



THE INTEGRATED FISHERIES DATA MANAGEMENT PROGRAMME

Subject: FLUX Sales Implementation Document in the EU – v2.01.10

1.	INTRODUCTION.....	5
2.	GLOSSARY.....	5
3.	LEGAL BASIS.....	5
4.	REFERENCES.....	6
5.	SCOPE, STAKEHOLDERS AND TERMINOLOGY.....	6
5.1.	Scope.....	6
5.2.	Stakeholders.....	7
5.3.	Terminology.....	8
6.	PROCEDURES.....	8
6.1.	Assumptions.....	8
6.2.	General principles.....	9
6.2.1.	Business rules.....	10
6.2.2.	Information on the errors or warnings in the Response message.....	11
6.2.3.	Business identifiers.....	12
6.3.	FLUX Sales Report Message.....	13
6.3.1.	From landing to sales notes.....	13
6.3.2.	Sales note.....	13
6.3.3.	Correction of a sales note.....	16
6.3.4.	Submission of a Take-over document.....	16
6.3.5.	Correction of a take-over document.....	18
6.4.	FLUX Sales Query Message.....	19
6.4.1.	Request for Sales notes.....	20
6.4.2.	Request for Take-over documents.....	20

6.5.	FLUX Sales Response Message	21
6.6.	Business Continuity Plan.....	22
7.	DATA MODEL (XSD) IMPLEMENTATION.....	23
7.1.	FLUX Sales Report Message.....	24
7.1.1.	FLUX Sales Report Message entity.....	26 <u>25</u>
7.1.2.	FLUX Report_Document	27 <u>25</u>
7.1.3.	FLUX_Party.....	27 <u>26</u>
7.1.4.	Sales_Report Entity	28 <u>26</u>
7.1.5.	Sales_Document Entity	28 <u>26</u>
7.1.6.	Sales_Party Entity.....	29 <u>27</u>
7.1.7.	Sales_Event Entity.....	30 <u>28</u>
7.1.8.	Sales_Batch	31 <u>29</u>
7.1.9.	AAP_Product Entity	31 <u>29</u>
7.1.10.	AAP_Process Entity	32 <u>30</u>
7.1.11.	Size_Distribution Entity	32 <u>30</u>
7.1.12.	Sales_Price Entity.....	33 <u>31</u>
7.1.13.	FLUX_Organization Entity	33 <u>31</u>
7.1.14.	Fishing_Activity Entity.....	34 <u>32</u>
7.1.15.	Delimited_Period.....	34 <u>32</u>
7.1.16.	Vessel_Transport Means Entity.....	35 <u>33</u>
7.1.17.	Vessel_Country entity.....	35 <u>33</u>
7.1.18.	Contact_Party	36 <u>34</u>
7.1.19.	Contact_Person.....	36 <u>34</u>
7.1.20.	Fishing_Trip Entity.....	37 <u>35</u>
7.1.21.	FLUX_Location Entity	37 <u>35</u>
7.1.22.	FLUX_Geographical Coordinate Entity.....	38 <u>36</u>
7.1.23.	Structured_Address Entity.....	38 <u>36</u>
7.2.	FLUX Sales Query Message.....	40 <u>38</u>
7.2.1.	Sales_Query Entity	41 <u>39</u>
7.2.2.	FLUX_Party.....	41 <u>39</u>
7.2.3.	Delimited_Period Entity	42 <u>40</u>
7.2.4.	Sales_Query Parameter Entity	42 <u>40</u>
7.3.	FLUX Sales Response Message	44 <u>42</u>
7.3.1.	FLUX Response_Document	45 <u>43</u>

7.3.2.	Response FLUX_Party	4644
7.3.3.	Validation Result_Document	4644
7.3.4.	Validation_ Quality Analysis Entity.....	4644
7.3.5.	Sales_Report Entity	4745
8.	BUSINESS RULES.....	4846
8.1.	Sales Declaration BRs	4947
8.1.1.	Rules for FLUX_Sales_Report_Message entity.....	4947
8.1.2.	Rules for FLUX_Report_Document entity.....	5048
8.1.3.	Rules for FLUX_Party entity.....	5048
8.1.4.	Rules for Sales_Report entity	5250
8.1.5.	Rules for Sales_Document entity	5250
8.1.6.	Rules for Sales_Party entity.....	5351
8.1.7.	Rules for Sales_Event entity.....	5351
8.1.8.	Rules for Sales_Batch entity.....	5452
8.1.9.	Rules for AAP_Product entity.....	5452
8.1.10.	Rules for AAP_Process entity	5553
8.1.11.	Rules for Size_Distribution entity	5553
8.1.12.	Rules for Sales_Price entity.....	5553
8.1.13.	Rules for FLUX_Organization entity	5654
8.1.14.	Rules for Fishing_Activity entity	5654
8.1.15.	Rules for Delimited_Period entity.....	5654
8.1.16.	Rules for Vessel_Transport_Means entity.....	5654
8.1.17.	Rules for Vessel_Country entity.....	5755
8.1.18.	Rules for Contact_Party entity.....	5755
8.1.19.	Rules for Contact_Person entity	5755
8.1.20.	Rules for Fishing_Trip entity.....	5957
8.1.21.	Rules for FLUX_Location entity.....	5957
8.1.22.	Rules for FLUX_Geographical_Coordinate entity.....	6058
8.1.23.	Rules for Structured_Address entity.....	6058
8.1.24.	Examples of verification rules	6159
8.2.	Sales Query BRs.....	6260
8.2.1.	Rules for Sales_Query entity	6260
8.2.2.	Rules for FLUX_Party entity.....	6260
8.2.3.	Rules for Delimited_Period entity.....	6260

8.2.4.	Rules for Sales_Query Parameter entity.....	6361
8.3.	Rules for Sales Response entity.....	6462
8.3.1.	Rules for FLUX Response_Document entity.....	6462
8.3.2.	Rules for FLUX_Party entity.....	6563
8.3.3.	Rules for Validation Result_Document entity.....	6563
8.3.4.	Rules for Validation_Quality Analysis entity.....	6563
9.	XML EXAMPLES	6664
10.	CODE LISTS.....	6664
11.	FLUX TL ENVELOPE PARAMETERS.....	6765
12.	VERSIONING.....	6866
13.	CONTACT	6866

1. INTRODUCTION

This document describes the implementation of the UN/CEFACT standard of the exchange of data **within the EU context** for activities about fisheries products taking place after the landing of fisheries products until the first sale.

The domain is called the "sales" domain. It covers the following activities about fisheries products:

- First Sale: exchanges of sales notes;
- Storage: exchanges of take-over documents;

The targeted audience of this document is business and technical staff responsible for system implementation of the sales domain.

2. GLOSSARY

CR	the Control Regulation EC No 1224/
EC	European Commission
EFCA	European Fisheries Control Agency
ERS	Electronic Reporting System
EU	European Union
FLUX	Fisheries Language for Universal eXchange
FMC	Fisheries Monitoring Centre
GP	General Principles
MDR	Master Data Register
MS	Member State
RFMO	Regional Fisheries Management Organization
SN	Sales note
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
TOD	Take-over document
XML	eXtensible Markup Language
XSD	XML Schema Definition

3. LEGAL BASIS

The implementation of the standard within EU-context applies within the scope of the Control Regulation, as defined in art. 2 and 3 of EC No 1224/2009 (CR). Therefore only electronic message exchanges (called ERS messages) between countries are covered by the present guide but for sake of clarity the document mentions sometimes the exchanges between actors inside a country.

For each activity, the business rules and definition of mandatory and optional data attributes and data elements are based on requirements defined in the following regulation:

- Control Regulation EC No 1224/2009 (**CR**) as amended by the Common Fisheries Policy R. (EU) No. 1380/2013 and by the "Omnibus" Regulation (EU) 2015/812;
- Multiannual recovery plan for Bluefin tuna in the eastern Atlantic and Mediterranean EU No 302/2009 (MRP BFT);

- Commission Implementing Regulation (EU) 404/2011 amended by the Commission Implementing Regulation (EU) 2015/1962;

4. REFERENCES

The following documents and data structures are directly linked and should be read in connection to this Implementing Guide:

Standard	Version
FLUX BRS: P1000 – 1; General principles	2.1
FLUX BRS: P1000 – 2; Fishing Vessel domain	3.2
FLUX BRS: P1000 – 3; Fishing Activity domain	1.1
FLUX BRS: P1000 – 5; Sales domain	1.1

Sales UN/CEFACT XSD
FLUXSalesReportMessage_3p1.xsd
FLUXSalesQueryMessage_3p0.xsd
FLUXSalesResponseMessage_3p1.xsd

The documents are available on the Master Data Register page of the European Commission Fisheries website¹.

5. SCOPE, STAKEHOLDERS AND TERMINOLOGY

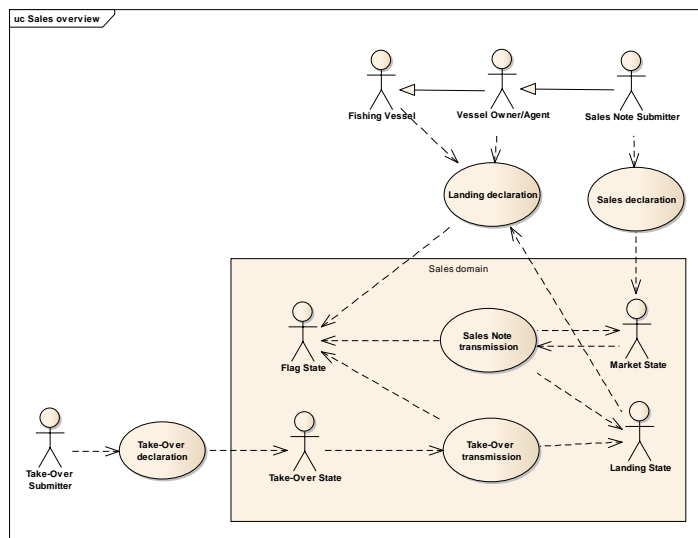
5.1. Scope

This document covers the exchange of information between different stakeholders in the EU about fisheries products after the landing operation of these products until the first sales but excluding information about transport documents².

A sales note shall be issued and transmitted when fish is sold at first sales. A take-over document shall be generated when the fisheries products are temporarily stored.

¹ http://ec.europa.eu/fisheries/cfp/control/codes/index_en.htm

² Transport documents are covered by another implementation document:



Sales domain: Sales overview diagram.

5.2. Stakeholders

The following stakeholders take part in the sales note data flows:

Flag State	The administration of the Flag State of the fishing vessel
Landing State	The administration controlling the landings of the products
Market State	The administration of the State in whose territory the first sale of fisheries products takes place
Sales Note Submitter	Registered buyers, registered auctions or other bodies or persons authorised by MS which are responsible of the first marketing of fisheries products
Fishing Vessel Responsible	The master of the fishing vessel or his representative
International Organization	A party (the European Commission (DG MARE), EFCA...) that could receive and/or request sales note information

The following stakeholders take part in the take-over data flows:

Take-Over State	The administration of the MS where the take-over took place
Take-Over Submitter	Registered buyers, registered auctions or other bodies or persons authorised by MS which are responsible of the first marketing of fisheries products generating the take-over document
Flag State	The administration of the Flag State of the fishing vessel
Landing State	The administration of the Coastal State responsible for controlling the landings of the products concerned by a first marketing
International Organization	A party (the European Commission (DG MARE), EFCA...) that could receive and/or request take-over document

5.3. Terminology

As regards the EU implementation of sales notes (**SN**), an ERS electronic sales note (e-SN) exchanged between MS is a document about fisheries products coming from **one landing and one fishing vessel only** and sold at first sale to **one buyer**.

As regards the EU implementation of take-over documents (**TOD**), an ERS electronic take-over document (e-TOD) exchanged between MS is a document about fisheries products stored at **one location** and coming from **one landing and one fishing vessel only**.

6. PROCEDURES

6.1. Assumptions

The exchange of the business messages described in this document will be done through the FLUX Transportation Layer for which technical and functional documentations have been already published on the Master Data Register (MDR) page of the European Commission Fisheries website³.

Furthermore, it is assumed that data exchanges are fully automated and immediate. No human approval or intervention should be needed for data exchanges of well-formed messages for which the business rules are defined in this document.

