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NEAFC FLUX Fishing Activities Implementation Document

version 1.1.2

1. INTRODUCTION

This document describes the implementation of the UN/CEFACT standard FLUX for exchange of fishing activity information (the standard) as outlined in the NEAFC Scheme of Control and Enforcement (the Scheme) and should be read in conjunction with the Scheme**.**

In chapters 3 and 4 the scope, legal basis and references are covered. Chapter 5 describes the stakeholders and terminology used and chapter 6 describes the procedures.

In chapter 7 the NEAFC implementation of the data model for Fishing Activity Reports (7.1) and Responses (7.2) is described and Chapter 8 details the common set of business rules that should be implemented by parties exchanging data in NEAFC context.

A reference to XML examples is provided in chapter 9. Finally chapter 10 contains an overview of the code list aliases used in this document and a reference to the Master Data register. Finally Chapter 11 specifies the required parameters for the FLUX TL envelope when transmitting the messages described in this document.

The targeted audience of this document is business and technical staff responsible for system implementation of the fishing activities domain in NEAFC context.

2. GLOSSARY

AIS	Automatic Identification System
BR	Business Rule
BRS	Business Requirements Specification
CP	Contracting Party
EEZ	Exclusive Economic Zone
ERS	Electronic Reporting System
FA	Fishing Activity
FAO	Food and Agriculture Organization of the United Nations
FLAP	Fishing Licenses, Authorisations and Permits domain
FLUX	Fisheries Language for Universal eXchange
FMC	Fisheries Monitoring Centre
GP	General Principles
IRCS	International Radio Call Sign
ISMS	Information Security and Management System
ISO	International Organization for Standardization
MDR	Master Data Register
NEAFC	North-East Atlantic Fisheries Commission
RFMO	Regional Fisheries Management Organization
TL	Transportation Layer (software to exchange UN/FLUX messages
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UN/FLUX	The FLUX standard under United Nations umbrella
UTC	Coordinated Universal Time
UUID	Universally Unique Identifier
UVI	Universal Vessel Identifier
VMS	Vessel Monitoring System
WGS84	World Geodetic System 1984
XML	eXtensible Markup Language
XSD	XML Schema Definition

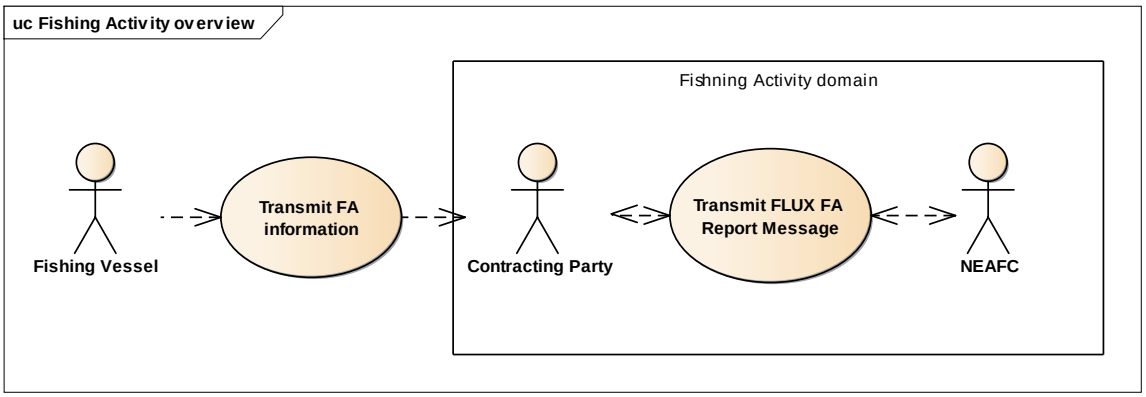
3. LEGAL BASIS AND SCOPE

The implementation of the standard applies within the scope of the Scheme.

The exchange of validated fishing activity information is based on the flag State or Contracting Party principle. The Contracting Party plays the role of a report provider to other stakeholders, ensuring fishing activity information received from vessels flying their flag or the flag of any of its Member States are forwarded to the NEAFC Secretary according to the rules described in this document.

This document concerns exchange of electronic fishing activity information between Contracting Parties and the NEAFC Secretary (Figure 1). For the sake of clarity the document sometimes mentions the exchanges between the master of the fishing vessel and the flag State authorities.

Figure 1: Fishing Activity domain - scope



For each fishing activity message (FLUX FA Report Message), the business rules and definition of mandatory, conditional and optional data elements and attributes are based on requirements defined in the following articles and annexes of the Scheme:

- Article 9 – Recording of Catch and Fishing Effort
- Article 12 – Communication of Fishing Activities
- Article 13 – Communication of Transhipments and of Port of Landing
- Article 14 – Communication to the Secretary
- Annex IV.a

4. REFERENCES

The following **documents** are referenced in this document and are directly linked to this implementation document.

Standard	Version
FLUX BRS: P1000 – 1; General principles	2.1
FLUX BRS: P1000 – 3; Fishing Activity domain	1.1

The following **data structures** are referenced in this document and are directly linked to this implementation document.

Fishing Activities UN/CEFACT XSD	Version
FLUXFAReportMessage_3p1.xsd	3.1
FLUXResponseMessage_6p0.xsd[1]	6.0

Other relevant reading to provide more context to the data model described in this implementation document.

Standard	Version
FLUX BRS: P1000 – 2; Fishing Vessel domain	3.2
FLUX BRS: P1000 – 7: Vessel Position domain	2.0
FLUX BRS: P1000 – 9: Fishing Licence Authorization & Permit (FLAP) domain	1.1

The documents are available on the Master Data Register page of the NEAFC website at https://www.neafc.org/mdr[2].

[1] The response to a FLUX FA Report Message or a FLUX FA Query Message is a general principles response.
[2] https://www.neafc.org/mdr

5. STAKEHOLDERS AND TERMINOLOGY

5.1. Stakeholders and their main responsibilities related to data exchanges

Stakeholder	Responsibility
Flag State or Contracting Party	• Store all data related to fishing activities received from the master of vessels carrying its flag. • Validate data received from the vessels carrying its flag, as a minimum according to the set of validation and verification rules[4]. • Send to the NEAFC Secretary validated information on fishing activities of its vessels that are or will be in the Regulatory Area. • Have fall-back procedures[3] in place to ensure timely exchange of relevant data. • Investigate and where possible correct and resend fishing activity messages that did not pass the validation rules applied by the receiving party. • Forward return message information to the master of the vessel.
Flag State or Contracting Party with inspection presence	• Receive from the NEAFC Secretary, fishing activity data of the vessels of other contracting parties in the NEAFC Regulatory Area, as set out in the Scheme.
NEAFC Secretary	• Receive, validate[4] and store data from all vessels covered by the scope of the Scheme. • Have fall-back procedures[3] in place to ensure timely exchange of relevant data. • Investigate and inform the Contracting Party if the received fishing activity messages did not pass the validation business rules. • Forward or make available to a Contracting Party with active inspection presence validated information on fishing activities related to the NEAFC Regulatory Area. • Forward, where relevant, to any Contracting Party

[3] See section 6.5.

[4] Validation of fishing activity messages (FLUX FA Report Message) according to principles described in section 6.2.1 and the set of validation and verification rules as described in chapter 8 of this document.

	validated information on notifications of arrival to port with the intention to land catches taken or on-loaded in the NEAFC Regulatory Area.
Master of the fishing vessel	Report in an accurate and timely manner all fishing activity information to its flag state in accordance to all applicable rules, so that the flag State or Contracting Party can forward the required fishing activity information to the Secretariat.

5.2. Terminology

The purpose of this section is to clarify the technical terminology used in the UN/CEFACT FLUX standard and how it relates to terminology used in the Scheme.

The diagram in Figure 2 illustrates how fishing activity business information is reported as part of **reports** and how these reports are grouped into a **message** for transmission.

Fishing activity business information, such as Date/time, location, gear used and catch details, describes the activity and is recorded in a **Fishing Activity** (Figure 2(3)). A fishing activity may also contain a reference to the **fishing trip** it belongs to.

Fishing activities are recorded in **Reports** (Figure 2(2)).

Typically a **Report** contains information about one **Fishing Activity**. Examples of Reports are an entry into area report, daily catch report, or transhipment report.

Each **Report** has a unique ID, which doesn't change, even if the report is transmitted several times within different **Messages**. It also contains the date and time of the transmission of the information from the vessel/reception by the FMC and an FMC marking where appropriate.

A **Report** can be corrected. In such case the original **Report** is replaced completely.

A **Report** can be cancelled. In such case the original **Report** is marked and is not applicable anymore. This is used for notification reports (e.g. prior notification of entry, exit)

Reports are communicated to NEAFC in **Messages** (Figure 2(1)). A **Message** contains one or more **Reports.** Each **Message** transmitted has a unique ID. A Message cannot be corrected, nor cancelled.

Figure 2: Diagram showing contents of a FLUX FA Report Message

[1](Fishing Activity) Message (FLUX FA Report Message)

A **Message** is the top-level entity containing business information related to fishing activities transmitted between parties and structured according to a standard. It is also known as "the business message".

Each **Message** transmitted has a unique ID. It cannot be corrected, nor cancelled.

It contains one or more **Reports**[2].

FLUX Report Document (1)

This entity provides the identifier, creation date/time and purpose code of the **Message**.
Purpose code is always 9 (create).
It also contains the owner of the **Message** (party transmitting).

[2](Fishing Activity) Report (FA Report Document (1..*))

A **Report** is comparable with one logbook line (for one vessel) in paper logbooks.
There are 2 types of **Reports**: **Notifications** and **Declarations**

Each **Report** has a unique ID, which doesn't change, even if the report is transmitted several times within different **Messages**[1].
It also contains the date and time of the transmission of the information from the vessel/reception by the FMC and an FMC marking where appropriate.

A **Report** can be corrected. In such case the original **Report** is replaced completely.
A **Report** can be cancelled. In such case the original **Report** is marked and is not applicable anymore. This is used for notification reports (eg. prior notification of entry, exit)

Typically a **Report** contains information about one **Fishing Activity**[3], however
- for haul-by-haul recording transmitted daily[5], multiple **fishing operations**[4] may be recorded in one **Report**.
- if the *purpose* of the **Report** is a cancellation, there is no Fishing Activity entity included.

[4] A fishing operation is a type of fishing activity.
[5] Each haul may also be reported in a separate report.

FLUX Report Document (1)

This entity provides the identifier, creation date/time and purpose code of the **Report**.
It also contains the owner of the **Report** (flag state) and where applicable a reference (identifier) to a report being corrected or cancelled)

VesselTransportMeans (0..1)

Information on the reporting vessel for this **Report**. Mandatory, except when the report is deleted or cancelled.

[3]Fishing Activity (0..*)

The fishing activity entity contains the business information describing the actual activity.

It includes the following information (where required/applicable):
-Type (eg. fishing operation, entry in area, transhipment)
-Date/time/duration of the activity
-Location where the activity will take place or has taken place
-(Anticipated) vessel activity, number of operations, targeted species
-Gear characteristics of the gear deployed and gear problems if any
-Gear shot/retrieval details (time, location)
-Information on bottom/fishing depth
-Details of the other vessel involved in the activity

A fishing activity may also contain a reference to the **fishing trip** it belongs to.

Fishing Trip (0..1)

The fishing trip entity contains the fishing trip ID.
The trip ID is comparable with the unique identifier on the paper logbook.
All fishing activities that belong to the same trip have the same trip ID.

VesselTransportMeans (0..1)

Information on the other vessel involved in the activity.

5.2.1. Contents of a FLUX FA Report Message

a) A Fishing Activity **Message**, or "message", is defined in art 1 letter s of the Scheme. The "FLUX FA Report Message" is the equivalent of this "message" in the UN/CEFACT FLUX standard. It is used for transmitting one or more Fishing Activity Reports.

b) A Fishing Activity **Report**, or "report", is defined in art 1 letter r of the Scheme. The "FA Report Document" is the equivalent of this "report" in the UN/CEFACT FLUX standard. It is the standardized record made by the Contracting Party based on fishing activity information recorded and transmitted by the master of a fishing vessel.

There are 2 types of Fishing Activity Reports[5]

a. Declarations[6] are reports about a fishing activity that is taking or has taken place at the time of its recording and transmission.

b. Notifications[7] are reports about the intention to perform an activity in the future.

A Fishing Activity Report contains business information related to one or more "**Fishing Activities**", as defined in art. 1 letter e of the Scheme.

c) The **Electronic fishing logbook** as defined in article 1 letter p of the Scheme consists of one or more Fishing Activity Reports.

d) "FLUX Report Document" is an entity in the UN/CEFACT FLUX standard data model containing general information related to a FLUX FA Report Message or an FA Report Document. It contains identification, creation date/time, owner/sender, purpose and where applicable a reference to a report being corrected or cancelled.

e) "Vessel Transport Means" is an entity in the UN/CEFACT FLUX standard containing business information related to the vessel, the master of the vessel and position of the vessel at time of transmission of the fishing activity information. Depending on the how this entity is related to the FA Report Document or Fishing Activity, the vessel information recorded is for the reporting vessel or for the other vessel involved in the activity.

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[5] See "Type" in Table 4.

[6] Article 1 letter t of the Scheme.

[7] Article 1letter u of the Scheme.

f) A Fishing Trip within the context of NEAFC is defined in the Scheme art. 1 letter q. In the UN/CEFACT FLUX standard, "Fishing Trip" is the entity that contains the trip identifier for the reported Fishing Activity.

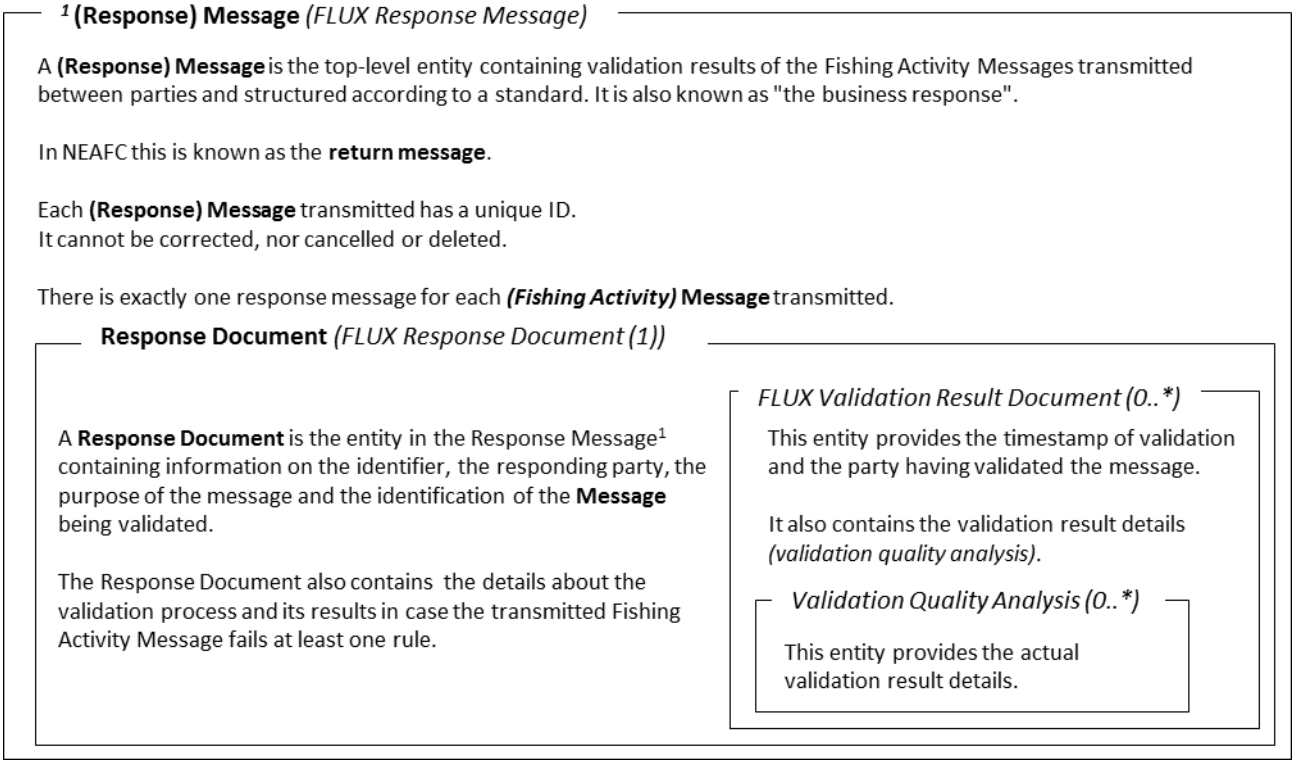
g) "Fishing Operation" is a type of Fishing Activity for reporting business information on fishing operations as described in article 12 of the Scheme.

5.2.2. Contents of a FLUX Response Message

After receiving a Fishing Activity Message and validating the Fishing Activity Reports it contains, NEAFC informs the Contracting Party of the status of the reports. This status is communicated in a Response Message.

The diagram in Figure 3 illustrates how a response message is structured. It contains the information of a return message.

