

European Maritime Single Window environment

Message Implementation Guide

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Document History

Version	Date	Changes	Prepared	Status
1.0.0	30/09/2024	First release for publication	EMSA	Final
2.0.0	16/06/2025	Second major version. Addresses: <ul style="list-style-type: none"> - Revision of the EMSWe data set, - Two new customs formalities: manifest at exit and temporary storage with a reduced dataset, - Alignment with UNECE MMT D.24A, - Issues and specific requests from the stakeholders. Refer to record of changes in Appendix G.	EMSA	Final

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List of Abbreviations

EMSA	European Maritime Safety Agency
EMSWe	European Maritime Single Window environment
EORI	Economic Operators Registration and Identification
EU	European Union
GUI	Graphical User Interface
IMO	International Maritime Organization
ISO	International Organization for Standardization
LRN	Local Reference Number
MIG	Message Implementation Guide
MMT	Multi-Modal Transport Reference Data Model
MNSW	Maritime National Single Window
MRN	Master Reference Number
MS	Member State
RIM	Reporting Interface Module
UCC	Union Customs Code
UN/LOCODE	United Nations Code for Trade and Transport Locations
UNECE	The United Nations Economic Commission for Europe

List of references

Id	Name	Version / Date
R01	Regulation (EU) 2019/1239 establishing a European Maritime Single Window environment and repealing Directive 2010/65/EU	30/06/2019
R02	Commission Delegated Regulation (EU) 2023/205 supplementing Regulation (EU) 2019/239 of the European Parliament and of the Council as regards the establishment of the European Maritime Single Window environment data set and amending its Annex	07/11/2022
R03	Commission Implementing Regulation (EU) 2023/204 laying down technical specifications, standards and procedures for the European Maritime Single Window environment pursuant to Regulation (EU) 2019/1239 of the European Parliament and of the Council	28/10/2022
R04	Commission Delegated Regulation (EU) 2015/2446 of 28 July 2015 supplementing Regulation (EU) No 952/2013 of the European Parliament and of the Council as regards detailed rules concerning certain provisions of the Union Customs Code (as amended by Reg (EU) 2024/249)	Current consolidated version: 11/03/2024
R05	Commission Implementing Regulation (EU) 2015/2447 of 24 November 2015 laying down detailed rules for implementing certain provisions of Regulation (EU) No 952/2013 of the European Parliament and of the Council laying down the Union Customs Code (as amended by Reg (EU) 2024/250)	Current consolidated version: 11/03/2024

R06	Commission Implementing Regulation (EU) 2023/2790 laying down functional and technical specifications for the reporting interface module of the Maritime National Single Windows	14/12/2023
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List of appendices

Appendix	Title
A	Data structures of formalities
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E	Code lists
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1. Introduction

The European Maritime Single Window environment (EMSWe) Regulation (EU) 2019/1239 (ref. R01), building on the existing Maritime National Single Windows (MNSWs), establishes a common, interoperable environment for the reporting of information from ships to shore during a port call. In particular, it empowers the European Commission to define a harmonised data set covering all reporting obligations and to develop and maintain common interfaces and services for the MNSWs.

The EMSWe Regulation requires the Commission, in close cooperation with the Member States, to develop a harmonised Reporting Interface Module (RIM), which is a middleware component of the MNSWs through which information can be exchanged between the information system used by the declarants or data service providers and the relevant MNSW.

According to the Implementing Regulation (EU) 2023/2790 (ref. R06) laying down functional and technical specifications for the RIM, the Commission shall define and maintain a Message Implementation Guide in close collaboration with the national coordinators for the EMSWe and with the assistance of the European Maritime Safety Agency (EMSA).

2. Objective of the document

The Message Implementation Guide (MIG) of the EMSWe aims at providing a functional specification of messages exchanged between declarants or data service providers and MNSWs through the RIM.

Messages described in this MIG relate to the communication by declarants and data service providers of information necessary for the fulfilment of the reporting obligations defined in the Annex of the EMSWe Regulation and to the communication of responses from the MNSWs and authorities.

The MIG is available at <https://emsa.europa.eu/emsw-e-mig>.

Note: For any inquiries regarding the application of the MIG or interfacing with Maritime National Single Windows, please reach out to the respective EMSWe national coordinators.

3. General principles

The following principles are leading for the design of the information exchange by messages between declarants or data service providers and MNSWs:

MIG-P1 - The concept of formality is applied for information exchange between declarants and authorities

The information exchange between declarants and authorities uses the concept of formality, identified by a type of formality (e.g. notice of pre-arrival), to support the reporting obligations. The term “formality” is used as general term for declarations as well as for notifications. A formality consists of a coherent set of data elements related to reporting obligations. Each formality may address one or more reporting obligations. In line with the “reporting once-only” principle, the overlap of data elements in distinct formalities is minimised. Each formality must be provided with a header part MAI (i.e. Main), which contains information applicable to all formalities (e.g. identification of the declarant, identification of formality type, metadata).

The following formalities are handled in the MNSW (the table indicates the corresponding reporting obligations, as identified in the annex of the EMSWe Regulation (ref. R01), that can be fulfilled using each formality):

Type of formality	Description	Corresponding reporting obligation
ABS	Absentee declaration	C

Type of formality	Description	Corresponding reporting obligation
ACT	Expected activities notification	C
ATA	Notification of actual arrival	C
ATD	Notification of actual departure	C
BKA	Bunkers at arrival	C
BKD	Bunkers at departure	C
BLU	Safe loading and unloading of bulk carriers	A8
BWA	Ballast water	C
CAR	CGM amendment request	A7.4
CGA	Cargo declaration at arrival	A10 B2
CGD	Cargo declaration at departure	A10 B2
CGM	Customs goods manifest	A7.4
COA	Cancellation of port call	n/a
CRT	Ship certificates	C
CWA	Crew list at arrival	A2 A6.2 B5
CWD	Crew list at departure	A2 A6.2 B5
DUE	Fairway and port dues declaration	C
EFF	Crew's effects declaration	B4
EXP	Notification of expanded inspection	A9
EXS	Exit summary declaration	A7.7
EXT	Exit notification	A7.6
HOS	Hospitalised crew member declaration	C
HZA	Notification of hazardous materials (dangerous and polluting goods) on board at arrival	A3 B7
HZD	Notification of hazardous materials (dangerous and polluting goods) on board at departure	A3 B7
HZS	Notification of hazardous materials (dangerous and polluting goods) on board during a shift	C
MDD	Maritime declaration of health details	B8
MDH	Maritime declaration of health	B8
MTS	Manifest at exit	A7.6
MTS	Maritime transport statistics	A10
NAC	Notification of arrival to the customs office of first entry	A7.1
NAV	Navigation report	C
NOA	Notice of pre-arrival	A1 A6.1 B1
NOD	Notice of pre departure	A6.1 B1
NOS	Notification of shift in port	C
PBK	Passenger booking	C
PNO	Presentation notification	A7.2
POA	Notification of pontoon arrival	C
POD	Notification of pontoon departure	C
PPA	Presentation of the proof (at arrival)	A7.4