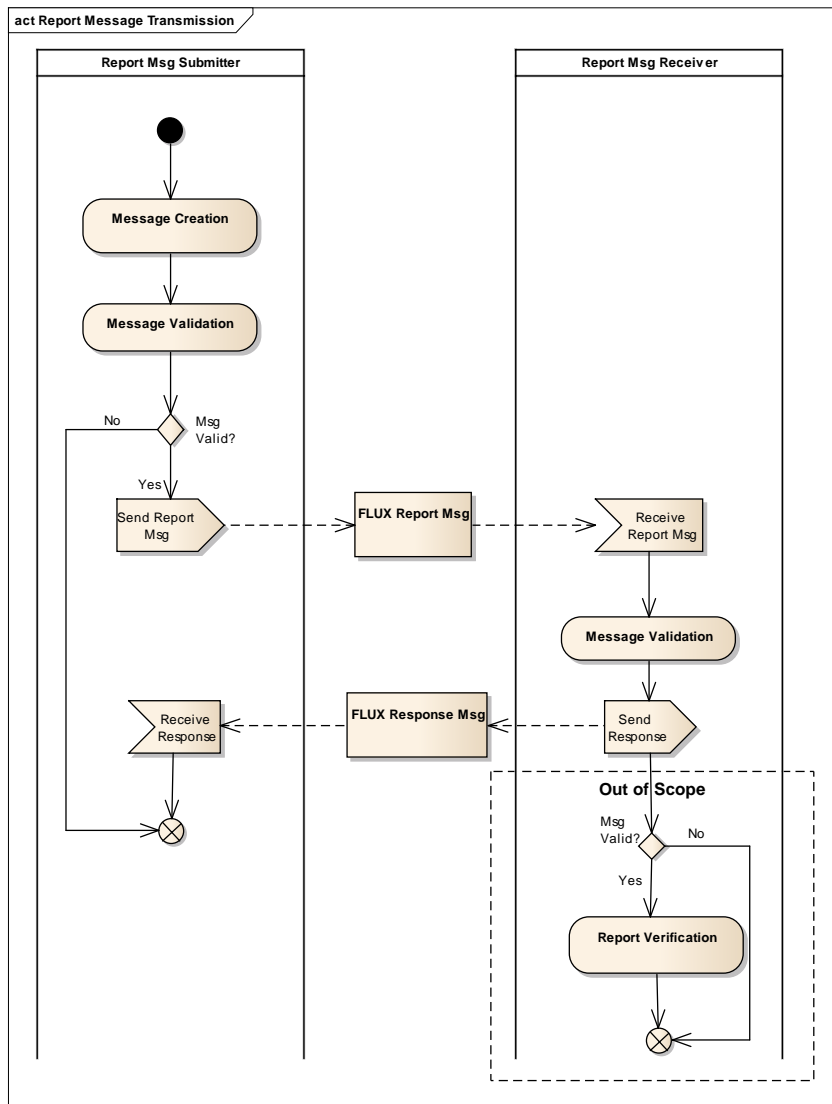
³ http://ec.europa.eu/fisheries/cfp/control/codes/index_en.htm

6.2. General principles

There are two ways of exchanging Sales reports:

- Reporting of sales reports by the Market state or the Take-Over state;
- Query for sales reports by the Flag state, Landing state or International organizations;

The following picture describes the normal procedure for sending Sales report messages. This procedure respects the FLUX General Principles transmission procedure.



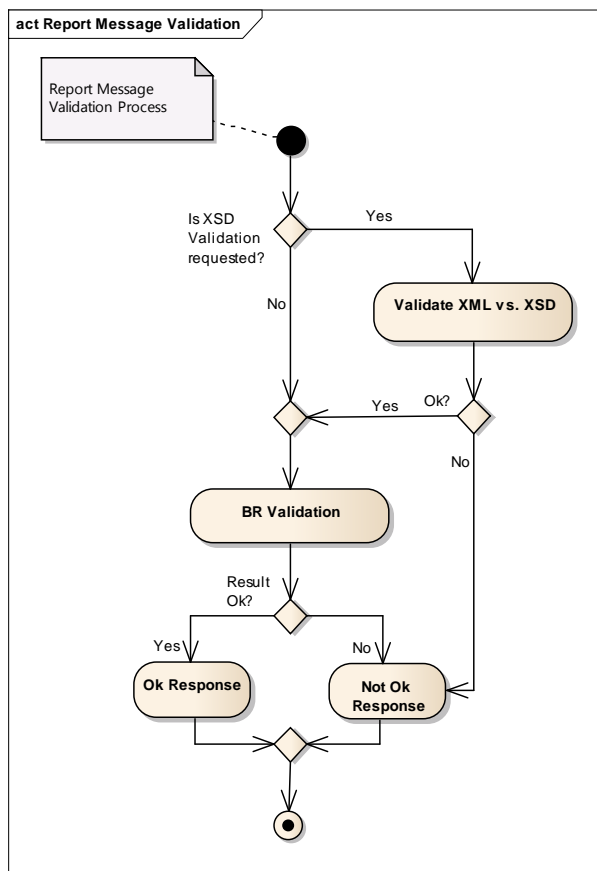
Message Transmission activity diagram

6.2.1. Business rules

Messages must be validated by the sender before transmitting and by the receiver upon receipt of a message.

The validation process validates on two levels:

- (1) XML Validation level: Based on the definition in the XSD⁴, the parser validates the structure and cardinality as well as compliance for mandatory elements of the XML provided⁵.
- (2) Business Rules Validation level: a process validates the content of XML according to, firstly, the General Principles Business Rules definition and, secondly, to all other specific business rules defined in the domain.



FLUX Sales Report Message validation

⁴ The XSD considered for the validation process is the standard UN/CEFACT XSD for the Sales domain, defined in standard P1000-5.

⁵ In general, only XSD elements are defined as mandatory. Element ListIDs and facets remain optional.

For the validation, business rules are classified in two data sets:

Validation data set: rules are applied immediately when a party receives a message and the message is not forwarded until detected errors are corrected by the sender. The following types of rules fall under this category:

- Structural validations: the message must be valid according to the standard UN/CEFACT XSD for the Sales domain;
- Mandatory fields: they must be present in the message; There is no need for the recipient of the message to validate entities or attributes that are not defined in this implementation document.
- Business validations: described in the chapter 9;

Verification data set: rules that could be applied on data after forwarding the message. This is out of scope in this implementation document but some rules are given as examples in chapter 9.

When the exchange in an automatic and immediate way is not possible or when exchanged messages cannot be understood by the receiver, the manual fall back procedure must be engaged.

6.2.2. Information on the errors or warnings in the Response message

The response message returned to the sender of the message will contain information on the acceptance or refusal of that message.

In case of errors or warnings, the list of the validation results will be returned, including the business rule numbers for which a rule was violated, an indication if this is an error or a warning, and a reference to the entity on which the business rule failed. Details on how to implement this are provided in chapter 9.

Business rules that fail with an error must be considered as blocking issues that need to be corrected before the report can be (re-)transmitted by the sending party or accepted by the receiving party. One error causes the whole message to be rejected.

Business rules that fail with a warning are not to be considered blocking issues and hence reports generating warnings cannot be rejected on that basis.

6.2.3. Business identifiers

A sales document shall be referenced/linked to another document (for instance a sales note to a landing).

Any electronic message corresponding to a particular event has always a unique technical identifier in UN/CEFACT called the UUID. When there is only a paper transmission or if the electronic message for a particular document is not available, the UUID cannot be used. The only way to make this reference is to use a set of business data identifying the previous document (for a landing it could be the vessel identifier, the date and the landing place) or/and a human readable business identifier.

The human readable unique business identifier that would be contained in the Identification data field of the XSD is formatted according to this rule:

*Starting with the ISO-3 code of the country defining and delivering the identifier, followed by a hyphen, followed by a code (used to identify a SN: sales note, TOD: Take-over document, TRD: transport document), followed by a hyphen, followed by country specific unique ID of at most **20** alphanumeric characters.*

The string can be formatted according to the following pattern [A-Za-Z0-9][-/].

The human readable unique business identifier must be unique in the country delivering it.

It can be defined by the submitter of the information or by the administration receiving the information for the first time.

Example: FRA-SN-14-1435-0456: the string in grey is formatted and less than 20 characters and the content is country specific but the complete number must be unique in France for a sales note.

The actors defining the business ID are:

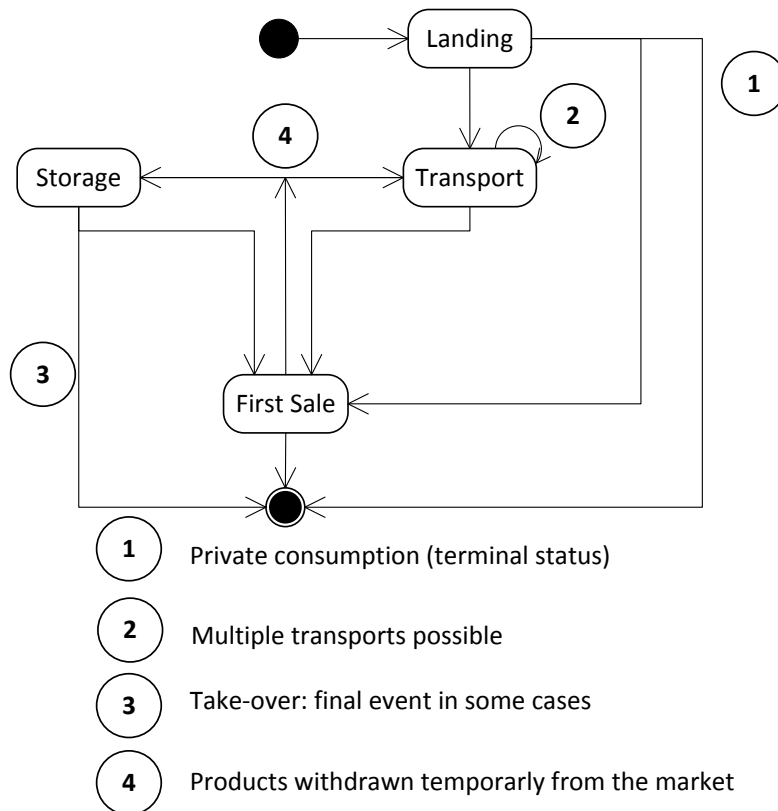
SalesNoteID	The SN submitter or the Market state
Take-OverDocumentID	The TOD Submitter or the Take-over state

6.3. FLUX Sales Report Message

Validated Sales reports are sent by the Market (sales note) or Take-Over state (take-over document), according to the following principles.

6.3.1. From landing to sales notes

The following general activity diagram is an overview of all possible transitions between activities on the ground to better understand the links with activities covered by the sales domain i.e first sale and storage of products:

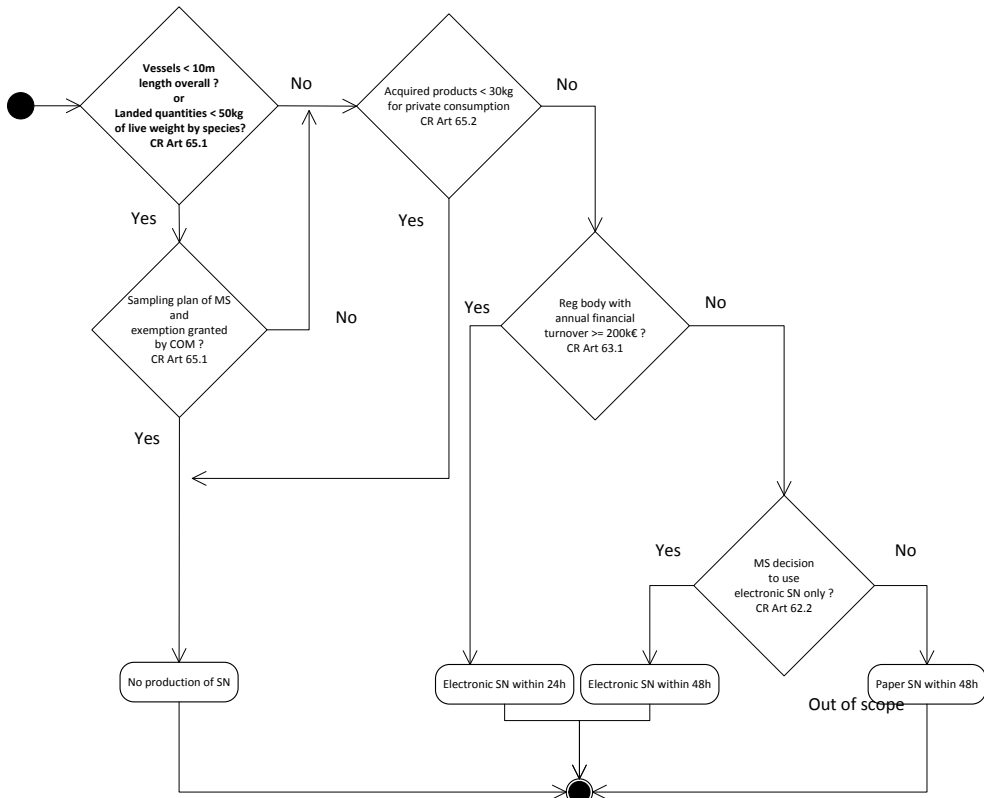


6.3.2. Sales note

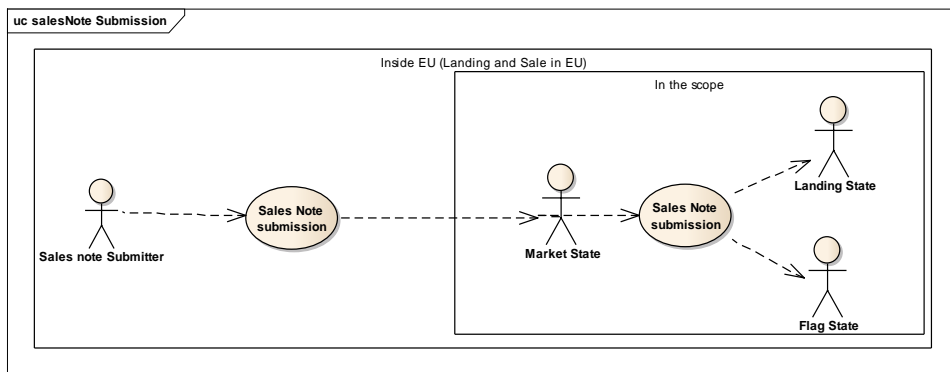
Each sales note must be uniquely identified (Sales document). The Sales Report document identifier is assigned once. Subsequent transmissions of the same sales activity information must re-use the same report identifier.