Figure 3: Diagram showing contents of a FLUX Response Message



A **Response Message** (FLUX Response Message) is used in the UN/CEFACT FLUX standard to report validation results about Fishing Activity Messages (FLUX FA Report Message). It contains all problems detected during the validation process. There is one FLUX Response Message for each FLUX FA Report Message.

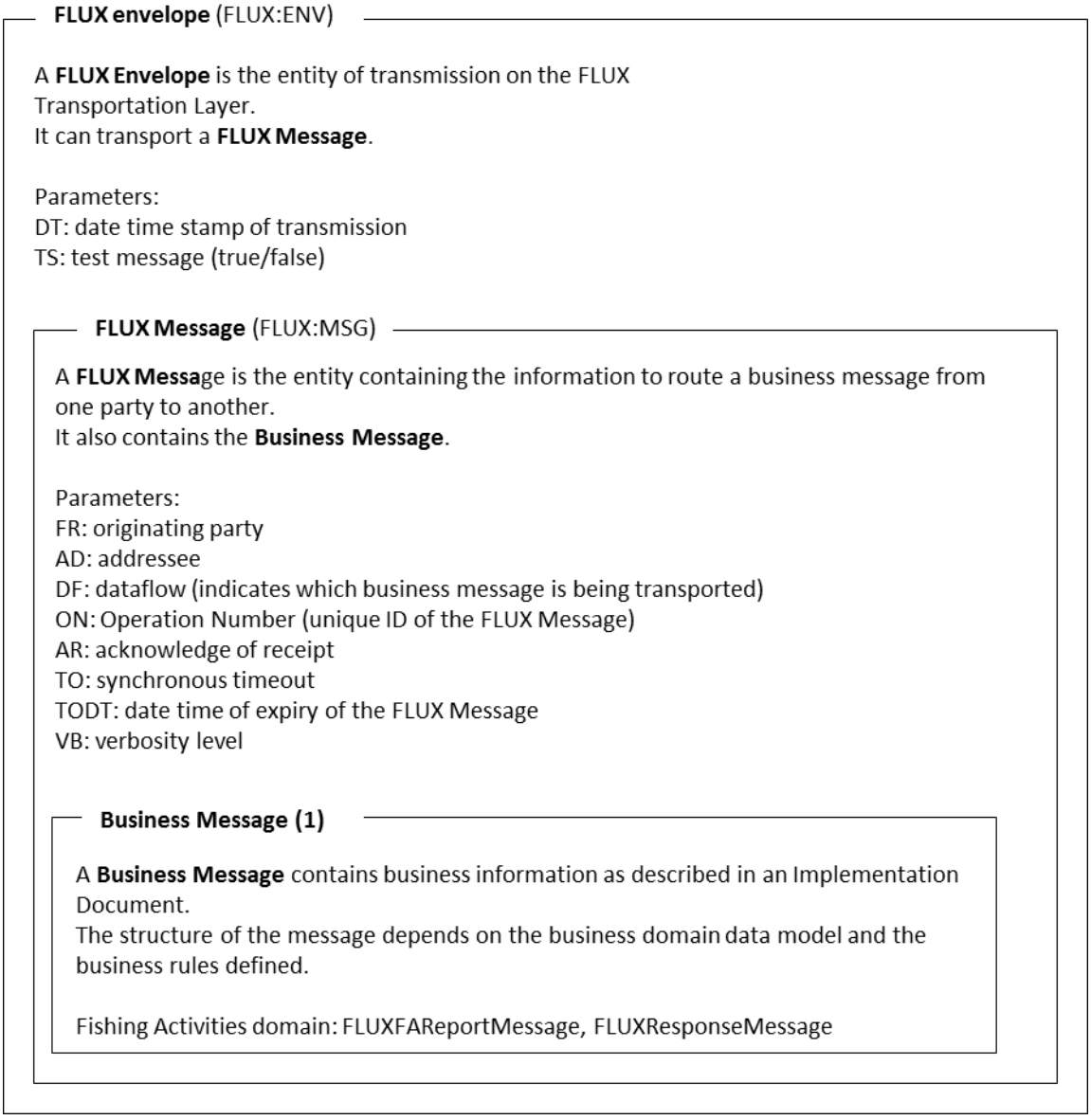
6. PROCEDURES

6.1. Assumptions

The exchange of the Fishing Activity Messages described in this document will be done through the FLUX Transportation Layer for which technical and functional documentations are published on the NEAFC Master Data Register (MDR) https://www.neafc.org/mdr[2].

The diagrams in figures 2 and 3 (see section 5.2) illustrate how Fishing Activity Messages are structured. The diagram in Figure 4 illustrates how these Fishing Activity Messages are encapsulated into a transportation layer envelope to be transported by FLUX TL.

Figure 4: Diagram showing how Fishing Activity Messages are encapsulated in the FLUX TL transportation layer envelope



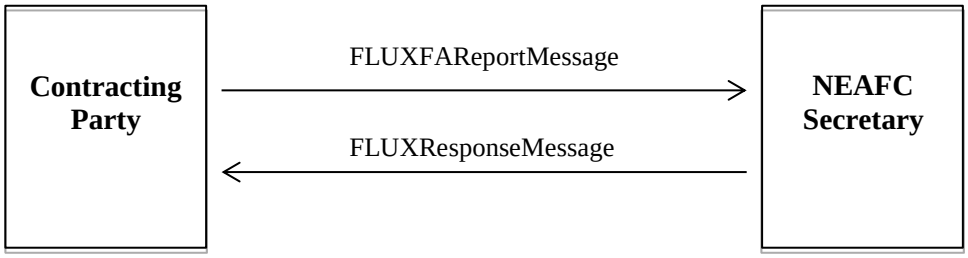
Furthermore, it is assumed that data exchanges are fully automated and immediate. No human approval or intervention should be needed for data exchanges and validation of well-formed messages for which the business rules are defined in this document.

6.2. General principles

The way to exchange Fishing Activity Reports between the Contracting Party and the NEAFC Secretary using the FLUX Transportation Layer is shown in the diagram below (Figure 5).

The Contracting Party transmits a FLUX FA Report Message containing one or more FA Report Documents to the NEAFC Secretary. The NEAFC Secretary acknowledges receipt of the FLUX FA Report Message with a FLUX Response Message.

Figure 5: Diagram showing message transmission between CP and NEAFC

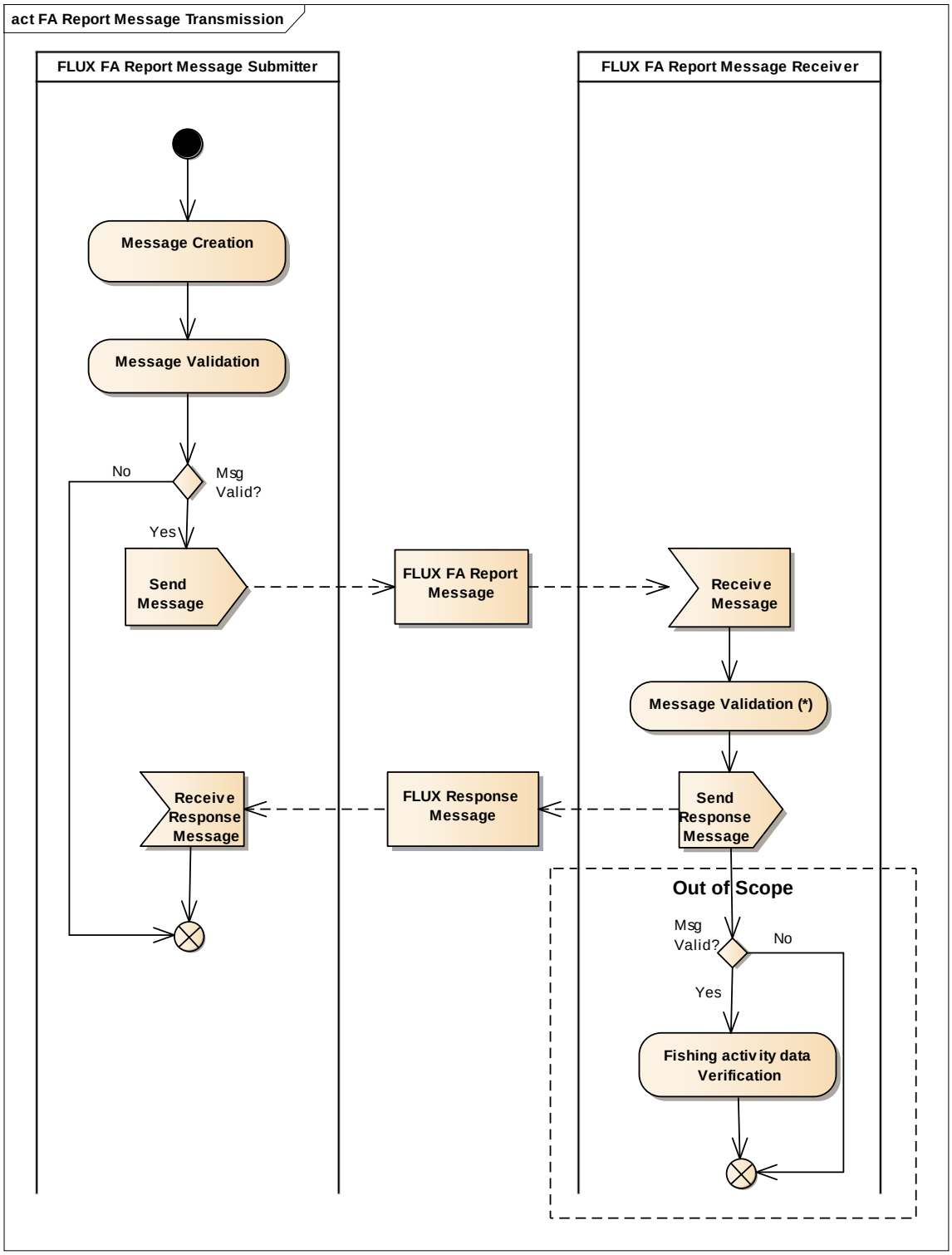


Where the NEAFC Secretary forwards fishing activity information it received to a Contracting Party, the roles in the diagram above are reversed.

The normal procedure for sending FLUX FA Report Messages between the Contracting Party and the NEAFC Secretary is described in Figure 6. This procedure respects the transmission procedure described in the FLUX General Principles document[8] (chapter 6.3.1).

[8] FLUX BRS: P1000 – 1; General principles. See chapter 4.

Figure 6: Message Transmission procedure



6.2.1. Business rules

FLUX FA Report Messages (messages) must be validated by the sender before transmitting and by the receiver when receiving.

There are 2 steps in the validation process (*) (Figure 7):

(1) XML Validation: An XML parser validates the structure of the XML provided[9] against the XSD[10] of the UN/CEFACT FLUX standard. This includes verification of the cardinalities of data elements as described in the Fishing Activities BRS document[11].

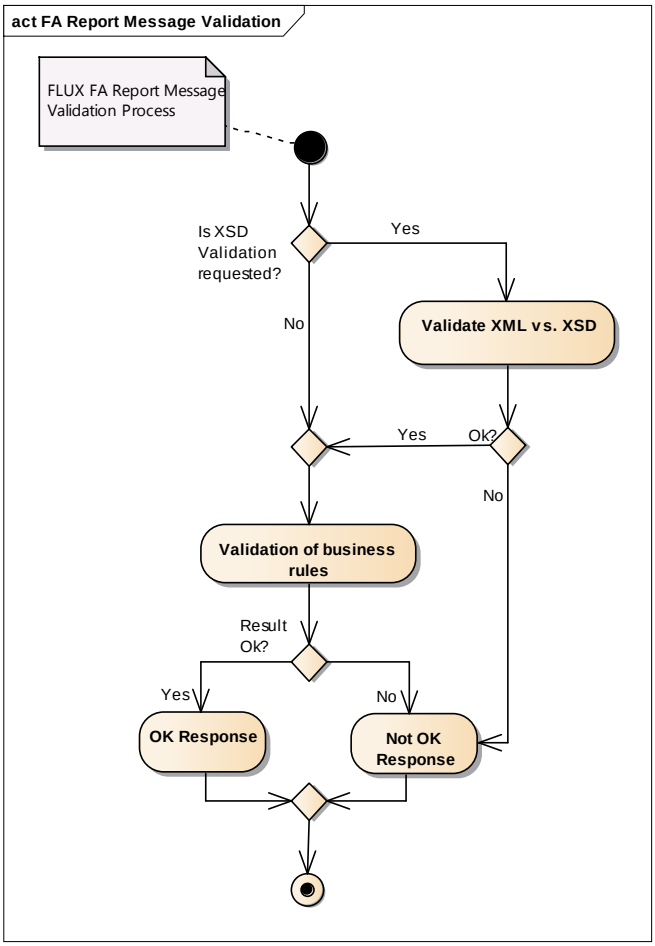
(2) Business Rules Validation: A Business Rules Engine (BRE) validates the information contained in the XML message against the data model requirements described in the implementation for NEAFC (chapter 7) and business rules defined for this business domain (chapter 8).

Figure 7: FLUX FA Report Message validation (detail of the process marked with * in Figure 6)

[9] In general, only some data elements are defined as mandatory in the XSD. Attributes listID or schemeID remain optional unless otherwise specified.

[10] The XSD considered for the validation process is specified in section "Fishing Activities UN/CEFACT XSD" in chapter 4.

[11] FLUX BRS: P1000 – 3; Fishing Activity domain as referred to in chapter 4.



The validation process must apply as many business rules as possible, not stopping at the first failure.

Once the validation step is completed and a response message is sent back, the message could be further processed or forwarded. Any further data verification may be performed on the data contained in the message. This is out of scope of this implementation document (see Figure 6).

When the exchange in an automatic and immediate way is not possible or when exchanged messages cannot be understood by the receiver, the fall-back procedure must be engaged as described in chapter 6.5.

Fishing Activity Messages (FLUX FA Report Message) with an identifier previously received must be rejected by the receiver. For the purposes of this implementation, Fishing Activity Reports (FA Report Documents) with an identifier[12] previously received must be considered as identical[13] and therefore it is not needed to perform the complete validation process again. A receiver may decide to perform the validation anyway.

[12] FLUXReportDocument/ID related to the FAReportDocument entity.
[13] NEAFC Scheme of Control and Enforcement, Annex IX D2c) defines duplicates in NEAFC context

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 warning, and a reference to the entity on which the business rule failed. Details on how to implement this are provided in chapter 7.2.

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 messages generating only warnings cannot be rejected on that basis.

6.3. Fishing Activity Messages

Validated Fishing Activity Messages (FLUX FA Report Message) shall be sent by the Contracting Party of the vessel to the NEAFC Secretary, according to the Scheme and the following principles (Detailed requirements are described in chapter 7.1):

6.3.1. Fishing activity information

- Fishing activity information (or fishing activities), as outlined in the Scheme, is recorded as Fishing Activity Reports (FA Report Document).
- Fishing Activity Reports are transmitted, individually or grouped together, within Fishing Activity Messages (FLUX FA Report Message).
- A Fishing Activity Report (FA Report Document) is uniquely identified and the identifier is assigned once at report creation time. Subsequent transmissions of the same fishing activity information must re-use the same report identifier.
- Fishing activity information on multiple fishing operations[14] that occurred on the same day may be aggregated into one FA Report Document, either as one fishing operation with aggregated figures or with multiple fishing operations (hauls).
- There are two types of Fishing Activity Reports: Declaration and notification reports.
- Declarations and notifications may be corrected as many times as needed, in line with the provisions described in section 6.3.2. Notification reports may be cancelled only once, in line with the provisions described in section 6.3.3.
- FA Report Documents of the same vessel on the same fishing trip belong to the same electronic fishing logbook.

6.3.2. Corrections to fishing activity information

- Accepted declaration and notification reports may be corrected as outlined in the Scheme.
- A correction to fishing activity information is recorded in a FA Report Document and is also called "correction report". It has a unique identifier

[14] Fishing operation as described in art. 12 of the Scheme

and a reference to the unique identifier of the FA Report Document being corrected.

- Correction reports replace the referenced FA Report Document completely and are considered as updates to the original fishing activity information.

- If information related to the catches (FACatch) in a notification report requires correction, a correction to the notification report must be sent. Corrected notifications remain notifications and do not change to declarations.

- Correction reports are part of the electronic fishing logbook.

- Correction reports must be transmitted without delay to the NEAFC Secretary if they relate to activities in the NEAFC Regulatory Area.

6.3.3. Cancellation of notification reports

- Accepted notification reports may be cancelled in case the activity being notified will no longer take place.

- If any information in the original notification report is incorrect, except when it is related to the catches on board or to be unloaded (FACatch), a cancellation report must be sent.

- A cancellation of a notification report is recorded in a FA Report Document. It has a unique identifier and a reference to the unique identifier of the FA Report Document being cancelled.

- Cancelled reports are no longer applicable. They remain part of the electronic fishing logbook however. In case the information contained in the cancelled report would need to be transmitted again, a new notification report must be sent. This new report will have no reference to any previous reports.

- Cancellations must be transmitted without delay to the NEAFC Secretary if they relate to activities intended to take place in the NEAFC Regulatory Area.