Type of formality	Description	Corresponding reporting obligation
PXA	Passenger list at arrival	A2 A6.2 A10 B6
PXD	Passenger list at departure	A2 A6.2 A10 B6
REN	Re-export notification	A7.8
SDA	Supplementary documents at arrival	A7.4
SDD	Supplementary documents at departure	A7.4
SEC	Notification of security information	A5
SHP	Ship information	C
SID	Ship identifiers notification	n/a
SRV	Request for service	C
SSA	Ship to ship activity declaration	C
STA	Declaration of stores on board at arrival	B3
STD	Declaration of stores on board at departure	B3
STW	Stowaways notification	C
TRA	Electronic transport documents used for transit at arrival	A7.5
TRD	Electronic transport documents used for transit at departure	A7.5
TSD	Temporary storage declaration	A7.3
TSR	Temporary storage declaration with reduced data set	A7.3
VID	Request for Visit ID	n/a
VIS	Ship visitors declaration	C
WAR	Waste delivery receipt	A4.2
WAS	Advance notification for waste delivery to port reception facilities	A4.1

MIG-P2 – The concept of responses is applied for information exchange between authorities and declarants

The information exchange between authorities and declarants uses the concept of responses, identified by a type of response, to report decisions and process results of relevant authorities. A response consists of a coherent set of data elements, which is returned by the MNSW on behalf of one or more relevant authorities. Each response must be provided with a header part RES (i.e. Response) which contains information applicable to all responses (e.g. identification of authorities, identification of referenced formality, metadata).

MIG-P3 – Single reporting, multiple use of formalities

Formalities for (multiple) authorities can be reported on a single basis to the MNSW. The MNSW will communicate the formality to one or more relevant authorities. The principle of single reporting is applied:

- Per formality. An incomplete formality cannot be submitted just because other parts of information have been previously submitted in another formality. All formalities must be complete.
- Per port call. Data reported in a formality is only valid for the corresponding port call. It is not valid for other port calls.

3.1 Responsibilities for parties involved

MIG-P4 – There is a single declarant per formality

A formality is always reported by one and only one declarant.

Note: The MNSW may implement a mechanism to allow transferring a formality to another declarant. Such transfer mechanism is not described in the MIG.

MIG-P5 – Authorities are responsible for supervision and enforcement

Competent authorities in respect of the underlying reporting obligations remain responsible for supervision and enforcement. The MNSW will not change existing legal responsibilities and competences.

3.2 Messages for formalities

MIG-P6 – One message for all types of formalities with one formality per message

All formalities can be reported by one single type of message. This message is called a formality message. Each formality message contains exactly one formality. The message contains a header part MAI and the formality content corresponding to the formality type (e.g. NOA).

Note: An exception to the above is the case of a withdrawal (refer to principle MIG-P29) where the message contains the header part MAI only.

MIG-P7 – Use of unique identifications for port calls in formalities and responses

Formalities and responses need to have a unique identification for a ship port call: the Visit ID. The Visit ID is unique at the Member State level. It is issued by the MNSW or by an authority (e.g. port authority, single window authority) through the MNSW.

The Visit ID is communicated in the formality response message (response type FRM) sent as response to a request for Visit ID (formality type VID). Member States may allow declarants to request the Visit ID through other channels (e.g. through Port Community Systems) provided that those channels are voluntary for the declarants.

Each Visit ID is related to one ship and one port of call. It is not allowed to change the ship or the port associated to a certain Visit ID.

MIG-P8 – Use of identification for ship in formalities

The identification of the ship consists of the identification type and the identification number. Declarants need to use the types of identification in the following sequence of priority:

1. IMO number,
2. CFR number,
3. ENI number,
4. MMSI number,
5. Call sign,
6. Other ship identification number.

If a vessel has multiple types of identification, the type with the highest priority must be used (as listed above).

Ship identifiers are initially reported through the formality type VID. If the ship's identifiers change (e.g. change of MMSI following change of Flag), then a formality of type SID must be sent. Once an IMO number or ENI number has been specified, it cannot be changed for the same port call.

MIG-P9 – Use of unique identification of declarants and authorities in formalities and responses

Two types of identifications are used for involved parties:

- Declarants – The declarant must be identified by an EORI number. Each declarant needs to include this EORI number and additional data elements (name, role, communication details and contact person) in its formalities.
- Authorities – The identification of authorities communicating responses through the MNSW is defined by each MNSW according to the identification scheme in place in the port of call's country.

MIG-P10 – Use of unique location code for port of call

Each Visit ID is related to exactly one location code to identify the port of call for that particular port call. All location codes are registered in the EMSWe common location database (refer to ref. R03).

MIG-P11 – Formalities can be reported by electronic messages through the RIM or through the MNSW GUI

Declarants may report formalities by sending electronic formality messages to the RIM's system-to-system interface or by entering or uploading the data in the MNSW's Graphical User Interface (GUI). The same principles and rules for processing the formality are applied in both the RIM and the GUI. Formalities related to the same Visit ID may be submitted either through the RIM or through the GUI.

If a formality is reported by a declarant using the RIM's system-to-system interface, the same declarant may view or update that formality in the MNSW's GUI.

Note: Not all MNSWs may allow the fulfilment of all formalities via the GUI. This depends on national requirements.

MIG-P12 – Formalities can be reported by different declarants

Different declarants (with different EORI numbers) may report formalities for the same port call (same Visit ID).