The transmission of a sales note shall be compliant with article 62 and 63 of the CR.

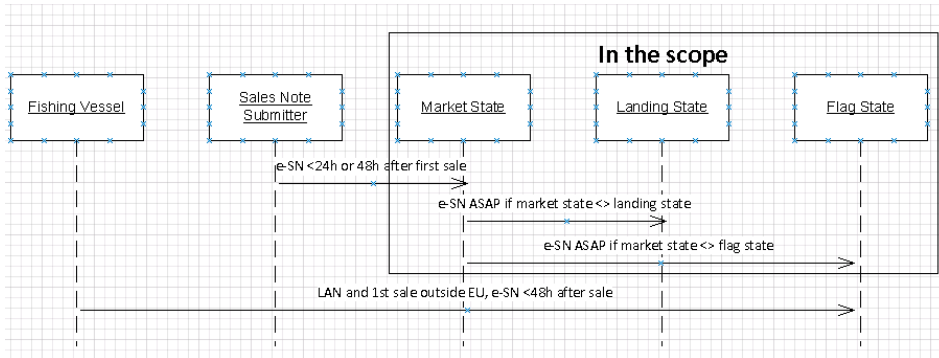
The following diagrams indicate the conditions to produce an electronic SN, the possible exemptions and the submitters of a sales note and the recipients:



Conditions to produce or not a sales note



Use Case Submission diagram

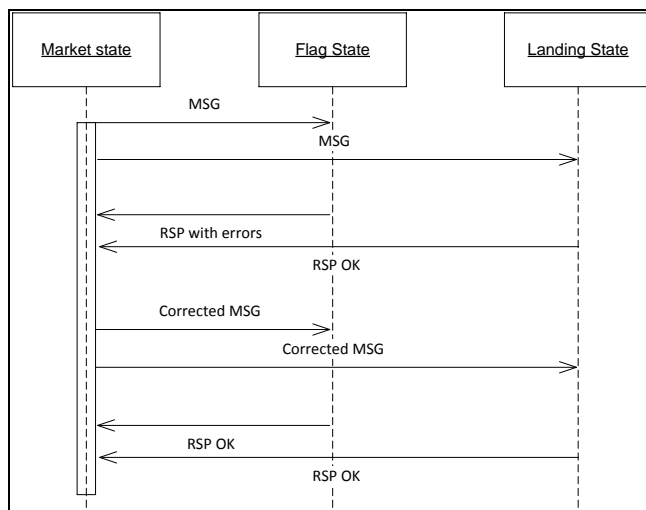


Use Case Sequence diagram with conditions to send and forward SN info

The Market State receiving the sales note data must apply the validation rules. In case of errors detected by the validation process, it is the responsibility of the Market State to contact the SN submitter (if necessary) to solve the potential issues.

The SN information may be only forwarded by the Market State to other parties (Flag State, Landing State) after the successful completion of the validation process.

The set of validation and verification rules can also be applied by any parties receiving the message. If the Flag State or the Landing State detects errors, it is the responsibility of the Market State to contact the SN submitter to solve the potential issues and to forward again a message to all parties with a full content including the corrected data.



Validation principle – Scenario: sequence diagram for errors detected by the Flag State only

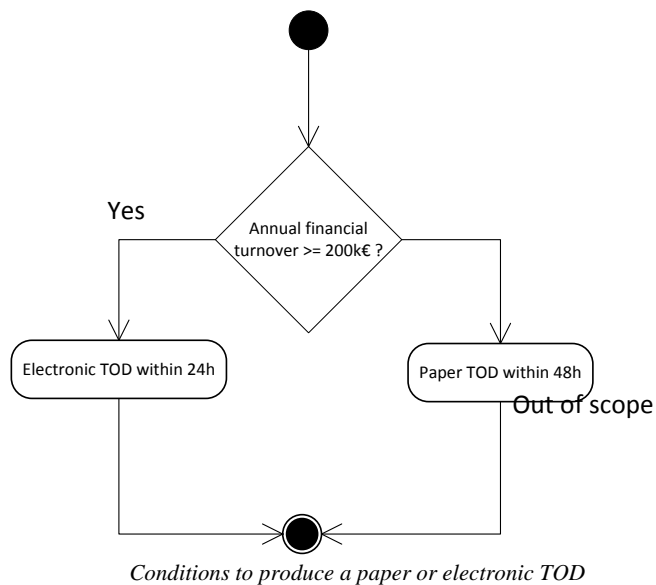
6.3.3. Correction of a sales note

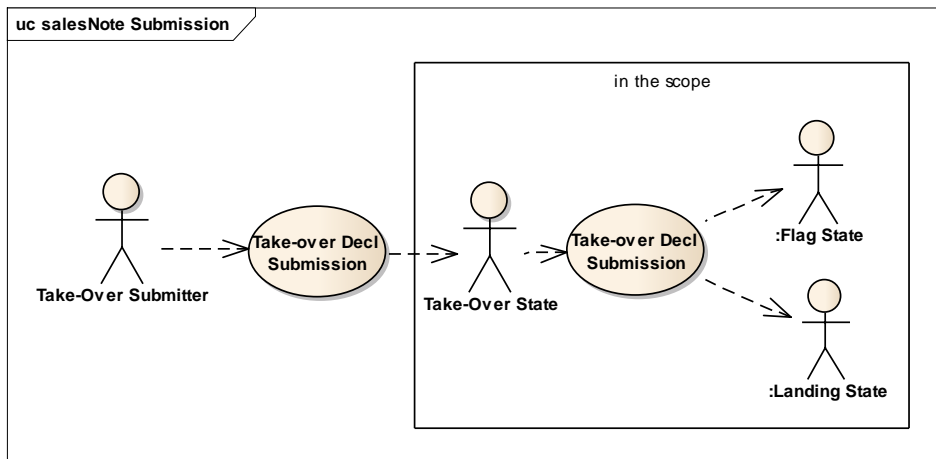
- A correction to a sales report done by the relevant authorities of the Market State is a sales report, marked as correcting another report.
- It contains a reference to the report being corrected with the complete set of sales note information. The correction replaces the referenced sales report completely.
- A correction must be sent to the same recipients having received the report before being corrected.
- The same exchange rules for corrections apply to deletions.

6.3.4. Submission of a Take-over document

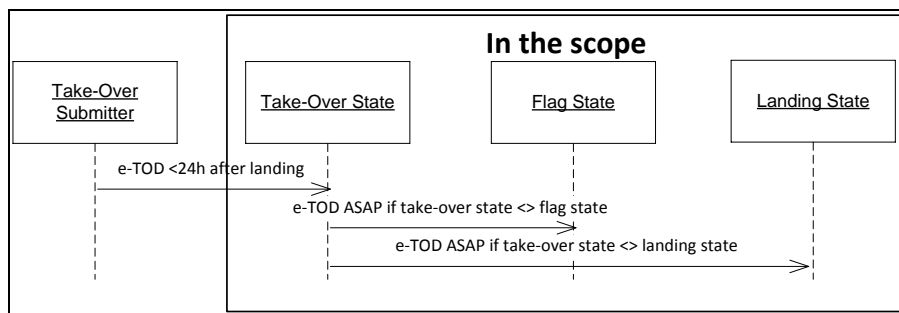
The transmission of a take-over document shall be compliant with article 66 and 67 of the CR.

The following diagrams indicate the conditions to produce an electronic TOD, the submitters of a sales note and the recipients. There is no exemption for producing the TOD:





Use Case Submission diagram

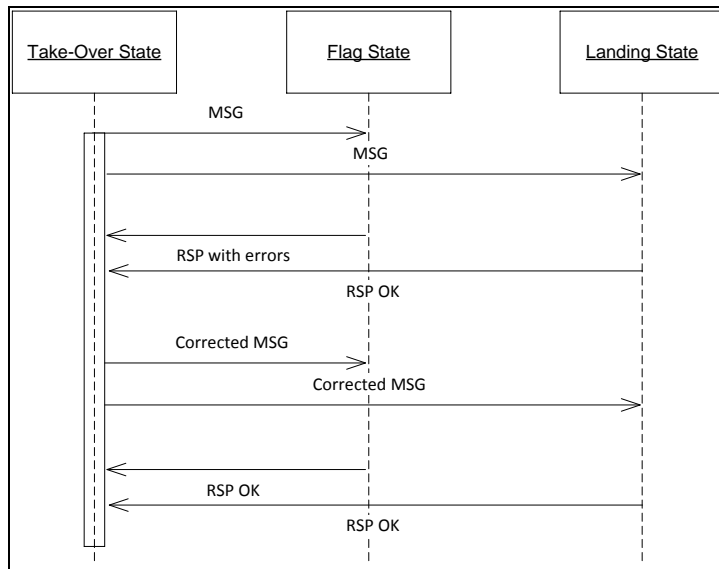


Use Case Sequence diagram with conditions to send and forward TOD info

The Take-Over State receiving the take-over document must first apply the validation rules. In case of errors detected by the validation process, it is the responsibility of the Take-Over State to contact the TOD submitter (if necessary) to solve the potential issues.

The TOD information may be only forwarded by the Take-Over State to other parties (Flag State, Landing State) after the successful completion of the validation process.

The set of validation and verification rules can be also applied by any parties receiving the message. If the Flag State or the Landing State detects errors, it is the responsibility of the Take-Over State to contact the TOD submitter to solve the potential issues and to forward again a message to all parties with a full content including the corrected data.



Validation principle – scenario: sequence diagram for errors detected by the Flag State only

6.3.5. Correction of a take-over document

- A correction to a sales report done by the relevant authorities of the Take-Over State is a sales report, marked as correcting another report.
- It contains a reference to the report being corrected with the complete set of take-over information. The correction replaces the referenced sales report completely.
- A correction must be sent to the same recipients having received the report before being corrected.
- The same exchange rules for corrections apply to deletions.

6.4. FLUX Sales Query Message

The following rules apply:

- A Flag state, a Landing state or an international organization may request to a Market state or take-Over state the list of sales notes about fisheries products originated from his fishing vessels or landed on its territory or take-over documents when fisheries products are intended for sale at a later stage.

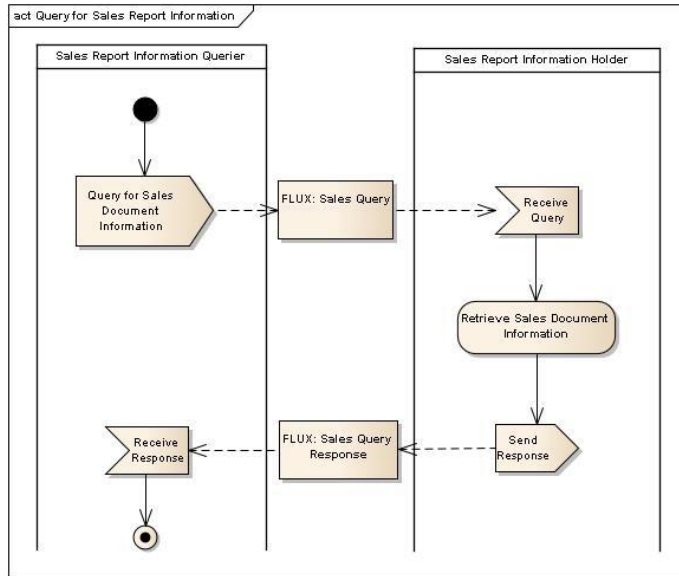


Figure 1: Activity Diagram for Query for Sales Report Information message transmission

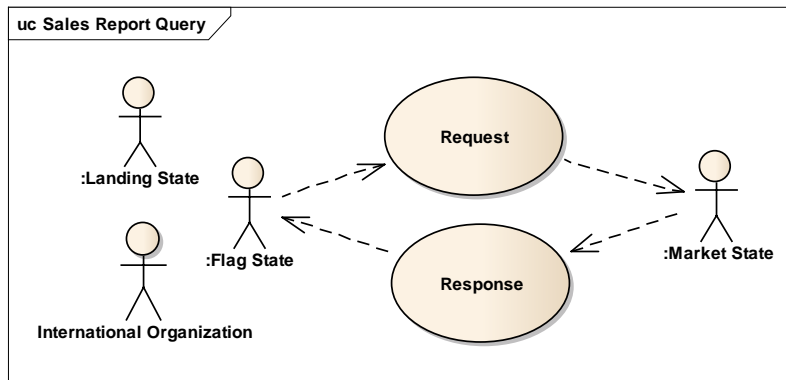
- Each sales query (Sales Query message) will have exactly one sales response (FLUX Sales Response message). In case sales reports exist that match the query parameters and the access criteria, the response (FLUX Sales Response message) will contain those sales reports (Sales Report document). Sales documents (Sales_Document) attached to those sales reports are uniquely identified with their sales report identifier, which has been originally associated and which is independent of their transmission.
- The available request parameters are described in chapter 7.2.
- Sales reports can be queried up to 36 months after the date of the creation of the FLUX Report_Document.
- When the Sales Query generates an error in the receiving system, e.g. due to an unexpected data format or contents and as a consequence cannot be understood at all by the receiving party, the established fall back procedure must be engaged.
- A FLUX Sales Query message cannot be corrected, deleted nor cancelled.

