Transit domains.

<sup>1</sup> The Corrigendum 1/2017 will be aligned to RFC-List.29 and will be published during 2017Q2 (after MS Review).

<sup>2</sup> The Corrigendum 1/2017 will be aligned to RFC-List.29 and will be published during 2017Q2 (after MS Review).

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
GENERAL INTRODUCTION - SYMBOLISM AND CONVENTIONS USED	

The [R5] defines the User Requirements for Import Control System (ICS).

The [R6] is a document describing the scope of the Common Domain volume.

The [R7] is the Functional System specification for the Automated Export System.

### ***I.3.3 DDNIA usage policy***

This document should be considered as the main applicable document for all technical aspects regarding ICS:

- Any NICA will be developed as the sum of two components: DDNIA plus National Specifications;
- The [A4] should be considered as the applicable document for all operation, legal and procedural issues for ICS Phase 1;
- All CDCA tools will be based on this document.

## **I.4 Symbolism and Conventions Used**

The section I.4 from DDCOM [A3] is applicable to ICS Phase 1.

DG TAXUD IT – FC TAXUD/2014/DE/121 – SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
SCOPE OF DEVELOPMENT	

## Section II Scope of development

### II.1 Information Exchange overview

The scope of ICS Phase 1 is depicted in a set of appendices:

- Appendix A1 presents an overall view of the Information Exchanges to be supported;
- Appendix A2 defines the applicability of this DDNIA. It defines the Information Exchanges for which this DDNIA should be considered as an applicable document and the Information Exchanges for which this document should be considered as a guideline only;
- Appendix A3 performs a breakdown of the development related to IE messages.

### II.2 Information Exchange Map

The Information Exchanges to be supported in ICS Phase 1 and the different parties involved for this functional stage are summarised in the diagram below (Figure 1: Overview of Information Exchanges). More detailed specifications of those message exchanges are presented in Section III.

Please note that this diagram is not a sequence diagram; it only summarises the different possible sources and destinations for the various information exchanges. This diagram highlights between which domain the different exchanges are applicable.

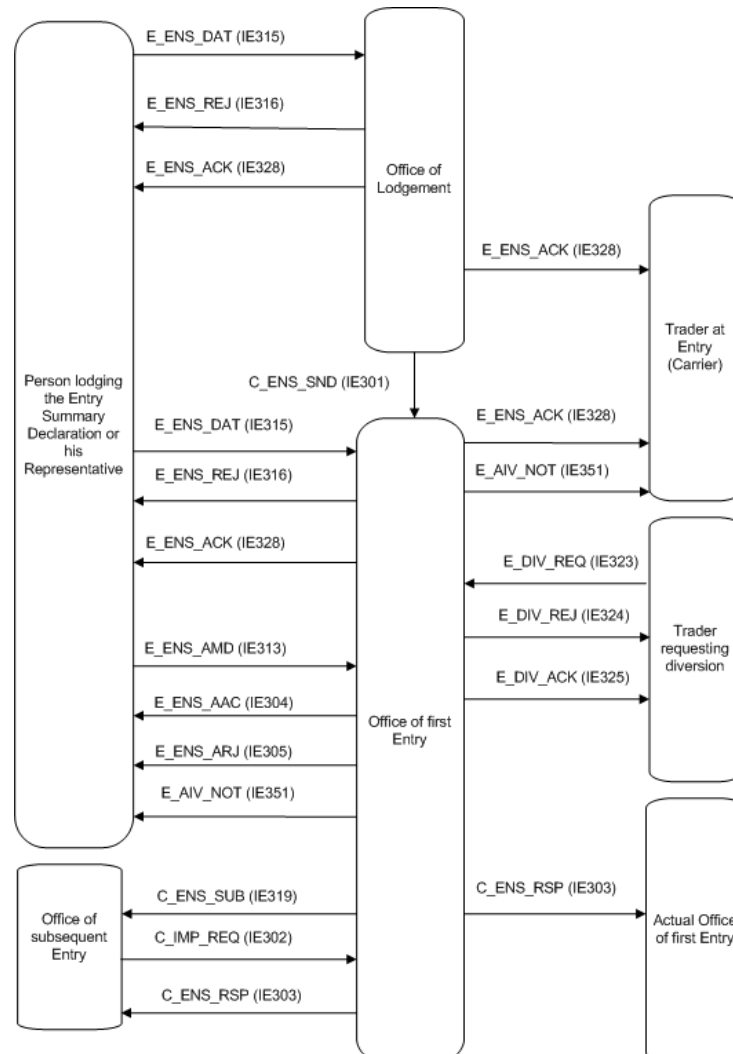
DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

## Section III ICS Phase 1

### III.1 Introduction

#### III.1.1 Overview

This section contains the detailed specifications for the message exchange protocols relevant to the Import Control System (ICS) Phase 1. The Information Exchanges supported and the different parties involved are summarised in Figure 1 below.



**Figure 1: Overview of Information Exchanges for ICS Phase 1**

In particular, Figure 1 illustrates the different exchanges foreseen for the Import Control System. A prefix of “C\_” denotes exchanges within the Common Domain between the roles Office of Lodgement, Office of first Entry and Office of subsequent Entry. A prefix of “E\_” denotes exchanges in the External Domain (between National Administrations and Traders).

All Information Exchanges related to exceptions are discussed in Section VII Design principles.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.1.2 Import Actors

The following roles (Table 4) can be taken by organisations in ICS Phase 1.

Role Type	Role Name	Organisation
OoLdg	Office of Lodgement	Customs Office
OoFEnt	Office of first Entry <sup>3</sup>	Customs Office
OoSEnt	Office of subsequent Entry	Customs Office
TraEnt	Trader at Entry (Carrier)	Trader
TraDiv	Trader requesting diversion	Trader
TraLdg	Person Lodging the Entry Summary Declaration	Trader
TraRep	Representative of the Person Lodging the Entry Summary Declaration	Trader

**Table 4: Role types and organisations in Import Control**

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<sup>3</sup> Note based on the position of DG TAXUD/A3 in IM97728 (KE13237):

In cases where the IE302 is sent by an Office of subsequent Entry, the NICA sending the IE302 does not know if the Office of first Entry **Actual** is different from the Office of first Entry **Declared**. In cases where the IE302 is sent by an Office of first Entry **Actual**, it would not be useful to provide its own office code here. Consequently, only the code of the Office of first Entry **Declared** is useful and will be included, in order to obtain the necessary ENS- and risk analysis data. The data element can also only contain the code of an Office of first Entry declared in the messages IE315 and IE313 for legal reasons. The IE315 and all later amendments of an IE315 made by an IE313 have always to be addressed to the Office of first Entry as foreseen by the carrier/person lodging the ENS.

At the moment of lodgement, no distinction can be made in any case between Office of first Entry **Declared** and Office of first Entry **Actual**.

If the person lodging would already know at the time lodging the ENS that the declared Office of first Entry will differ from the Actual Office of first Entry (s)he would have already to address the latter one in order not to violate the legislation whereby no difference would appear with regard to the Office of first Entry.

In cases where an Office of Lodgement is addressed, this office is indicated in a separate data element whereas the data element "Customs office of first entry" would still require the code of the office where the person lodging deems the means of transport will enter the first time the customs territory of the EU.

Bearing in mind the aforementioned, the data element "Customs Office of first Entry" must be understood as the "Customs Office of first Entry **Declared**" in order to avoid any uncertainty and confusion."

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

## III.2 Scenarios and Sequence Diagrams

The different message exchange protocols are defined as a number of message exchange scenarios, each documented by one Sequence Diagram.

The different possible scenarios are grouped into the following categories:

- Core Flow;
- ENS at Office of Lodgement;
- Advanced Intervention Notifications;
- No Risk identified at the Office of first Entry;
- Request for Diversion;
- Amendment Requests;
- Rejections.

The scenario for the core flow should form the basis of every implementation. The other scenarios require the implementation of the core flow scenario and should be considered as extensions to it. In some cases different outcomes are possible and there are a number of cases where iterations and/or repetitions are possible. In such cases, only one Sequence Diagram with one possible outcome has been included and the other possibilities have been identified only textually. It should be noted that in the case that some messages that are included in the Sequence Diagrams are out of the scope of ICS Phase 1 are represented in a grey colour and are used only for illustration purposes.

## III.3 Sequence Diagrams versus State Transition Diagrams

The different Sequence Diagrams should be read in conjunction with the State Transition Diagrams that have been included in chapter III.5. Every application should implement both Sequence Diagrams and State Transition Diagrams.

## III.4 Sequence Diagrams

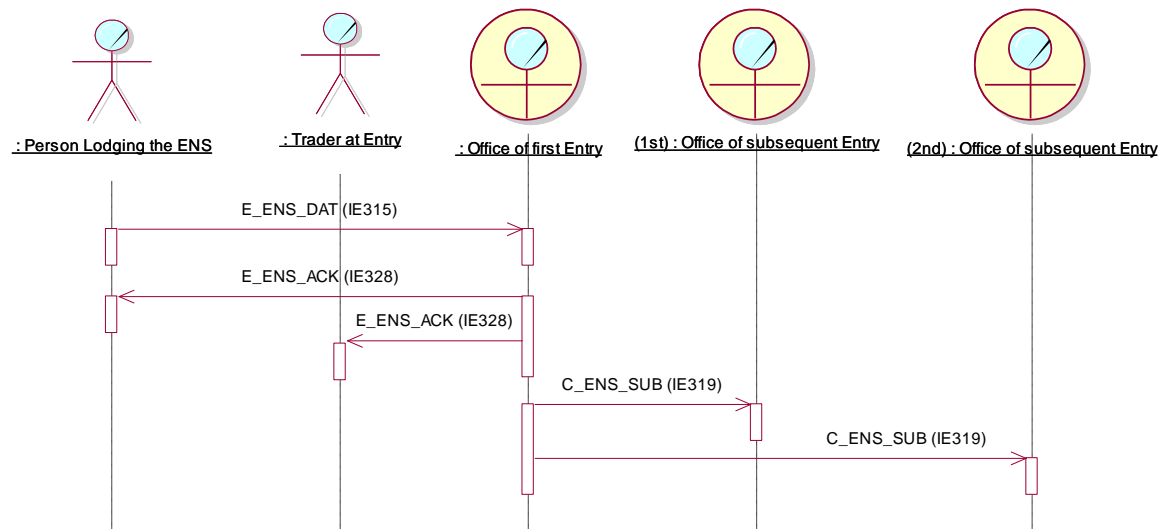
This section contains the Sequence Diagrams for ICS Phase 1 processes. In these diagrams, when more than one message starts from (or ends in) the same focus of control, it means that these messages are sent (or received) shortly after each other. In this case, the arrows will appear close to each other and the order of sending (or receiving) these messages is not important.



DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.1 Core Flow

Figure 2 displays the core flow process in which the Entry Summary Declaration is submitted to the Office of first Entry, security and safety risk analysis is performed and risk is identified.



**Figure 2: ICS Phase 1 Core Flow**

The process starts with the Person Lodging the ENS, submitting the ENS to the Office of first Entry via an IE315 message. After successful validation of the ENS, the declaration is registered and a Movement Reference Number (MRN) is automatically generated. The allocated MRN is communicated back to the Person Lodging the ENS via an IE328 message and to the declared Trader at Entry (Carrier) if he is different from the Person Lodging the ENS and if he is connected to ICS in that Member State. Common security and safety risk analysis is performed for all the goods declared in the ENS. For the core flow process it is assumed that, risk was identified and also subsequent Offices are involved. In this case, the Office of first Entry forwards the appropriate ENS data including the relevant security and safety risk analysis results to all Offices of subsequent Entry declared in the ENS via an IE319 message. However, if one single ENS contains goods for more than one Office of subsequent Entry of the same MS then only one IE319 shall be sent. The forwarded data is received by the Office of subsequent Entry and registered in that Member State.

For the goods to be unloaded at the Office of first Entry, national risk analysis is performed on the basis of national regulations and requirements. The national risk analysis results are not communicated to the Offices of subsequent Entry.

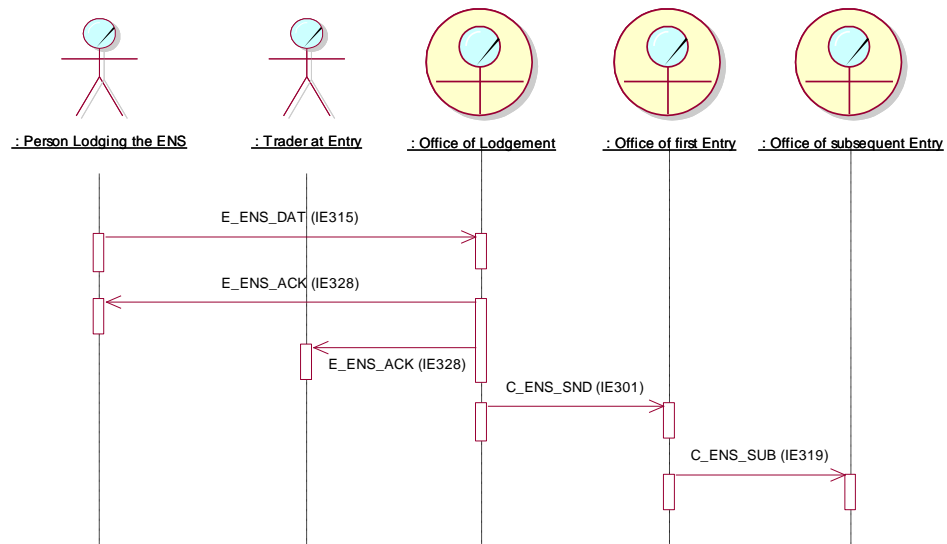
The Office of subsequent Entry after common security and safety risk is identified at the Office of first Entry receives extract of the appropriate ENS data.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.2 ENS submitted at the Office of Lodgement

#### III.4.2.1 ENS submitted at the Office of Lodgement with MRN communicated to Trader at Entry

Figure 3 indicates the case where the ENS is submitted to the Office of Lodgement and the MRN is communicated to the Trader at Entry (Carrier) by the Office of Lodgement.



**Figure 3: ENS submitted to Office of Lodgement with MRN communicated to Trader at Entry from the Office of Lodgement**

The process starts with the Person Lodging the ENS submitting a valid ENS via an IE315 message to the Office of Lodgement. After successful validation of the ENS the Office of Lodgement registers the declaration and the generated MRN is communicated to the Person Lodging the ENS and to the Trader at Entry (Carrier) via an IE328 message if he is different from the Person Lodging the ENS and he is connected to ICS of that Member State.

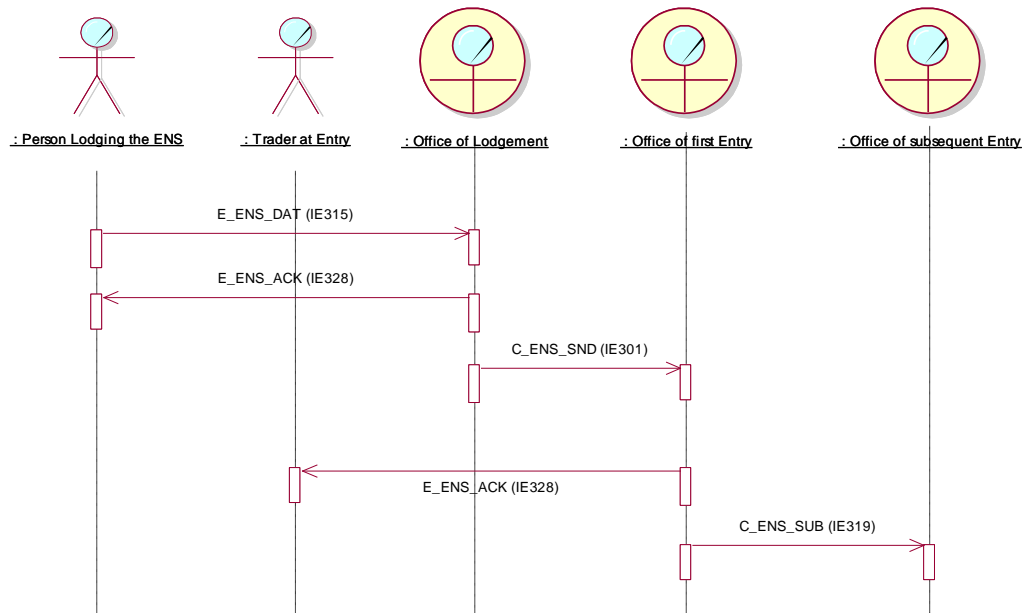
The Office of Lodgement forwards the ENS data and in the case that the common security and safety risk analysis was performed, the risk analysis results to the declared Office of first Entry via an IE301 message. The Office of Lodgement also informs the declared Office of first Entry that the MRN has been communicated to the Trader at Entry (Carrier) so that the Office of first Entry does not communicate the MRN to the Trader at Entry (Carrier) again.

The process followed after the sending of the IE301 to the Office of first Entry is the same as the one described in the core flow scenario. It should be noted that in the case that risk analysis results have been communicated to the Office of first Entry, it is up to the Office of first Entry to decide whether the communicated risk analysis results are to be taken into account when conducting its own common security and safety risk analysis.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.2.2 ENS submitted at the Office of Lodgement with MRN communicated to Trader at Entry from the Office of first Entry

Figure 4 indicates the case where the ENS is submitted to the Office of Lodgement but the MRN is sent to the Trader at Entry (Carrier) from the Office of first Entry.



**Figure 4: ENS submitted to Office of Lodgement with MRN communicated to Trader at Entry from the Office of first Entry**

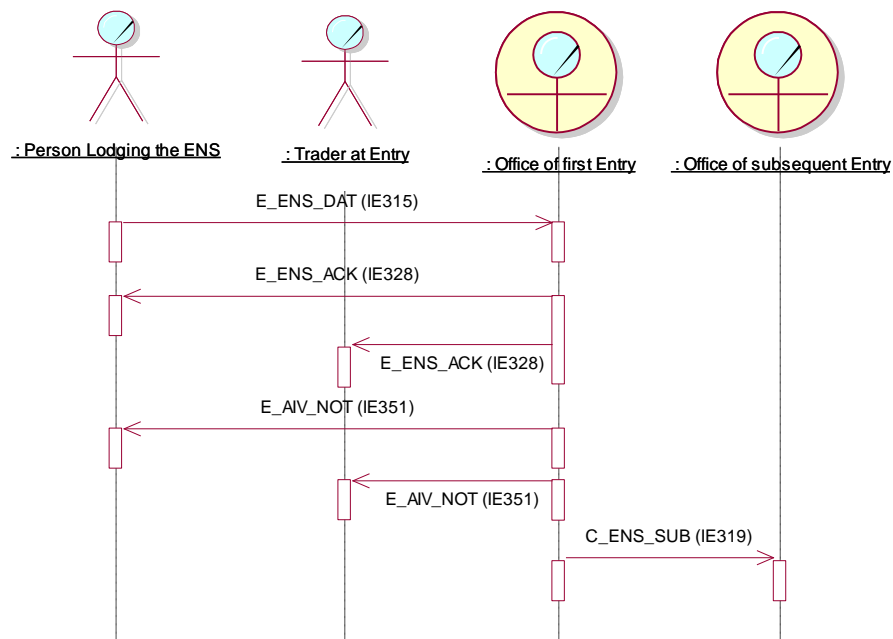
The process indicated in Figure 4 is similar to the one mentioned in the previous section. However, the main difference is that the Office of Lodgement cannot communicate the MRN to the Trader at Entry (Carrier) since he is not connected there. In this case the MRN is communicated from the declared Office of first Entry via an IE328 message after the reception of the forwarded data (IE301 message) from the Office of Lodgement.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.3 Advanced Intervention Notification

#### III.4.3.1 Advanced Intervention Notification after the ENS is submitted to the Office of first Entry

Figure 5 indicates the case where the Advanced Intervention Notification is notified to the business actors concerned after the ENS has been submitted to the Office of first Entry.