6.4. Response to Fishing Activity Messages

In response to a Fishing Activity Message (FLUX FA Report Message), exactly one (general principles) Response Message (FLUX 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 general rules apply:

- The FLUX Response Message shall contain at least an acknowledgement of receipt and a reference to the unique identifier of the FLUX FA Report Message, provided the message is well-formed and valid XML according to the UN/CEFACT FLUX XSD[15]

- Specific business rules apply in case the FLUX FA Report Message is not valid or does not contain a valid unique identifier. These rules are specified in chapter 8.

- In case any of the business validation rules fail (see Figure 7 and chapter 8) with an error or warning, the complete validation results must be included in the response message (see chapter 7.2).

- The party receiving the validation results must take action to correct any issue and retransmit the correct information in a new report (in a new FLUX FA Report Message).

- A FLUX Response Message cannot be corrected nor cancelled.

6.5. Business continuity plan

A description of the business continuity plan, including fall back procedures, for the exchange of Fishing Activity information as outlined in the Scheme is available within the NEAFC Information Security Management System (ISMS) on the NEAFC web site https://www.neafc.org/isms/article14-2

[15] A reference to the XSD considered for the validation process is specified in section "Fishing Activities UN/CEFACT XSD" in chapter 4.

7. DATA MODEL IMPLEMENTATION

7.1. FLUX FA Report Message

The FLUX FA Report Message is used to send fishing activity information recorded and transmitted by the master of a vessel carrying the flag of the Contracting Party to the NEAFC Secretary.

The structure of this message follows the data model of the FLUX Fishing Activities domain. Figure 8 shows the class diagram of this data model, adapted to NEAFC requirements. The different entities and their relationships are represented graphically.

The implementation of this data model follows the following general constraints at the level of XSD Element attributes:

(1) For Code & Identifier DataType: *listID* or *schemeID* attribute must be provided respectively wherever specified in the definition of the element;

(2) For DateTime DataType: only udt:DateTime (of type xsd:dateTime) choice is used. The date and time must be in line with ISO8601 and expressed in UTC, unless explicitly mentioned otherwise. The format shall be YYYY-MM-DDThh:mm:ss[.000000]Z[16];

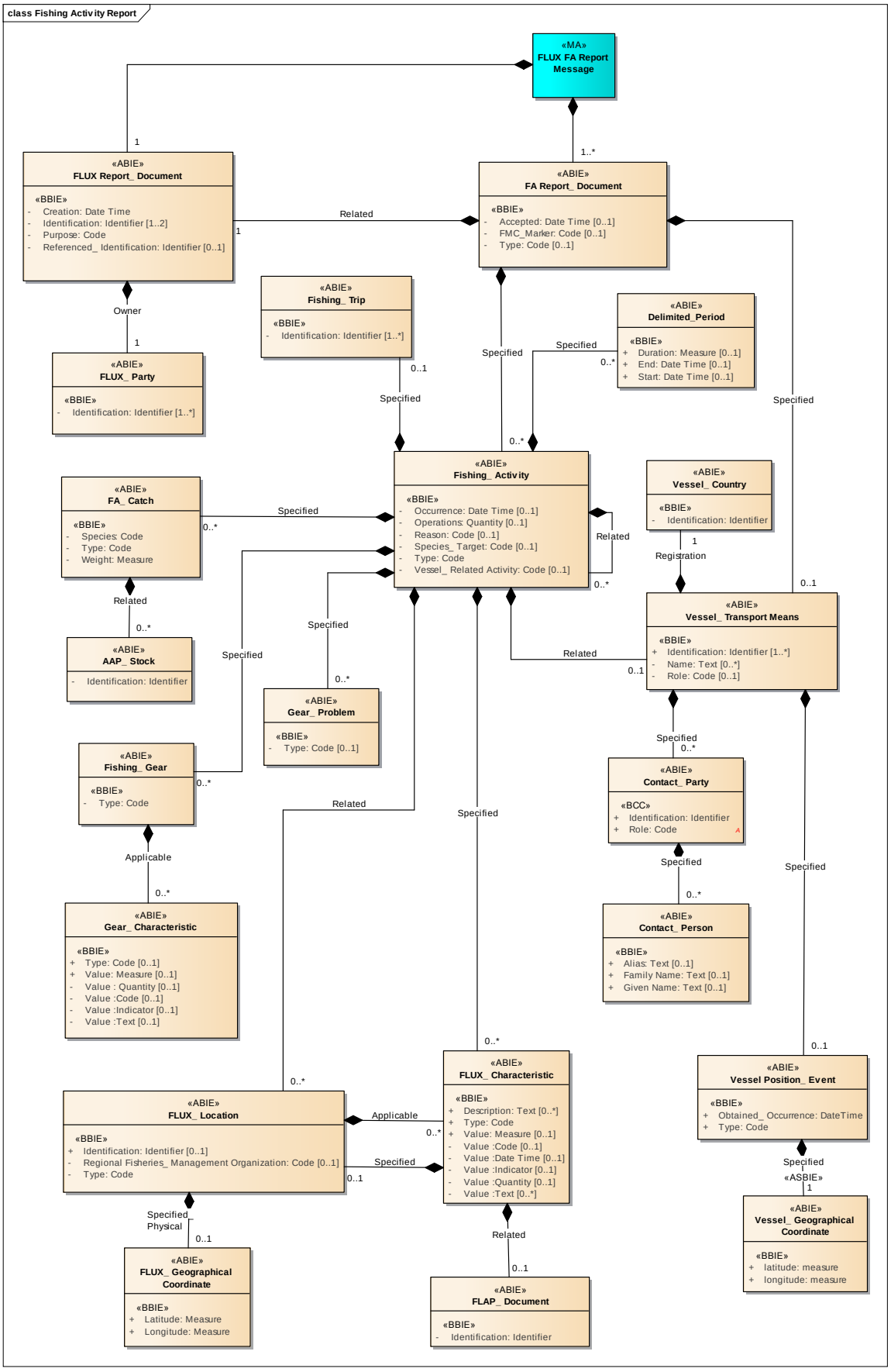
(3) Measure DataType: the unitCode attribute shall be provided.

In the sections below the entities and attributes defined in the data model are described in greater detail including whether or not they are mandatory as well as the conditions that may apply. The entity and attribute names are those described in the Business Requirements Specification document[17].

[16] YYYY= year; MM= month, including leading 0 where month number is less than 10; DD= day of the month including leading 0 where day number is less than 10; T= the letter T to indicate the part of the time section; H24= hours of the day expressed with 2 digits using the 24-hour notation; MI=minutes expressed as 2 digits; SS=seconds expressed as 2 digits; [.000000]= optionally fractions of seconds may be included up to 6 digits, not including the brackets; Z= time zone, which must be Z (i.e. UTC)

[17] The BRS is the description of the UN/CEFACT FLUX standard. See section 4.

Figure 8: Class Diagram for FLUX FA Report Message.



7.1.1. FLUX FA Report Message

Description: A message containing fishing activity information. There can be one or more reports in a message. A definition and schematic view is provided in section 5.2.

Table 1: Data elements and attributes of FLUXFAReportMessage

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
FLUXReport_ Document	Assoc.[18]	1	1	The document details for this FLUX FA Report Message.	See data elements and attributes in Table 2.
FAReport_ Document	Assoc.	1	*	The FAReportDocument contained in this FLUX FA Report Message.	The logbook line containing fishing activity information. See data elements and attributes in Table 4.

Table 2: Data elements and attributes of FLUXReportDocument related to a FLUXFAReportMessage

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The Global Unique Identifier of the FLUX FA Report Message	*schemeID*=UUID[19] as defined in the RFC 4122. Once the message is created, the data contained in the message remains associated with this identifier. Within the context of this implementation document the UUID is treated case insensitive.
Purpose	Code	1	1	The code specifying the purpose of this FLUX FA Report Message.	*listID*= FLUX_GP_PURPOSE Always use 9[20]. There are no corrections or deletions possible for this FLUXFAReportMessage.
Creation	DateTime	1	1	The UTC date and time, of the creation of this FLUX FA Report Message.	Must be according to the definition provided in 7.1(2).
OwnerFLUX Party	Assoc.	1	1	The party owning this FLUX FA Report Message.	The party creating/transmitting the FLUX FA Report Message. See data elements and attributes in Table 3.

[18] Association between 2 entities.

[19] Example: FE52A3BA-6C5A-4C87-BE15-CC19A3023DB1 (see also http://www.guidgenerator.com for more examples)

[20] Reference: Edifact (qDT UN02000125 - Message Function_Code).

Table 3: Data elements and attributes of FLUXParty related to a FLUXFAReportMessage

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The identifier of the FLUX party, creating and transmitting the message.	*schemeID*= FLUX_GP_PARTY ISO-3 letter code of the party creating and transmitting the FLUXFAReportMessage.

7.1.2. FA Report Document

Description: A report containing fishing activity information. A definition and schematic view is provided in section 5.2

Table 4: Common data elements and attributes for all FAReportDocuments

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	0	1	Type of FAReportDocument	"Notification" is a report of a future activity; "Declaration" is a report of a past activity. *ListID*=FLUX_FA_REPORT_TYPE Use value=NOTIFICATION in case the FAReportDocument is a notification of an activity that will take place in the (near) future. Use DECLARATION in case the FAReportDocument is a declaration of an activity that currently takes place or has taken place in the past Optional in case of a deletion report.
Acceptance[21]	DateTime	1	1	The UTC date and time of acceptance of the information by the FMC.	Must be according to the definition provided in 7.1(2).
FMC_Marker	Code	0	1	Marking set by the FMC to indicate intervention by the FMC in the creation or modification of the report	listID=FLUX_FA_FMC Mandatory in case the report has been delayed, corrected/cancelled or generated manually by the FMC.
RelatedFLUX Report_ Document	Assoc.	1	1	The document details for this FA Report Document (the report)	Common entity containing details about report (such as the identifier). See data elements and attributes in Table 5.
Specified Fishing_Activity	Assoc.	0	*	Actual information about the fishing activity/ies reported in this FA Report Document	Typically a FA Report Document contains only one Fishing Activity entity, however - for haul-by-haul recording transmitted daily, there may be multiple instances of the "Fishing Activity" entity with TypeCode "FISHING_OPERATION". - if the FA Report Document is a cancellation (PurposeCode=1), there is no "Fishing Activity" entity included in the report. Note: Corrections to reports replace the whole report, including all "Fishing Activity" entities included in it (see section 6.3.2)..

[21] Note that date and time of transmission by the vessel as recorded by the on-board system cannot be provided as a separate data element in this version of the UN/FLUX standard and corresponding XSD used for this Implementation Document. The issue will be addressed by updating the UN/FLUX standard and will be included in an Implementation Document corresponding to that version of the standard.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					See data elements and attributes in sections 7.1.3 to 7.1.9.
Specified Vessel_Transport Means	Assoc.	0	1	Information about the reporting vessel	Relevant information about the fishing vessel reporting this activity. Optional in case of a cancellation report. See data elements and attributes in Table 17.

Table 5: Data elements and attributes of a FLUXReportDocument related to a FAReportDocument

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	2	Unique identification of the fishing activity report.	At least one occurrence of ID with *schemeID*=UUID as defined in the RFC 4122 must be provided. Once the message is created, the data contained in the message remains associated with this identifier. Within the context of this implementation document the UUID is treated case insensitive. Optionally a second occurrence with *schemeID*=NEAFC_SQ A sequence number, unique per vessel within the calendar year, starting at 1. Format: NNNNNN
Purpose	Code	1	1	The code specifying the purpose of this FLUX Fishing Activity Report.	Creation, correction or cancellation of a report as described in chapter 6.3. *listID*= FLUX_GP_PURPOSE[22] Use 9 to send original data for the first time. Use 5 in case this report is an update or a correction of a previously (accepted) report. Use 1 in case the activity notification reported in the referenced report is to be cancelled.
Creation	DateTime	1	1	The UTC date and time of the creation of this FLUX FA Report document.	Date and time of creation of the report by the FMC. Must be according to the definition provided in 7.1(2).
Referenced_ Identification	Identifier	0	1	The identifier of a referenced FLUX Fishing Activity Report	*schemeID*=UUID as defined in the RFC 4122. A UUID number, for which an update

[22] Reference: Edifact (qDT UN02000125 - Message Function_Code).

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					or cancelation is being sent. Mandatory if the FAReportDocument is a correction or cancellation of an accepted report.
OwnerFLUX_ Party	Assoc.	1	1	The party owning this FA Report Document (report).	Reference to the party creating the report. See data elements and attributes in Table 6.

Table 6: Data elements and attributes of FLUXParty related to a FLUXFAReportDocument

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The identifier of the FLUX party, creating the report.	*schemeID*= FLUX_GP_PARTY ISO-3 code of the Flag State FMC.

7.1.3. Prior Notification of Entry

The table below shows the data elements and attributes that must be provided for a Prior Notification of Entry report as outlined in article 12 of the Scheme.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "NOTIFICATION".

Table 7: Data elements and attributes of a Fishing Activity of type Entry into area

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of Fishing_Activity	*listID*=FLUX_FA_TYPE value= AREA_ENTRY
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	Optional. See data elements and attributes in Table 25.
RelatedFLUX_ Location	Assoc.	1	*	The area being entered.	At least one occurrence of Type=AREA to indicate that the NEAFC Regulatory Area (NEAFC_RA) is being entered. See data elements and attributes in Table 26. *Remark: The position at time of transmission from the vessel is provided as part of the VesselTransportMeans entity (*Table 19*) and should not be reported here.*
SpecifiedFA_ Catch	Assoc.	1	*	The catch on board the vessel at the time of transmission	Quantity on board by species at the time of transmission, expressed in kg live weight. Use type=ONBOARD for catches kept on board. See data elements and attributes in Table 22
Reason	Code	1	1	Planned activity	*listID*=FA_REASON_ENTRY
Species_Target	Code	0	1	The code specifying the directed species when in the area	*listID*=FAO_SPECIES FAO species code of the target species Mandatory where the planned activity is fishing (FIS)
RelatedFishing_ Activity	Assoc.	0	1	Activity detail: Information related to the predicted start of activities within the area	See data elements and attributes in Table 8. Mandatory in case the planned activity is fishing (FIS) or transhipment (TRX).

7.1.3.1. The use of a sub-activity in the context of an Prior Notification of Entry

A sub-activity is used in order to report activity details related to the start of the operations within the area being entered.

There cannot be more than one level of sub-activity.

Table 8: Data elements and attributes of the sub-activity START_ACTIVITY

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of Fishing sub-Activity	*listID*=FLUX_FA_TYPE Use value=START_ACTIVITY.
Occurrence	DateTime	1	1	The estimated UTC date and time of the start of the planned activity	Must be according to the definition provided in 7.1(2).
RelatedFLUX_ Location	Assoc.	1	*	A FLUX_Location related to this fishing sub-activity	Use at least one FLUX_Location of type=POSITION to specify the estimated position where the planned activity will take place. Optionally, use a FLUX_Location of type=AREA to describe the Management Area where the master intends to commence fishing. See data elements and attributes in Table 26.

7.1.4. Fishing Operation declaration

The table below shows the data elements and attributes that must be provided for a fishing operation report as outlined in article 12 of the Scheme.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "DECLARATION".

Table 9: Data elements and attributes of a Fishing Activity of type Fishing Operation

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of Fishing_Activity	*listID*=FLUX_FA_TYPE value=FISHING_OPERATION
Occurrence	DateTime	0	1	UTC (start) date and time when catches were taken or for which a NIL catch is reported.	Mandatory when reporting daily aggregated catches (this means no RelatedFishingActivity entities are present). The time is optional and may be set to zero[23] in such case. Must be according to the definition provided in 7.1(2).
Vessel_Related Activity	Code	1	1	The code specifying the main activity of the vessel in the reported period	*listID*=VESSEL_ACTIVITY
Operations	Quantity	0	1	The number of fishing operations aggregated in the report.	Mandatory in case of daily aggregated reporting
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	Optional. See data elements and attributes in Table 25.
SpecifiedFA_ Catch	Assoc.	0	*	The catch caught and kept on board the vessel and the discards where applicable	Mandatory where a fishing operation has taken place. In case catches were taken the figures are expressed in kg live weight. Use type=ONBOARD for catches kept on board. See data elements and attributes in Table 22.
RelatedFLUX_ Location	Assoc.	0	*	The location where the activity took place (where most of the catch was taken)	Use type=AREA to report catches per relevant geographical area(s) (up to ICES division) and ICES statistical rectangle. Management area where the caches were taken. Mandatory for fisheries where management measures require

[23] The data element used to report this information in the UN/FLUX schema, udt: DateTime (xsd: dateTime type), requires the time component to be included.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					it. See data elements and attributes in Table 26.
Specified Delimited_Period	Assoc.	0	1	Duration of the fishing operation(s) in minutes	Mandatory where a fishing operation has taken place. Use *unitCode=MIN* (minutes). See data elements and attributes in Table 32.
SpecifiedFishing_ Gear	Assoc.	0	1	Fishing gear details for this fishing activity.	Mandatory where a fishing operation has taken place Reporting in line with art. 12.3 of the Scheme. See data elements and attributes in Table 29.
SpecifiedGear_ Problem	Assoc.	0	*	A gear problem specified for this fishing activity.	Mandatory in case a gear problem occurred. See data elements and attributes in Table 31.
Related Vessel_Transport Means	Assoc.	0	*	The (other) vessel(s) involved in this fishing operation	Mandatory when pumping from another vessel's gear or when performing pair fishing. Mandatory to report both the roles of the related and reporting vessels if a related vessel is reported. For pair fishing use RoleCode=PAIR_FISHING_PARTNER. For pumping operation use RoleCode DONOR See data elements and attributes in Table 17.
RelatedFishing_ Activity	Assoc.	0	*	Details about the haul.	Mandatory when reporting catches haul by haul. One related activity for gear shot and one for gear retrieval. See data elements and attributes in Table 10.