- When received, the query message is also validated according to the general principle as described in this chapter.

6.4.1. Request for Sales notes

For control purposes, the Flag State, the Landing State or an International Organization may request to the Market State the list of sales notes (SN) about fisheries products originated from his fishing vessels or landed on its territory. An International Organization may request the same from fishing vessels under a certain flag or landing places in the Union.

The response contains all the SNs produced (based on the sale date) in a time frame defined by the requester and at the specified market location(s) for fisheries products from all or a specific fishing vessel under a certain flag or landed in the country of the requester.

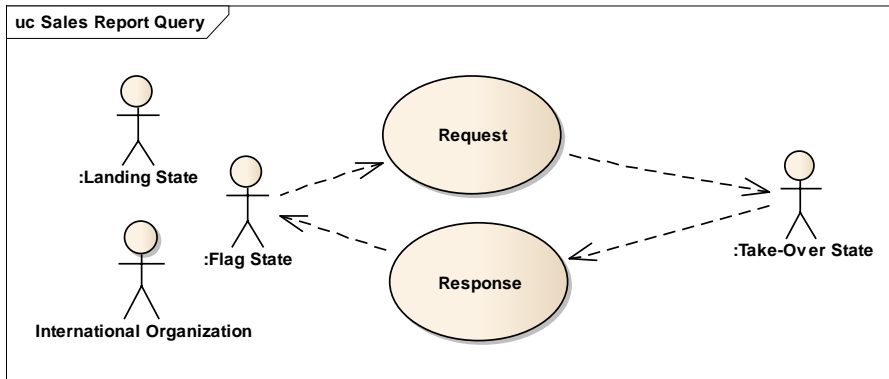


Use Case SN Request

6.4.2. Request for Take-over documents

For control purposes, the Flag State or the Landing State or an International Organization may request to the Take-Over State the list of TODs about fisheries products originated from his fishing vessels or landed on its territory. An International Organization may request the same from fishing vessels under a certain flag or storage places in the Union.

The structure and purpose of the request are similar to the one presented for the sales notes but the market place is here the storage place.



Use Case TOD Request

6.5. FLUX Sales Response Message

In response to a sales report (FLUX Sales Report message) or sales query (Sales Query message), exactly one sales response (FLUX Sales Response message) must be returned. It must be generated automatically and immediately, without human intervention. The recommended maximum delay for responding is 5 minutes.

The following rules apply:

- The sales response (FLUX Sales Response message) shall contain a reference to the unique identifier of the sales report (FLUX Sales Report message) or sales query (FA Query message).
- For messages received via the report mechanism (FLUX Sales Report message) or for queries (FLUX Sales query message) that pass the well-formedness and (optional) XSD checks, the response will contain an acknowledgement of receipt.
- In case any of the business validation rules fail with an error or warning, the validation results must be included in the response message.
- The party receiving the validation results must take action to correct any issue and retransmit a corrected version of the message, where transmission of the data is required.
- There is no response on a response. When the sales response generates an error in the receiving system, e.g. due to an unexpected data format or contents and as a consequence cannot be understood at all by the receiving party, the established fall back procedure must be engaged.
- A sales Response message cannot be corrected, deleted nor cancelled.

6.6. Business Continuity Plan

The document "FLUX Business Continuity Plan.docx" for the Sales domain is available on the on the Master Data Register page of the European Commission Fisheries website.

In that document, in the paragraph related to the communication with the DG MARE FIDES helpdesk, the examples given for the title for an issue should be read "BEL:PROD:Sale: Error Message XYZ" and for the unique identifier, ""20150216-01 BEL:PROD:Sale: Error Message XYZ".

7. DATA MODEL (XSD) IMPLEMENTATION

The implementation of the Sales Data Model⁶ should follow the following general constraints at the level of XSD Element attributes:

- (1) For Code & Identifier DataType: *listID* or *schemeID* attribute must be provided respectively if it is not specifically defined in the definition of the element;
- (2) For DateTime DataType: only `xs:datetime` choice is used and 'Z' character defining UTC time zone must be set;
- (3) Measure DataType: the `unitCode` attribute shall be provided when not explained in the definition.

Only the entities and/or attributes listed in the Implementation Document must be considered by the receiving party.

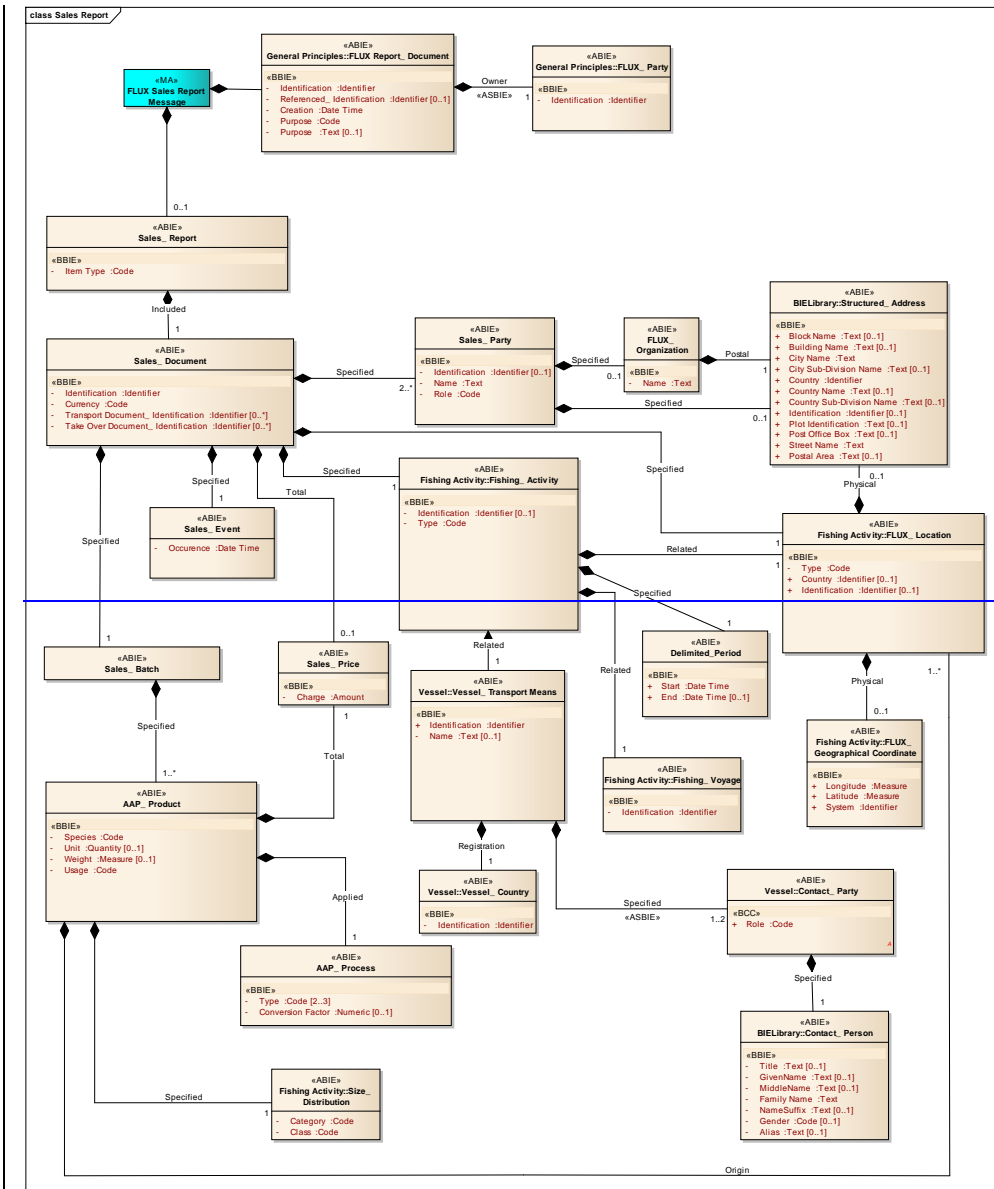
⁶ The data model presented in the document is a sub-set of the complete UN/CEFACT data model, which is relevant to the Sales Activities domain

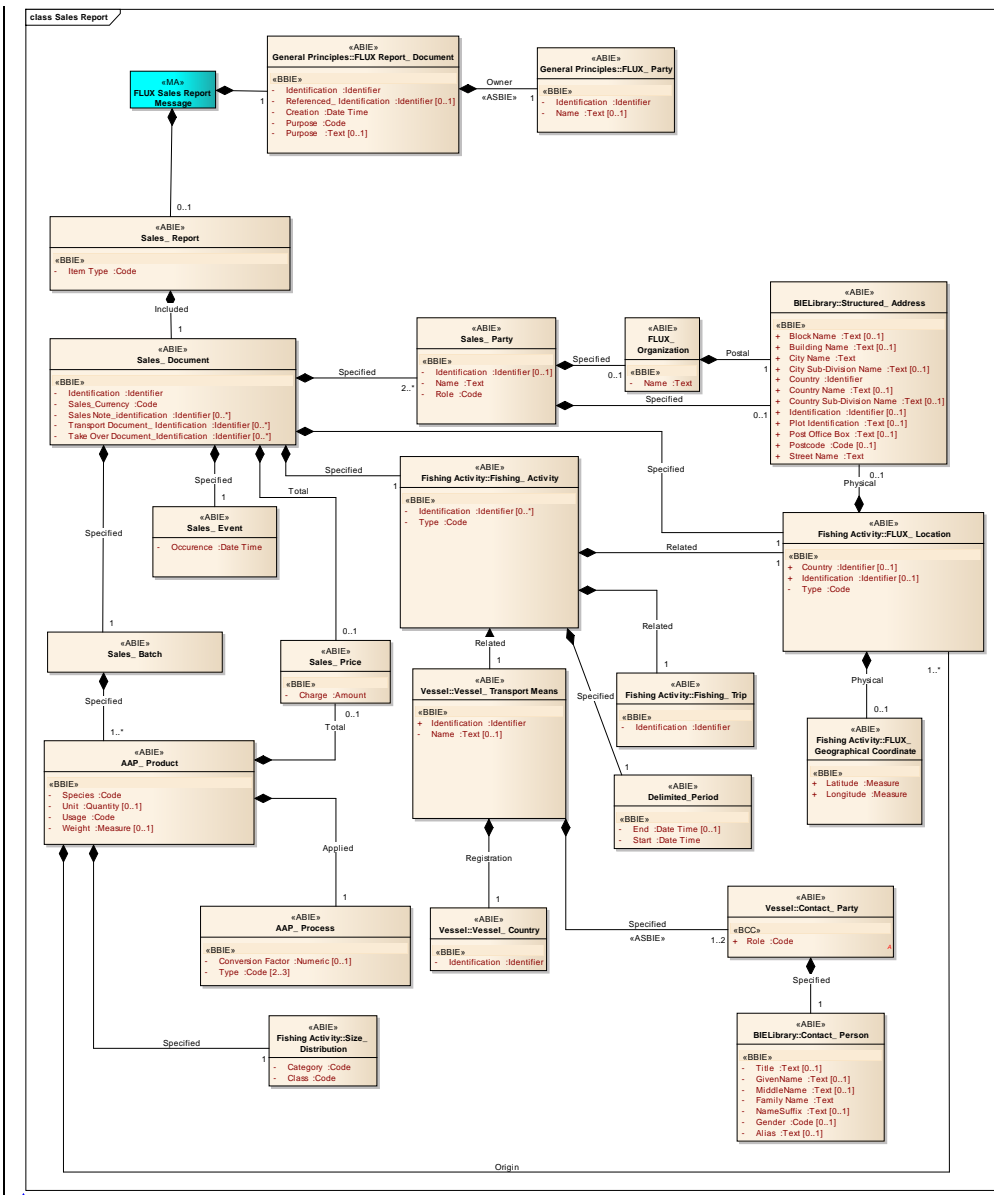
7.1. FLUX Sales Report Message

The type of message which is used when reporting for sales notes or take-over documents.

A sales report message submitted to a party contains none or one and only one sales note or take-over document.⁷

⁷ The cardinality between the Flux Sales Report Message and the Sales_Report is "0 to 1".





Class diagram Sales Report Message

Tables below describes for each fields defined in the Data Model (XSD) the values that can be used.

7.1.1. FLUX Sales Report Message entity

Description: A message providing sales note or take-over document information. There is only one Sales Report Document in one FLUX Sales Report message.

Entity/Field Name	Data Type	Cardinality	Description	Remarks
-------------------	-----------	-------------	-------------	---------

		min	max		
FLUX Report Document	Assoc.	1	1	The document details for this FLUX sales report message.	
Sales_Report	Assoc.	0	1	The sales report	No sales report for a deletion.