**Figure 5: Advanced Intervention Notification at the Office of first Entry after submission of the ENS at the Office of first Entry**

Up to the point where the Office of first Entry has performed the common security and safety risk analysis this process is the same as in the core flow scenario. If the security and safety risk analysis revealed that a ‘no load’ decision needs to be taken (risk analysis result code = ‘A’), the Office of first Entry notifies the business actors concerned via an Advanced Intervention Notification (IE351 message). The business actors that are to be notified by the Office of first Entry are the Person Lodging the ENS that has sent the ENS or an amendment request and the Trader at Entry (Carrier).

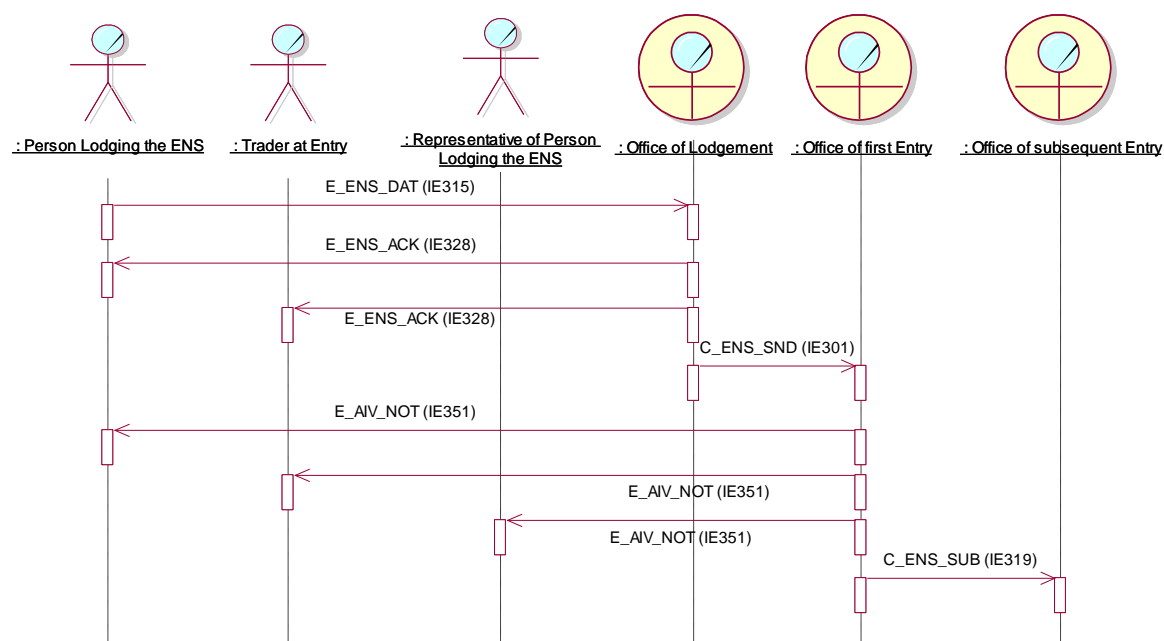
In case other customs interventions/controls are to be performed, the Office of first Entry may decide to inform the Person Lodging the ENS that has sent the Entry Summary declaration or an amendment request in advance with the IE351 message if he is an AEO of type ‘AEOS’ or ‘AEOF’.

The Office of first Entry forwards the risk analysis results along with the appropriate ENS data to the Office of subsequent Entry via an IE319 notifying the Office of subsequent Entry about the Advanced Intervention Notification.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.3.2 Advanced Intervention Notification after the ENS is submitted to the Office of Lodgement

Figure 6 indicates the case where the Advanced Intervention Notification is notified to the business actors concerned after the ENS has been submitted to the Office of Lodgement.



**Figure 6: Advanced Intervention Notification at the Office of first Entry after submission of the ENS at the Office of Lodgement**

Up to the point where the Office of first Entry has performed the common security and safety risk analysis this process is similar to the process for the ENS being submitted to the Office of Lodgement in Section III.4.2.1. If the security and safety risk analysis revealed that a ‘no load’ decision needs to be taken (risk analysis result code = ‘A’), the Office of first Entry notifies the business actors concerned via an Advanced Intervention Notification (IE351 message). The business actors that are to be notified are the same as in the case that the ENS is lodged at the Office of first Entry. However, in this case the Representative of the Person Lodging the ENS is also notified via an IE351 if he is declared in the ENS or if he is the sender of an amendment request. It should also be noted that in order for the Person Lodging the ENS to be notified about the Advanced Intervention Notification, this Person has to be connected to ICS in the Member State where the Office of first Entry is located.

In case other customs interventions/controls are to be performed, the Office of first Entry may decide to inform the Person Lodging the ENS in advance with the IE351 message if he is an AEO of type ‘AEOS’ or ‘AEOF’.

The Office of first Entry forwards the risk analysis results along with the appropriate ENS data to the Office of subsequent Entry via an IE319 notifying the Office of subsequent Entry about the Advanced Intervention Notification.

Common security and safety risk analysis results communicated by the Office of Lodgement (if available) shall either be accepted or taken into consideration when carrying out risk analysis at the Office of first Entry. However, the competent services of the Customs should

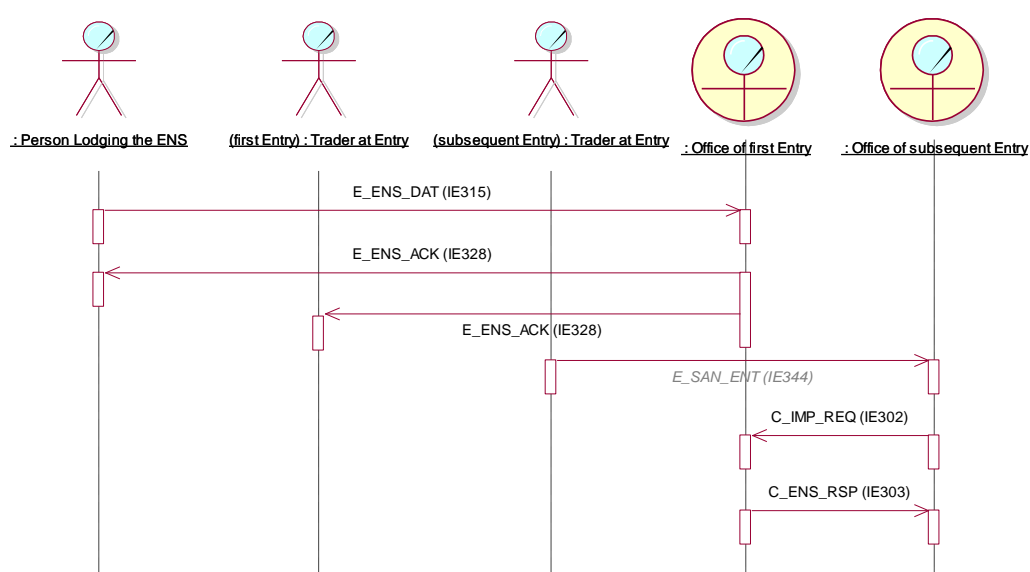
DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

be given the possibility to amend/override the security and safety risk analysis results provided by the Office of Lodgement, if required.

### III.4.4 No Risk identified at the Office of first Entry

#### III.4.4.1 No Risk identified at the Office of first Entry and subsequent Offices involved

Figure 7 indicates the case where the Office of first Entry has received an ENS including declared Offices of subsequent Entry and for which it has not identified any risks when performing the common security and safety risks analysis. In this case no IE319 is sent to the Offices of subsequent Entry. The IE344 message is displayed in the diagram only for illustration purposes since it is out of scope of ICS phase 1



**Figure 7: Subsequent Offices involved and No Risk identified at the Office of first Entry**

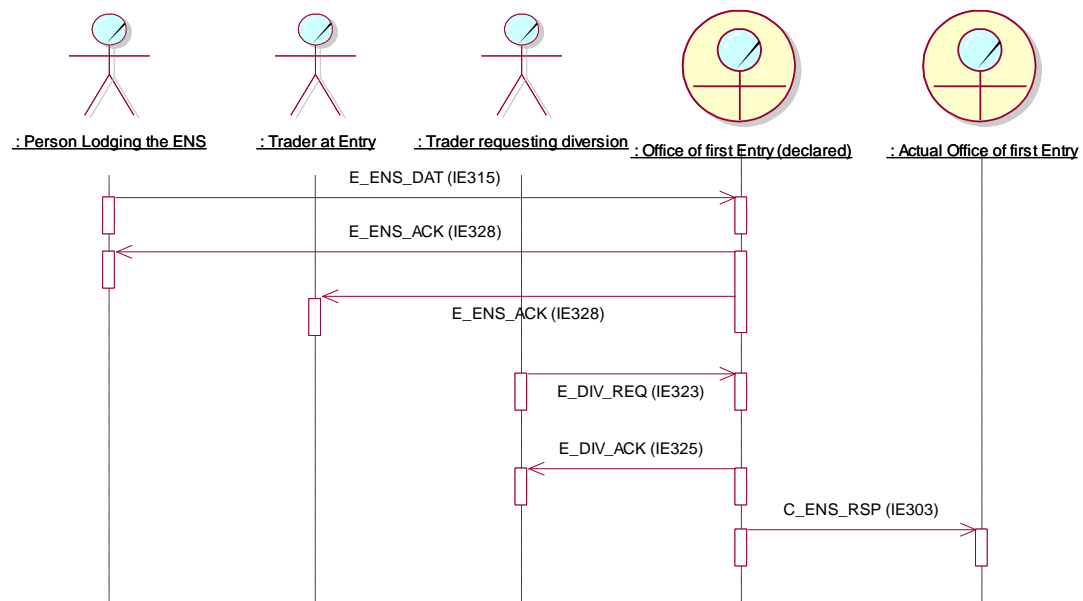
Up to the point where the Office of first Entry has performed the common security and safety risk analysis this process is the same as in the core flow scenario. If the risk analysis reveals that there is no risk involved in the specific movement, no IE319 is sent to the Office of subsequent Entry. Since no appropriate data is available at the Office of subsequent Entry when the Trader at Entry (Carrier) submits the arrival notification (when he presents the goods), the Office of subsequent Entry sends a request to the Office of first Entry for the common security and safety risk analysis results and the appropriate ENS data via an IE302 message. The Office of first Entry retrieves the requested appropriate ENS data and the relevant common security and safety risk analysis results (which in this case do not exist) and sends the response to the Office of subsequent Entry via an IE303 message. The forwarded risk analysis result code is '0'. For the case that the risk analysis result code is '0' the Office of subsequent Entry receives no ENS data since no risk is identified at the Office of first Entry.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.5 Request for Diversion

#### III.4.5.1 Accepted diversion after request at the Office of first Entry declared

Figure 8 indicates the case where the Trader requesting diversion submits a diversion request to the Office of first Entry declared. National diversions are a national matter. In respect of ICS Phase 1 the diversions are limited to international diversion from Office of first Entry declared to the actual Office of first Entry. The Office of first Entry declared is notified about the diversion by the Trader requesting Diversion via an IE323 message. Diversion at the Office of subsequent Entry is a process similar to the one described in Section III.4.4.1.