7.1.4.1. The use of a sub-activity of a fishing operation

Sub-activities "gear shot" and "gear retrieval" are used when reporting catches haul by haul. There cannot be more than one level of sub-activities; i.e. RelatedFishingActivity entity cannot have a RelatedFishingActivity entity attached to it.

Table 10: Data elements and attributes of a sub-activity of a fishing operation

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of Fishing sub-Activity	*listID*=FLUX_FA_TYPE Use value=GEAR_SHOT or GEAR_RETRIEVAL for gear shot and gear retrieved.
Occurrence	DateTime	1	1	UTC date and time of the start (in case of GEAR_SHOT) or end (in case of GEAR_RETRIEVAL) of the operation	Must be according to the definition provided in 7.1(2).
RelatedFLUX_ Location	Assoc.	1	*	The start (GEAR_SHOT) or end (GEAR_RETRIEVAL) position of the fishing operation.	Use Type=POSITION to describe the location where the sub-activity takes place. In case of GEAR_SHOT also specify a FLUX_Location of type=AREA to report the management area where the catch was taken. This is mandatory where specific management measures require it. See data elements and attributes in Table 26.
SpecifiedFLUX_ Characteristic	Assoc.	0	*	A characteristic specified for this fishing activity.	Mandatory where specific management measures require it. *listID*=FA_CHARACTERISTIC Use value FISHING_DEPTH to specify the depth when gear is fully shot (in case of GEAR_SHOT) and before start hauling (in case of GEAR_RETRIEVAL). Use value BOTTOM_DEPTH to specify the depth between surface and sea bed at start position (in case of GEAR_SHOT) and end position (in case of GEAR_RETRIEVAL). See data elements and attributes in Table 28.

7.1.4.2. The use of Gear_Characteristics to be specified when deploying gear

The gear characteristics to be provided when deploying each gear type are described in Annex (section 14.1).

7.1.5. Discard declaration

The table below shows the data elements and attributes that must be provided for a discard report.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "DECLARATION".

Table 11: Data elements and attributes of a Fishing Activity of type Discard

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of Fishing_Activity	*listID*=FLUX_FA_TYPE value=DISCARD
Occurrence	DateTime	1	1	Start date and time of the operation in UTC	Must be according to the definition provided in 7.1(2). When reporting daily aggregated discards, the date is sufficient. In that case the time part may be set to zero.
Reason	Code	1	1	Reason for discard	*listID*=FA_REASON_DISCARD
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	Optional See data elements and attributes in Table 25.
SpecifiedFA_ Catch	Assoc.	1	*	The catches discarded during this operation	Use Type=DISCARDED to record discards of catches Specify the live weight in kg. See data elements and attributes in Table 22
RelatedFLUX_ Location	Assoc.	1	*	A FLUX_Location related to this fishing activity	See data elements and attributes in Table 26.
SpecifiedFLUX_ Characteristic	Assoc.	0	1	A textual description of the reason for discard	Optional. Can be used in case the reason for discard is "OTH" (other) See data elements and attributes in Table 12.

Table 12: Data elements and attributes of FLUX_Characteristic when used in a discard activity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The type of FLUX characteristic	*ListID*=FA_CHARACTERISTIC Use value=REMARK
Value	Text	1	1	A textual description of the reason for discard	

7.1.6. Report of transhipment (by donor)

The table below shows the data elements and attributes that must be provided for a transhipment notification report (by donor) as outlined in article 13 of the Scheme.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "NOTIFICATION". In this case the reporting vessel (FAReport_Document/SpecifiedVessel_TransportMeans) has the role "DONOR".

Table 13: Data elements and attributes of a prior notification of transhipment (unloading)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of FishingActivity	*listID*=FLUX_FA_TYPE Use value=TRANSHIPMENT
Occurrence	DateTime	1	1	Estimated start date and time of the operation	Must be according to the definition provided in 7.1(2).
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	See data elements and attributes in Table 25.
RelatedFLUX_ Location	Assoc.	1	*	The predicted position where the operation will take place	Specify Type=POSITION to specify the position of the transhipment. See data elements and attributes in Table 26.
SpecifiedFA_ Catch	Assoc.	1	*	The catches intended to be unloaded during this operation or catches prior to unloading.	Use type=ONBOARD for catches on board prior to the transhipment. Use type=UNLOADED in case of unloading. Specify live weights in kg. See data elements and attributes in Table 22.
Related Vessel_Transport Means	Assoc.	1	1	Relevant information about the receiving vessel involved in this unloading operation.	Use role=RECEIVER See data elements and attributes in Table 17.

7.1.7. Report of transhipment (by receiver)

The table below shows the data elements and attributes that must be provided for a transhipment declaration report (by receiver) as outlined in article 13 of the Scheme.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "DECLARATION". In this case the reporting vessel (FAReport_Document/SpecifiedVessel_TransportMeans) has the role "RECEIVER".

Table 14: Data elements and attributes of a Fishing Activity of type Transhipment (loading)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of FishingActivity	*listID*=FLUX_FA_TYPE Use Value=TRANSHIPMENT
Specified Delimited_Period	Assoc.	1	1	The end date and time of the transhipment	At least the end date/time is mandatory. The end date/time is the date and time of completion of the transhipment. See data elements and attributes in Table 32.
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	Optional. See data elements and attributes in Table 25.
RelatedFLUX_ Location	Assoc.	1	*	A FLUXLocation related to this fishing activity	Type=POSITION to specify the exact position of the transhipment. See data elements and attributes in Table 26.
SpecifiedFA_ Catch	Assoc.	1	*	The catches transhipped during this operation or on board after the transhipment	Use Type=LOADED in case of loading of catches. Use Type=ONBOARD to indicate the total catch on board after completion of the operation. Specify live weights (kg). See data elements and attributes in Table 22.
RelatedVessel_ TransportMeans	Assoc.	1	1	The other vessel involved in this transhipment	Use role DONOR. See data elements and attributes in Table 17.

7.1.8. Prior Notification of Exit

The table below shows the data elements and attributes that must be provided for a Prior Notification of Exit report as outlined in article 12 of the Scheme.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "NOTIFICATION" in this case.

Table 15: Data elements and attributes of a Fishing Activity of type Exit from area

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of Fishing_Activity	*listID*=FLUX_FA_TYPE value= AREA_EXIT
Occurrence	DateTime	0	1	Date and time of exit	Must be according to the definition provided in 7.1(2).
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	See data elements and attributes in Table 25.
RelatedFLUX_ Location	Assoc.	1	*	The area being exited.	At least one occurrence of Type=AREA to indicate that the NEAFC Regulatory Area is being exited. Optionally one occurrence of Type=POSITION to report the estimated position at time of exit. See data elements and attributes in Table 26.
SpecifiedFA_ Catch	Assoc.	1	*	The catch on board the vessel at the time of exit	Mandatory. Weights expressed in kg live weight. Use type=ONBOARD for catches kept on board. If no catch is on board, nil catches should be reported. See data elements and attributes in Table 22.

7.1.9. Port of landing report

The table below shows the data elements and attributes that must be provided for a Port of Landing report as outlined in article 13 of the Scheme.

The descriptions of the common data elements and attributes for all FAReport_Documents apply (Table 4). The TypeCode of the FAReport_Document must have the value "NOTIFICATION".

Table 16: Data elements and attributes of a Fishing Activity of type Notification of Arrival

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	A code describing the type of FishingActivity	*listID*=FLUX_FA_TYPE value=ARRIVAL
Occurrence	DateTime	1	1	Estimated date and time of arrival.	Must be according to the definition provided in 7.1(2).
Reason	Code	1	1	The code specifying the reason for the arrival/returning to port	*listID*= FA_REASON_ARRIVAL value=LAN
SpecifiedFishing_ Trip	Assoc.	0	1	The reference to the trip in which this activity took place.	Optional See data elements and attributes in Table 25.
RelatedFLUX_ Location	Assoc.	1	*	The port of landing.	The (intended) port of arrival Use Type=LOCATION when the vessel intends to arrive in a port or other location available on the location list in MDR. Where available the landing site shall be provided as well. See data elements and attributes in Table 26.
SpecifiedFA_ Catch	Assoc.	1	*	The catch on board the vessel at the time of notification	Mandatory. Use Type= "ONBOARD" for the catches on board at the time of notification. Use Type= "UNLOADED" for the catches to be unloaded. See data elements and attributes in Table 22.

7.1.10. Common entities

7.1.10.1. Vessel_TransportMeans entity

Description: Entity used to provide information on a vessel.

Table 17: Data elements and attributes of Vessel_Transport_Means (Vessel domain)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Role	Code	0	1	The role of the vessel in the operation	Mandatory for both reporting and related vessel in case the report contains an activity with a RelatedVesselTransportMeans. *ListID*=FA_VESSEL_ROLE Use value PAIR_FISHING_PARTNER if the vessel is a pair fishing partner in the fishing operation. Use value DONOR to indicate the donor vessel in a loading operation or a notification of loading. Use value RECEIVER to indicate the receiving vessel in an unloading operation or notification of unloading
Identifier	Identifier	1	*	An identifier for this vessel	For the reporting vessel: At least 2 vessel IDs of which one is *schemeID*=IRCS & Value= IRCS number must be provided. The other shall be *schemeID*=UVI where IMO is applicable to the vessel[24]; alternatively the contracting party can use another identifier with schemeID from the code list FLUX_VESSEL_ID_TYPE. For the other vessel involved in the operation *schemeID*=IRCS.
Name	Text	0	1	A name, expressed as text, of the vessel	Optional
Registration Vessel_Country	Assoc.	1	1	Identification of the flag state	See data elements and attributes in Table 18.
Specified Contact_Party	Assoc.	0	1	Reference to information related to the master of the vessel	Mandatory for the reporting vessel. See data elements and attributes in Table 20.
SpecifiedVessel_ PositionEvent	Assoc.	0	1	The position of the vessel at time of transmission.	Mandatory when used in relation to FishingActivity/TypeCode= AREA_ENTRY. See data elements and attributes in Table 19.

[24] Annex IV (a) of the Scheme: Radio Call sign and IMO number is required, where IMO is not applicable (for Vessels under IMO resolution A.1078 (28)), use of either CP Internal reference number or Vessel external registration is required.

7.1.10.2. Vessel_Country entity

Description: Entity used to provide information on the registration location of the vessel (flag state).

Table 18: Data elements and attributes of Vessel_Country (Vessel domain)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identifier	Identifier	1	1	An identifier for the flag state	ISO-3 code of the Flag State. *schemeID*= TERRITORY

7.1.10.3. Vessel_PositionEvent entity

Description: Entity used to provide information on the location of the vessel at time of transmission of activity reports.

Table 19: Data elements and attributes of Vessel_PositionEvent (Vessel domain)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Obtained Occurrence	DateTime	1	1	Date and time when the specified position was obtained.	Date and time of transmission from the vessel (needed for control and enforcement for reports with explicit timelines) Must be according to the definition provided in 7.1(2).
Type	Code	1	1	The type of position	ListID = FLUX_VESSEL_POSITION_TYPE Use value POS only.
SpecifiedVessel_ Geographical Coordinate	Assoc.	1	1	Geographical coordinate information of the position event	Same definition as FLUXGeographicalPosition. See Table 27.

7.1.10.4. Contact_Party entity

Description: An individual, a group, or a body having a role as a contact

Table 20: Data elements and attributes of Contact_Party (Vessel domain)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Role	Code	1	1	A code specifying the role of this contact party	*listID* = FLUX_CONTACT_ ROLE Value must be MASTER
Specified Contact Person	Assoc.	1	1	A specified person for this contact party.	Name of the master of the vessel See data elements and attributes in Table 21.

7.1.10.5. Contact_Person entity

Description: The details of a contact person.

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

Table 21: Data elements and attributes of Contact_Person (Vessel domain)

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
GivenName	Text	0	1	Given name of the master	Required when specifying FamilyName and if Alias is not specified.
FamilyName	Text	0	1	Family name of the master	Required when specifying GivenName and if Alias is not specified.
Alias	Text	0	1	An alias to identify the master	If GivenName and FamilyName are not provided.

7.1.10.6. FA_Catch entity

Description: Fishing Activity (FA) information about the species and quantity.

Table 22: Data elements and attributes of FACatch entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying a type of catch, such as retained on board.	*listID*=FA_CATCH_TYPE
Species	Code	1	1	The FAO species code.	*listID*=FAO_SPECIES For nil catches the species code "MZZ" may be used or target species.
Weight	Measure	1	1	The live weight (kg) of the reported catch.	*unitCode=KGM* 0 for nil catches
SpecifiedSize_ Distribution	Assoc.	0	1	The size distribution specified for the catch.	Optional. Not applicable when used in relocations used as sub-activity. See data elements and attributes in Table 23.
RelatedAAP_ Stock	Assoc.	0	1	The stock specification.	Mandatory if the catches caught belong to a stock listed in NEAFC Recommendation 02:2011 (as amended)[25]. See data elements and attributes in Table 24.

7.1.10.7. Size_ Distribution entity

Description: The size distribution specified for the FA_catch.

Table 23: Data elements and attributes of Size_ Distribution

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Class	Code	1	1	The code specifying the size class	*ListID*= FISH_SIZE_CLASS Use value "LSC" for legally sized fish. Use value "BMS" for fish below minimum conservation reference size.

[25] Annex IV (a) of the Scheme.

7.1.10.8. AAP_Stock

Table 24: Data elements and attributes of AAPStock entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	Identification of the stock.	*SchemeID*= FA_NEAFC_STOCK[26]

7.1.10.9. Fishing_Trip

Description: The fishing trip to which the fishing activity belongs.

Table 25: Data elements and attributes of the FishingTrip entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
Identification	Identifier	1	*	The unique identifier of the fishing trip	The *schemeID* of the identifier must always be provided. The value must be on the code list FA_TRIP_ID_TYPE. At most one occurrence of ID for a given schemeID. E.g. *schemeID*=NEAFC_TN

7.1.10.10. FLUX_Location entity

Description: Entity providing information of a physical location or place where the activity takes place or where catches are taken.

Table 26: Data elements and attributes of FLUXLocation

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying the type of FLUX location.	*ListID*=FLUX_LOCATION_TYPE Use POSITION to report activities or catches at a certain geographical location. Use AREA to report catches per relevant geographical area or to indicate the relevant area for the activity. Use LOCATION if the location of the activity is a port or other location

[26] Annex III of Recommendation 2–2011 as amended by recommendations 14-2013 17-2015 and 13-2016.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					defined on the LOCATION list in MDR
Identification	Identifier	0	1	The identifier for this FLUX location.	Mandatory if TypeCode=AREA: *schemeID*=FAO_AREA up to the ICES division. *schemeID*=STAT_RECTANGLE where available *schemeID*=TERRITORY for EEZ *schemeID*=MANAGEMENT_AREA for locations taking place in areas e.g. managed by RFMOs Mandatory if TypeCode=LOCATION: For ports and other defined locations use: *schemeID*=LOCATION If the location is not in the MDR code list, use the closest relevant MDR location. In such case it is recommended to use in addition a FLUXLocation of Type=POSITION to specify the exact position.
RegionalFisheries Management Organisation	Code	0	1	The code specifying the organization managing fisheries of this FLUX location.	*listID*=RFMO
SpecifiedFLUX_ Geographical Coordinate	Assoc.	0	1	Geographical coordinates information.	Mandatory if TypeCode=POSITION See Table 27.
ApplicableFLUX _Characteristic	Assoc.	0	1	Landing site	Name of the buyer or other specifications describing exactly where in the port the landing will take place. Mandatory if available for a notification of arrival with the intention to land catches caught in the NEAFC RA. Use TypeCode=LANDING_SITE (value from code list FA_LOCATION_ CHARACTERISTIC)

7.1.10.11. FLUX_GeographicalCoordinate entity

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

Table 27: Data elements and attributes of FLUXGeographicalCoordinate

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.

7.1.10.12. FLUX_Characteristic entity

Description: Entity used to provide information of a prominent attribute or aspect of another FLUX entity.