7.1.2. FLUX_Report_Document

Description: The type of message which is used when reporting for sales information.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The Unique Identifier of the FLUX Sales Report message. A UUID as defined in the RFC 4122.	<i>SchemeID</i> = UUID + Value Cf. http://www.guidgenerator.com to generate example of a valid identifier. Once the message is created, the data contained in the message remains associated with this identifier.
Referenced Identification	Identifier	0	1	For a correction of a sales report declaration message: used to put the reference of the message to correct. A UUID as defined in the RFC 4122.	<i>SchemeID</i> = UUID + Value
Creation	DateTime	1	1	The date time UTC value, according to ISO 8601 format, of the creation of this Report Document. A UTC date time according to ISO 8601 format	e.g. 2008-10-31T15:07:38Z (milliseconds can be provided optionally).
PurposeCode	Code	1	1	The code specifying the purpose of this Report Document.	<i>ListId</i> = FLUX_GP_PURPOSE + Value 9: original report 5: replacement (correction) 3: delete
Purpose	Text	0	1	The purpose, expressed as text, of this Report Document.	Optional free text that can be used for communicating the reason why the report is sent.
FLUX Party	Assoc.	1	1	The party owning this FLUX Report Document.	Creator of the message.

7.1.3. FLUX_Party

Description: Identification of the party (country) sending the report.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The identifier of the FLUX party, creating and sending the message.	<i>listID= FLUX_GP_PARTY</i> + Value
Name	Text	0	1	The name of the FLUX party creating the message	Free text giving more details on the Party. e.g. Market State reporting the data (i.e. name of the country or other party).

7.1.4. Sales_Report Entity

Description: Entity used to provide a compilation of information which is linked to a sales note report or a take-over note report.

In the EU context, there is maximum one sales report by Sales Report message.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Item Type	Code	1	1	The code specifying the type of the item in this sales report	<i>ListID= FLUX_SALES_TYPE</i> + Value: (SN, TOD)
Sales Document	Assoc.	1	1	Sales document	Only one document associated to a Sales document

7.1.5. Sales_Document Entity

Description: Entity used as a document that provides information for a sales note.

In the EU context, there is only one sales document by Sales Report message.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The business human readable identifier of this sales document.	<i>schemeID= EU_SALES_ID</i> + Value
Currency	Code	1	1	The code specifying the sales currency for these sales.	<i>ListID= TERRITORY_CURR</i> + Value
<u>Sales Note Identification</u>	<u>Identifier</u>	<u>0</u>	<u>*</u>	<u>A sales note identifier for this sales document.</u>	<u>Could be provided if the storage is about products withdrawn from the market</u>
Transport Document Identification	Identifier	0	*	A transport document identifier of this sales document.	Could be provided if a sale or a storage is due to a transport of fish. If there is a change during the

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Met opmaak: Default, Afstand Voor: 0 pt, Afbreken, Tabstops: Niet op 11,43 cm

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					transport (merge/split), the new transport document makes a reference to one or multiple previous transport documents.
Take Over Document_ Identification	Identifier	0	*	A take-over document identifier of this sales document.	Could be provided if a sale is about fish previously stored.
Sales Event	Assoc.	1	1	Events (sale, storage operations)	
Sales_Price	Assoc.	0	1	Total price of the document	
Sales_Party	Assoc.	2	*	Party involved in the document and the operations (sender, seller...)	The submitter and the seller for a sales note or the recipient for a take-over document must be always present.
Fishing_Activity	Assoc.	1	1	Reference to the Landing	
Flux_Location	Assoc.	1	1	Location of the market, storage	
Sales_Batch	Assoc.	1	1	(not used for business, only for IT needs)	

7.1.6. Sales_Party Entity

Description: Entity used to provide information of an individual, a group, or a body having a role in sales business function. Party has a legal connotation in a business transaction:

- the sender of the document must be always mentioned for any types of document (sales note, take-over): the identification and the role (SENDER) are mandatory;
- the buyer must be always mentioned for a sales note except for products withdrawn from the market where it is optional: the identification, the name & role (BUYER) are mandatory when products are bought.
- the seller must be always mentioned for a sales note only: the name & role (SELLER) are mandatory;
- the recipient of the fish must be always mentioned for a take-over document: the role (RECIPIENT) and the organisation are mandatory;

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	0	1	The identifier of this sales party.	One of the following: <i>SchemeID</i> = MS + value= other national reference <i>SchemeID</i> = VAT + value = vat number <i>SchemeID</i> = TAX + value = tax identification number The <i>SchemeID</i> codes are from the FLUX_SALES_PARTY_ID_TYPE list
Name	Text	1	1	The name, expressed as text, of this party.	
Role	Code	1	1	A code specifying the role of this sales party.	<i>ListID</i> = FLUX_SALES_PARTY_ROLE SENDER : sender of the sales note, take-over doc RECIPIENT : receiver of fish for take-over doc only
FLUX_Organisation	Assoc.	0	1	Organization in charge of the storage	

7.1.7. Sales_Event Entity

Description: Entity providing information of a significant occurrence or happening related to a sales activity or storage.

In the EU context, for a sales note and a take-over document, only one event will be registered (date & time of the sales operation or the storage).

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Occurrence	Date Time	1	1	A date time value of an occurrence of this operation.	

7.1.8. Sales_Batch

Description: Entity used only to be compliant with the international data model from the BRS document.

In the EU Context, no specific batch information will be delivered.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
AAP_Product	Assoc.	1	*	Reference to a fishery product	

7.1.9. AAP_Product Entity

Description: Entity used to provide information on fish sold or stored.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Species	Code	1	1	The species code.	ListID=FAO_SPECIES
Unit	Quantity	0	1	Number of individual units (if any)	
Weight	Measure	0	1	The measure of the weight of this AAP sales product in kg	UnitCode= KGM + value The quantity value must contain no more than 2 decimals (0.00).
Usage	Code	1	1	For sales notes, the code specifying a usage/destination for this AAP sales product.	ListID= PROD_USAGE For BMS species, the destination cannot be for direct human consumption. For products temporally withdrawn from the market, a take-over document is later expected as well as sales note(s) when they are put on the market again and sold.
AAP_Process	Assoc.	1	1	Process producing the product	
Size_Distribution	Assoc.	1	1	Size distribution	
Sales_Price	Assoc.	1	1	Price of the product	
FLUX_Location	Assoc.	1	*	Location where the fish has been caught (FAO area...)	

7.1.10. AAP_Process Entity

Description: Entity providing information of designed sequence of operations applied on fish.

It must be noted that one entry in that entity corresponds to one global process leading to the final status of the fish. Therefore the "Type" data field is used with multiple codes for defining the freshness, presentation & preservation states.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	2	3	A code specifying the type of this AAP process, such as presentation type, preservation types.	<p>ListID = FISH_FRESHNESS + Value</p> <p>ListID = FISH_PRESENTATION + Value</p> <p>ListID = FISH_PRESERVATION + Value</p> <p>ListID code from the FLUX_PROCESS_TYPE list</p>
Conversion Factor	Numeric	0	1	Numerical factor that is applied for converting fish processed weight into fish live weight, depending on the processing.	<p>Mandatory in case the conversion factor cannot be deducted from the information provided in the report.</p> <p>e.g. conversion factor depends on presentation and preservation, but only presentation is provided.</p> <p>e.g. conversion factor depends on presentation, preservation and area</p>

7.1.11. Size_Distribution Entity

Description: Size distribution of the AAP_Product.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Class	Code	1	1	The code specifying a class for this size distribution	<p>ListID= FISH_SIZE_CLASS</p> <p>Use value "LSC" for legally sized fish.</p> <p>Use value "BMS" for fish below minimum conservation reference size.</p>
Category	Code	1	1	A code specifying the size distribution of the AAP product	<p>ListID= FISH_SIZE_CATEGORY</p> <p>For BMS species, the category code must be 'N/A'.</p>

7.1.12. Sales_Price Entity

Description: Entity providing information of a sum of money for which something is or may be sold.

A value must be provided for each of the processed products (sales note details) and a total value can be provided for the sales note.

When products are withdrawn for the market, the total price of the sales note must be present and equals to zero.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Charge	Amount	1	1	Total price of one AAP_Product	A monetary value of this sales price charged with maximum 2 decimals. Only for sales notes. Mandatory at the level of the products.

7.1.13. FLUX_Organization Entity

Description: Entity used to provide information of an organization, such as a business or government body.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Name	Text	1	1	The name, expressed as text, of this organization.	Used only for take-over documents: organization in charge of the storage
Structured Address	Assoc.	1	1	Postal address of the organisation	

7.1.14. Fishing_Activity Entity

Description: landing operation.

In the EU-Context, a sale document is related to one landing operation of one fishing vessel.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	0	1	A technical identifier of the fishing activity operation	
Type	Code	1	1	The code specifying a type of fishing activity, such as depart from port, return to port, fishing operation.	LAN (landing)
Delimited_Period	Assoc.	1	1	Reference to the period of the landing	
Vessel_Transport Means	Assoc.	1	1	Reference to the fishing vessel	
Fishing_Trip	Assoc.	1	1	Reference to the fishing voyage	
FLUX_Location	Assoc.	1	1	Location of the landing	

7.1.15. Delimited_Period

Description: Entity containing a delimited period of time

Period of time corresponding to the landing.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Start	Date Time	1	1	Date and time of the start of the landing operation	
End	Date Time	0	1	Date and time of the end of the landing operation	

7.1.16. *Vessel_Transport Means Entity*

Description: Entity containing the identification and characteristic information of a fishing vessel.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	An identifier for this vessel	<i>schemeID = CFR & Value= CFR</i>
Name	Text	0	1	A name, expressed as text, of the vessel	
Specified Registration_ Event	Assoc.	1	1	Identification of the flag state	
Contact_Party	Assoc.	1	2	Vessel contact reference	

7.1.17. *Vessel_Country entity*

Description: Entity used to know the flag of the vessel.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	Flag of the vessel	<i>SchemeID=TERRITORY + value</i>

7.1.18. Contact_Party

Description: Vessel contact

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Role	Code	1	1	A code specifying the role of this contact party	<i>listID</i> = FLUX_CONTACT_ROLE + Value (MASTER, OPERATOR)
Contact_Person	Assoc.	1	1	A specified person for this contact party.	

7.1.19. Contact_Person

Description: Vessel contact name

Description: The details of a contact person.

Either the GivenName and FamilyName must be provided or an Alias.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Title	Text	0	1		
GivenName	Text	0	1		Required when specifying FamilyName and if Alias is not specified.
MiddleName	Text	0	1		Required when specifying GivenName and if Alias is not specified.
FamilyName Prefix	Text	0	1		
FamilyName	Text	1	1		
NameSuffix	Text	0	1		
Gender	Code	0	1		
Alias	Text	0	1		If GivenName and FamilyName are not provided

7.1.20. Fishing_Trip Entity

Description: Identification of a fishing voyage.

In the EU Context, only one fishing voyage is associated with a landing operation.

Entity/Field Name	Data Type	Cardinality		Description	Remarks
Identification	Identifier	1	1	The unique identifier of the fishing trip	At least the trip ID as defined or approved by the flag state of the vessel. <i>SchemeID= EU_TRIP_ID + Value</i>

7.1.21. FLUX_Location Entity

Description: Entity providing information of a physical location or place such as a port or a region at sea.

The location is used for:

- the landing operation (link with the Fishing_Activity) ;
- the market or storage place (link with the Sales_Document);
- the geographical area where the fish has been caught (link with the AAP_Product). For such location, multiple entries are possible by using different identifications;

Entity/Field Name	Data Type	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying the type of FLUX location.	<i>ListID= FLUX_LOCATION_TYPE + Value</i> Use LOCATION if the place can be identified in the LOCATION list
Country	Identifier	0	1	The identifier of a country for this FLUX location.	<i>listID=TERRITORY + Value</i>
Identification	Identifier	0	1	The identifier for this FLUX location.	For AREA use: <i>listID=FAO_AREA</i> up to the most detailed level available <i>listID=TERRITORY</i> for third countries EEZ For landing, market or storage places: <i>listID=LOCATION</i> <i>+ Value</i>
Physical_FLUX_Geographical Coordinate	Assoc.	0	1	Geographical coordinate information for this FLUX location.	Mandatory when FLUX_LOCATION_TYPE = POSITION
Physical Structured_Address	Assoc.	0	1	Structured postal address information for this FLUX	Mandatory when FLUX_LOCATION_TYPE= ADDRESS

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
				location.	

7.1.22. FLUX_ Geographical Coordinate Entity

Description: Entity providing information of the latitude and longitude of a specified place, by which a location relative situation on the globe is known.

This entity can be used if the location of the activity cannot be specified using the "Identification" code in the Location entity: a landing on the coast but not in a port...

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Longitude	Measure	1	1	The measure of the longitude as an angular distance east or west from the Greenwich meridian to the meridian of a specific place for this FLUX location geographical coordinate	Coordinate expressed in WGS84, decimal degree notation, using a precision of at least 3 decimal positions. Positive coordinate refers to East of Greenwich meridian. Negative coordinate refers to West.
Latitude	Measure	1	1	The measure of the latitude as an angular distance east or west from the Greenwich meridian to the meridian of a specific place for this FLUX location geographical coordinate.	Coordinate expressed in WGS84, decimal degree notation, using a precision of at least 3 decimal positions. Positive coordinate refers to North of equator. Negative coordinate refers to South.

7.1.23. Structured_Address Entity

Description: Entity providing information of the location, using a structured address format, at which a particular organization or person may be found or reached.