MIG-P13 – Number of possible formalities of the same type per port call

There can be only one formality per port call (i.e. per Visit ID) for the following formality types: ATA, ATD, BKA, BKD, BWA, COA, CWA, CWD, EFF, EXP, HZA, HZD, MDD, MDH, MTS, NAC, NAV, NOA, NOD, PBK, POA, POD, PXA, PXD, SEC, SHP, SID, SSA, STA, STD, VID, WAS.

The following formality types can be reported in several formalities per port call (i.e. per Visit ID) and by different declarants: ACT, ABS, BLU, CAR, CGA, CGD, CGM, CRT, DUE, EXT, EXS, HOS, HZS, MFX, NOS, PPA, PNO, REN, SDA, SDD, STW, SRV, TRA, TRD, TSD, TSR, VIS, WAR.

MIG-P14 – Use of formality reference numbers – LRN

The formality messages for formality types ACT, ABS, BLU, CAR, CGA, CGD, CGM, CRT, DUE, EXT, EXS, HOS, HZS, MFX, NAC, NOS, PPA, PNO, REN, SDA, SDD, STW, SRV, TRA, TRD, TSD, TSR, VIS and WAR must include a formality reference number. This mandatory reference number is a unique LRN which is issued by the sender of the formality message.

The LRN is used by the MNSW to track updates of the same formality for cases of formalities that can be reported more than once per port call (see principle MIG-P13) and is used by the customs authorities according to the Union Customs Code¹.

¹ As specified by the UCC/DA Annex B – TITLE II (ref. R04): "The local reference number (LRN) shall be used. It is nationally defined and allocated by the declarant in agreement with the competent authorities to identify each single declaration"

3.3 Messages for responses

MIG-P15 – Use of response message for formality responses and process responses

The MNSW uses the response message for communicating authorities' responses to the declarants. There are two categories of responses:

- **Formality response:** a formality response is returned directly after having checked the semantics of a formality message (e.g. acknowledgment of receipt of a formality). Depending on the architecture of the MNSW, semantic checks are done either by the MNSW-Core or by relevant authorities behind the MNSW-Core. Each submitted formality that passes the syntax, rules and conditions checks (see MIG-P21) will receive a formality response.

If the formality does not pass the semantics checks, it will not cause any further processing by the authorities. The formality response will indicate the reasons for the rejection in form of a list of errors. Each formality which is rejected due to semantic checks will need to be corrected and resent (with a distinct Message Identifier).

The formality response must include the message status (accepted, rejected), the Visit ID, the type of formality, the formality reference number (when relevant, see MIG-P14), the reference number of the formality message (message identifier) and possibly a process reference number issued by an authority (e.g. MRN – Master Reference Number as defined in ref. R04).

In the case of a rejection, the formality response includes a list of errors identified by a code and with an optional textual description. The formality response may as well include a list of warnings identified by a code with an optional textual description. Warnings do not imply a rejection of the formality and may be provided in both cases where the formality passes the semantics checks or is rejected. Along an error or a warning, the reference to one or several classes or attributes in the formality may be provided. The attribute or class reference takes the form of a position in the formality message in xpath format, and eventually of an item number if the position corresponds to an attribute in a list (if the list contains a "sequence number" attribute, the value of the sequence number of the received occurrence is used. If there is no attribute "Sequence number" in the list, the position of the occurrence in the list is used).

- **Process response:** a process response is returned as a result of processes of an authority (e.g. clearance decision, release notification for goods/containers).

Such responses must include the Visit ID, the type of formality and the formality reference number (when relevant, see MIG-P14). In some case the response of the authority might include the assignment of a process reference number (e.g. MRN).

Both the formality responses and process responses are communicated by the MNSW-Core to the RIM which relays them to the declarant.

Examples of transaction patterns are shown in Figure 1 and Figure 2 below.

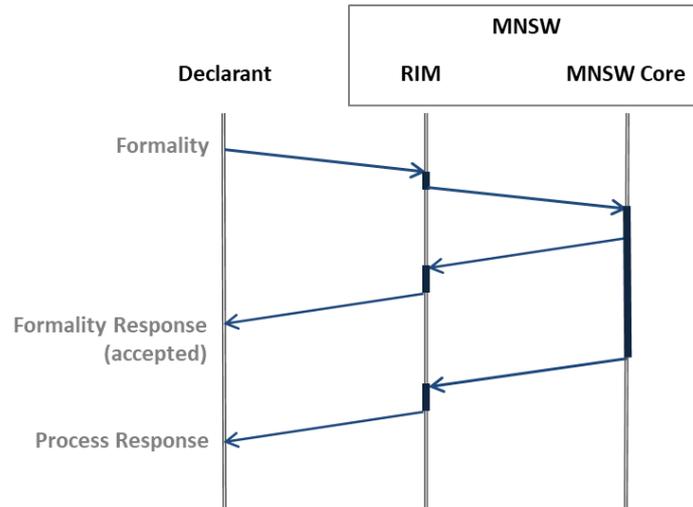


Figure 1: Example transaction pattern of a formality message and corresponding response messages

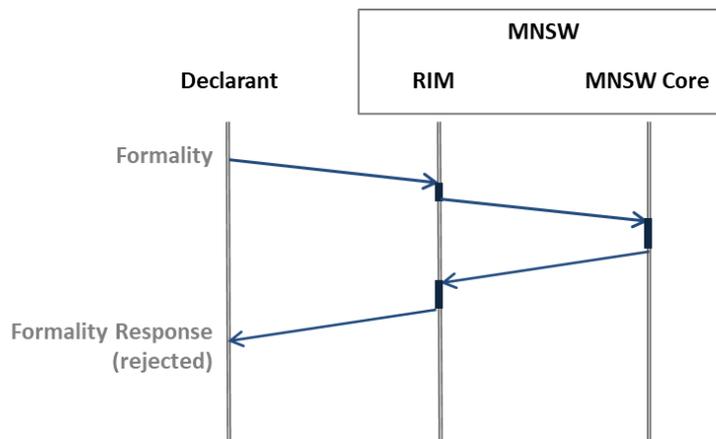


Figure 2: Example transaction pattern of a semantic check with rejection

MIG-P16 – Type of responses

Each response message contains exactly one response type in addition to the header part RES. The RES needs always to be sent in combination with any type of response. The following table provides the list of response types and the corresponding formalities.