Table 28: Data elements and attributes of FLUX_CHARACTERISTIC

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying the characteristic	When used in data element FLUX_Location *listID*=FLUX_LOCATION_CHARACTERISTIC When used in data element Fishing Activity *listID*= FA_CHARACTERISTIC
Value	Measure	0	1	The measure of the value for this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is MEASURE or NUMBER. Attribute *unitCode* must be set. The unitCode should be defined in the list FLUX_UNIT.
Value	DateTime	0	1	The value, expressed as a date, time, date time, or other date time value, of this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is DATETIME. Must be according to the definition provided in 7.1(2).
Value	Indicator	0	1	The value, expressed as an indicator, for this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is BOOLEAN.
Value	Code	0	1	The code specifying a value of this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is CODE. Attribute listID must be set. Use value of an existing code list on MDR.
Value	Text	0	1	A value, expressed as text, of this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is TEXT.
Value	Quantity	0	1	The value, expressed as a quantity, for this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is QUANTITY.
RelatedFLAP_Document	Assoc.	0	1	The Fishing Licence, Authorization or Permit (FLAP) specified for this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is FLAP_DOCUMENT

[27] Reference to UN_DATA_TYPE field in the code list (on MDR) specified in the listID attribute of FLUXCharacteristic/TypeCode.

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
SpecifiedFLUX_ Location	Assoc.	0	1	A FLUX Location specified for this FLUX characteristic.	If UN_DATA_TYPE[27] for the characteristic (specified in FLUXCharacteristic/TypeCode) is FLUX_LOCATION

7.1.10.13. Fishing_Gear entity

Description: Entity used to provide information of a fishing gear.

Table 29: Data elements and attributes of Fishing_Gear

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying the type of gear	*listID*= GEAR_TYPE The FAO gear codes.
ApplicableGear_ Characteristic	Assoc.	0	*	Specific characteristics of the gear or gear deployment	The characteristics to be reported depending on the gear type as specified in Annex 14.1. See data elements and attributes in Table 30.

7.1.10.14. Gear_Characteristic entity

Description: Specific characteristics of the gear or gear deployment.

Table 30: Data elements and attributes of GearCharacteristic

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying the gear characteristic	*listID*= FA_GEAR_CHARACTERISTIC
Value	Measure	0	1	The measure of the value for this GEAR characteristic.	If UN_DATA_TYPE[28] for the characteristic (specified in GearCharacteristic/TypeCode) is of type MEASURE or NUMBER. Attribute *unitCode* must be set. Use the values specified in Annex 14.1, depending on the gear code. The unitCode is defined in the list FLUX_UNIT.

[28] Reference to UN_DATA_TYPE field in the code list (on MDR) specified in the listID attribute of GearCharacteristic/TypeCode (i.e. FA_GEAR_CHARACTERISTIC).

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Value	Indicator	0	1	The value, expressed as an indicator, for this GEAR characteristic.	If UN_DATA_TYPE[28] for the characteristic (specified in GearCharacteristic/TypeCode) is of type BOOLEAN.
Value	Code	0	1	The code specifying a value of this GEAR characteristic.	If UN_DATA_TYPE[28] for the characteristic (specified in GearCharacteristic/TypeCode) is of type CODE. Attribute listID must be set. Use value of an existing code list on MDR.
Value	Text	0	1	A value, expressed as text, of this GEAR characteristic.	If UN_DATA_TYPE[28] for the characteristic (specified in GearCharacteristic/TypeCode) is of type TEXT.
Value	Quantity	0	1	The value, expressed as a quantity, for this GEAR characteristic.	If UN_DATA_TYPE[28] for the characteristic (specified in GearCharacteristic/TypeCode) is of type QUANTITY.

7.1.10.15. Gear_Problem entity

Description: Entity providing information on a problem with a fishing gear.

Table 31: Data elements and attributes of Gear_problem entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Type	Code	1	1	The code specifying a type of gear problem.	*ListID*=FA_GEAR_PROBLEM

7.1.10.16. DelimitedPeriod entity

Description: A period of time delimited by a start and end date.

Table 32: Data elements and attributes of Delimited_Period entity

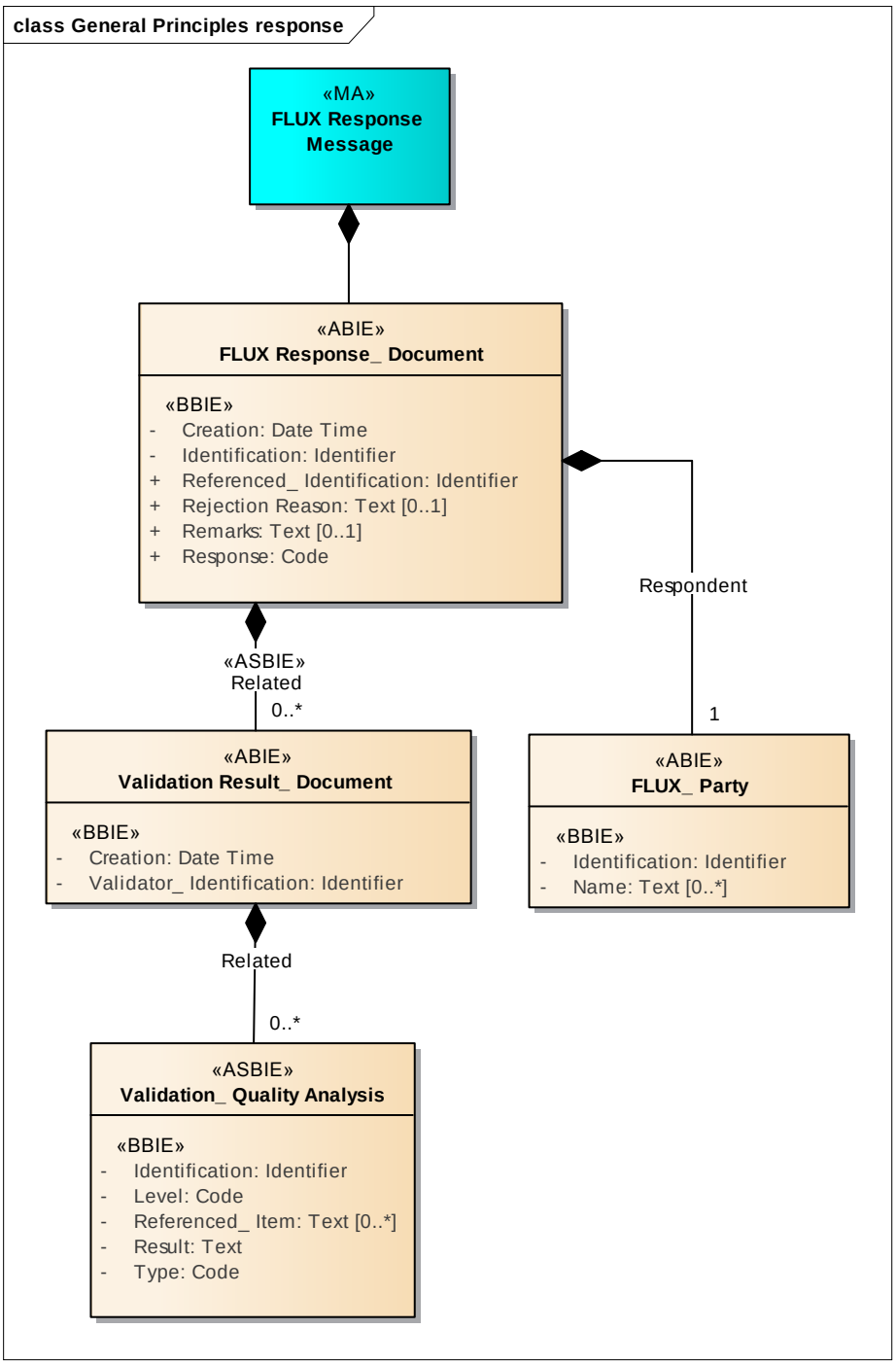
Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Start	DateTime	0	1	UTC start date of the delimited period	Must be according to the definition provided in 7.1(2).
End	DateTime	0	1	UTC end date of the delimited period	Must be according to the definition provided in 7.1(2).
Duration	Measure	0	1	Total duration of the delimited period	The total duration of the delimited period, including the unitCode. Attribute *unitCode* must be "MIN". The unitCode is defined in the list

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
					FLUX_UNIT. The value must not contain decimals.

7.2. FLUX Response Message

The FLUX Response Message is used to respond to a FLUX FA Report Message and contains validation results.

Figure 9: Class Diagram for FLUX Response Message (General Principles Response)


class General Principles response
«MA»
FLUX Response Message
«ABIE»
FLUX Response_ Document
«BBIE»
- Creation: Date Time
- Identification: Identifier
+ Referenced_ Identification: Identifier
+ Rejection Reason: Text [0..1]
+ Remarks: Text [0..1]
+ Response: Code
Respondent
«ASBIE»
Related
0..*
1
«ABIE»
Validation Result_ Document
«BBIE»
- Creation: Date Time
- Validator_ Identification: Identifier
«ABIE»
FLUX_ Party
«BBIE»
- Identification: Identifier
- Name: Text [0..*]
Related
0..*
«ASBIE»
Validation_ Quality Analysis
«BBIE»
- Identification: Identifier
- Level: Code
- Referenced_ Item: Text [0..*]
- Result: Text
- Type: Code

7.2.1. FLUX Response Document

This entity contains information on which message was validated, when and by whom as well as the set of validation results.

Table 33: Data elements and attributes of FLUXResponseDocument entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The Global Unique Identifier of the FLUX Response Message.	*schemeID*=UUID[29] as defined in the RFC 4122.
Referenced Identification	Identifier	1	1	The identifier of a referenced FLUX FA Report, to which this FLUX Response Document refers.	Used for referencing the query message or the report message that has been validated. *schemeID*=UUID[29] as defined in the RFC 4122.
Creation	DateTime	1	1	The UTC date and time of the creation of this FLUX Response Message.	Must be according to the definition provided in 7.1(2).
Response	Code	1	1	The code specifying the general status of the validation process, which has been applied on the referenced FLUX FA Report Message.	*listID*=FLUX_GP_RESPONSE If at least one Business Rule fails with an error (NOK), the whole FLUX FA Report Message is rejected
Remarks	Text	0	1	A general textual remark related to the Response code.	Optional.
Related ValidationResult_ 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). See data elements and attributes in Table 34.
Respondent FLUX_Party	Assoc.	1	1	The party owning this FLUX Report Document.	See data elements and attributes in Table 36.

7.2.2. Validation Result Document

Table 34: Data elements and attributes of ValidationResultDocument entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Validator Identification	Identifier	1	1	The identifier the validating party.	*schemeID*=FLUX_GP_PARTY
Creation	DateTime	1	1	The UTC date/time of the creation of this validation report.	Must be according to the definition provided in 7.1(2).
Related Validation_ QualityAnalysis	Assoc.	0	*	The validation result document related to this FLUX response.	Only the failed business rules[30] are part of FLUX Response Document. The information on the failed business rules are at the level of data field. See data elements and attributes in Table 35.

7.2.3. Validation Quality Analysis

Table 35: Data elements and attributes of QualityAnalysis entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
ID	Identifier	1	1	Business rule identification.	See chapter 8. e.g.: FA-L00-00-0000
Level	Code	1	1	The code specifying the validation level of the business rule.	*listID*= FLUX_GP_VALIDATION_LEVEL e.g.: L00
Type	Code	1	1	The code specifying the type of error found.	*listID*= FLUX_GP_VALIDATION_TYPE e.g. Error, warning, etc.
Result	Text	1	1	Text explaining the business rule violation.	Standardized error/warning message in English. *Message* description on MDR in *listID*=FA_BR
ReferencedItem	Text	0	*	An information to locate in the XML the data causing the problem	X-path to the data element generating the business rule failure. Mandatory for rules with specific reference to an entity/data field/attribute

[30] All business rules applicable to the message that failed must be included (see section 6.4).

7.2.4. Respondent FLUX_Party

Table 36: Data elements and attributes of RespondentFLUXParty entity

Entity/Field Name	DataType	Cardinality		Description	Remarks
		min	max		
Identification	Identifier	1	1	The identifier of the party generating the response.	*schemeID*= FLUX_GP_PARTY

8. BUSINESS RULES

The list of business rules below is used to verify that the data quality of Fishing Activity 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 (see also sections 6.2.1 and 6.4).

Before transmitting Fishing Activity messages, all business rules defined in this implementation document must be applied.

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 NEAFC website (https://www.neafc.org/mdr) [2].

Messages received must be validated according to the applicable business rules at the time of creation of the Fishing Activity Report document (FLUXFAReportDocument/CreationDateTime associated to the FAReportDocument). A business rule must be applied if the data used by the business rule is available in the message.

Mandatory and conditionally mandatory data elements are identified in chapter 7. Where a data element is mandatory to be provided, given the conditions, the XML tags in the report shall be present and not be empty. Where data elements are provided while not mentioned in this implementation document, but nevertheless comply to the UN/FLUX standard, the XML tags in the report may be ignored by the receiving party. It is therefore not mandatory to validate those data elements.

Rules related to data elements are only applicable if the data element is present, except for the rules which explicitly check the presence of a data element. Rules related to data elements of a particular entity, including the rules checking the presence of data elements, are only applicable if those entities are present. Rules checking presence of entities are applicable only if the parent entity is present.

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 rules[31] defined to detect overloaded data elements and therefore to report such issue to the sender. Such data elements are ignored by the validation process (e.g. multiple IRCS identifiers for a vessel in the XML: allowed by the standard but limited to one in the implementation document …)

[31] Additional business rules can be defined in a future version

Validation of the format of the value of an identifier is based on the format defined for the schemeID. The format check must be applied if the format description and expression are provided for the schemeID in the Master Data Register. If it is not provided, any value provided must be considered valid.

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 following methodology: FA-Lxx-BB-CCCC
    - FA: Referring to the Fishing Activities domain
    - Lxx: The level of the business rule, where x is
        - 00: Integrity control
        - 01: Data field validation (one attribute)
        - 02: Row validation (one report)
        - 03: Content validation (coherence between reports or with external data)
    - BB: optional sub-level. This part of the numbering is used to identify the sub-levels, if FLUX domain requires the split of the business rules levels. If the domain does not require sub-level, '00' must be used.

      Not used in the Fishing Activities domain.
    - CCCC: This part of BR identification represents the sequence number of the business rule in the level and/or sub-level group so it can be uniquely identified.
- Entity/Attribute: the entity in the Fishing Activities data model and the attribute(s) name(s) within this entity used by the BR. The names of entities and attributes are as defined in the UN/CEFACT XSD files.
- BR: description of the rule
- E/W: error or warning.
- Note: Any relevant information to clarify the BR

8.1. General business rules

BR-ID	Entity/Attribute	BR	E/W [32]	Note
FA-L00-00-0000	FLUXFAReportMessage	Verifies whether or not the message is valid XML and validates against the XSD schema	E	An invalid XML message has been received.

8.2. Rules for FLUXFAReportMessage entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0001	FLUXFAReportMessage/FLUXReportDocument/ID	Check presence. Must be present.	E	
FA-L01-00-0002	FLUXFAReportMessage/FLUXReportDocument/ID	Check attribute schemeID. Must be UUID.	E	
FA-L01-00-0003	FLUXFAReportMessage/FLUXReportDocument/ID	Check Format of the value. Must be according to the specified schemeID.	E	Check is case insensitive.
FA-L03-00-0004	FLUXFAReportMessage/FLUXReportDocument/ID	The identification must be unique and not already exist	E	If it exists already, the contents are considered identical and the message may be ignored by the receiving party.
FA-L00-00-0005	FLUXFAReportMessage/FLUXReportDocument/CreationDateTime	Check presence. Must be present.	E	
FA-L01-00-0006	FLUXFAReportMessage/FLUXReportDocument/CreationDateTime	Check Format. Must be according to the definition provided in 7.1(2).	E	
FA-L03-00-0007	FLUXFAReportMessage/FLUXReportDocument/CreationDateTime	Date must be in the past.	E	A threshold of 10 minutes to compensate for incorrect clock synchronization of the exchanging systems must be taken into account.
FA-L00-00-0008	FLUXFAReportMessage/FLUXReportDocument/PurposeCode	Check presence. Must be present.	E	
FA-L01-00-0009	FLUXFAReportMessage/FLUXReportDocument/PurposeCode	Check attribute listID. Must be FLUX_GP_PURPOSE	E	If listID provided.
FA-L01-00-0010	FLUXFAReportMessage/FLUXReportDocument/PurposeCode	Check code. Must be value 9 (original data)	E	
FA-L00-00-0014	FLUXFAReportMessage/FLUXReportDocument/OwnerFLUXParty/ID	Check presence. Must be present	E	
FA-L01-00-0015	FLUXFAReportMessage/FLUXReportDocument/OwnerFLUXParty/ID	Check attribute schemeID. Must be FLUX_GP_PARTY	E	
FA-L03-00-0016	FLUXFAReportMessage/FLUXReportDocument/OwnerFLUXParty/ID	Check if OwnerFLUXParty/ID is consistent with FLUX TL values.	E	The party sending must be allowed to send the message. Part of FLUX TL FR-value before colon must be equal to OwnerFLUXParty/ID

[32] Error/Warning

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0017	FLUXFAReportMessage/FAReportDocument	Check presence. At least one occurrence must be present.	E	