**Figure 8: Accepted diversion after request at the Office of first Entry declared**

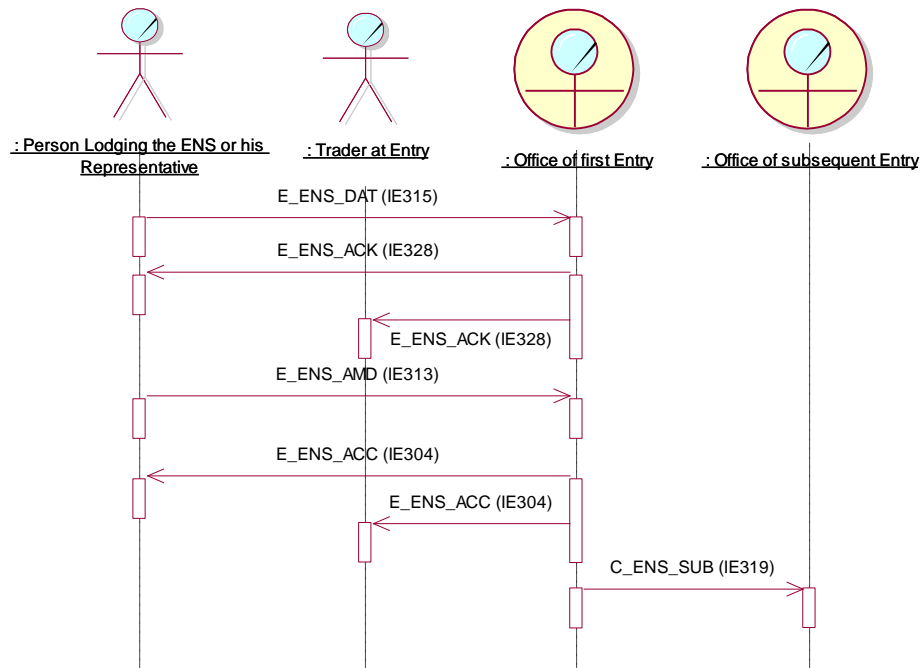
Up to the point where the Trader requesting diversion sends the diversion request to the Office of first Entry declared the process is the same as in the core flow scenario. In this case the Trader requesting diversion sends a valid diversion request to the Office of first Entry declared via an IE323. This request must contain the Actual Office of first Entry and the MRN(s) of the ENS or data elements that provide a unique identification of the diverted active means of transport in order for the Office of first Entry declared to be able to identify the appropriate ENS. The Office of first Entry declared sends the required data to the Actual Office of first Entry via an IE303 message. If common security and safety risk analysis results are available (risk analysis result code is 'A', 'B' or 'C' for at least one ENS or at least one goods item) or the Office of first Entry was not in a position to carry out the risk analysis (risk analysis result code is 'Z' for at least one ENS) then the IE303 sent contains the related extracted ENS data, the indication that risk was identified (Risk = '1') and the corresponding common security and safety risk analysis results. If no common security and safety risk analysis results are available (risk analysis result code is '0' or 'N') then the IE303 sent indicates that no common security and safety risk analysis results are available for the diverted ENS (Risk = '0'). The Office of first Entry declared also notifies the Trader requesting diversion that the diversion request has been accepted via an IE325 message.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.6 Amendment Request

#### III.4.6.1 Valid amendment request at the Office of first Entry

Figure 9 indicates the case where a valid amendment request is submitted at the Office of first Entry.



**Figure 9: Valid amendment request at the Office of first Entry by the Person Lodging the ENS or his Representative**

The Person Lodging the ENS or his Representative indicates to the Office of first Entry that he wishes to amend the submitted ENS via an IE313 message. Upon reception of the amendment request the Office of first Entry starts the validation process. The Office of first Entry checks if the amendment request is made on an already registered declaration and if the Person making the request is allowed to do so. Further checks take place upon the reception of the amendment request in order to confirm that the Office of first Entry can still accept it. The Office of first Entry cannot accept an amendment request if one of the following conditions is met:

- The Trader has been informed that the Office of first Entry intends to examine the goods;
- Customs Authorities have established that the particulars in question are incorrect;
- The Office of first Entry has accepted the corresponding presentation of the goods to Customs and has allowed the removal of goods;
- The Office of first Entry has accepted a diversion request (system constraint).

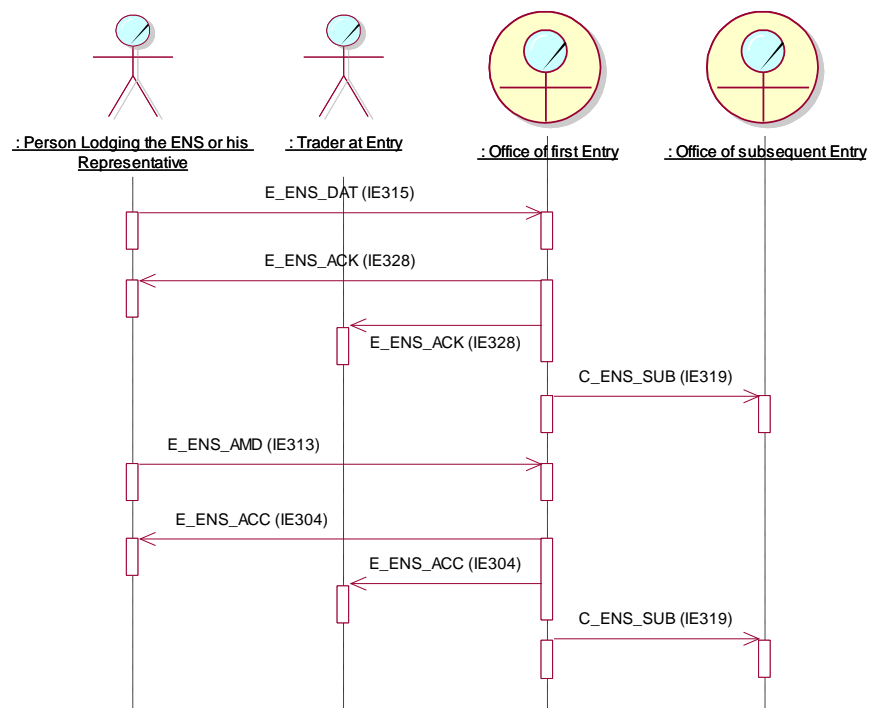


DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

If the amendment is valid, the Office of first Entry communicates to the Person Lodging the ENS or his Representative and to the Trader at Entry (Carrier) (If he is declared in the ENS, he is different from the sender of the amendment request and he is connected to ICS of the Member State that the Office of first Entry is located) that the amendment request was accepted via an IE304 message. When the amendment is accepted the common security and safety risk analysis is performed on the new ENS. If risk is identified on the new ENS then the IE319 is forwarded to the Office of subsequent Entry. The process to be followed after the IE319 is forwarded is the core flow scenario.

#### III.4.6.2 Valid amendment request at the Office of first Entry after the ENS data has been sent to Offices of subsequent Entry

Figure 10 indicates the case where an amendment request has been submitted after the Entry Summary declaration has been forwarded to the Office of subsequent Entry.



**Figure 10: Valid amendment request at the Office of first Entry by the Person Lodging the ENS or his Representative after the ENS data has been sent to Offices of subsequent Entry**

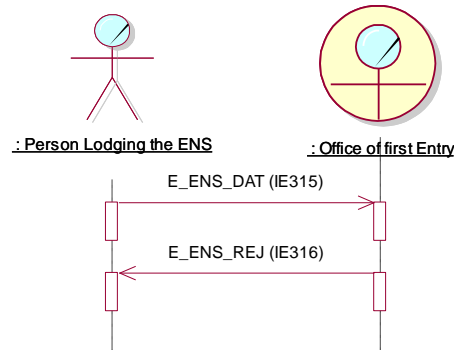
This case is similar to the case mentioned in the previous section. However, the difference is that the amendment request process via IE313 message and the acceptance of the amendment request via IE304 message take place after the forwarding of the appropriate ENS data and the common security and safety risk analysis results to the Office of subsequent Entry via IE319 message. If the amendment request is accepted and after the common security and safety risk analysis performed has identified risk, the Office of first Entry forwards the amended appropriate ENS data and the risk analysis results to the Office of subsequent Entry using the IE319 message.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.7 Rejections

#### III.4.7.1 Invalid ENS at Office of first Entry

Figure 11 indicates the case where an invalid ENS is submitted to the Office of first Entry.

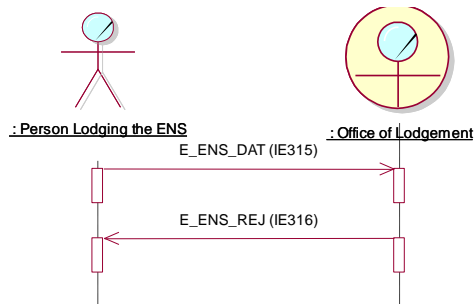


**Figure 11: Invalid ENS submitted at the Office of first Entry**

The Person Lodging the ENS submits the ENS to the Office of first Entry via an IE315 message. Upon reception of the ENS the Office of first Entry starts the validation process of the IE315 message. After the validation the Office of first Entry rejects the ENS as invalid and notifies the Person Lodging the ENS that the declaration is invalid by means of an IE316 message indicating the reason for the rejection of the ENS.