Type of response	Category of response	Description	Corresponding formality
FRM	Formality	Formality response	Any
CLR	Process	Ship clearance decision: decision from the relevant authority to authorise the ship to enter the port, shift within the port, or leave the port	NOA, NOS, NOD
BLR	Process	Response to a notification for safe loading and unloading of bulk carriers	BLU
SRR	Process	Response to a service request	SRV
CUS	Process	Response from customs authorities to a customs formality	MFY, NAC, PNO, TSD, TSR, CGM,

Type of response	Category of response	Description	Corresponding formality
			PPA, SDA, SDD, CAR, TRD, TRA, EXT, EXS, REN

MIG-P17 – Clearance model

Three clearance models may be applied by the MNSWs:

- Systematic clearance: The MNSW will always provide a clearance decision (response type CLR) after reception of an NOA, NOS or NOD formality.
- Silent clearance: The MNSW will only provide a clearance decision (response type CLR) when it is:
 - negative (i.e. the ship is not authorised to enter the port, shift within the port or leave the port), or
 - positive (i.e. the ship is authorised to enter the port, shift within the port or leave the port) and the previous responded clearance decision had been negative.
- Other: The MNSW does not communicate any clearance decision. Clearance decisions are communicated by other means than the MNSW.

The clearance model applied in the port is communicated in the formality response FRM sent in response to a NOA, NOS or NOD formality depending on the context (arrival, shift, departure).

Examples of transaction patterns in the case of silent clearance are shown in Figure 3 and Figure 4 below.

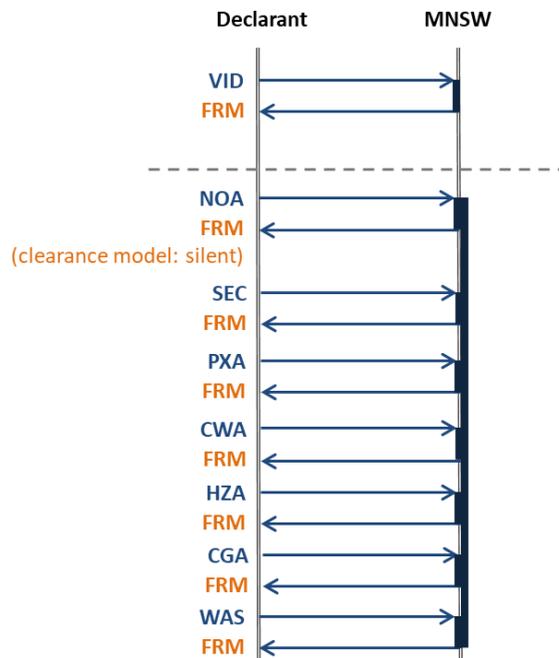


Figure 3: Example transaction pattern in the case of silent clearance and where the ship is authorised to enter the port

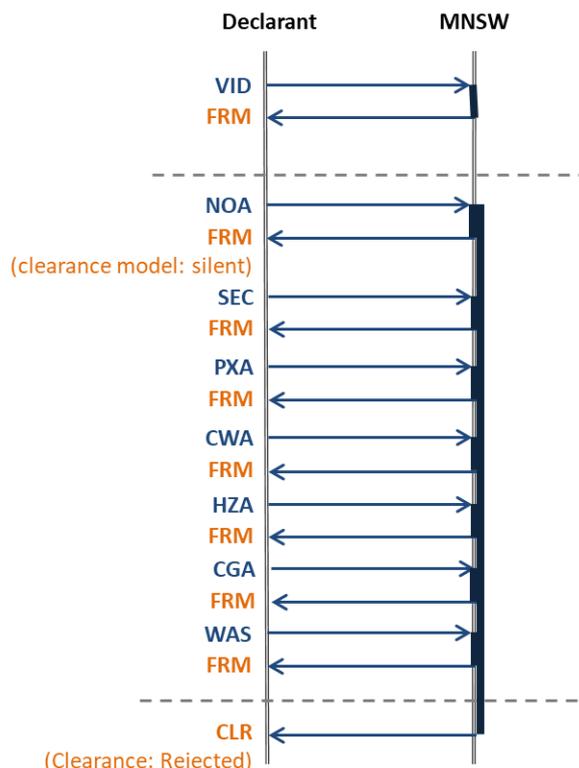


Figure 4: Example transaction pattern in the case of silent clearance and where the ship is not authorised to enter the port

MIG-P18 – Communication of responses to declarants

Formality and process responses are communicated by the MNSW to the declarant who submitted the corresponding formality.

MIG-P19 – Channel for communicating responses to declarants

If a formality is submitted through the RIM, the corresponding formality response is communicated back through the RIM.

If a formality is submitted through the MNSW GUI, the corresponding formality response can be consulted by the declarant in the MNSW GUI.

Process responses can be consulted by the declarant in the GUI and are communicated through the RIM if the corresponding formality was submitted through the RIM.

MIG-P20 – Information submitted is checked against EMSWe databases

The MNSW checks the content of received formality messages against the EMSWe databases (refer to ref. R03):

- For each location code or port facility code which is not registered in the EMSWe common location database the MNSW generates a warning.
- For each dangerous or polluting goods information which does not comply with the information of the EMSWe common hazmat database (e.g. unknown UN number), the MNSW generates a warning.

In case where one or more warnings are generated by the checks above, the MNSW returns a formality response to the declarant with the warnings.

3.4 Receipt of messages

MIG-P21 – Use of control messages for returning results of syntax, rule and conditions checks

The RIM will return a control message in situations where a received message does not meet the common agreed syntax, rules and conditions (as defined in the MIG).

In case a formality message does not meet the syntax, rules or conditions, it will be rejected, will not be forwarded to the MNSW-Core and will not cause any further processing.

In case a response message does not meet the syntax, rules or conditions, it will be rejected, will not be forwarded to the declarant, and will not cause any further processing.

The control message will indicate which parts of the message caused the rejection. Each message which is rejected due to syntax, rules or conditions checks will need to be corrected and resent (with a distinct message identifier).

The transaction patterns for the cases of syntax, rules and conditions checks are provided in Figure 5 and Figure 6 below.