8.3. Rules for FAReportDocument entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0020	FAReportDocument/TypeCode, FAReportDocument/RelatedFLUXReportDocument/PurposeCode	Check presence. Must be present in case of a new message or a correction.	E	PurposeCode 9or 5.
FA-L01-00-0021	FAReportDocument/TypeCode	Check attribute listID. Must be FLUX_FA_REPORT_TYPE	E	
FA-L01-00-0022	FAReportDocument/TypeCode	Check code. Must be existing in the list specified in attribute listID.	E	
FA-L00-00-0025	FAReportDocument/AcceptanceDateTime	Check presence. Must be present.	E	
FA-L01-00-0026	FAReportDocument/AcceptanceDateTime	Check Format. Must be according to the definition provided in 7.1(2).	E	Include the check if the date provided exists.
FA-L03-00-0027	FAReportDocument/AcceptanceDateTime	Date must be in the past	E	A threshold of 10 minutes to compensate for incorrect clock synchronization of the exchanging systems must be taken into account.
FA-L00-00-0480	FAReportDocument/FMCMarker	Check attribute listID. Must be FLUX_FA_FMC if data element present	E	
FA-L01-00-0481	FAReportDocument/FMCMarker	Check code. Must be existing in the list specified in attribute listID	E	
FA-L01-00-0028	FAReportDocument/RelatedFLUXReportDocument	Check presence. Must be present.	E	
FA-L01-00-0580	FAReportDocument/RelatedFLUXReportDocument/ID	Check attribute schemeID. At least one occurrence of schemeID must be UUID. In addition, another occurrence may be NEAFC_SQ	E	SQ number is optional
FA-L01-00-0030	FAReportDocument/RelatedFLUXReportDocument/ID	Check Format. Must be according to the specified schemeID.	E	Check is case insensitive.
FA-L00-00-0032	FAReportDocument/RelatedFLUXReportDocument/PurposeCode	Check presence. Must be present	E	
FA-L01-00-0033	FAReportDocument/RelatedFLUXReportDocument/PurposeCode	Check attribute listID. Must be FLUX_GP_PURPOSE	E	
FA-L01-00-0034	FAReportDocument/RelatedFLUXReportDocument/PurposeCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L03-00-0035	FAReportDocument/RelatedFLUXReportDocument/ReferencedID, FAReportDocument/RelatedFLUXReport Document/PurposeCode	Check presence. Must be present if correction, deletion or cancellation of an earlier report. PurposeCode = 1, 3 or 5.	E	
FA-L01-00-0036	FAReportDocument/RelatedFLUXReportDocument/ReferencedID	Check attribute schemeID. Must be UUID.	E	
FA-L01-00-0037	FAReportDocument/RelatedFLUXReportDocument/ReferencedID	Check Format. Must be according to the specified schemeID.	E	Check is case insensitive.
FA-L00-00-0039	FAReportDocument/RelatedFLUXReportDocument/CreationDateTime	Check presence. Must be present.	E	
FA-L01-00-0040	FAReportDocument/RelatedFLUXReportDocument/CreationDateTime	Check Format. Must be according to the definition provided in 7.1(2).	E	
FA-L03-00-0041	FAReportDocument/RelatedFLUXReportDocument/CreationDateTime	Date must be in the past.	W	A threshold of 10 minutes to compensate for incorrect clock

BR-ID	Entity/Attribute	BR	E/W	Note
				synchronization of the exchanging systems must be taken into account.
FA-L02-00-0042	FAReportDocument/AcceptanceDateTime, FAReportDocument/RelatedFLUXReportDocument/CreationDateTime	Acceptance date/time must be before Creation date/time	E	A threshold of 10 minutes to compensate for incorrect clock synchronization of the exchanging systems must be taken into account.
FA-L00-00-0043	FAReportDocument/RelatedFLUXReportDocument/OwnerFLUXParty/ID	Check presence. Must be present	E	
FA-L01-00-0044	FAReportDocument/RelatedFLUXReportDocument/OwnerFLUXParty/ID	Check attribute schemeID. Must be FLUX_GP_PARTY	E	
FA-L02-00-0045	FAReportDocument/RelatedFLUXReportDocument/OwnerFLUXParty/ID, FLUXFAReportMessage/FLUXReportDocument/OwnerFLUXParty/ID	Check if FAReportDocument/RelatedFLUXReportDocument/OwnerFLUXParty/ID (owner of the report) is consistent FLUXFAReportMessage/FLUXReportDocument/OwnerFLUXParty/ID (party sending the message).	W	Both values must be identical, except where FLUXFAReportMessage/FLUXReportDocument/OwnerFLUXParty/ID starts with letter "X". E.g. XEU, XFA
FA-L00-00-0046	FAReportDocument/SpecifiedVesselTransportMeans, FAReportDocument/PurposeCode	SpecifiedVesselTransportMeans must be present, unless deletion or cancellation report.	E	If purposeCode 9 or 5, this entity is mandatory
FA-L00-00-0047	FAReportDocument/SpecifiedFishingActivity	Check presence. Must be present, unless deletion or cancellation report.	E	If purposeCode 9 or 5, there must be exactly one occurrence, except for fishing operations (code FISHING_OPERATION or JOINT_FISHING_OPERATION) occurring on the same day.

8.4. Rules for VesselTransportMeans

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0563	VesselTransportMeans/ID	Check presence. At least 2 identifiers with distinct schemeID must be present if used in SpecifiedVesselTransportMeans	E	
FA-L00-00-0570	VesselTransportMeans/ID	Check presence. At least 1 identifier must be present if used in RelatedVesselTransportMeans	E	
FA-L01-00-0051	VesselTransportMeans/ID	Check schemeID. SchemeIDs must be present in the list FLUX_VESSEL_ID_TYPE	E	
FA-L01-00-0052	VesselTransportMeans/ID	Check Format. Must be according to the specified schemeID.	E	
FA-L03-00-0482	VesselTransportMeans/ID	One occurrence of ID must have schemeID=IRCS.	E	
FA-L00-00-0055	VesselTransportMeans/RoleCode	Check presence. Must be present if used in FishingActivity entity (ic. RelatedVesselTransportMeans).	E	Conditions for RoleCode for the reporting vessel (i.e. FAReportDocument /SpecifiedVesselTransportMeans) are specified elsewhere.
FA-L01-00-0056	VesselTransportMeans/RoleCode	Check attribute listID. Must be FA_VESSEL_ROLE	E	
FA-L01-00-0057	VesselTransportMeans/RoleCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L00-00-0058	VesselTransportMeans/Registration VesselCountry/ID	Check presence. Must be present	E	
FA-L01-00-0059	VesselTransportMeans/Registration VesselCountry/ID	Check schemeID. Must be TERRITORY	E	
FA-L01-00-0060	VesselTransportMeans/Registration VesselCountry/ID	Check code. Must be existing in the list specified in attribute schemeID	E	
FA-L03-00-0062	VesselTransportMeans/ID, VesselTransportMeans/RegistrationVesselCountry/ID	The vessel identification and registration location (flag state) must be consistent	W	The vessel (based on the reported IDs) must be registered in the reported flag state on the report creation date.
FA-L00-00-0067	VesselTransportMeans/Specified ContactParty	Check presence. Must be present if used in entity FAReportDocument/SpecifiedVesselTransportMeans	E	
FA-L00-00-0069	VesselTransportMeans/Specified ContactParty/RoleCode	Check listID. Must be FLUX_CONTACT_ROLE	E	
FA-L01-00-0070	VesselTransportMeans/Specified ContactParty/RoleCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L02-00-0590	VesselTransportMeans/Specified ContactParty/RoleCode	Must be MASTER if used in entity FAReportDocument/SpecifiedVesselTransportMeans	W	
FA-L00-00-0072	VesselTransportMeans/Specified ContactParty/SpecifiedContactPerson/GivenName, VesselTransportMeans/SpecifiedContactParty/SpecifiedContactPerson/Alias	Check presence. Must be present if AliasText is not present.	E	
FA-L00-00-0074	VesselTransportMeans/Specified ContactParty/SpecifiedContactPerson/FamilyName, VesselTransportMeans/SpecifiedContactParty/SpecifiedContactPerson/Alias	Check presence. Must be present if Alias is not present	E	
FA-L00-00-0076	VesselTransportMeans/Specified ContactParty/SpecifiedContactPerson/Alias, VesselTransportMeans/SpecifiedContactParty/Sp	Check presence. Must be present if GivenName or FamilyName is not present.	E	In some cases the name of the master is not available as first and last name,

BR-ID	Entity/Attribute	BR	E/W	Note
	ecifiedContactPerson/GivenName, VesselTransportMeans/SpecifiedContactParty/SpecifiedContactPerson/FamilyName			but as one text field containing a concatenation of both.
FA-L01-00-0077	VesselTransportMeans/SpecifiedContactParty/SpecifiedContactPerson/Alias	Non-empty	E	In some cases the name of the master is not available as first and last name, but as one text field containing a concatenation of both.
FA-L02-00-0469	VesselTransportMeans/ SpecifiedVesselPositionEvent, FishingActivity/TypeCode	Check presence. SpecifiedVesselPositionEvent must be present if FishingActivity/TypeCode=AREA_ENTRY	E	

8.5. Rules for VesselPositionEvent

BR-ID	Entity	BR	E/W	Note
FA-L00-00-0458	VesselPositionEvent/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0459	VesselPositionEvent/TypeCode	Check attribute listID. Must be FLUX_VESSEL_POSITION_TYPE	E	
FA-L01-00-0460	VesselPositionEvent/ TypeCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L00-00-0461	VesselPositionEvent/ObtainedOccurenceDateTime	Check presence. Must be present.	E	
FA-L01-00-0462	VesselPositionEvent/ObtainedOccurenceDateTime	Check Format. Must be according to the definition provided in 7.1(2)	E	Include the check if the date provided exists.
FA-L00-00-0463	VesselPositionEvent/SpecifiedVesselGeographicalCoordinate/LatitudeMeasure	Check presence. Must be present	E	
FA-L01-00-0464	VesselPositionEvent/SpecifiedVesselGeographicalCoordinate/LatitudeMeasure	Must be a number with at least 3 decimal positions between -90.000 and 90.000 included.	E	
FA-L01-00-0465	VesselPositionEvent/SpecifiedVesselGeographicalCoordinate/LongitudeMeasure	Must be a number with at least 3 decimal positions between -180.000 and 180.000 included.	E	
FA-L00-00-0455	VesselPositionEvent/SpecifiedVesselGeographicalCoordinate/LongitudeMeasure	Check presence. Must be present	E	

8.6. Rules for FishingActivity entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0090	FishingActivity/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0091	FishingActivity/TypeCode	Check attribute listID. Must be FLUX_FA_TYPE	E	
FA-L01-00-0092	FishingActivity/TypeCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L01-00-0094	FishingActivity/OccurrenceDateTime	Check Format. Must be according to the definition provided in 7.1(2)	E	If provided. In some cases, depending on fishing activity type, a delimited period must be used instead.
FA-L01-00-0097	FishingActivity/ReasonCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L01-00-0101	FishingActivity/SpeciesTargetCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L01-00-0102	FishingActivity/VesselRelatedActivityCode	Check attribute listID. Must be VESSEL_ACTIVITY	E	
FA-L01-00-0103	FishingActivity/VesselRelatedActivityCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L01-00-0104	FishingActivity/Operations Quantity	Must be a positive integer[33] number or zero (>=0)	E	
FA-L01-00-0105	FishingActivity/SpecifiedDelimitedPeriod/DurationMeasure	Must be a positive number or zero (>=0)	E	
FA-L01-00-0106	FishingActivity/SpecfiedDelimitedPeriod/DurationMeasure	Check attribute unitCode. Must be MIN (minutes)	W	Duration expressed in minutes
FA-L01-00-0484	FishingActivity/ SpecifiedDelimitedPeriod/DurationMeasure	Check presence of attribute unitCode. Must be present if data element provided.	E	

8.7. Rules for FACatch entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0150	FACatch/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0151	FACatch/TypeCode	Check attribute listID. Must be FA_CATCH_TYPE	E	
FA-L01-00-0152	FACatch/TypeCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L00-00-0153	FACatch/SpeciesCode	Check presence. Must be present.	E	
FA-L01-00-0154	FACatch/SpeciesCode	Check attribute listID. Must be FAO_SPECIES	E	
FA-L01-00-0155	FACatch/SpeciesCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L00-00-0565	FACatch/WeightMeasure	Check presence. Must be present.	E	
FA-L01-00-0160	FACatch/WeightMeasure	Check attribute UnitCode. Must be KGM (kilograms)	E	

[33] Integer numbers are numbers without fractions. They should be provided in the reports without decimals.

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L01-00-0161	FACatch/WeightMeasure	Positive number with maximum 2 decimals or zero (>=0)	E	
FA-L01-00-0166	FACatch/SpecifiedSizeDistribution/ClassCode	Check attribute listID. Must be FISH_SIZE_CLASS	E	i.e. BMS, LSC
FA-L01-00-0167	FACatch/SpecifiedSizeDistribution/ClassCode	Check code. Must be existing in the list specified in attribute listID	E	

8.8. Rules for AAPStock entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0491	AAPStock/ID	Check presence. Must be present.	E	
FA-L01-00-0492	AAPStock/ID	Check attribute schemeID. Must be FA_NEAFC_STOCK	E	
FA-L01-00-0493	AAPStock/ID	Check code. Must be existing in the list specified in attribute schemeID	E	

8.9. Rules for FishingTrip entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0190	FishingTrip/ID	Check presence. Must be present.	E	At least one occurrence.
FA-L00-00-0487	FishingTrip/ID	Check attribute schemeID. Must be present.	E	
FA-L02-00-0591	FishingTrip/ID	Check attribute schemeID. At most one occurrence of ID for a given schemeID.	E	
FA-L01-00-0192	FishingTrip/ID	Check format. Must be according to schemeID rules.	E	

8.10. Rules for FLUXLocation entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0195	FLUXLocation/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0196	FLUXLocation/TypeCode	Check attribute listID. Must be FLUX_LOCATION_TYPE	E	
FA-L01-00-0197	FLUXLocation/TypeCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L02-00-0201	FLUXLocation/ID, FLUXLocation/TypeCode	ID must be present, unless TypeCode is POSITION or ADDRESS	E	ID is optional for address and geographical location
FA-L01-00-0473	FLUXLocation/ID, FLUXLocation/TypeCode	Check attribute schemeID of ID. In case TypeCode=AREA: schemeID must be FAO_AREA, STAT_RECTANGLE, TERRITORY, MANAGEMENT_AREA. In case	E	

BR-ID	Entity/Attribute	BR	E/W	Note
		TypeCode= "LOCATION" the schemeID must be LOCATION		
FA-L01-00-0203	FLUXLocation/ID	Check value. Must be existing in the list specified in attribute schemeID	E	
FA-L01-00-0204	FLUXLocation/RegionalFisheries ManagementOrganisationCode	Check attribute listID. Must be RFMO.	E	
FA-L01-00-0205	FLUXLocation/RegionalFisheries ManagementOrganisationCode	Check value. Must be existing in the list specified in attribute listID	E	
FA-L02-00-0206	FLUXLocation/SpecifiedPhysical FLUXGeographicalCoordinate, FLUXLocation/TypeCode	Check presence. Must be present if FLUXLocation/TypeCode =POSITION.	E	Must be present if location type is POSITION.
FA-L01-00-0216	ApplicableFLUXCharacteristic/T ypeCode	Check attribute listID. Must be FLUX_LOCATION_CHARACTERIST IC if used in entity FLUXLocation	E	

8.11. Rules for FLUXGeographicalCoordinate entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0207	FLUXLocation/SpecifiedPhysical FLUXGeographicalCoordinate/L atitudeMeasure	Check presence. Must be present.	E	
FA-L01-00-0213	FLUXLocation/SpecifiedPhysical FLUXGeographicalCoordinate/L atitudeMeasure	Must be a number with at least 3 decimal positions between -90.000 and 90.000 included.	E	Boundaries follow the EPSG[34] definition for WGS84.
FA-L00-00-0210	FLUXLocation/SpecifiedPhysical FLUXGeographicalCoordinate/L ongitudeMeasure	Check presence. Must be present.	E	
FA-L01-00-0214	FLUXLocation/SpecifiedPhysical FLUXGeographicalCoordinate/L ongitudeMeasure	Must be a number with at least 3 decimal positions between -180.000 and 180.000 included.	E	Boundaries follow the EPSG[34] definition for WGS84.

8.12. Rules for FishingGear entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0540	FishingGear/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0120	FishingGear/TypeCode	Check attribute listID. Must be GEAR_TYPE	E	
FA-L01-00-0121	FishingGear/TypeCode	Check code. Must be existing in the list specified in attribute listID	E	
FA-L02-00-0592	FishingGear/ApplicableGearChar acteristic, FishingGear/TypeCode	ApplicableGearCharacteristic must be present if FishingGear/TypeCode requires specific characteristics to be	W	As many occurrences required as defined in the

[34] The EPSG Geodetic Parameter Dataset is a collection of definitions of coordinate reference systems and coordinate transformations. It is a standardized way to specify the coordinate system & parameters. WGS84 corresponds to EPSG:4326.

BR-ID	Entity/Attribute	BR	E/W	Note
		reported. Only applicable if used in entity FishingActivity		annex 14.1).