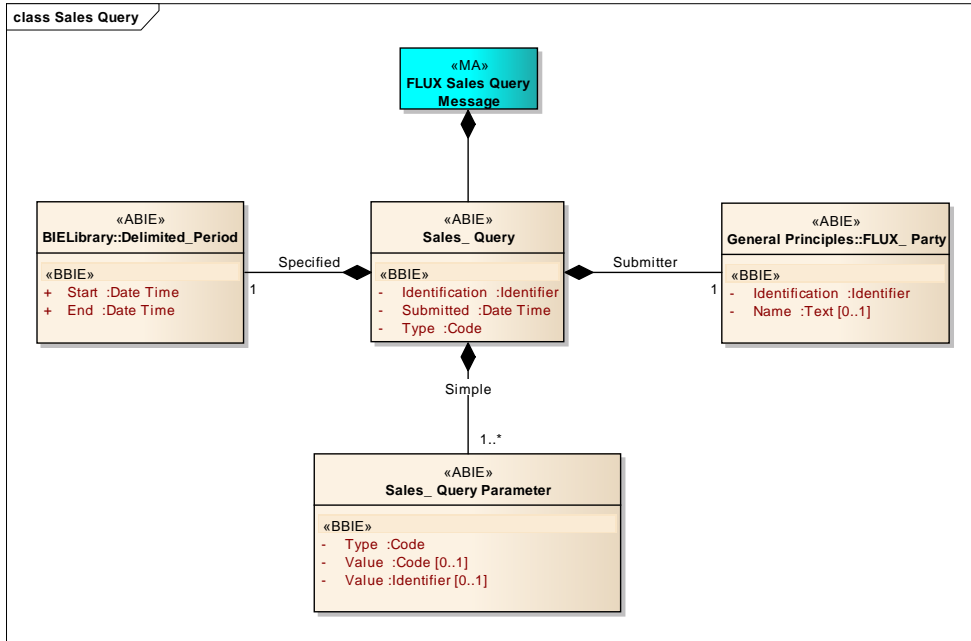
This entity can be used for the market place or the storage place of a take-over document when there is no location code available.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Block Name	Text	0	1	The block name, expressed as text, for an area surrounded by streets for this structured address.	
Building Name	Text	0	1	The name, expressed as text, of a building, a house or other structure on a street in the structured address.	

Entity/Field Name	Data Type	Cardinality		Description	Remarks
		min	max		
City Name	Text	1	1	The name, expressed as text, of the city, town or village in the structured address.	
City Sub-Division Name	Text	0	1	The name, expressed as text, of a sub-division of a city, town or village in the structured address.	
Country	Identifier	1	1	The unique identifier of a country in the structured address (Reference ISO 3166 and UN/ECE Rec 3).	ListID= TERRITORY + Value
Country Name	Text	0	1	The name, expressed as text, of the country in the structured address.	
Country Sub-Division Name	Text	0	1	The name, expressed as text, of the sub-division of a country in the structured address.	
Identification	Identifier	0	1	The unique identifier in the structured address.	
Plot Identification	Text	0	1	The identification, expressed as text, of the plot for this structured address.	This is the house number
Post Office Box	Text	0	1	The unique identifier, expressed as text, of a container commonly referred to as a box, in a post office or other postal service location, where postal items may be kept for this structured address.	
Postal Area	Text	0	1	The text specifying the postcode in the structured address. Optional for addresses in Ireland.	
Street Name	Text	1	1	The name, expressed as text, of a street or thoroughfare in the structured address.	

7.2. FLUX Sales Query Message

Description: The type of message which is used for querying for sales information, such as sales note, take-over or transport documents.



Class Diagram for Sales Query message.

Table below describes for each fields defined in the Data Model (XSD) the values that can be used.

The values mentioned in the table for the *listID* refer to a specific code from a list in the index of the MDR.

7.2.1. Sales_Query Entity

Description: Entity containing a formally raised question or request for information for sales note, take-over or transport document.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The identifier for this sales query.	<i>schemeID=UUID</i> + Value A UUID as defined in the RFC 4122
Submitted	DateTime	1	1	Date and time when this query was submitted	The date/time according to ISO 8601 format in UTC
Type	Code	1	1	A code specifying the type of sales query.	<i>listID= FLUX_SALES_ TYPE</i> + Value
SubmitterFLUX_Party	Assoc.	1	1	The FLUX party that submits this query.	
Specified Delimited_Period	Assoc.	1	1	The period delimiting the time frame for retrieving data	Start and end date/time included in the period.
SimpleSales_Query Parameter	Assoc.	1	*	A set of query parameters for this query.	

7.2.2. FLUX_Party

Description: Identification of the party sending the query.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The party sending the query	<i>schemeID= FLUX_GP_PARTY</i> + Value

7.2.3. Delimited_Period Entity

Description: Entity containing information that limits or restricts the scope of a sale query: sales documents are selected based on the date of the sales event that must be in that delimited time period.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Start	DateTime	1	1	The start date/time of the period delimiting the time frame of the query	The start date/time according to ISO 8601 format in UTC. If the time part of the date/time is omitted, 00:00 is assumed.
End	DateTime	1	1	The end date/time of the period delimiting the time frame of the query	The end date/time according to ISO 8601 format in UTC If the time part of the date/time is omitted, 24:00 is assumed.

7.2.4. Sales_Query Parameter Entity

Description: Entity containing information that limits or restricts the scope of a sale query.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying the type of parameter for this sales query.	<i>ListID</i> = FLUX_SALES_QUERY_PARAM + value ⁸ ROLE : role of the requester FLAG ⁹ : specific flag of the fishing vessels VESSEL : specific fishing vessel PLACE : specific market/storage place SALES_ID : human readable sales document identifier TRIP_ID : human readable trip identifier
Value	Code	0	1	The value, expressed as a code, for this sales query parameter.	<i>ListID</i> = For Type= ROLE : the value is a code from FLUX_SALES_QUERY_PARAM_ROLE code list <ul style="list-style-type: none"> • FLAG or LAND for a MS • INT for an international

⁸ A MS can be a flag and a landing state. This parameter is used to precise the goal of the request. A 'flag' role means that sales documents will be selected for products based on the flag of the vessel while 'land' would be for products landed in the country of the requester whatever the flag of the vessel might be. A special role is dedicated to the Commission which is neither a flag nor a landing state.

⁹ For an international organization only

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					<p>organization allowed to pull data</p> <p>For Type=PLACE: the value is a code from the MDR LOCATION code list</p> <p>For Type=FLAG: the value is a code from the MDR TERRITORY code list</p> <p>For Type=VESSEL: the value is a CFR</p> <p>For Type= SALES_ID or TRIP_ID the value is an identifier</p>
Value	Identifier	0	1	The value, expressed as an identifier, for this sales query parameter.	<p>The value, expressed as an identifier, for this sales query parameter</p> <p>For Type=SALESID: <i>schemeID= EU_SALES_ID</i> +value</p> <p>For Type=TRIPID: <i>schemeID= EU_TRIP_ID</i> +value</p> <p>For Type=VESSEL <i>schemeID= CFR</i> +value</p>

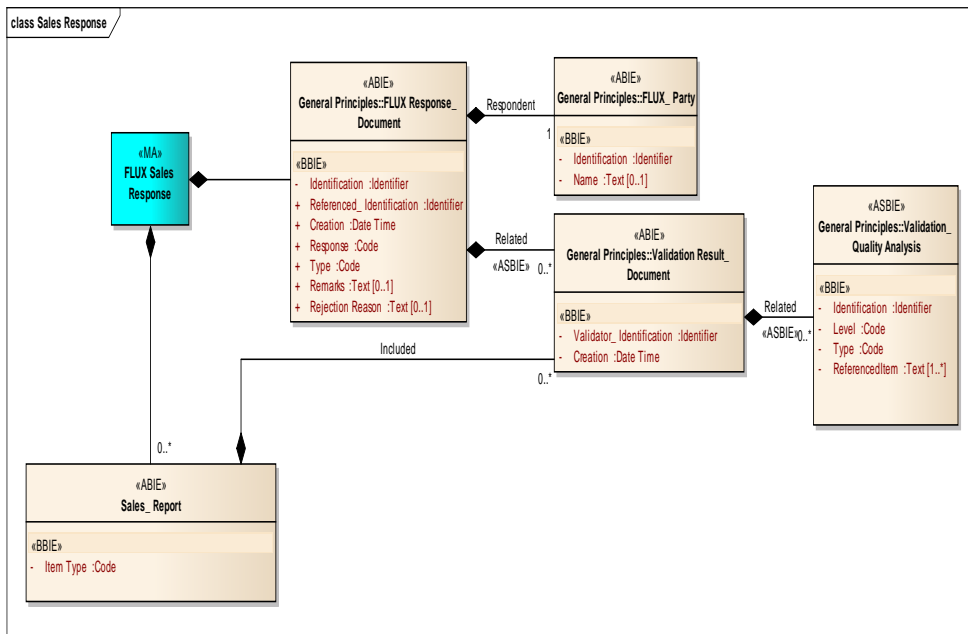
7.3. FLUX Sales Response Message

Description: The type of message which is used for:

- replying to queries for sales information, such as sales note or take-over documents;
- replying to a FLUX Sales Report Declaration;

The data model is the same as for the Sales Report Declaration except that:

- the FLUX Report Document entity is replaced by the FLUX Response Document entity;
- The response to a query may contain **none or multiple sales reports** (sales notes and/or take-over documents);



Class diagram Sales ResponseMessage¹⁰

Tables below describes for each fields defined in the Data Model (XSD) the values that can be used.

¹⁰ The data model shows only the top entities, what is below the Sales_Report entity is the same as for the Sales Message

7.3.1. FLUX Response_Document

Description: The type of message which is used when replying to a sales message or query.

Entity/Field Name	Data Type	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The Global Unique Identifier of the FLUX Response Message.	<i>schemeID</i> =UUID. UUID as defined in the RFC 4122.
Referenced_identification	Identifier	1	1	The identifier of a referenced FLUX Sales Report Message, to which this FLUX Response Document refers.	Used for referencing the query message or the sales report message that has been validated. <i>schemeID</i> =UUID UUID as defined in the RFC 4122.
Creation	DateTime	1	1	The date time UTC value of the creation of this FLUX Response Message.	A UTC date/time according to ISO 8601 format; e.g. 2008-10-31T15:07:38.6875000Z.
Response	Code	1	1	The code specifying the general status of the validation process, which has been applied on the referenced FLUX Sales Report Message.	<i>listID</i> =FLUX_GP_RESPONSE
Remarks	Text	0	1	A general textual remark related to the Response code.	
Rejection Reason	Text	0	1	A textual description of the main reason for rejection.	
Related Validation Result_Document	Assoc.	0	*	The validation result document related to this FLUX response.	To be provided only in case at least one BR fails (ResponseCode <> OK).
Related Validation Quality_Analysis	Assoc.	0	*	The validation result document related to this FLUX response.	Only the failed business rules are part of FLUX Response Document. The information on the failed business rules are at the level of data field.
Respondent FLUXParty	Assoc.	1	1	The party owning this FLUX Report Document.	

7.3.2. Response FLUX_Party

Description: Identification of the party (country) sending the response.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The identifier of the FLUX party, creating and sending the message.	<i>listID</i> = FLUX_GP_PARTY + Value
Name	Text	0	1	The name of the FLUX party creating the message	Free text giving more details on the Party. e.g. Market State reporting the data (i.e. name of the country or other party).

7.3.3. Validation Result_Document

Description: Entity containing information about the validation process.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Validator Identification	Identifier	1	1	The identifier the validating party.	<i>listID</i> =FLUX_GP_PARTY
Creation DateTime	DateTime	1	1	The date/time of the creation of this validation report.	date/time UTC value, according to ISO 8601 format e.g. 2008-10-31T15:07:38.6875000Z.
Validation_Quality Analysis	Assoc.	0	*	Details of the validation report	

7.3.4. Validation_Quality Analysis Entity

Description: Entity containing the results of the validation process.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	Business rule identification.	e.g.: SL-L00-00-0000
Level	Code	1	1	The code specifying the validation level of the business rule.	<i>listID</i> = FLUX_GP_VALIDATION_LEVEL e.g.: L00
Type	Code	1	1	The code specifying the	<i>listID</i> = FLUX_GP_VALIDATION_TYPE

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
				type of error found.	e.g. Error, warning, etc.
Referenced Item	Text	0	*	An information to locate in the XML the data causing the problem.	

7.3.5. Sales_Report Entity

Description: Entity used to provide a compilation of information which is linked to a sales note report, take-over note report or transport note report.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Item Type	Code	1	1	The code specifying the type of the item in this sales report	ListId= FLUX_SALES_TYPE + Value: (SN, TOD)
Sales Document	Assoc.	1	1	Sales document	Only one document associated to a Sales document
Validation Result Document	Assoc.	0	*	Validation report specific to that sales report	

8. BUSINESS RULES¹¹

The list of business rules below is used to verify that the data quality of Sales messages transmitted over the FLUX system is sufficiently high to ensure their relevance.

In an exchange of data between two systems without any human intervention, the principle is to give back to the sending system as much as possible feedback about the received message. Therefore it is advised to execute as many business rules as possible at the moment of reception of the message and to reply to the sender by putting in the response all the possible errors (or warnings) detected, not stopping the validation process at the first error.

If a validation is performed by a component of a web application based on data entered by a user in a web form, the business rules could be applied on a case-by-case basis.

A business rule is applicable during a certain time period including the start and end dates of the specified period. The period during which the business rule is applicable is available on the Master Data Register page of the European Commission Fisheries website¹.