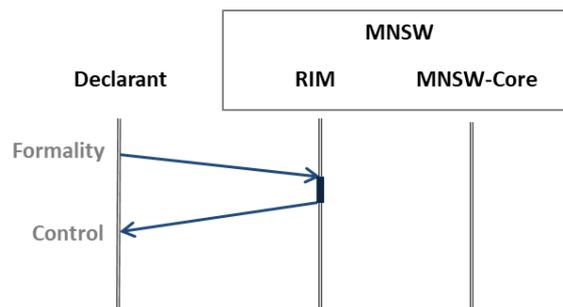


Figure 5: transaction pattern of a syntax, rules and conditions check of a formality with rejection

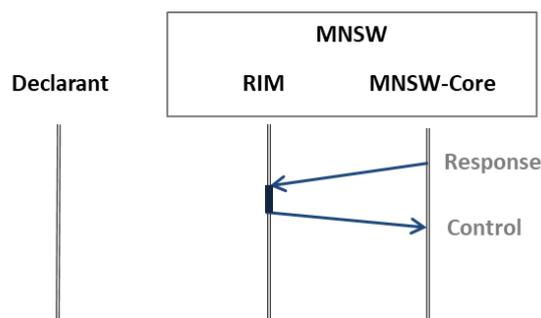


Figure 6: transaction pattern of a syntax, rules and conditions check of a response with rejection

MIG-P22 – Either a control message or a formality response is sent by the MNSW

On each formality either one control message (in case of syntax, rules or conditions errors) or one formality response (with an acceptance or rejection based on semantic checks) follows.

3.5 Updates, withdrawals and cancellations

MIG-P23 – Each formality message must contain sequence information

Updating or withdrawing² a formality is done by sending a formality message. Updates and withdrawals are therefore done per individual formality. For an update or withdrawal, the formality message must contain the Visit ID, the type of formality, and when necessary, the formality reference number (i.e. LRN), as in the initial message. For customs formalities, the MRN assigned to the initial formality must be reported.

To control the sequence of formality messages per message chain, each message needs to contain the following data elements:

1. Message function code: original or withdrawal,
2. Authentication date time, representing the date and time when the information contained in the formality has been certified by the declarant.

When a formality message is received by the MNSW in the wrong sequence, i.e. the message's authentication date time is earlier than the authentication date time of the latest message already received and accepted by the MNSW for the same formality, then the message is rejected by the MNSW (formality response with message status "rejected").

When a formality message with function code "withdrawal" is received by the MNSW while no previous formality message for the same formality had been received by the MNSW, then the message is accepted by the MNSW and any formality message for that formality with an earlier authentication date time than the accepted withdrawal message's authentication date time will be rejected because out of sequence.

MIG-P24 – Allowed updates of formalities

Formalities of the following types can be updated³: ABS, ACT, ATA, ATD, BLU, BKA, BKD, BWA, CGA, CGD, CGM, CRT, CWA, CWD, DUE, EFF, EXP, EXS, HOS, HZA, HZD, HZS, MDD, MDH, MFX, MTS, NAV, NOA, NOD, NOS, PBK, POA, POD, PPA, PXA, PXD, REN, SEC, SID, SHP, SRV, SSA, STA, STD, STW, TRA, TRD, TSD, TSR, VIS, WAS, WAR.

Formalities of other types cannot be updated: CAR, COA, EXT, PNO, NAC, SDA, SDD, VID.

This rule will be controlled by the MNSW-Core in the semantic checks (refer to MIG-P15).

If formalities cannot be updated, then the update needs to be arranged through relevant procedures defined by the corresponding authority(ies) if needed and allowed.

MIG-P25 – Replace mechanism is applied for formalities updates

Each formality must start with one initial formality message followed by update formality messages in case updates are needed. For formalities updates, the "Replace" mechanism is applied. In the "Replace" mechanism all data of a formality is included in the update message regardless of whether the data is changed or not.

MIG-P26 – Updates and withdrawals of a formality must be from the same declarant as the initial formality

Updates and withdrawals of a reported formality must be from the same declarant as the declarant of the initial formality. In the case of formality types that can only be reported once per port call (see MIG-P13), this rule is applicable to the formalities with the same formality type and Visit ID. In the case of formality types that can be reported several times per port call (see MIG-P13), this rule is applicable to the formalities with the same formality type, Visit ID and LRN.

² The corresponding term used in UCC is "invalidation".

³ The corresponding term used in UCC is "amendment".

MIG-P27 – Updates and withdrawals of a formality must refer to the same ship and port

Updates and withdrawals of a reported formality must be related to the same port of call and the same ship as reported in the initial formality.

MIG-P28 – Cancellation mechanism

If a ship will not visit the port, all the related formalities can be cancelled by sending a formality of type COA. A COA formality means that the call of the ship in port is cancelled. A COA can only be reported by the declarant of the VID formality.

Cancellation requests need to be acknowledged by a formality response. After successful cancellation of a visit, no further formalities can be sent for the same Visit ID. Cancellations are final and cannot be withdrawn.

MIG-P29 – Withdrawing previously provided formalities

Formalities of the following types can be withdrawn: ABS, ACT, BLU, BKA, BKD, BWA, CGA, CGD, CRT, CWA, CWD, DUE, EFF, EXP, EXS, HOS, HZA, HZD, HZS, MDD, MDH, MFX, MTS, NAV, NOS, PBK, POA, POD, PNO, PXA, PXD, REN, SEC, SHP, SSA, STA, STD, STW, SRV, TRA, TRD, TSD, TSR, VIS, WAS, WAR.

Formalities of the following types cannot be withdrawn: ATA, ATD, CAR, CGM, COA, EXT, NAC, NOA, NOD, PPA, SDA, SDD, SID, VID.

The formality message sent to withdraw a formality must contain the MAI header only. The MAI header must contain the information indicated in principle MIG-P23.

Once a withdrawal request is received and accepted (by a formality response message), the corresponding formality is ignored by the authorities and will not generate any further processing. After a successful withdrawal, the same or a different declarant may submit a new formality of the same type.

If formalities cannot be withdrawn, then the withdrawal needs to be arranged through relevant procedures defined by the corresponding authority(ies) if needed and allowed.

MIG-P30 – Formalities can be updated or withdrawn by electronic messages through the RIM or through the MNSW GUI.

Declarants may update or withdraw formalities by sending electronic messages to the RIM's system-to-system interface or by entering or uploading the data in the MNSW's Graphical User Interface (GUI) regardless of whether the initial formality was reported through the RIM or the GUI. The same principles and rules for processing the formalities are applied in the MNSW when reported through the RIM or GUI.