#### III.4.7.2 Invalid ENS at Office of Lodgement

Figure 12 indicates the case where an invalid ENS is submitted to the Office of Lodgement.



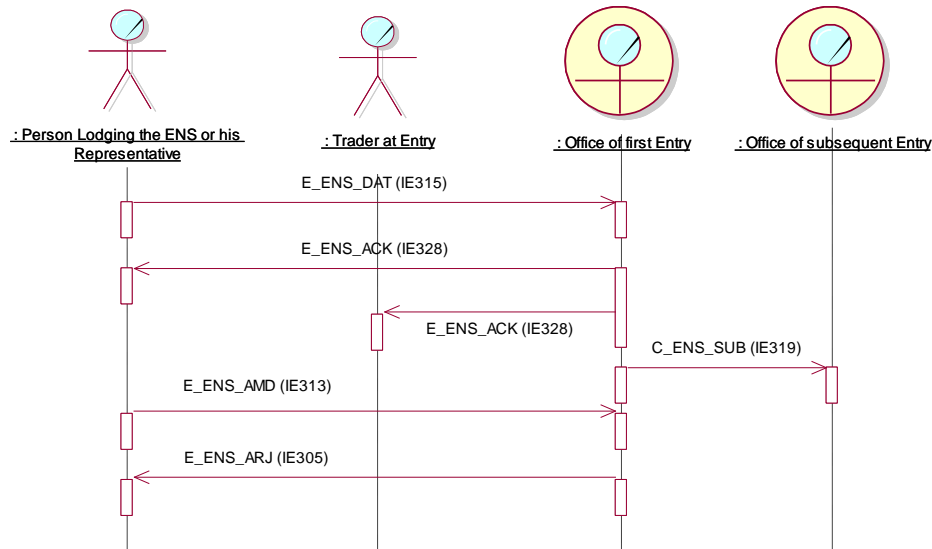
**Figure 12: Invalid ENS submitted at the Office of Lodgement**

The Person Lodging the ENS submits the ENS at the Office of Lodgement via an IE315 message. Upon reception of the ENS the Office of Lodgement starts the validation process of the IE315 message. After the validation the Office of Lodgement rejects the ENS as invalid and notifies the Person Lodging the ENS that the declaration is invalid by means of an IE316 message indicating the reason for the rejection of the ENS.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.4.7.3 Invalid Amendment Request

Figure 13 indicates the case where an invalid amendment request is submitted to the Office of first Entry.



**Figure 13: Invalid Amendment request**

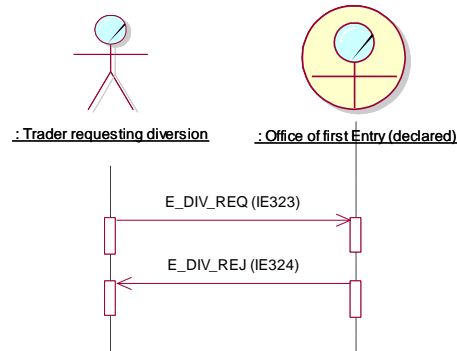
Up to the point that the amendment request is received at the Office of first Entry the process is the core flow. This means that after a valid ENS is submitted at the Office of first Entry, risk was identified and the IE319 was sent to the Office of subsequent Entry.

An amendment request is sent by the Person Lodging the ENS or his Representative to the Office of first Entry via an IE313. In this case, the amendment request is found to be invalid. If this is the case, the Office of first Entry notifies the Person Lodging the ENS or his Representative that the amendment request was invalid and that it is therefore rejected via an IE305 message. When the amendment request is rejected, the whole process can still continue since the original ENS is still valid.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

#### III.4.7.4 Invalid Diversion Request at the Office of first Entry declared

Figure 14 indicates the case where an invalid diversion request is sent to the Office of first Entry declared.



**Figure 14: Invalid Diversion Request at the Office of first Entry declared**

The Trader requesting diversion submits an invalid diversion request to the Office of first Entry declared via an IE323 message. The invalid diversion request is validated at the Office of first Entry declared and the rejection is communicated to the Trader requesting diversion via an IE324 message (e.g. MRN-structure invalid or ENS not available or in a wrong operation state).

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.5 State Transition Diagrams

This chapter presents the State Transition Diagrams for all Import operations (Entry operations). The purpose of this chapter is to define the different states that a National Import Control Application (NICA) needs to maintain. Any NICA should be capable of maintaining the roles of Office of Lodgement, Office of first Entry and Office of subsequent Entry and support the status models below for every movement (MRN).

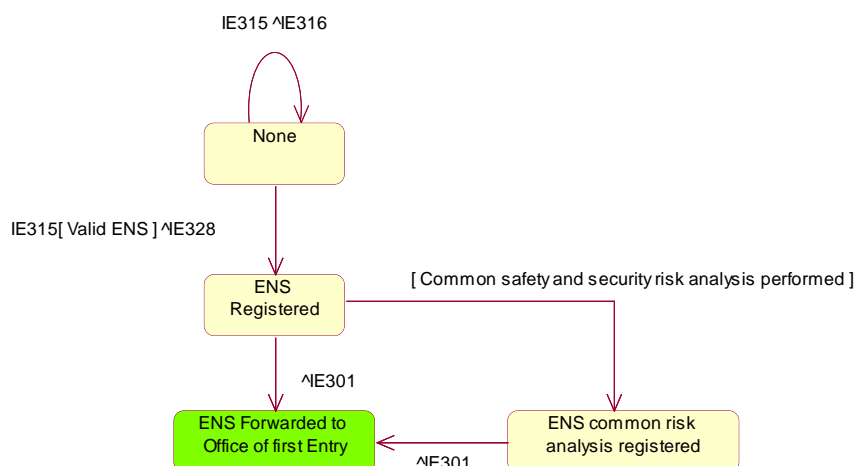
The following interactions can therefore be defined:

- When acting as Office of Lodgement:
  - Interacting with Person lodging the Entry Summary Declaration;
  - Interacting with Office of first Entry;
  - Interacting with Trader at Entry.
- When acting as Office of first Entry:
  - Interacting with Person lodging the Entry Summary Declaration or their Representative;
  - Interacting with Office of Lodgement;
  - Interacting with Trader at Entry;
  - Interacting with Trader requesting diversion;
  - Interacting with Office of subsequent Entry;
  - Interacting with Actual Office of first Entry.
- When acting as Actual Office of first Entry:
  - Interacting with the Declared Office of first Entry.
- When acting as Office of subsequent Entry:
  - Interacting with Office of first Entry.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.5.1 Office of Lodgement

The state transition diagram in Figure 15 below describes the possible states at the Office of Lodgement. This state transition diagram only shows what happens at the Office of Lodgement. It is assumed that after the state at the Office of Lodgement is “ENS forwarded to Office of first Entry” then the Office of first Entry starts playing its role.



**Figure 15: State Transition Diagram for Office of Lodgement**

The ENS Data E\_ENS\_DAT (IE315) is submitted by the Person Lodging the ENS to the Office of Lodgement.

Any invalid ENS can have no impact on states in the Office of Lodgement and the only thing happening in the case of an invalid IE315 is that the Office of Lodgement notifies the Person Lodging the ENS that the ENS is rejected including the rejection reason via E\_ENS\_REJ (IE316).

In the case that a valid E\_ENS\_DAT (IE315) is received, a MRN is allocated and the Import Operation State of the ENS switches to “ENS Registered”. The Person Lodging the ENS is notified of the acceptance of the ENS data by receiving the allocated MRN of the movement via E\_ENS\_ACK (IE328). In the cases that the Office of Lodgement can be used to lodge the ENS, it is assumed that the Office of Lodgement and the Office of first Entry are located in different Member States and that the Office of first Entry allows for the ENS to be lodged at an Office of Lodgement located at another Member State.

After the successful registration of the ENS, the Office of Lodgement may initiate the common security and safety risk analysis. The common security and safety risk analysis is optional for the Office of Lodgement and must be conducted by the Office of first Entry. In the case that the Office of Lodgement initiates the common security and safety risk analysis and the results are registered, the state of the ENS changes to “ENS common risk analysis registered”.

In any case the ENS data is forwarded to the declared Office of first Entry via C\_ENS\_SND (IE301). The Import Operation State at the Office of Lodgement is set to “ENS forwarded to Office of first Entry”.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.5.1.1 MRN States at the Office of Lodgement

The possible status values for Office of Lodgement are summarised in the table below. This table also shows which status values are required (R) or optional (O). All states related to the Common Domain are required, while states related to National and External Domains are optional.