8.13. Rules for GearCharacteristic entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0124	GearCharacteristic/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0125	GearCharacteristic/TypeCode	Check attribute listID. Must be FA_GEAR_CHARACTERISTIC	E	
FA-L01-00-0126	GearCharacteristic/TypeCode	Check the value of the code. Must be existing in the list specified in attribute listID	E	
FA-L00-00-0128	GearCharacteristic/ValueMeasure	If UN_DATA_TYPE[35] for the characteristic (specified in GearCharacteristic/TypeCode) is MEASURE or NUMBER, ValueMeasure must be present and have a value	E	If gear characteristic requires value of type Measure
FA-L01-00-0510	GearCharacteristic/ValueMeasure	Check attribute *unitCode*. The unitCode is defined in the list FLUX_UNIT. Use the value as specified in Annex 14.1.	E	
FA-L00-00-0129	GearCharacteristic/ValueIndicator	If UN_DATA_TYPE[35] for the characteristic (specified in GearCharacteristic/TypeCode) is BOOLEAN, ValueIndicator must be present and have a value.	E	If gear characteristic requires value of type Indicator
FA-L00-00-0130	GearCharacteristic/ValueCode	If UN_DATA_TYPE[35] for the characteristic (specified in GearCharacteristic/TypeCode) is CODE, ValueCode must be present and have a value	E	If gear characteristic requires value of type Code
FA-L03-00-0145	GearCharacteristic/ValueCode	Check presence of attribute listID. Must be present and have a value of an existing code list in MDR.	E	
FA-L01-00-0146	GearCharacteristic/ValueCode	Check value. Must be existing on the MDR code list specified in listID.	E	
FA-L00-00-0131	GearCharacteristic/Value	If UN_DATA_TYPE[35] for the characteristic (specified in GearCharacteristic/TypeCode) is TEXT, Value must be present and non-empty.	E	If gear characteristic requires value of type Text
FA-L00-00-0132	GearCharacteristic/ValueQuantity	If UN_DATA_TYPE[35] for the characteristic (specified in GearCharacteristic/TypeCode) is QUANTITY, ValueQuantity must be present and have a value	E	If gear characteristic requires value of type Quantity

[35] Reference to UN_DATA_TYPE field in the FA_GEAR_CHARACTERISTIC code list on MDR.

8.14. Rules for GearProblem entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0135	GearProblem/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0136	GearProblem/TypeCode	Check attribute listID. Must be FA_GEAR_PROBLEM.	E	
FA-L01-00-0137	GearProblem/TypeCode	Check code. Must be existing in the list specified in attribute listID.	E	

8.15. Rules for FLUXCharacteristic entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0220	FLUXCharacteristic/TypeCode	Check presence. Must be present.	E	
FA-L01-00-0221	FLUXCharacteristic/TypeCode	Check the value of the code. Must be existing in the list specified in attribute listID	E	
FA-L00-00-0223	FLUXCharacteristic/ValueMeasure	If UN_DATA_TYPE[36] for the characteristic (specified in FLUXCharacteristic/TypeCode) is MEASURE or NUMBER, ValueMeasure must be present and have a value.	E	If FLUX_characteristic requires value of type Measure
FA-L00-00-0229	FLUXCharacteristic/ValueMeasure	Check attribute *unitCode*. The unitCode is defined in the list FLUX_UNIT.	E	If FLUX_characteristic requires value of type Measure
FA-L00-00-0224	FLUXCharacteristic/ValueDateTime	If UN_DATA_TYPE[36] for the characteristic (specified in FLUXCharacteristic/TypeCode) is DATETIME, ValueDateTime must be present.	E	If FLUX_characteristic requires value of type DateTime
FA-L00-00-0225	FLUXCharacteristic/ValueIndicator	If UN_DATA_TYPE[36] for the characteristic (specified in FLUXCharacteristic/TypeCode) is BOOLEAN, ValueIndicator must be present and have a value.	E	If FLUX_characteristic requires value of type Indicator
FA-L00-00-0226	FLUXCharacteristic/ValueCode	If UN_DATA_TYPE[36] for the characteristic (specified in FLUXCharacteristic/TypeCode) is CODE, ValueCode must be present and have a value.	E	If FLUX_characteristic requires value of type Code
FA-L03-00-0147	FLUXCharacteristic/ValueCode	Check presence of attribute listID. Must be present and have a value of an existing code list in MDR.	E	
FA-L01-00-0148	FLUXCharacteristic/ValueCode	Check value. Must be existing on the MDR code list specified in listID.	E	
FA-L00-00-0227	FLUXCharacteristic/Value	If UN_DATA_TYPE[36] for the characteristic (specified in FLUXCharacteristic/TypeCode) is TEXT, Value must be present and non-empty.	E	If FLUX_characteristic requires value of type Text

[36] Reference to UN_DATA_TYPE field in the code list (on MDR) specified in the listID attribute of FLUXCharacteristic/TypeCode.

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0228	FLUXCharacteristic/ValueQuantity	If UN_DATA_TYPE[36] for the characteristic (specified in FLUXCharacteristic/TypeCode) is QUANTITY, ValueQuantity must be present and have a value.	E	If FLUX_characteristic requires value of type Quantity

8.16. Additional rules for a prior notification of entry

BR-ID	Entity/Attribute	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FAReportDocument/TypeCode*	*If AREA_ENTRY NOTIFICATION*		*All rules in this table apply to reports that match this condition.*
FA-L02-00-0471	FishingActivity/RelatedFLUXLocation	Check presence. At least 1 occurrence must be present if the activity is an area entry notification.	E	
FA-L02-00-0456	FishingActivity/RelatedFLUXLocation/TypeCode	At least one occurrence of RelatedFLUXLocation/TypeCode must have the value AREA if the activity is an area entry notification.	E	
FA-L02-00-0466	FishingActivity/RelatedFLUXLocation/TypeCode	The schemeID of at least one occurrence with RelatedFLUXLocation/TypeCode=AREA must have RelatedFLUXLocation/ID=MANAGEMENT_AREA if the activity is an area entry notification.	W	
FA-L02-00-0468	FishingActivity/SpecifiedFACatch/TypeCode	Must have at least one occurrence with TypeCode ONBOARD if the activity is an area entry notification	E	
FA-L02-00-0511	FishingActivity/ReasonCode	Check presence. Must be present if the activity is an area entry notification.	E	
FA-L02-00-0512	FishingActivity/ReasonCode	Check attribute listID. Must be FA_REASON_ENTRY if the activity is an area entry notification	E	
FA-L02-00-0514	FishingActivity/SpeciesTargetCode, FishingActivity/ReasonCode	Check presence. Must be present if ReasonCode=FIS if the activity is an area entry notification	E	
FA-L02-00-0515	FishingActivity/SpeciesTargetCode	Check attribute listID. Must be FAO_SPECIES if the activity is an area entry notification	E	
FA-L02-00-0517	FishingActivity/RelatedFishingActivity, FishingActivity/ReasonCode	Check presence of RelatedFishingActivity. Must be present if the activity is an area entry notification and ReasonCode is FIS or TRX.	E	
FA-L02-00-0520	FishingActivity/RelatedFishingActivity/TypeCode	Check value of the code. Must be START_ACTIVITY if the activity is an area entry notification	E	
FA-L02-00-0521	FishingActivity/RelatedFishingActivity/OccurenceDateTime, FishingActivity/TypeCode	Check presence. Must be present if the parent activity is an area entry notification	E	
FA-L02-00-0523	FishingActivity/RelatedFishingActivity/RelatedFLUXLocation, FishingActivity/TypeCode	Check presence. Must be present if the parent activity is an area entry notification.	E	
FA-L02-00-0524	FishingActivity/RelatedFishingActivity/RelatedFLUXLocation/TypeCode, FishingActivity/TypeCode	Check value. At least one occurrence of RelatedFLUXLocation/TypeCode must be POSITION if the parent activity is an area entry notification.	E	

8.17. Additional rules for a fishing operation declaration

BR-ID	Entity/Attribute	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FAReportDocument/TypeCode*	*If FISHING_OPERATION DECLARATION*		*All rules in this table apply to reports that match this condition.*
FA-L02-00-0256	FishingActivity/VesselRelatedActivityCode	Check presence. Must be present if the activity is fishing operation declaration.	E	
FA-L02-00-0535	FishingActivity/OperationsQuantity, FishingActivity/RelatedFishingActivity	Check presence. Must be present if the activity is a fishing operation declaration and no RelatedFishingActivity entities are present	E	Not applicable for haul by haul (i.e. RelatedFishingActivity GEAR_SHOT, GEAR_RETRIEVAL)
FA-L02-00-0564	FishingActivity/SpecifiedFACatch, FishingActivity/VesselRelatedActivityCode	Check presence. Must be present if the activity is fishing operation declaration and VesselRelatedActivityCode = FIS	E	
FA-L02-00-0536	FishingActivity/SpecifiedFACatch/TypeCode	Value must be ONBOARD if the activity is fishing operation declaration	E	
FA-L02-00-0537	FishingActivity/SpecifiedDelimitedPeriod/DurationMeasure, FishingActivity/VesselRelatedActivityCode	Check presence. Must be present if the activity is fishing operation declaration and VesselRelatedActivityCode = FIS	E	
FA-L02-00-0531	FishingActivity/RelatedFLUXLocation, FishingActivity/RelatedFLUXLocation/ID	At least one occurrence must be present with schemeID=MANAGEMENT_AREA if activity is fishing operation declaration	W	
FA-L02-00-0532	FishingActivity/RelatedFLUXLocation, FishingActivity/RelatedFLUXLocation/ID	At least one occurrence must be present with schemeID=FAO_AREA or STAT_RECTANGLE if activity is fishing operation declaration and no RelatedFishingActivity entities are present	E	
FA-L03-00-0545	FishingActivity/RelatedFLUXLocation/ID	If attribute schemeID=FAO_AREA, then must be FAO division (3 levels: area, sub-area, division) if the activity is fishing operation declaration	W	
FA-L03-00-0546	FishingActivity, FishingActivity/RelatedFishingActivity	If the activity is fishing operation declaration, there must be either no RelatedFishingActivity or there must be 2	W	
FA-L02-00-0260	FishingActivity/RelatedFishingActivity/TypeCode, FishingActivity/TypeCode	If the activity is fishing operation declaration, FishingActivity/RelatedFishingActivity/TypeCode must be GEAR_SHOT or GEAR_RETRIEVAL (if RelatedFishingActivity entity is present).	E	
FA-L02-00-0547	FishingActivity/RelatedFishingActivity/RelatedFLUXLocation	Check presence. At least one occurrence must be present if the activity is fishing operation declaration.	E	
FA-L02-00-0548	FishingActivity/RelatedFishingActivity/RelatedFLUXLocation/TypeCode, FishingActivity/RelatedFishingActivity/TypeCode	Check value of RelatedFishingActivity/RelatedFLUXLocation/TypeCode. If RelatedFishingActivity/TypeCode= GEAR_SHOT and the activity is fishing operation declaration, there must be at least one occurrence with TypeCode=POSITION	E	Start position
FA-L02-00-0549	FishingActivity/RelatedFishingActivity/RelatedFLUXLocation/TypeCode, FishingActivity/RelatedFishingActivity/TypeCode	Check value of RelatedFishingActivity/RelatedFLUXLocation/TypeCode If RelatedFishing Activity/TypeCode= GEAR_RETRIEVAL SHOT and the activity is fishing operation declaration, there must be at least one occurrence with TypeCode=POSITION	E	End position.

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L02-00-0550	FishingActivity/RelatedFishingActivity/SpecifiedFLUXCharacteristic/TypeCode	Check value. If provided, there must be one occurrence with FISHING_DEPTH and one with BOTTOM_DEPTH	E	
FA-L02-00-0610	FishingActivity/RelatedFishingActivity/TypeCode, FishingActivity/TypeCode	If the activity is a fishing operation declaration and the RelatedFishingActivity/TypeCode is either GEAR_SHOT or GEAR_RETRIEVAL, then the RelatedFishingActivity shall not contain SpecifiedFACatch entities.	E	
FA-L00-00-0571	FAReportDocument/SpecifiedVesselTransportMeans/RoleCode, FishingActivity/RelatedVesselTransportMeans	Check presence. Must be present if the activity is fishing operation declaration and a relatedVesselTransportMeans is present.	E	The role of the reporting vessel must be provided in case more than one vessel is involved in the activity
FA-L01-00-0582	FishingActivity/RelatedVesselTransportMeans/RoleCode	Must be either PAIR_FISHING_PARTNER or DONOR if the activity is a fishing operation declaration.	E	The role of the other vessel involved in the activity must be specified.

8.18. Additional rules for a discard declaration

BR-ID	Entity	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FishingActivity/FAReportDocument/TypeCode*	*If DISCARD DECLARATION*		*All rules in this table apply to reports that match this condition.*
FA-L02-00-0281	FishingActivity/RelatedFLUXLocation	Check presence. At least 1 occurrence must be present if the activity is discard declaration.	E	
FA-L02-00-0567	FishingActivity/SpecifiedFACatch, FishingActivity/SpecifiedFACatch/TypeCode	At least one occurrence must be present and have TypeCode=DISCARDED if the activity is discard operation declaration	W	
FA-L02-00-0533	FishingActivity/SpecifiedFACatch/SpecifiedFLUXLocation, FishingActivity/SpecifiedFACatch/SpecifiedFLUXLocation/ID	At least one occurrence must be present having a SpecifiedFLUXLocation/ID with schemeID=MANAGEMENT_AREA if activity is discard operation declaration (and catches provided)	W	Location where the discarded catches were taken.
FA-L02-00-0534	FishingActivity/SpecifiedFACatch/SpecifiedFLUXLocation, FishingActivity/SpecifiedFACatch/SpecifiedFLUXLocation/ID	At least one occurrence must be present with schemeID=FAO_AREA or STAT_RECTANGLE if activity is discard operation declaration (and catches provided)	E	Location where the discarded catches were taken.
FA-L02-00-0560	FishingActivity/ReasonCode	Check presence. Must be present if the activity is discard operation declaration.	E	
FA-L02-00-0561	FishingActivity/ReasonCode	Check attribute listID. Must be FA_REASON_DISCARD if the activity is discard operation declaration	E	
FA-L02-00-0562	FishingActivity/OccurenceDateTime	Check presence. Must be present if the activity is discard operation declaration.	E	
FA-L02-00-0568	FishingActivity/SpecifiedFLUXCharacteristic/TypeCode	Value must be REMARK if the activity is discard operation declaration	E	

8.19. Additional rules for a transhipment declaration (by receiver)

BR-ID	Entity/Attribute	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FishingActivity/FAReportDocument/TypeCode*	If TRANSHIPMENT DECLARATION		*All rules in this table apply to reports that match this condition.*
FA-L02-00-0321	FishingActivity/RelatedFLUXLocation	Check presence. At least 1 occurrence must be present if the activity is a transhipment declaration.	E	
FA-L02-00-0322	FishingActivity/RelatedFLUXLocation/TypeCode	If the activity is a transhipment declaration, the TypeCode value of at least one RelatedFLUXLocation must be LOCATION or POSITION.	E	
FA-L02-00-0323	FishingActivity/RelatedVesselTransportMeans	Check presence. Must be present if the activity is a transhipment declaration.	E	
FA-L00-00-0559	FAReportDocument/SpecifiedVesselTransportMeans/RoleCode	Check presence. Must be present if the activity is a transhipment declaration.	E	
FA-L02-00-0569	FishingActivity/ RelatedVesselTransportMeans/ RoleCode	Check value. Must be DONOR if the activity is a transhipment declaration.	E	
FA-L02-00-0552	FishingActivity/SpecifiedFACatch/TypeCode	Check value. Must be LOADED or ONBOARD if the activity is a transhipment declaration.	E	
FA-L02-00-0583	FishingActivity/SpecifiedFACatch, FishingActivity/SpecifiedFACatch/TypeCode	Check presence. At least 2 occurrences of SpecifiedFACatch with different values for SpecifiedFACatch/TypeCode must be present if the activity is a transhipment declaration.	E	Catches loaded and catches on board after transhipment.
FA-L02-00-0538	FishingActivity/SpecifiedDelimitedPeriod, FishingActivity/SpecifiedDelimitedPeriod/EndDateTime	Check presence. Must be present and have at least EndDateTime present if the activity is a transhipment declaration.	E	

8.20. Additional rules for a notification of transhipment (by donor)

BR-ID	Entity/Attribute	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FishingActivity/FAReportDocument/TypeCode*	If TRANSHIPMENT NOTIFICATION		*All rules in this table apply to reports that match this condition.*
FA-L02-00-0407	FishingActivity/RelatedFLUXLocation	Check presence. At least 1 occurrence must be present if the activity is a transhipment notification.	E	
FA-L02-00-0408	FishingActivity/RelatedFLUXLocation/TypeCode	Check value. There must be at least one occurrence with value POSITION if the activity is a transhipment notification.	E	
FA-L02-00-0409	FishingActivity/RelatedVesselTransportMeans	Check presence. Must be present if the activity is a transhipment notification.	E	
FA-L02-00-0412	FishingActivity/RelatedVesselTransportMeans/RoleCode	Check value. Must be RECEIVER if the activity is a transhipment notification	E	
FA-L00-00-0452	FishingActivity/OccurrenceDateTime	Check presence. Must be present if the activity is a transhipment notification.	E	
FA-L02-00-0557	FishingActivity/SpecifiedFACatch, FishingActivity/SpecifiedFACatch/TypeCode	Check presence. At least 2 occurrences of SpecifiedFACatch with different values for SpecifiedFACatch/TypeCode must be present if the activity is a transhipment notification.	E	Catches unloaded and catches on board prior to transhipment.
FA-L02-00-0551	FishingActivity/SpecifiedFACatch/TypeCode	Check value. Must be UNLOADED or ONBOARD if the activity is a	E	

BR-ID	Entity/Attribute	BR	E/W	Note
		transhipment notification.		