3.6 Data content

MIG-P31 – Date-time information

The date-time format in all messages must be compliant with the format defined in the EMSWe dataset. All times must be reported either in UTC or with the indication of a time zone.

MIG-P32 – Unit information

There are multiple EMSWe data elements which represent measures (e.g. gross weight, draughts). These data elements must be reported along with the data element DE-001-01 "Measurement unit, coded", which identifies the unit. A rule associated to the element indicates which unit(s) must be used.

For instance, data element "Cargo item net mass" must be reported along with the element "Measurement unit, coded" with value "KGM".

MIG-P33 – Unknown data

In case data value to be reported is unknown for an optional data element in a formality, the data element must not be included in the formality message. Therefore, the use of "" (empty text field), 0 or NULL to indicate that the data for a data element is unknown is not allowed.

MIG-P34 – Use of uppercase and lowercase

Codes of code lists are considered case sensitive. All data elements of type "Code" are therefore considered case sensitive.

All data elements of type "Identifier" are considered case insensitive; these references can be returned in responses and by considering these references case insensitive there is no chance of mismatches due to use of uppercase/lowercase by systems in the chain.

All other reported data is considered case sensitive.

MIG-P35 – Empty strings

Reporting empty strings (value "") is not allowed.

3.7 Terms and definitions

MIG-P36 – Terms and definitions

For the purposes of this document, the following terms and definitions apply.

Formality: A formality consists of a coherent set of data elements which is reported by a declarant to authorities to fulfil reporting obligations. Refer to principle MIG-P1.

Response: A response consists of a coherent set of information, which is returned by a relevant authority to a declarant to report decisions and process results following the receipt of one or several formalities. Refer to principle MIG-P2.

Formality message: Message sent by a declarant through the RIM to a MNSW containing a formality. Refer to principle MIG-P6.

Response message: Message sent by a MNSW through the RIM to a declarant containing a response. Refer to principle MIG-P15.

Control message: Message sent by the RIM when a message is rejected following syntax, rules and conditions checks by the RIM. Refer to principle MIG-P21.

Port call: Port call means the arrival of a ship at, the stay of a ship in, and the departure of a ship from a maritime port in a Member State (refer to Article 2 of ref. R01).

Visit ID: Unique identifier for the call of a ship in a port which is issued by a MNSW or by an authority. Refer to principle MIG-P7.

Rule: An instruction that specifies how an attribute or class must be filled in. It places a constraint on the content. It is always computable and can be tested.

Condition: An instruction that specifies whether an attribute or class is mandatory or optional or cannot be reported depending on other information within the same message. It places a constraint on when the data shall be reported, and not on its content. It is always computable and can be tested.

Guideline: An indication on how to fill in a class or attribute. It may relate to a check that will be performed by the MNSW or another system following the RIM checks. It may be computable and testable, but not necessarily.

4. Role of the Reporting Interface Module

4.1 Functions of the RIM

The RIM performs the following functions:

1. The RIM controls that messages are received from trusted sources (i.e. systems).
2. The RIM forwards an exact functional copy (i.e. with same content) of received formalities to the MNSW and of responses to the declarants.
3. Formalities and responses are made available to the MNSW and declarants respectively as soon as they have been validated by the RIM.
4. The RIM stores meta data of messages for audit trail and maintenance purposes (e.g. dates and times, senders and receivers, message types, message identifiers).
5. The RIM performs syntax, rules and conditions validations of the received messages to ensure that they meet the technical message specifications defined in the MIG.

Note. The following functions are not performed by the RIM:

1. The RIM does not perform authentication and authorisation checks of the senders of messages (i.e. declarants and authorities).
2. The RIM does not handle sequence of messages.
3. The RIM does not store messages after they are successfully transferred.
4. The RIM does not perform routing of messages to relevant authorities.
5. The RIM does not perform translation of protocols or message standards. MS have the responsibility to translate messages from the common formats to the national formats.

4.2 Message contents

The messages that the RIM receives and forwards have the same message content in terms of formalities/responses. The RIM does not touch upon the message content. It simply handles the transfer of the message.

- Messages received from the declarants have the same content as messages forwarded to the MNSW-Core.
- Response messages received from the MNSW-Core have the same content as responses messages forwarded to the declarants.

5. Versioning policy

The EMSWe MIG versioning policy applies the following semantic versioning rule:

EMSWe MIG Version <Major version number [n..2]>.<Medium version number [n..2]>.<Minor version number [n..2]>

Example: EMSWe MIG Version 3.11.1

5.1 Major versions

Major versions refer to MIG releases that include major changes including but not limited to:

- Change of scope such as new reporting obligations and operational areas;
- Incremental changes made over time that had resulted in the version being substantively different from earlier versions, thus resulting in backward incompatibility in the structures;
- Deletion or changes of data elements in messages and new formats or codes that affects the backward compatibility.

Major versions are not backward compatible with earlier versions.

5.2 Medium versions

Medium versions relate the general maintenance of the MIG and include:

- New messages (e.g. formality types, response types);
- New data elements in messages;
- Amendments to data elements including:
 - Revised semantic definition;
 - New format and codes that does not affect the backward compatibility.

Medium versions are backward compatible with versions from the same major version, e.g. version 3.3.0 is backward compatible with versions 3.2.0, 3.1.0 and 3.0.0.

5.3 Minor versions

Minor versions relate to changes that do not affect the substance of the medium and major version and will not lead to changes in messages. Minor versions will only clarify the meaning of previously unclear text but shall not impose new meaning, or broaden the meaning beyond the original intent of the MIG.

Such changes may include:

- Typographical errors;
- Minor refinements to the definition of data elements that do not affect the semantic meaning of the data element;
- Changes to the documentation of the MIG that do not affect its content.

5.4 Validity period

Major versions have a validity period from a begin date until an end date. The end date for the most recent major version is undetermined until the begin date of the next major version is known. At the begin date of a major

version all MNSWs will support the new major version. The declarants / data service providers have time to migrate to the new major version during a transition period (period between the begin date of the new major version and the end date of the old/current major version, as depicted in the diagram below). The length of the transition period is determined per new major version and is indicated in the MIG.