Messages received must be validated according to the applicable business rules at the time of creation of the Sales Report document (FLUX_Report_Document.CreationDateTime) or Sales Query message (Sales_Query.SubmittedDateTime). A business rule must be applied if the data used by the business rule is available in the message.

Mandatory and conditionally mandatory fields are identified in chapter 6.

An overloaded data element is defined as a data element communicated repetitively (based on the cardinality of the element defined in the data model) but exceeding the limit imposed by the implementation document. In this version of the document, there are no business rules¹² defined to detect overloaded data elements and therefore to report such issue to the sender. Such data elements are ignored by the validation process. (ex: multiple CFR identifiers for a vessel in the XML: allowed by the standard but limited to one in the implementation document ...)

The tables presented in the sections below must be read as follows:

- **BR-ID:** Business rule ID. Identifier assigned to the BR according to the the following methodology:
 - **SL:** Referring to the sales domain in which the rule is relevant

¹¹ Each business rule will be later identified by a unique identifier not yet provided in the version of this document

¹² Additional business rules can be defined in a future version

- Lxx: The level of the business rule
 - yy: optional sub-level.
 - zzzz: A number that allows, in combination with the other parts of the code, to uniquely identify the business rule.
- Entity: the entity in the sales data model
 - Attribute: the attribute(s) name(s) of the entity used by the BR
 - BR: description of the rule
 - E/W: error or warning
 - Note: Any relevant information to clarify the BR

8.1. Sales Declaration BRs

Business rules (BRs) are based on data and not on systems. The list of business rules here under is used to verify the data quality of sales messages when received by a party. It covers also national exchanges when the submitter sends data to the administration using a national system or the FLUX system.

Each business rule must be applied if the data is available in the message.

This list must be also complemented with the set of VALID business rules used for cross-domains verifications, mainly with the landing declarations.

8.1.1. Rules for FLUX_Sales_Report_Message entity

BR-ID ¹³	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0001	FLUX_ReportDocument		Must be present	E	
SALE-L02-00-0001			Only one report document	E	
SALE-L03-00-0001	Sales Report & FLUX Report Document	Item Type Purpose Referenced Identification	In case of a correction, the item type must be the same as the item type of the referenced report	E	
SALE-L02-00-0002		Purpose	Sales report must be present if purpose is not 'delete'	E	
SALE-L02-00-0003			One and only one occurrence of a sales report if purpose is not 'delete'	E	

¹³ To be finalised when the content is accepted

8.1.2. Rules for FLUX_Report_Document entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0010	FLUX_ReportDocument	Identification	Must be present.	E	
SALE-L01-00-0010			Check attribute schemeID. Must be UUID.	E	
SALE-L01-00-0011			Check Format. Must be according to the specified schemeID.	E	Must be according to RFC4122 format for UUID.
SALE-L03-00-0010			The identification must be unique and not already exist	W	If it exists already, the contents are considered identical and the message may be ignored by the receiving party.
SALE-L00-00-0011		Creation	Must be present.	E	
SALE-L01-00-0012			Check Format. Must be date in UTC according to ISO8601	E	
SALE-L01-00-0013			Date must be in the past.	E	
SALE-L00-00-0012		Purpose	Must be present.	E	A threshold to compensate for incorrect clock synchronization of the exchanging systems must be taken into account.
SALE-L01-00-0014			Check attribute listID. Must be FLUX_GP_PURPOSE	E	If listID provided.
SALE-L01-00-0015			Check code.	E	
SALE-L01-00-0016			Code for cancellation is not allowed	E	
SALE-L02-00-0010		Purpose & Referenced Identification	If correction or deletion, the referenced identification must be provided	E	
SALE-L03-00-0011			The referenced identification must be the one of an existing sales report	W	
SALE-L02-00-0011			If it is a new message (creation), the referenced identification must be empty	I	
SALE-L00-00-0013	FLUXParty		Must be present	E	
SALE-L00-00-0014			Only one party	E	
SALE-L01-00-0017			Check attribute listID. Must be FLUX_GP_PARTY	E	
SALE-L03-00-0012			Check if OwnerFLUXParty.ID is consistent with FLUX TL values.	W	The party sending must be allowed to send the message

8.1.3. Rules for FLUX_Party entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0020	FLUX_party	Identification	Must be present	E	
SALE-L01-00-0020			Check code	E	

8.1.4. Rules for Sales_Report entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0021	Sales Report	Item Type	Must be present	E	
SALE-L01-00-0021			Check code	E	
SALE-L01-00-0022			Only SN and TOD allowed	E	
SALE-L03-00-0020	Sales Report & FLUX Report Document	Item Type Purpose Referenced Identification	In case of a correction, the item type must be the same as the item type of the referenced report	E	
SALE-L00-00-0022	Sales Report	Sales Document	Must be present	E	
SALE-L02-00-0020			Only one sales document	E	

8.1.5. Rules for Sales_Document entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0030	Sales Document	Identification	Must be present	E	
SALE-L01-00-0031			Check format of the part corresponding to the national number	E	country specific
SALE-L01-00-0032			Check format of the common part	E	ISO-3 code + '' + type of report
SALE-L03-00-0030			The reference must be unique	E	
SALE-L00-00-0031		Sales Currency	Must be present	E	
SALE-L01-00-0033			Check Code	E	
SALE-L03-00-0031	Sales Document Sales Event FLUX Location	Sales Currency Occurrence Country	It must be an official currency of the country at that date	E	
SALE-L01-00-0034	Sales Document	Transport Document Identification	Check format	E	
SALE-L03-00-0032		Transport Document Identification	The reference must exist	W	Maybe not yet received
SALE-L01-00-0035		Take Over Document Identification	Check Format	E	
SALE-L03-00-0033		Take Over Document Identification	The reference must exist	W	Maybe not yet received
SALE-L01-00-0036		Sales Note identification	Check Format	E	
SALE-L03-00-0034		Sales Note identification	The reference must exist	W	Maybe not yet received
SALE-L00-00-0032	Sales Event		Must exist	E	
SALE-L02-00-0030			Only one sales event	E	
SALE-L00-00-0033	Sales Party		Must exist	E	
SALE-L02-00-0031			At least two occurrences	E	
SALE-L00-00-0034	Fishing Activity		Must exist	E	

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L02-00-0032			Only one occurrence	E	
SALE-L00-00-0035	Flux Location		Must exist	E	
SALE-L02-00-0033			Only one occurrence	E	Market place or storage location
SALE-L00-00-0036	Sales Batch		Must exist	E	
SALE-L02-00-0034			Only one occurrence	E	

8.1.6. Rules for Sales_Party entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0040	Sales Party	Identification	Check code	E	
SALE-L02-00-0040		Identification Role	Identification mandatory when role=SENDER	E	
SALE-L00-00-0040		Role	Must be present	E	
SALE-L01-00-0041			Check code	E	
SALE-L01-00-0042			SENDER role must exist	E	
SALE-L02-00-0041			SELLER role must exist for a SN	E	
SALE-L02-00-0042			SELLER/BUYER role must exist for a SN when products are bought (not withdrawn)	E	
SALE-L02-00-0043			RECIPIENT role must exist for a Take-over doc	E	
SALE-L02-00-0044			No duplication of role allowed	E	
SALE-L01-00-0043			No code for CARRIER allowed	E	
SALE-L03-00-0040		Identification Role	If SENDER role, the ID must exist in a list of registered bodies of the country	E	
SALE-L03-00-0041			If SENDER role, it should be a MS Identification	E	
SALE-L00-00-0041		Name	Must be present	E	
SALE-L02-00-0045	FLUX Organisation		Must be present for TOD	E	

8.1.7. Rules for Sales_Event entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0050	Sales Event	Occurrence	Check format	E	
SALE-L03-00-0050	Sales Event & FLUX Report Document	Creation Occurrence	The reception date (by Market state) should not be later than 48h after the sale date	W	For SN That's the maximum delay. Another rule should check if received under 24h under some conditions (financial turnover).

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L02-00-0050	Sales Event Delimited_Period	Occurrence Start	Sales Event date >= Start date (landing)	E	

8.1.8. Rules for Sales_Batch entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L02-00-0055	AAP_Product		At least one must exist	E	

8.1.9. Rules for AAP_Product entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0060	AAP Product	Species	Must be present	E	
SALE-L01-00-0060			Check code	E	
SALE-L01-00-0061		Unit	Positive number	E	
SALE-L01-00-0062		Weight	Check code	E	
SALE-L01-00-0063			Positive number	E	
SALE-L01-00-0064			Weight = 0	W	
SALE-L01-00-0065			No more than 2 decimals	W	
SALE-L01-00-0066		Weight Species	3 decimals for BFT	E	
SALE-L02-00-0060		Unit Weight	One of the two must be available	E	
SALE-L02-00-0061			Both values should not be available	W	
SALE-L00-00-0061		Usage	Must be present	E	
SALE-L01-00-0067			Check code	E	
SALE-L02-00-0062	AAP Product & Sales_Document	Usage Sales Note_Identification	For a take-over doc. if the usage code equals 'STO' (Storage), the SN identifier should be communicated	W	If the stored products can benefit from the market mechanisms defined by Regulation (EU) n°1379/2013, a reference to a sales note should exist
SALE-L03-00-0060	AAP Product & Sales_Document	Usage Sales Note_Identification	For a take-over doc. if the usage code equals 'STO' (Storage), the SN referenced by the SN identifier should have for the products a usage code equals to 'COV' (Carry-over)	W	
SALE-L00-00-0062	AAP_Process		Must be present	E	
SALE-L00-00-0063	Size_Distribution		Must be present	E	
SALE-L00-00-0064	Sales_Price		Must be present	E	

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0065	FLUX_location		Must be present	E	Location(s) of the catch

8.1.10. Rules for AAP_Process entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0070	AAP Process	Type	Check code	E	
SALE-L02-00-0070			No duplicated type codes	E	
SALE-L00-00-0070			Freshness must be present	E	For SN
SALE-L02-00-0071			Presentation & preservation must be present	E	
SALE-L01-00-0071		Conversion factor	Positive number	E	

8.1.11. Rules for Size_Distribution entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0080	Size Distribution	Class	Must be present	E	
SALE-L01-00-0080			Check code	E	
SALE-L00-00-0081		Category	Must be present	E	
SALE-L01-00-0082			Check code	E	
SALE-L02-00-0080	AAP_Product & Size Distribution	Usage Class	Usage must be for non direct human consumption if BMS species	W	It is a verification rule
SALE-L02-00-0081		Class Category	If BMS species, the category should be N/A	E	No marketing size for BMS

8.1.12. Rules for Sales_Price entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0090	Sales Price	Charge	Positive or zero value	E	For SN
SALE-L02-00-0090			Mandatory for products	E	For SN
SALE-L02-00-0091			Mandatory for the sales document when products are withdrawn from the market	E	For SN
SALE-L01-00-0091			Charge = 0	W	For SN
SALE-L02-00-0092			Total price must be the total of product price	E	

8.1.13. Rules for FLUX_Organization entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0095	FLUX Organization	Name	Must be present	E	For TOD

8.1.14. Rules for Fishing_Activity entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0100	Fishing Activity	Identification	Check format	E	
SALE-L00-00-0100		Type	Must be present	E	
SALE-L01-00-0101			Check code	E	
SALE-L00-00-0101	Delimited_Period		Must be present	E	
SALE-L02-00-0100			Only one occurrence	E	
SALE-L00-00-0102	Vessel_Tranport_Means		Must be present	E	
SALE-L02-00-0101			Only one occurrence	E	
SALE-L00-00-0103	Fishing_Trip		Must be present	E	
SALE-L02-00-0102			Only one occurrence	E	
SALE-L00-00-0104	FLUX_Location		Must be present	E	Location of the landing
SALE-L02-00-0103			Only one occurrence	E	

8.1.15. Rules for Delimited_Period entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0110	Delimited Period	Start	Must be present	E	
SALE-L01-00-0110			Check format	E	
SALE-L01-00-0111		End	Check format	E	
SALE-L03-00-0110	Delimited Period & FLUX Report Document	Start Creation	The reception date (by the Take-Over state) should not be later than 48h after the landing declaration date	W	For TOD That's the maximum delay. Another rule should check if received under 24h under some conditions (financial turnover).