8.21. Additional rules for a prior notification of exit

BR-ID	Entity/Attribute	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FishingActivity/FAReportDocument/TypeCode*	If AREA_EXIT NOTIFICATION		*All rules in this table apply to reports that match this condition.*
FA-L02-00-0472	FishingActivity/RelatedFLUXLocation	Check presence. At least 1 occurrence must be present if the activity is an area exit notification.	E	
FA-L02-00-0450	FishingActivity/RelatedFLUXLocation/TypeCode	At least one occurrence of RelatedFLUXLocation/TypeCode must have the value AREA if the activity is an area exit notification.	E	
FA-L02-00-0470	FishingActivity/RelatedFLUXLocation/ID, FishingActivity/RelatedFLUXLocation/TypeCode	The schemeID of at least one occurrence with RelatedFLUXLocation/TypeCode=AREA must have RelatedFLUXLocation/ID=MANAGEMENT_AREA if the activity is an area exit notification.	W	
FA-L02-00-0457	FishingActivity/RelatedFLUXLocation/TypeCode	If the activity is an area exit notification, TypeCode must be either POSITION or AREA.	E	
FA-L02-00-0558	FishingActivity/SpecifiedFACatch/TypeCode	Must have at least one occurrence with TypeCode ONBOARD if the activity is an area exit notification	E	

8.22. Additional rules for a port of landing notification

BR-ID	Entity/Attribute	BR	E/W	Note
CONDITION	*FishingActivity/TypeCode, FishingActivity/FAReportDocument/TypeCode*	If ARRIVAL NOTIFICATION		*All rules in this table apply to reports that match this condition.*
FA-L00-00-0291	FishingActivity/OccurrenceDateTime	Check presence. Must be present if the activity is an arrival notification.	E	
FA-L02-00-0292	FishingActivity/ReasonCode	Check presence. Must be present if the activity is an arrival notification.	E	
FA-L02-00-0293	FishingActivity/ReasonCode	Check attribute listID. Must be FA_REASON_ARRIVAL if the activity is an arrival notification.	E	
FA-L02-00-0294	FishingActivity/RelatedFLUXLocation	Check presence. At least one occurrence must be present if the activity is an arrival notification.	E	
FA-L02-00-0295	FishingActivity/RelatedFLUXLocation/TypeCode	TypeCode must be LOCATION for at least one occurrence if the activity is an arrival notification.	W	
FA-L02-00-0296	FishingActivity/SpecifiedFACatch, FishingActivity/ReasonCode	Check presence. Must be present if the activity is an arrival notification and ReasonCode is LAN (landing)	E	
FA-L02-00-0297	FishingActivity/SpecifiedFACatch/TypeCode	Must have at least one occurrence with TypeCode ONBOARD if the activity is an arrival notification.	E	

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L02-00-0298	FishingActivity/SpecifiedFACatch/TypeCode, FishingActivity/ReasonCode	Must have at least one occurrence with TypeCode UNLOADED if the activity is an arrival notification (and if SpecifiedFACatch provided)	E	
FA-L02-00-0556	FishingActivity/RelatedFLUXLocation/ApplicableFLUXCharacteristic/TypeCode	Check value. Must be LANDING_SITE if the activity is an arrival notification.	E	

8.23. Rules for FLUXResponse entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0380	FLUXResponseDocument/ID	Check attribute schemeID. Must be UUID.	E	
FA-L01-00-0381	FLUXResponseDocument/ID	Check Format. Must be according to the specified schemeID.	E	Check is case insensitive.
FA-L03-00-0382	FLUXResponseDocument/ID	The identification must be unique and not already exist.	E	
FA-L00-00-0383	FLUXResponseDocument/ReferencedID	Check attribute schemeID. Must be a valid value from code list FLUX_GP_MSG_ID.	E	*schemeID*=FLUXTL_ON (reference from the envelope) may be used only in case of a parsing problem with the message or a non-availability of or incorrect UUID.
FA-L01-00-0384	FLUXResponseDocument/ReferencedID	Check Format. Must be according to the specified schemeID.	E	Check is case insensitive.
FA-L03-00-0385	FLUXResponseDocument/ReferencedID	The identification must exist for a FLUXFAReportMessage or for a FLUXFAQuery message	W	
FA-L00-00-0386	FLUXResponseDocument/ResponseCode	Check presence. Must be present.	E	
FA-L02-00-0387	FLUXResponseDocument/ResponseCode	Check attribute listID. Must be FLUX_GP_RESPONSE	E	
FA-L02-00-0388	FLUXResponseDocument/ResponseCode	Check value. Code must be value of the specified code list in listID.	E	
FA-L00-00-0389	FLUXResponseDocument/CreationDateTime	Check presence. Must be present.	E	
FA-L01-00-0390	FLUXResponseDocument/CreationDateTime	Check Format. Must be according to the definition provided in 7.1(2).	E	
FA-L01-00-0391	FLUXResponseDocument/CreationDateTime	Date must be in the past.	W	A threshold of 10 minutes to compensate for incorrect clock synchronization of the exchanging systems must be taken into account.
FA-L00-00-0553	FLUXResponseDocument/RespondentFLUXParty	Check presence. Must be present	E	
FA-L02-00-0368	FLUXResponseDocument/ValidationResultDocument, FLUXResponseDocument/ResponseCode	At least one occurrence if ResponseCode <> OK	E	

8.24. Rules for Respondent FLUXParty entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0392	RespondentFLUXParty/ID	Check presence. Must be present	E	
FA-L01-00-0393	RespondentFLUXParty/ID	Check attribute schemeID. Must be FLUX_GP_PARTY	E	
FA-L03-00-0394	RespondentFLUXParty/ID	Check if RespondentFLUXParty/ID is consistent with FLUX TL values.	E	The party sending the response must be the same as the one from the FR value of

BR-ID	Entity/Attribute	BR	E/W	Note
				the FLUX TL envelope. Only the part before the first colon in the FR value is to be considered: E.g. ABC: something => only ABC refers to the party for the purpose of this rule.

8.25. Rules for ValidationResultDocument entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0395	ValidationResultDocument/ValidatorID	Check presence. Must be present.	E	
FA-L01-00-0396	ValidationResultDocument/ValidatorID	Check schemeID. Must be FLUX_GP_PARTY.	E	
FA-L01-00-0555	ValidationResultDocument/ValidatorID	Check value. Must be value from the code list specified in schemeID.	E	
FA-L02-00-0554	ValidationResultDocument/ValidationQualityAnalysis, FLUXResponseDocument/ResponseCode	At least one occurrence must be present if ResponseCode<> OK	E	

8.26. Rules for ValidationQualityAnalysis entity

BR-ID	Entity/Attribute	BR	E/W	Note
FA-L00-00-0397	ValidationQualityAnalysis/ID	Check presence. Must be present.	E	
FA-L01-00-0398	ValidationQualityAnalysis/ID	Check schemeID. Must be FA_BR.	E	
FA-L01-00-0399	ValidationQualityAnalysis/ID	Check value. Code must be value of the specified code list in schemeID.	E	Note: only active rules, valid at report creation date and applicable to the context, are to be considered.
FA-L02-00-0400	ValidationQualityAnalysis/LevelCode	Check presence. Must be present.	E	
FA-L01-00-0401	ValidationQualityAnalysis/LevelCode	Check listID. Must be FLUX_GP_VALIDATION_LEVEL.	E	
FA-L01-00-0402	ValidationQualityAnalysis/LevelCode	Check Code. Must be in the list specified in listID.	E	
FA-L01-00-0403	ValidationQualityAnalysis/TypeCode	Check listID. Must be FLUX_GP_VALIDATION_TYPE.	E	
FA-L01-00-0406	ValidationQualityAnalysis/TypeCode	Check value of TypeCode. Must be in the list specified in listID.	E	
FA-L00-00-0404	ValidationQualityAnalysis/Result	Must be non-empty	W	
FA-L01-00-0405	ValidationQualityAnalysis/ReferencedItem, ValidationQualityAnalysis/TypeCode	At least one non-empty occurrence if TypeCode is ERR or WAR.	W	x-path to the location in the FLUXFAReportMessage causing the rule to fail

9. XML EXAMPLES

XML examples will be provided on https://www.neafc.org/mdr.

10. CODE LISTS

All XSDs and code lists are listed on https://www.neafc.org/mdr.[2] (.

The values mentioned in above tables for the listID attribute refer to a code list alias in the table below, which can be used to find the code list in MDR or query the code lists from MDM services using the FLUX Master Data Management specifications[37].

Code list alias (ListID in the XSD)
FA_BR
FA_CATCH_TYPE
FA_DEVICE_GEAR_ATTACHMENT
FA_GEAR_CHARACTERISTIC
FA_GEAR_PROBLEM
FA_NEAFC_STOCK
FA_REASON_ARRIVAL
FA_REASON_DISCARD
FA_REASON_ENTRY
FA_TRIP_ID_TYPE
FA_VESSEL_ROLE
FAO_AREA
FAO_SPECIES
FISH_SIZE_CLASS
FLUX_CONTACT_ROLE
FLUX_FA_FMC
FLUX_FA_REPORT_TYPE
FLUX_FA_TYPE
FLUX_GP_MSG_ID
FLUX_GP_PARTY
FLUX_GP_PURPOSE
FLUX_GP_RESPONSE
FLUX_GP_VALIDATION_LEVEL
FLUX_GP_VALIDATION_TYPE
FLUX_LOCATION_CHARACTERISTIC
FLUX_LOCATION_TYPE
FLUX_UNIT
FLUX_VESSEL_ID_TYPE
FLUX_VESSEL_POSITION_TYPE
GEAR_TYPE
LOCATION
MANAGEMENT_AREA
RFMO
STAT_RECTANGLE
TERRITORY
VESSEL_ACTIVITY

[37] FLUX BRS: P1000 – 10; MDM domain

11. FLUX TL ENVELOPE PARAMETERS

The following FLUX TL parameters must be used for transmission of FLUX FA Report Messages and the related FLUX Response messages described in this document.

Common name	FLUX TL Envelope Tag name	Value	Remark
Dataflow name	DF	urn:un:unece:uncefact:fisheries:FLUX:FA:XNE:1	According to format: urn:un:unece:uncefact:fisheries:FLUX:[domain]:[context]:[version]
Timeout DateTime	TODT	DateTime (in UTC) of creation of the envelope + - 72 hours.	Value expressed as XSD DateTime in UTC. The TODT offset parameter (FLUX TL) should be configured to 72 hours. The FLUX TL will retry an undelivered envelope in a given schedule until the TODT is reached.
Acknowledge 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	Date	Notes
1.0	27/03/2019	Complete revision of draft document.
1.1	03/10/2019	Update 11. FLUX TL envelope parameters and to 14.1 including table 38 gear characteristics
1.1.1	27 Apr 2020	Spelling corrections
1.1.2	15/07/2020	Data element reference in business rule FA-L01-00-0465 corrected. Corrected reference to the attribute *schemeID* for identifier fields where *listID* was mentioned. Edits in footnote 39 (annex 14.1) have been corrected.

13. CONTACT

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14. ANNEXES:

14.1. Gear characteristics to be reported for each gear type.

The tables below show the description of the gear attribute codes and which of those are mandatory to be provided for each type of gear[38], where a business rule has been established. Gear characteristics which are only mandatory in certain conditions where a business rule cannot be established are not marked here but are required according to the NEAFC Scheme and Measures.

Table 37: Description of the possible gear attribute codes

Code	EN_Description
ME	Mesh size
MT	Model of trawl[38] e.g. side: OTB-1, OTM-1; stern: OTB-2, OTM-2
GM	Gear dimension by length or width of the gear - in metres: • length of beams • trawl – perimeter of opening • seine nets – overall length • purse seine – length • purse seine – one boat operated – length • width of dredges • gill nets – length
GN	Gear dimension by number: for example • number of trawls • number of beams • number of dredges • number of pots • number of hooks
HE	Height
NI	Number of lines
NN	Number of nets in the fleet
NL	Nominal length of one net in a fleet
QG	Quantity of gear on board
GD	Gear description
DA	Devices and attachments[39]
GO	Gear bar dimension

[38] According to FAO International Standard Statistical Classification of Fishing Gear (ISSCFG). Coordinating Working Party on Fishery Statistics (CWP) Handbook of Fishery Statistical Standards, Section M: FISHING GEAR CLASSIFICATION (rev 1, 2013). MDR code list GEAR_TYPE contains a mapping from the previous to new version of this classification.

[39] Included in appendix II to Annex II - B Main Categories of Devices and Attachments

Table 38: The use of gear characteristics

GE[40]	Description	ME	GO	GM	HE	NL	GN	NI	NN	QG	MT	GD	DA
	Unit >	Measure (MMT)		Measure (MTR)			Quantity				Text		Code
SURROUNDING NETS													
PS	Purse seines												
PS1[41]	- one boat operated purse seines												
PS2[41]	- two boats operated purse seines												
LA	Surrounding nets without purse lines												
SUX	Surrounding nets (nei)												
SEINES													
SB	Beach seines												
SV	Boat seines												
SDN[41]	- Danish seines												
SSC[41]	- Scottish seines												
SPR[41]	- pair seines												
SX	Seine nets (nei)												
TRAWLS													
TBB	Beam trawls						X						
OTB	Single boat bottom otter trawls						X						
OT[41]	Otter trawls (nei)						X						
OTT	Twin bottom otter trawls						X						
OTP	Multiple bottom otter trawls						X						
PTB	Bottom pair trawls						X						
PT[41]	Pair trawls (nei)						X						
TB	Bottom trawls (nei)						X						
TBN[41]	Bottom trawls nephrops trawls						X						
TBS[41]	Bottom trawls shrimp trawls						X						
PUK	Bottom trawls - electric beam trawls (Pulse Beam)						X						
PUL	Bottom trawls - electric sumwing trawls (Pulse Wing)						X						
OTM	Single boat midwater otter trawls	X					X						
PTM	Midwater pair trawls	X					X						
TM	Midwater trawls (nei)	X					X						
TMS[41]	Midwater shrimp trawls						X						
TSP	Semipelagic trawls	X					X						
TX	Trawls (nei)						X						

[40] Gear type as defined in MDR code list GEAR_TYPE

[41] Code from ISSGFC 1980, kept in GEAR_TYPE code list in MDR for backward compatibility with legacy systems.

GE	Description	ME	GO	GM	HE	NL	GN	NI	NN	QG	MT	GD	DA
	Unit >	Measure (MMT)		Measure (MTR)			Quantity				Text		Code
DREDGES													
DRB	Towed dredges						X						
DRH	Hand dredges						X						
DRM	Mechanized dredges						X						
DRX	Dredges (nei)						X						
LIFT NETS													
LNP	Portable lift nets												
LNB	Boat-operated lift nets												
LNS	Shore-operated stationary lift nets												
LN	Lift nets (nei)												
FALLING GEAR													
FCN	Cast nets												
FCO	Cover pots/Lantern nets												
FG	Falling gear (nei)												
GILLNETS AND ENTANGLING NETS													
GNS	Set gillnets (anchored)			X									
GND	Drift gillnets			X									
GNC	Encircling gillnets			X									
GNF	Fixed gillnets (on stakes)			X									
GTR	Trammel nets			X									
GTN	Combined gillnets-trammel nets			X									
GEN	Gillnets and entangling nets (nei)			X									
GN[41]	Gillnets (nei)			X									
TRAPS													
FPN	Stationary uncovered pound nets												
FPO	Pots						X						
FYK	Fyke nets												
FSN	Stow nets												
FWR	Barriers, fences, weirs, etc.												
FAR	Aerial traps												
FIX	Traps (nei)												
HOOKS AND LINES													
LHP	Handlines and hand-operated pole-and-lines						X						
LHM	Mechanized lines and pole-and-lines						X						
LLS	Set longlines						X						
LLD	Drifting longlines						X						
LL	Longlines (nei)						X						
LVT	Vertical lines						X						

LTL	Trolling lines						X						
LX	Hooks and lines (nei)						X						
GE	**Description**	**ME**	**GO**	**GM**	**HE**	**NL**	**GN**	**NI**	**NN**	**QG**	**MT**	**GD**	**DA**
	Unit >	**Measure (MMT)**		**Measure (MTR)**			**Quantity**				**Text**		**Code**
MISCELLANEOUS GEAR													
HAR	Harpoons												
MHI	Hand implements (Wrenching gear, Clamps, Tongs, Rakes, Spears)												
MPM	Pumps												
MEL	Electric fishing												
MPN	Pushnets												
MSP	Scoopnets												
MDR	Drive-in nets												
MDV	Diving												
MIS	Gear nei												
HMX[41]	Harvesting machines (nei)												
RG[41]	Recreational fishing gear												
GEAR NOT KNOWN													
NK	Gear not known												