Name	Status	Final
None	R	No
ENS Registered	O	No
ENS Common risk analysis registered	O	No
ENS forwarded to Office of first Entry	R	Yes

**Table 5: States of an MRN at an Office of Lodgement**

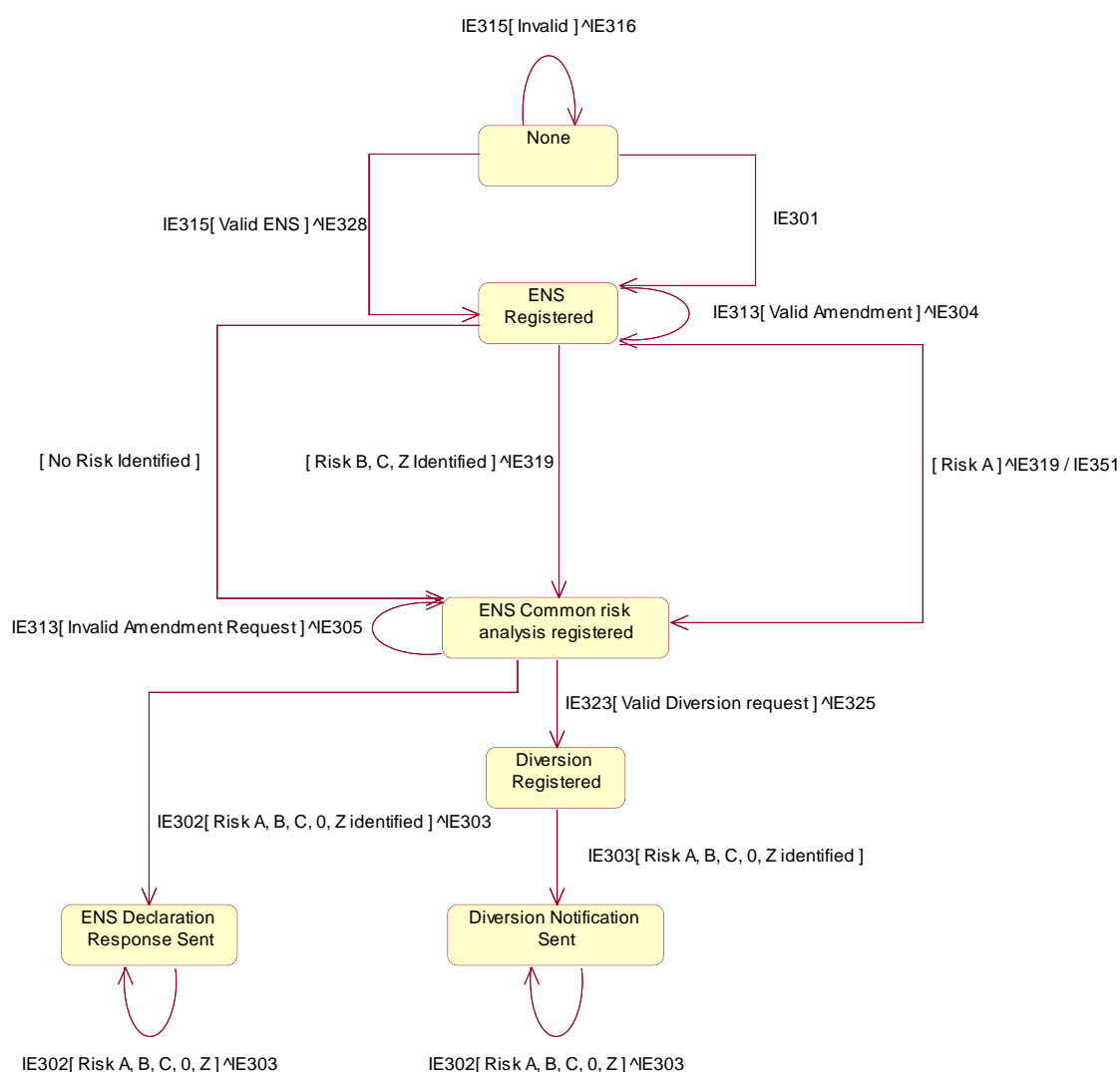
### III.5.2 Office of first Entry

The overall assumptions for the Office of first Entry are:

- It shall carry out common security and safety risk analysis;
- Where deep sea containerized cargo is concerned and where possible, it shall inform the Person Lodging the ENS and the Trader at Entry (carrier) if the goods shall not be loaded (by sending the “no load decision” IE351). In case a Representative acts in the name and on behalf of the Person Lodging the ENS, the Representative shall be informed instead of the Person Lodging the ENS;
- Where AEOs with certificates “AEOF” or “AEOS” are concerned and where possible, it may notify the Person Lodging the ENS or his Representative – prior to the arrival of the goods - of another customs intervention/control.

The state transition diagram in Figure 16 below indicates the possible states of the Office of first Entry.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	



**Figure 16: State Transition Diagram for Office of first Entry**

The ENS is either lodged at the Office of first Entry by the Person Lodging the ENS via an E\_ENS\_DAT (IE315) or it has been forwarded by the Office of Lodgement via an E\_ENS\_SND (IE301). In the case that the E\_ENS\_DAT (IE315) is submitted to the Office of first Entry then the ENS is validated at the Office of first Entry and - if the validation is successful - the Person Lodging the ENS and the Trader at Entry (Carrier) are notified of the successful validation of the ENS via an E\_ENS\_ACK (IE328) including the allocated MRN. After the ENS is registered and the MRN is communicated to the appropriate actors the Import Operation State is set to “ENS Registered”. In the case that the ENS has been submitted to the Office of Lodgement and the Office of first Entry receives the ENS and if available the common security and safety risk analysis results via an E\_ENS\_SND (IE301). The ENS is registered at the Office of first Entry and the Import Operation State is set to “ENS Registered”.

After the ENS is registered, the Office of first Entry initiates the common security and safety risk analysis. If the ENS data was forwarded to the Office of first Entry from the Office of Lodgement including common security and safety risk analysis results, the Office of first



DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

Entry can take those results into account when conducting its own risk analysis. In any case after the common security and safety risk analysis is performed the Import Operation State is set to “ENS common risk analysis registered”. The risk analysis results are registered and further actions from the Office of first Entry are subject to its outcome. The registered risk analysis results can reveal the following risk result codes:

- Last digit of the risk analysis result code = 'A': The Office of first Entry shall forward the appropriate ENS data to the Office of subsequent Entry via C\_ENS\_SUB (IE319) including the risk analysis result code. Also it shall send an Advanced Intervention Notification E\_AIV\_NOT (IE351) to the appropriate Traders in order to prevent goods to be loaded at the port of loading. The code can be used only in cases where the regulation provides for a no load notification;
- Last digit of the risk analysis result code = 'B': Common risk for which an immediate action is required at the Office of first Entry is identified. The Office of first Entry shall forward the appropriate ENS data to the Office of subsequent Entry via C\_ENS\_SUB (IE319) including the risk analysis result code. It may also inform the Person Lodging the ENS in advance with the IE351 message if he is an AEO of type “AEOS” or “AEOF”;
- Last digit of the risk analysis result code = 'C': Common risk is identified to be communicated (by the Office of first Entry) along with the appropriate ENS data to the Office(s) of subsequent Entry in other EU Member States via C\_ENS\_SUB (IE319);
- Last digit of the risk analysis result code = 'N' (national risk analysis result);
- Last digit of risk analysis result code = '0' (zero): No risk identified;
- Last digit of risk analysis result code = 'Z': The security and safety risk analysis was intended to be carried out, but it could not be carried out due to unavailability. The Office of first Entry shall forward the appropriate ENS data to the Office of subsequent Entry via C\_ENS\_SUB (IE319) including the risk analysis result code.

When the Import Operation State is “ENS common risk analysis registered” the following cases apply:

- Amendment request received;
- Declaration request received from the Office of subsequent Entry;
- Diversion request received from the Trader requesting diversion.

If an amendment request is received via an E\_ENS\_AMD (IE313), the Office of first Entry validates the amendment request. In the case that it is valid and the Office of first Entry can accept amendment requests, it is registered and the acceptance is communicated to the appropriate actors via an E\_ENS\_ACC (IE304). The new amended ENS is now valid and the Import Operation State is set to “ENS Registered”. The common security and safety risk analysis is performed again for the new ENS. The Import Operation State is set to “ENS common risk analysis registered”. The risk analysis on the new ENS can reveal one of the risk analysis result codes mentioned above. In the cases that the risk analysis result code is ‘A’ the concerned actors will be notified with the Advanced Intervention Notification via an E\_AIV\_NOT (IE351) message. In the case that the amendment request is invalid or the ENS at the Office of first Entry is in a state that cannot accept amendment requests then the

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

appropriate actor is notified of the rejection via an E\_ENS\_ARJ (IE305). However, the already registered ENS and the common security and safety risk analysis results are still valid and the Import Operation State remains “ENS common risk analysis registered”. If an amendment request is received by the Office of first Entry after the sending of the C\_ENS\_SUB (IE319) and is accepted then the Office of first Entry shall initiate a common security and safety risk analysis for the new registered ENS and the C\_ENS\_SUB (IE319) shall be sent again to the Office of subsequent Entry.

The second case is the one that a C\_IMP\_REQ (IE302) (in the case that the goods arrive at the Office of subsequent Entry and an arrival notice is received) is received from the Office of subsequent Entry. This case occurs when no risk is identified at the Office of first Entry hence no C\_ENS\_SUB (IE319) was sent to the Office of subsequent Entry. The Office of first Entry retrieves the appropriate ENS data and the risk analysis results which in this case is of type ‘0’ (in the case that no risk is identified at the Office of first Entry, the IE303 will contain only the risk analysis result code ‘0’) and sends them to the Office of subsequent Entry via a C\_ENS\_RSP (IE303). The Import Operation State is set to “ENS Declaration Response Sent”. A negative IE303 shall be sent if the IE302 MRN is unknown (see also section VII.3Exception Handling).

The third case is that the Office of first Entry declared receives from the Trader requesting diversion a valid diversion request via an E\_DIV\_REQ (IE323). The Office of first Entry declared notifies the Trader requesting diversion that the diversion request is accepted via an E\_DIV\_ACK (IE325). The Import Operation State is set to “Diversion Registered”. The Office of first Entry declared sends the diversion notification to the Actual Office of first Entry via a C\_ENS\_RSP (IE303) providing either the common security and safety risk analysis results (risk analysis result code is ‘A’, ‘B’ or ‘C’ for at least one ENS or at least one goods item or ‘Z’ for at least one ENS in case the Office of first Entry was not in a position to carry out the risk analysis for this ENS) and the appropriate ENS data or it informs the Actual Office of first Entry that no common security and safety risk analysis results are available (risk analysis result code is ‘0’ or ‘N’). In any case the Import Operation State is set to “Diversion Notification Sent”.

### III.5.2.1 MRN States at the Office of first Entry

The possible status values for Office of first Entry are summarised in the table below. This table also shows which status values are required (R) or optional (O). All states related to the Common Domain are required, while states related to National and External Domains are optional.