8.1.16. Rules for Vessel_Transport_Means entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0120	Vessel Transport Means	Identification	Must be present	E	

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0120			Check format of the CFR	E	
SALE-L00-00-0121	Registration Event		Must be present	E	
SALE-L02-00-0120			Only one occurrence	E	
SALE-L00-00-0122	Contact Party		Must be present	E	
SALE-L02-00-0121			At least one occurrence and maximum two	E	

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8.1.17. Rules for Vessel_Country entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0130	Vessel Country	Identification	Must be present	E	
SALE-L01-00-0130			Check code	E	
SALE-L03-00-0130	Vessel Transport Means & Vessel Country & Delimited Period	Identification Country Start	If CFR, the vessel should be in the EU fleet under the flag state at landing date	E	

8.1.18. Rules for Contact_Party entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L01-00-0150	Contact Party	Role	Check code	E	
SALE-L00-00-0150			Master or operator role must be present	E	
SALE-L02-00-0150			No duplicated role	E	
SALE-L02-00-0151			Codes other than master/operator are not allowed	E	
SALE-L02-00-0152	Contact Person		Must be present for each party	E	

8.1.19. Rules for Contact_Person entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L02-00-0160	Specified Contact_Person	GivenNameText AliasText	Check presence. Must be present if AliasText is not present.	E	
SALE-L01-00-0160			Non-empty	E	If present
SALE-L02-00-0161		FamilyNameText AliasText	Check presence. Must be present if AliasText is not present	E	
SALE-L01-00-0161			Non-empty	E	If present
SALE-L02-00-0162		AliasText	Check presence. Must be present if GivenNameText or FamilyNameText is not	E	

BR-ID	Entity	Attribute	BR	E/W	Note
			present.		
SALE-L01-00-0162			Non-empty	E	If present

8.1.20. Rules for Fishing_Trip entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0170	FishingTrip	ID	Check presence. Must be present.	E	At least one occurrence.
SALE-L01-00-0170			Check attribute schemeID Must be EU_TRIP_ID	E	
SALE-L01-00-0171			Check format. Must be according to schemeID rules	E	

8.1.21. Rules for FLUX_Location entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0180	FLUX_Location	TypeCode	Check presence. Must be present.	E	
SALE-L01-00-0180			Check attribute listID Must be FLUX_LOCATION_TYPE	E	
SALE-L01-00-0181			Check code. Must be existing in the list specified in attribute listID	E	
SALE-L02-00-0180	FLUX_Location & AAP_product		It must not be a LOCATION code for AAP products	E	
SALE-L02-00-0181	FLUX_Location & Fishing_Activity		It must be a LOCATION code for the landing	E	
SALE-L02-00-0182		CountryID TypeCode	Check presence. Must be present if Type is LOCATION or ADDRESS.	E	
SALE-L01-00-0182		CountryID	Check attribute listID. Must be TERRITORY	E	
SALE-L01-00-0183			Check code. Must be existing in the list specified in attribute listID	E	
SALE-L02-00-0183		Identification TypeCode	Check presence. Must be present, unless type is "POSITION"	E	Optional for geographical location
SALE-L01-00-0184			Check attribute listID In case Type= "AREA": must be FAO_AREA, , TERRITORY, In case Type= "LOCATION": must be LOCATION, FARM	E	
SALE-L01-00-0185			If FAO_AREA code, the more precise area must be mentioned	W	
SALE-L01-00-0186		Identification	Check code. Must be existing in the list specified in attribute listID	E	
SALE-L02-00-0184		Identification Country	If LOCATION code, the place must be in the country	E	
SALE-L02-00-0185	FLUX Geographical Coordinate	TypeCode	Check presence. Must be present if Type=POSITION.	E	Must be present if location type is POSITION.

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L02-00-0186		Latitude Longitude Identification	Latitude & longitude must be provided if there is no identification and no address	E	
SALE-L02-00-0187	Physical StructuredAddress	TypeCode	Check presence. Must be present if location Type is ADDRESS.	E	Must be present if location type is ADDRESS.

8.1.22. Rules for FLUX_Geographical_Coordinate entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0190	FLUX Geographical Coordinate	LatitudeMeasure	Check presence. Must be present	E	
SALE-L01-00-0190			Check format. Must be number.	E	
SALE-L01-00-0191			Check range. Must be between -90 and 90	E	Boundaries follow the EPSG definition.
SALE-L00-00-0191		LongitudeMeasure	Check presence. Must be present.	E	
SALE-L01-00-0192			Check format. Must be number.	E	
SALE-L01-00-0193			Check range. Must be between -180 and 180	E	Boundaries follow the EPSG definition.

8.1.23. Rules for Structured_Address entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0200	Structured Address	City Name	Must be present	E	
SALE-L00-00-0201		Country	Must be present	E	
SALE-L01-00-0200			Check code	E	
SALE-L00-00-0202		Street Name	Must be present	E	
SALE-L02-00-0200	FLUX Location & Structured Address	Country Country	Should be the same value	E	

8.1.24. Examples of verification rules

BR-ID	Entity	Attribute	BR	E/W	Note
	Sales Document	Take Over DocumentID	<p>Check validity of the reference:</p> <ul style="list-style-type: none"> the reference must exist it should be a take-over decl. data must be validated and without error 	W	For SN
		Take Over DocumentID	<p>Check content of the take-over declaration (TOD) compared to the sales document:</p> <ul style="list-style-type: none"> TOD date <= sales date same vessel same landing sales species in the set of TOD species TOD quantity >= quantity by species 	W	For SN
		Transport DocumentID	<p>Check validity of the reference:</p> <ul style="list-style-type: none"> the reference must exist it should be a transport decl. data must be validated and without error 	W	For SN, TOD
		Transport DocumentID	<p>Check content of the transport declaration (TRD) compared to the sales document:</p> <ul style="list-style-type: none"> TRD date <= sales date same vessel same landing sales species in the set of TRD species TRD quantity >= quantity by species 	W	For SN, TOD

8.2. Sales Query BRs

List of business rules that must be applied to control the validity of any sales request when received.

8.2.1. Rules for Sales_Query entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0400	Sales Query	Identification	Must be present	E	
SALE-L01-00-0400			Check Format : UUID	E	
SALE-L03-00-0400			The reference must be unique	E	
SALE-L00-00-0401		Submitted	Must be present	E	
SALE-L01-00-0401			Check format	E	
SALE-L00-00-0402		Type	At least one value must be present	E	
SALE-L01-00-0402			Check code	E	
SALE-L02-00-0400			No duplicated code	E	
SALE-L02-00-0401	Flux_Party		Must be present	E	
SALE-L02-00-0402			Only one occurrence	E	
SALE-L00-00-0403	Delimired_Period		Must be present	E	
SALE-L02-00-0403			Only one occurrence	E	
SALE-L00-00-0404	Sales_Query parameter		Must be present	E	

8.2.2. Rules for FLUX_Party entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0410	FLUX_Party	Identifier	Mut be present	E	
SALE-L01-00-0410			Check Code	E	

8.2.3. Rules for Delimited_Period entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0420	Delimited Period	Start	Must be present	E	
SALE-L01-00-0420			Check format	E	

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L03-00-0420		Start	StartDate >= SystemDate – 3 years		Past data limited to three years from the current date
SALE-L00-00-0421		End	Must be present	E	
SALE-L01-00-0421			Check format	E	
SALE-L02-00-0420		Start/End	Start <= End	E	

8.2.4. Rules for Sales_Query Parameter entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0430	Sales Query Parameter	Type	Must be present	E	
SALE-L01-00-0430			Check code	E	
SALE-L00-00-0431		Type Value	A role must exist	E	
SALE-L01-00-0431			If Type = FLAG/ROLE/PLACE Check code of the value	E	
SALE-L01-00-0432			If Type=VESSEL Check format of CFR	E	If no value, the query is for all fishing vessels
SALE-L02-00-0430	Sales Query Parameter &FLUX_Party		Type=FLAG only for international organization	E	If no value, the query is for all flag states
SALE-L02-00-0431	Sales Query Parameter &FLUX_Party		Type=ROLE, values FLAG or LAND only for MS INT for international organization	E	
SALE-L01-00-0433			If Type = SALES_ID or TRIP_ID: Check format of the part corresponding to the national number	E	country specific
SALE-L01-00-0434			If Type = SALES_ID or TRIP_ID: Check format of the common part	E	ISO-3 code + '-' + type of report
SALE-L03-00-0430	Sales Query Parameter FLUX Party Delimited Period	Type Value Identification Start	If TYPE=VESSEL and if vessel identifiers are given, the flag of each vessel must be the country of the requester at start date	W	

8.3. Rules for Sales Response entity

List of business rules that must be applied to control the validity of any sales response when received.

8.3.1. Rules for FLUX Response_Document entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0450	FLUX_Response_Document	Identification	Must be present	E	
SALE-L01-00-0450			Check attribute schemeID. Must be UUID.	E	
SALE-L01-00-0451			Check Format. Must be according to the specified schemeID.	E	Must be according to RFC4122 format for UUID.
SALE-L03-00-0450			The identification must be unique and not already exist	E	
SALE-L00-00-0451		Referenced Identification	Must be present	E	
SALE-L01-00-0452			Check attribute schemeID. Must be UUID.	E	
SALE-L01-00-0453			Check Format. Must be according to the specified schemeID.	E	Must be according to RFC4122 format for UUID.
SALE-L03-00-0451			The identification must be unique and not already exist	E	
SALE-L03-00-0452			Must be a reference of a query or sales declaration	E	
SALE-L00-00-0452		ResponseCode	Must be present.	E	
SALE-L01-00-0454			Check attribute listID. Must be FLUX_GP_RESPONSE	E	
SALE-L01-00-0455			Check value. Code must be value of the specified code list in listID.	E	
SALE-L00-00-0453		CreationDateTime	Check presence. Must be present.		
SALE-L01-00-0456			Check Format. Must be date in UTC according to ISO8601	E	e.g. 2008-10-31T15:07:38.6875000Z.
SALE-L03-00-0453			Date must be in the past.	E	
SALE-L02-00-0450	Validation Result Document		Must be present if ResponseCode <> OK	E	
SALE-L00-00-0454	FLUX_Party		Must be present	E	
SALE-L00-00-0455			Only one occurrence	E	

8.3.2. Rules for FLUX_Party entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0460	FLUXParty	Identification	Must be present	E	
SALE-L01-00-0460			Check attribute listID. Must be FLUX_GP_PARTY	E	
SALE-L03-00-0460			Check if RespondentFLUXParty.ID is consistent with FLUX TL values.	W	The party sending must be allowed to send the message

8.3.3. Rules for Validation Result_Document entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0470	Validation Result Document	Identification	Must be present	E	
SALE-L01-00-0470			Check code	E	
SALE-L00-00-0471		Creation	Must be present	E	
SALE-L01-00-0471			Check Format	E	
SALE-L02-00-0470	Validation Result Document & FLUX Response Document	Creation Creation of Report	The Creation must be <= to the Creation of the report	W	
SALE-L00-00-0472	Validation Quality Analysis		Must be present if validation document	E	

8.3.4. Rules for Validation_Quality Analysis entity

BR-ID	Entity	Attribute	BR	E/W	Note
SALE-L00-00-0480	Validation QualityAnalysis	Identification	Must be present.	E	
SALE-L01-00-0480			Check value. Code must be value of the specified code list in listID.	E	
SALE-L00-00-0481		Level	Must be present	E	
SALE-L01-00-0481			Check Code. Must be in the list specified in listID.	E	
SALE-L00-00-0482		Type	Must be present	E	
SALE-L01-00-0482			Check Code. Must be in the list specified in listID.	E	
SALE-L02-00-0480		Referenced_ItemText	At least one occurrence if no link with the Sales Report	W	

9. XML EXAMPLES

XML examples will be provided on the Master Data Register page of the European Commission Fisheries website¹.

10. CODE LISTS

All XSDs and code lists are listed in the Master Data Register of DG MARE of European Commission¹.

The values mentioned in above tables for the listID attribute refer to a code list alias in the table below. This table maps the code list alias to the code list name in MDR. The latter value can be used to retrieve the code values using the FLUX Master Data Management specifications¹⁴.

Code list alias (ListID in the XSD)
FAO_AREA
FAO_SPECIES
FISH_FRESHNESS
FISH_PRESENTATION
FISH_PRESERVATION
FISH_SIZE_CATEGORY
FISH_SIZE_CLASS
FLUX_CONTACT_ROLE
FLUX_GP_PARTY
FLUX_GP_PURPOSE
FLUX_GP_RESPONSE
FLUX_GP_VALIDATION_LEVEL
FLUX_GP_VALIDATION_TYPE
FLUX_PROCESS_TYPE
FLUX_LOCATION_TYPE
FLUX_SALES_PARTY_ID_TYPE
FLUX_SALES_PARTY_ROLE
FLUX_SALES_QUERY_PARAM

¹⁴ FLUX BRS: P1000 – 10; MDM domain

FLUX_SALES_QUERY_PARAM_ROLE
FLUX_SALES_TYPE
FLUX_VESSEL_ID_TYPE
LOCATION
PROD_USAGE
GFCM_STAT_RECTANGLE
ICES_STAT_RECTANGLE
TERRITORY
TERRITORY_CURR

11. FLUX TL ENVELOPE PARAMETERS

The following FLUX TL parameters must be used.

Common name	FLUX TL Envelope Tag name	Value	Remark
Dataflow name	DF	urn:un:unece:uncefact:fisheries:FLUX:SALES:EU:2	According to format: urn:un:unece:uncefact:fisheries:FLUX:[domain]:[context]:[version]
Timeout DateTime	TODT	20	Value is expressed in minutes
Acknowledge of Receipt	AR	True	This parameter indicates that FLUX TL will always return an acknowledgement of receipt when the message has been received by the FLUX TL destination node. Note: a non-delivery message is always sent when the recipient cannot be reached, or timeout (TODT) time has been expired.

12. VERSIONING

Version	Author	Date
1.0.0		31/05/2016
2.0.0	Data model updates + BR for vessel_country	06/10/2016
2.0.1	Chapter 11 added. FLUX_Location and corresponding BRs amended	27/10/2016
<u>2.1.0</u>	<u>SN identifier added in Sales Document and corresponding Business Rules (BR)</u> <u>BRs added for the usage code in AAP Product</u>	<u>01/03/2017</u>

13. CONTACT

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