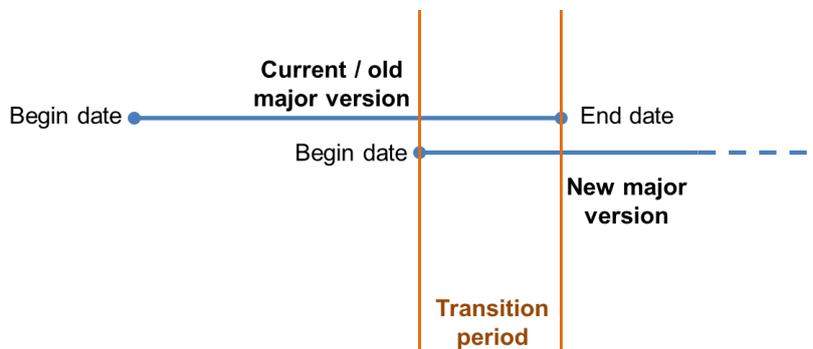


Figure 7: Transition period between two major versions

The validity period for a medium version is the begin date of the medium version until the end date of the related major version. The validity periods of medium versions of a major version end all at the same time. At the begin date of a medium version all MNSWs will support the medium version. MNSWs implement the most recent medium versions per major version. Since medium versions are backwards compatible, the MNSWs implicitly support previous medium versions as well for the same major version. Declarants and data service providers can make use of ‘older’ medium versions as long as the use of an older medium version still satisfies the legal rules for reporting data for the corresponding reporting party(ies). If that is not the case, the declarant or data service provider needs to migrate to the new medium version. There is no transition period for new medium versions.

6. Data structures of formalities

The different data elements that are part of the formalities are listed in ref. R02. Every data element is identified by a unique identification number (with prefix ‘DE’) and is given a name, a textual description and a format, as defined in ref. R02.

The descriptions of the data structure of each formality and of the header MAI are provided in Appendix A. Each formality message must include the header MAI and the formality content (e.g. NOA, HZA). Messages may include as well one or several binary attachment files, if this is allowed by the MNSW for the specified formality. An exception is the case of withdrawal of a formality, where the formality message only includes the header MAI.

Data structures apply version D.24A of the Multi-Modal Transport Reference Data Model (MMT) of the UNECE⁴. They are therefore defined in terms of MMT classes and attributes. The mapping of MMT attributes with the corresponding EMSWe data elements are provided in Appendix A.

The data structure defines the different classes and attributes that are part of the formality, the sequence of the classes and attributes, and the level of hierarchy of the classes. The following information is provided for the classes and attributes:

- Column “Formality type”: the indication of the type of formality,
- Column “MMT base”: the name of the class or attribute in the MMT Reference Data Model,
- Column “CR type”: an indication whether a Change Request to UNECE would be needed, either to add (indication “ADD”) or to change the class or attribute (indication “CHG”),

⁴ <https://unece.org/trade/uncefact/rdm>

- Columns “EMSWe ID”, “EMSWe name”, “Description”, “Format”: the description of the EMSW data set element corresponding to the attribute,

Note: The EMSWe data set applied by this Message Implementation Guide consists of a revision of the data set published under Delegated Regulation (EU) 2023/205 (ref. R02). The corresponding Delegated Act is under preparation.

- Columns “IMO Compendium” and “UCC Annex B”: the indication of the corresponding data element from the IMO Compendium on facilitation and electronic business, and from Annex B of the Union Customs Code (ref. R04) respectively,
- Column “Type”: the type of the data element: Code, Date, DateTime, Decimal, Identifier, Indicator, Integer, Measure, Quantity or Text,
- Column “Code list”: an indication of the list of codes that the attribute must apply, as defined in ref. R02 (code lists are either specific to the EMSWe and provided in appendix E or are defined in the indicated international standard),
- Column “Status”: the optionality of the class or attribute, applying the following:
 - If a class or attribute is always required, it is marked as “M”.
 - If a class of attribute is optional or depends on specified conditions, it is marked as ‘O’.
- Column “Occurrence”: the possible repeat count of the class or attribute,
- Column “Rules, Conditions, Guidelines”: an indication of the rules or conditions that the attribute or class must be compliant with, as well as guidelines for the use of the attribute or class,
- Column “MS specific req”: an indication of the Member States which require the information in the case where the attribute is required by reporting obligations stemming from national legislation and requirements,
- Column “XSD Path”: the XPATH of the class or attribute according to the formality’s XSD file.

In order to go down one level in the hierarchy, the class at the higher level in the hierarchy needs to be present. Submission of empty classes should be avoided (i.e. all classes should contain at least one data element).

Attributes corresponding to data elements of type “Measure” contain a mandatory sub-attribute “unitCode” which corresponds to data element DE-001-01 (Measurement unit, coded) and indicates the unit of measurement using UN/ECE Recommendation 20 Common Codes. This sub-attribute does not appear in the data structures provided in appendix A.

Attributes corresponding to data elements of type “Text” may contain an optional sub-attribute “languageID” which corresponds to data element DE-001-05 (Language, coded) and indicates the language of the text using ISO 639-1 2A codes. This sub-attribute does not appear in the data structures provided in appendix A.

In certain formalities, some attributes correspond to more than one EMSWe data set element. This reflects cases where an attribute has different meanings depending on the context.

Example: In formality NOA, attribute [ID] in class [Logistics Transport Movement].[Itinerary Route].[Itinerary Stop Event].[Occurrence Location] corresponds to data element DE-022-06 (Last port of call, coded), DE-022-08 (Next port of call, coded), DE-023-01 (Previous port of call, coded) or DE-024-01 (Subsequent port of call, coded). The actual meaning of attribute [ID] will depend on whether the attribute [Sequence Number] in the upper class [Itinerary Stop Event] refers to the last port of call (value “-1”), the next port of call (value “1”), a previous port of call (values below “-1”) or a subsequent port of call (values above “1”).

Example: In formality STW, attribute [Speaking Language ID] in class [Logistics Transport Movement].[Onboard Person].[Found Stowaway].[Claimed Language Skills] corresponds to data element

DE-042-18 (Stowaway first spoken language, coded) or DE-042-21 (Stowaway other spoken language, coded). The actual meaning of attribute [Speaking Language ID] will depend on whether the attribute [Sequence Number] refers to the first spoken language of the person (value “1”) or to another spoken language of the person (values above 1”).