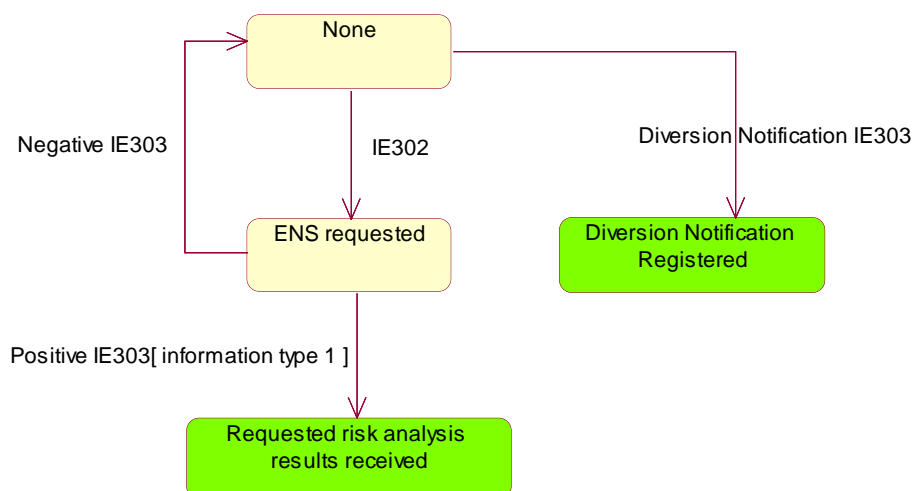
Name	Status	Final
None	R	No
ENS Registered	R	No
ENS Common risk analysis registered	R	No
ENS Declaration Response Sent	R	No
Diversion Registered	O	No
Diversion Notification Sent	R	Yes

**Table 6: States of an MRN at an Office of first Entry**

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.5.3 Actual Office of first Entry

The state transition diagram in Figure 17 indicates the possible states of the Actual Office of first Entry.



**Figure 17: State Transition Diagram for Actual Office of first Entry**

In the first case, the Actual Office of first Entry receives a diversion notification from the Office of first Entry declared via a C\_ENS\_RSP (IE303), which includes either the common security and safety risk analysis results and the appropriate ENS data, or information that no common security and safety risk analysis results are available. The Import Operation State is set to “Diversion Notification Registered”.

In the second case, the Actual Office of first Entry provides a declaration request C\_IMP\_REQ (IE302) to the Declared Office of first Entry in order to receive the common risk analysis results and appropriate ENS data. The ENS status is set to “ENS requested”. Two cases can take place:

- 1) A negative response C\_ENS\_RSP (IE303) might be sent and the ENS status is set to “None”.
- 2) A positive response C\_ENS\_RSP (IE303) having information type ‘1’ is sent indicating either that there are no relevant common risk analysis results or including the requested data. The ENS status is set to “Requested risk analysis results received”.

It is possible to provide positive and negative responses within one single IE303 message. Please note that the ENS status in the state diagram above (Figure 17) is defined per ENS.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

### III.5.3.1 MRN States at the Actual Office of first Entry

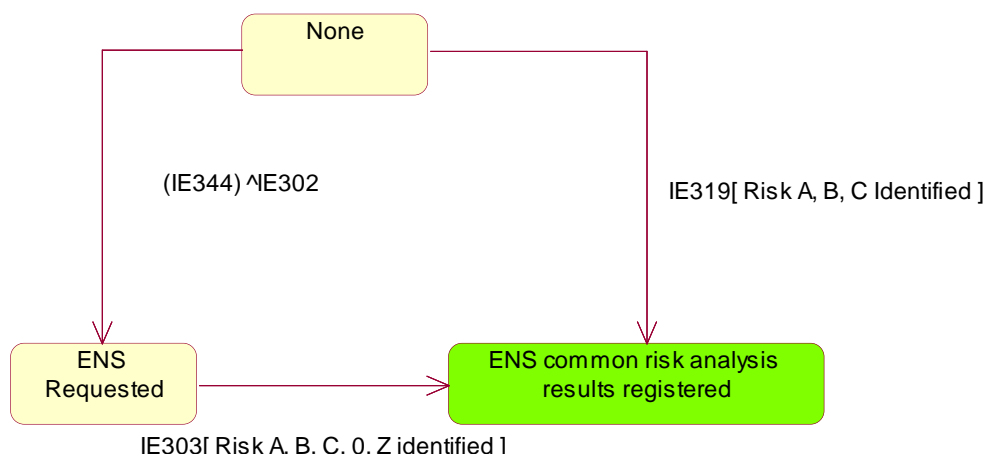
The possible status values for Actual Office of first Entry are summarised in the table below. This table also shows which status values are required (R) or are optional (O). All states related to the Common Domain are required, while states related to National and External Domains are optional.

Name	Status	Final
None	R	No
ENS Requested	R	No
Requested risk analysis results received	R	Yes
Diversion Notification Registered	R	Yes

**Table 7: States of an MRN at an Actual Office of first Entry**

### III.5.4 Office of subsequent Entry

The state transition diagram in Figure 18 below indicates the possible states of the Office of subsequent Entry up to the allowed entry of the goods.



**Figure 18: State Transition Diagram for the Office of subsequent Entry**

The ENS has been forwarded to the Office of subsequent Entry C\_ENS\_SUB (IE319) by the Office of first Entry after risk has been identified. The common security and safety risk analysis results that are forwarded to the Office of subsequent Entry are of type A, B or C. Upon reception of the C\_ENS\_SUB (IE319) including the common security and safety risk analysis results and the relevant ENS data, the Office of subsequent Entry registers the ENS and the Import Operation State is set to “ENS common risk analysis results registered”.

When goods arrive at the Office of subsequent Entry an arrival notice is received and processed (the "()" around message IE344 indicate that it is outside the scope of ICS Phase 1 and is included in the diagram for illustrative purposes only). If the Office of subsequent Entry has received no risk results for the active means of transport arriving, it may be due to diversion. In these circumstances the Office of

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

subsequent Entry may submit, to the Office of first Entry declared, a request for the risk results and relevant ENS data using an IE302 (C\_IMP\_REQ) message. When the request for the relevant data is sent the Import Operation State of the ENS is set to “ENS Requested” and the Office of subsequent Entry waits for the response from the Office of first Entry.

The Office of first Entry declared retrieves the requested ENS data and the common security and safety risk analysis results (A, B, C, Z, 0) and sends the response to the Office of subsequent Entry via a C\_ENS\_RSP (IE303). Upon the reception of the response the Office of subsequent Entry registers it and the Import Operation State of the ENS is set to “ENS common risk analysis results registered”.

#### III.5.4.1 MRN States at the Office of subsequent Entry

The possible status values for Office of subsequent Entry are summarised in the table below. This table also shows which status values are required (R) or optional (O). All states related to the Common Domain are required, while states related to National and External Domains are optional.

Name	Status	Final
None	R	No
ENS Common risk analysis results registered	R	Yes
ENS Requested	R	No

**Table 8: States of an MRN at an Office of subsequent Entry**

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	

## III.6 Timers

Every ICS Application needs to conform to a number of timing rules. The different timing aspects are discussed in this chapter. The type of timers and/or timing rules that are suggested to be implemented the Timely Response Recommendations mentioned below.

### III.6.1 Timely Response Recommendations

Whenever an Office of (first or subsequent) Entry requests relevant declaration data through a Declaration Request Import C\_IMP\_REQ (IE302) or in the case of an international diversion through a E\_DIV\_REQ (IE323), it needs the ENS Response through C\_ENS\_RSP (IE303) including the appropriate ENS data and the common security and safety risk analysis results, in order to be able to start the processing of an awaiting movement.

The target value and limit value for the time needed to respond to 99% of the IE302 requests received by a NICA are defined in the Service Level Agreement on Availability and Continuity [A8A8].

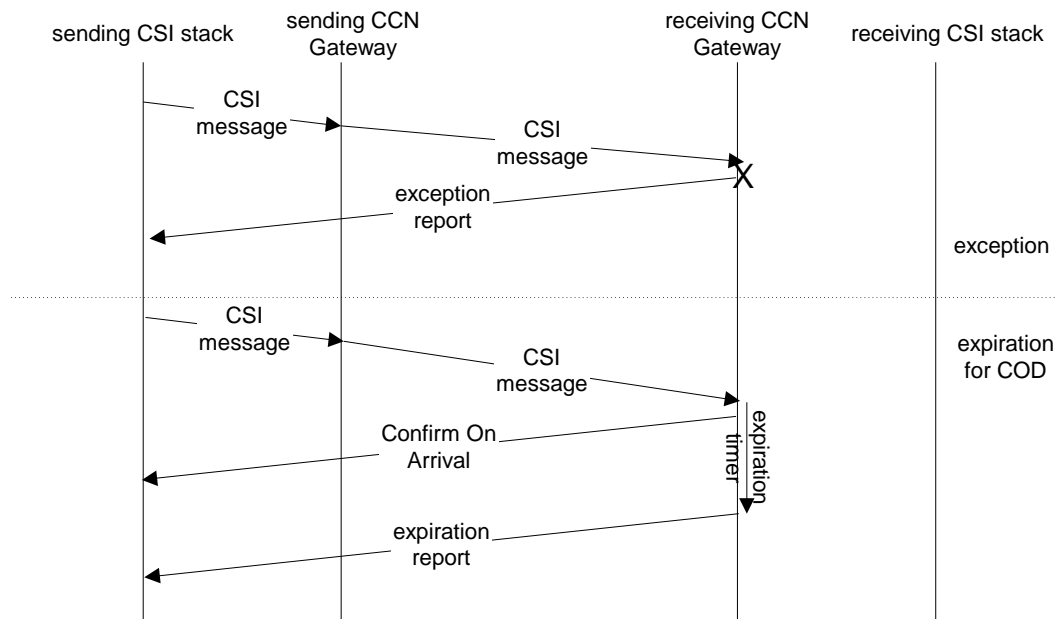
### III.6.2 CCN/CSI Related Timers

A CCN/CSI report message (see Section X Transport of messages via CCN/CSI) is sent back to the sender:

- CoA report [CCN/CSI Confirm on Arrival Acknowledgement C\_COA\_ACK (IE909)] when the message has arrived on the remote Gateway;
- CoD report [CCN/CSI Confirm on Delivery Acknowledgement C\_COD\_ACK (IE908)] when the message has been read by the receiving application and deleted from the queue;
- Expiration report [CCN/CSI Expiration Notification C\_EXP\_NOT (IE910)] when a value of time lapse set in the CSIMQMD.Expiry variable has expired: the message, once arrived on destination queue (CoA), was not fetched from this queue by an application program during the time allotted;
- An exception report [CCN/CSI Exception Notification C\_EXC\_NOT (IE911)] is generated if the CSI message is blocked and the message cannot be put in the destination queue for whatever reason. The receiving CCN Gateway generates an *exception report*.

When the CCN/CSI Confirm on Arrival Acknowledgement C\_COA\_ACK (IE909) has been received but the original message has not been read from the destination queue before the timer set by the 'Expiry' field of the message descriptor expires, an expiration report is generated. The *expiration timer* is handled by the destination CCN Gateway.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
ICS PHASE 1	



**Figure 19: Exception and expiration reports**

All possible options for the use of the QoS parameters and their exceptions are defined in Section VIII of DDCOM [A3]. This State Transition Diagram specifies the states of one CSI message present in the sending CSI stack, with respect to the use of CCN. It assumes that the binding of the CSI stack to the CCN Gateway has successfully taken place.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
CENTRAL SERVICES	

## Section IV Central Services

The Section II of DDCOM [A3] is applicable to ICS Phase 1. Any deviation or ICS specific information is specified below.

### IV.1 Exchange of statistics and availability data

Statistics and availability management are supported by a centrally developed Customs application (CDCA) called CS/MIS (Central Services/Management Information System). This system collects the statistics and availability data from the various NAs via two physical media (the Web and CCN/CSI) and distributes the information to the NAs after centralised consolidation.

This section deals with the following Information Exchanges:

Common IEs:

- Statistics: Technical CCN/CSI statistics;
- MRN nursing: CCN/CSI Audit files;
- Availability data: IE070, IE071, IE912, and IE971.

#### IV.1.1 Statistics management

##### IV.1.1.1 Business statistics

The Section II.3.2.3 of DDCOM [A3] is applicable to ICS Phase 1.

### IV.2 Message exchanges with CS/MIS across the Web

#### IV.2.1 Introduction

##### IV.2.1.1 IEs for statistics and MRN follow up query

The Section II.6.1.2 of DDCOM [A3] is applicable to ICS Phase 1.

#### IV.2.2 CS/MIS HTTP exchanges protocols

##### IV.2.2.1 Downloading from CS/MIS

The Section II.6.2.3 of DDCOM [A3] is applicable to ICS except IE919 which is not included in the scope of ICS Phase 1.

##### IV.2.2.2 Uploading to CS/MIS

The Section II.6.2.4 of DDCOM [A3] is applicable to ICS Phase 1.

#### IV.2.3 CS/MIS manual mode of operation

The Section II.6.3 of DDCOM [A3] is applicable to ICS Phase 1.



DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
CENTRAL SERVICES	

### **IV.3 Message exchanges with CS/MIS via CCN/CSI**

#### ***IV.3.1 Sending IE411 data to CS/MIS***

The Section II.7.1 of DDCOM [A3] is applicable to ICS Phase 1.

#### ***IV.3.2 Exchanges of requests/responses of MRN Follow up information***

The Section II.7.4 of DDCOM [A3] is not applicable to ICS Phase 1.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
SYSTEMS ADMINISTRATION	

## **Section V Systems Administration**

The Section III of DDCOM [A3] is applicable to ICS Phase 1.

## **Section VI Technical Message Structure**

The Section IV of DDCOM [A3] is applicable to ICS Phase 1.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
DESIGN PRINCIPLES	

## Section VII Design principles

The Section V of DDCOM [A3] is applicable to ICS Phase 1. Any deviation or ICS Phase 1 specific information is specified below.

### VII.1 Approach

The Section V.1 of DDCOM [A3] is applicable to ICS Phase 1.

### VII.2 Constraints

#### *VII.2.1 Timing constraints*

No timing constraints were defined for ICS within the FSS – AIS Addendum [A2].

#### *VII.2.2 Suspension of sending messages*

When each of the following specific Business Services is unavailable at a NA, the messages identified below should not be sent to that NA.

Technical code	Messages
W – All	IE302, IE301, IE303, IE319, IE031, IE032, IE071, IE931, IE932, IE971
U – Entry Processing	IE302, IE319, IE303
V – Lodgement	IE301
H – Reference Data	IE031, IE032, IE071, IE931, IE932, IE971

**Table 9: Suspension of sending messages for ICS Phase 1**

### VII.3 Exception Handling

The Section V.3.2.1.2 of DDCOM [A3] is not applicable to ICS Phase 1.

In case the message with invalid MRN is received NICAs must respond as follows:

- Respond with IE917 if MRN does not conform to the pattern defined in Appendix X;
- Respond with IE906 if the MRN conforms to the defined pattern but does not conform to the structure defined in Section V.6.1 of DDCOM [A3]. In IE906 the Error code 93 (Invalid MRN) must be used in this case.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
EDIFACT MESSAGE FORMATTING	

## **Section VIII    EDIFACT message formatting**

The Section VI of DDCOM [A3] is not applicable to ICS Phase 1.

## **Section IX      XML message formatting**

The Section VII of DDCOM [A3] is applicable to ICS Phase 1.

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
TRANSPORT OF MESSAGES VIA CCN/CSI	

## Section X Transport of messages via CCN/CSI

The Section VIII of DDCOM [A3] is applicable to ICS Phase 1 defining the principles for the Transport of messages via CCN/CSI. Any deviation or ICS specific information is specified below.

### X.1 The CCN communication reminder

#### X.1.1 Message Descriptor

The section VIII.2.1 of DDCOM [A3] is applicable to ICS Phase 1. However, the point 8 of notes for the MQ Message Descriptor is updated as follows for the ICS exchanges:

The MsgId value is an identifier used by the application to correlate a Report Message with the Information Exchange it reports about. As an Expiration report may only be generated after 96 hours (see Note 2 for ‘Expiry’ field above), it is recommended that the MsgId generating rule uses a counter that does not “rewind” in less than 96 hours.

As the field MsgId presents 24 bytes, the NCA designer is able to choose a MsgId definition that covers this condition and well beyond.

The MsgId is a binary value that can be defined automatically by CCN/CSI or that can be defined by the sending application itself. When automatically created by CCN/CSI, the MsgId is based upon system date and time and is satisfying the criterion defined above.

In order to achieve the nursing of the messages, the following conventions should be followed:

- When sending a message, the MsgId is generated automatically by CCN/CSI. The CorrelId is equal to the MRN or to the Entry Key (in an ASCII format) or to the “Exceptional CorrelId values” indicated on the table below in order to be always taking a unique value. However, for the IE906 and IE917 the message ID (MSGID) of the corresponding erroneous message can be filled in and this will enable the correlation of an error message to the erroneous message;
- When a report is sent back, the MsgId is equal to the MsgId of the original message. The CorrelId is equal to the CorrelId of the original message (and is thus equal to the MRN or Entry Key).

Therefore, the MsgId needs to be set to CSIMQMI\_NONE. The queue manager will then generate a unique message identifier upon sending.

The MsgId of the original message is copied into the MsgId of the report message by setting the appropriate flag CSIMRQRO\_PASS\_MSG\_ID in the ReportRequest field of the QOS (see section X.1.2).

The Entry Key shall have the following form:

<Expected date of arrival><Transport mode at border>< Identification of the means of transport >
--

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
TRANSPORT OF MESSAGES VIA CCN/CSI	

The Exceptional CorrelID values of the CCN/CSI message descriptor (CSIMQMD) are shown on the table below.

IE	CorrelID value
IE302	= MESSAGE. IMPORT OPERATION(1).Document/reference number
IE303	IF response to IE323 THEN IF IE323.MESSAGE.HEADER. Identification of the means of transport is present THEN = IE323.ENTRY KEY ELSE = IE323.MESSAGE.IMPORT OPERATION(1).Document/reference number ELSE IE302.MESSAGE. IMPORT OPERATION(1).Document/reference number

**Table 10: The Exceptional CorrelID values of the CCN/CSI message descriptor**

The CorrelID is a CSIBYTE24. Using ASCII character encoding, it has to be filled with 23 characters of the Entry Key + '\0'. If the Entry Key is longer than 23 characters in total, then it must be truncated to the first 23 characters (i.e. nnnnnnnnnnnnnnnnnnnnnnnnnnn\0). If the Entry Key is shorter than 23 characters in total, no trailing zeros are required and therefore a length of less than 23 characters is valid.

### ***X.1.2 The quality of service***

The Section VIII.2.6 of DDCOM [A3] is applicable to ICS Phase 1.

In the following table the main messages for ICS Phase 1 are defined.

IE	IE Name	Reference	Message Type string	Phase
IE302	Declaration Request Import	C_IMP_REQ	“CD302A-MSG.ICS”	Phase 1
IE301	ENS	C_ENS_SND	“CD301A-MSG.ICS”	Phase 1
IE303	Entry Summary Declaration Response	C_ENS_RSP	“CD303A-MSG.ICS”	Phase 1
IE319	Transmission to subsequent Office of Entry	C_ENS_SUB	“CD319A-MSG.ICS”	Phase 1
IE906	Functional Negative Acknowledgement	C_FUN_NCK	“CD906B-MSG.ICS”	Phase 1
IE917	XML Negative Acknowledgement	C_XML_NCK	“CD917B-MSG.ICS”	Phase 1

**Table 11: High priority Information Exchanges for ICS Phase 1**

DG TAXUD IT – FC TAXUD/2013/CC/124– SC 09	REF: DDNIA-Main Document
DESIGN DOCUMENT FOR NATIONAL IMPORT APPLICATION (DDNIA)	VER: 13.00
TRANSPORT OF MESSAGES VIA THE INTER(EXTRA)NET	

## **Section XI      Transport of messages via the Inter(Extra)net**

The Section IX of DDCOM [A3] is applicable to ICS Phase 1 defining the principles for the Transport of messages via Inter(Extra)net. No deviation for ICS Phase.