The XML schemas (XSD files) of each formality are provided in Appendix F. Examples of XML files are provided as well in that same Appendix.

A record of changes in the formalities’ data structures compared with the previous major version of the MIG (v1.0.0) is provided in Appendix G.

7. Data structures of responses

Responses refer to a reference data set which is distinct from the EMSWe data set (ref. R02). It is provided in Appendix B. Every data element is identified by a unique identification number (with prefix ‘RE’). Data elements of responses are described in a similar manner as data elements of formalities, with the indication of:

- The data element’s name,
- Its unique ID starting with the prefix “RE-“,
- The indication of the corresponding data elements from the IMO Compendium’s reference dataset and UCC annex B, when relevant,
- A textual description,
- Its type (Code, Date, DateTime, Decimal, Identifier, Indicator, Integer, Measure, Quantity or Text),
- Its format,
- The code list to be applied when relevant (code lists are either specific to the EMSWe and provided in appendix E or are defined in the indicated international standard).
- Business rules, if applicable.

The descriptions of the data structures of responses and of the header RES are provided in Appendix C. Each message must include the header RES and the response content (e.g. FRM). Messages may include as well one or several binary attachment files, if this is allowed by the MNSW for the specified response.

The data structures apply as well the UNECE MMT Reference Data Model and are described in the same manner as data structures of formalities.

The XML schemas (XSD files) of each response are provided in Appendix F. Examples of XML files are provided as well in that same Appendix.

A record of changes in the responses’ data structures compared with the previous major version of the MIG (v1.0.0) is provided in Appendix G.

8. Rules, Conditions and Guidelines

The description of each rule, condition, or guideline applicable to attributes or classes in the formalities and responses is provided in Appendix D.

The following naming convention is applied for identifying a rule, a condition or a guideline: “P-XXX-NNN”, where:

- P is a prefix which can be either “R” for rules, or “C” for conditions, or “G” for guidelines.
- XXX is the 3-letter code of the formality or response where the rule, condition or guideline applies, e.g. “NOA” (When a rule, condition or guideline applies to more than one formality or response, the word “GENERAL” is used in place of the formality or response code),
- NNN is a 3-digit sequence number.

Rules and conditions are meant to be checked automatically by the RIM (refer to section 3.4).

A guideline provides indications on how to use a certain attribute or class.

9. File attachments

Some MNSW may require or accept that certain binary files are attached to a formality. Such files generally consist of copies of supporting documentation.

The MNSWs of the following countries accept attachment files: BE, CY, ES, FI, HR, IE, IT, MT, PL.

Other MNSWs don't accept attachment files.

The table below provides the list of possible types of attachments and their corresponding formalities and MNSW countries. Each type of attachment is identified by a code, as defined in the EMSWe dataset (see ref. R02, code list “Attachment type”).

Code	Name	Description	MNSW country	Corresponding formality
ATT-001	Additional declarations required by the products tables	Additional declarations required by the tables Relating to the individual products	IT	BLU
ATT-002	Additional documentation on railway wagons goods transport	Additional documentation for goods transported in railway wagons required by Decree 303/2014 point 7.3.c of the Italian Ministry for Infrastructure and Transport.	IT	HZA
ATT-003	Analysis certificates and related declarations of carried substances	Certificates of analysis and related declarations referred to in Section 4.3 of Italy D.M. 22/07/1991	IT	BLU
ATT-004	Authorization for radioactive materials transport	Decree authorizing the transport of radioactive materials issued to the carrier (7.1a)	IT	HZA
ATT-005	Authorization to embark		IT	CGA
ATT-006	Boarding form of non-hazardous waste including list	Instance - boarding of non-hazardous waste (including waste list)	IT	CGA
ATT-007	Bunker delivery receipt		MT	BKD
ATT-008	Cargo information form	Form for cargo information referred to in section 4.2. of Italy D.M. 22.07.1991	IT	BLU
ATT-009	Carrier's declaration on radioactive materials	Declaration by the carrier, by a qualified expert attesting that all the procedures required by the current legislation for the	IT	HZA

Code	Name	Description	MNSW country	Corresponding formality
		transport of radioactive materials have been observed (7.1c)		
ATT-010	CIPE Authorization	Authorization of the Italian Comitato Interministeriale per la Transizione Ecologica with relative declaration of consent of the State of destination (waste destined for non-EU countries)	IT	CGA
ATT-011	Cisterns residues exemption declaration	Ship declaration exempted from compliance with maximum values of residues in cisterns.	IT	HZA
ATT-012	Clearance from terminal		IT	CGA
ATT-013	Communication and receipt certificate for waste destined to EU countries	Communication to the competent authority of destination and relative certificate of receipt (waste destined for eu countries)	IT	CGA
ATT-014	Communication of incoming waste and certificate of receipt	Communication to the territorially competent Region and relative certificate of receipt (incoming waste)	IT	CGA
ATT-015	Consent to retain waste and the related washing /prewashing waters	Copy of the consent of the waste and of the relative washing / prewashing waters with the indication of the final destination of the same	IT	HZA
ATT-016	Containers loader declaration	Loader declaration for the containers (7.2 c1 c2)	IT	HZA
ATT-017	Cyanide transport Police Authorization		IT	HZA
ATT-018	Dangerous goods manifest or stowage plan	Special poster or loading plan according to rule 7-2.2 part A-1 of the chapter. VII of SOLAS	IT	BLU
ATT-019	Solid bulk cargo density declaration	Declaration pursuant to rule 10.2 of chap. XII of SOLAS issued by a testing body accredited by the Administration of the country where the product is produced or, failing that, by the accredited measurement organization as defined in paragraph 2.2 of annex 1 of Decree 30.11.2010 No. 1340 or, in case of justified urgency, by a chemist registered in the professional register.	IT	BLU
ATT-020	harbour chemist visa		IT	CGA
ATT-021	Holds security status certification	Security status certification of the holds issued by a port chemical consultant in compliance with the provisions of art. 25 of Italy Legislative Decree 272/99	IT	BLU
ATT-022	International trips accompanying documents and financial guarantee	A copy of the accompanying documents referred to in Regulation (EC) No 1013/2006 and subsequent amendments, and the financial guarantee referred to in Italy Ministerial Decree of 3 September 1998, n. 370 until it is replaced by the decree referred to in art. 194 paragraph 4 of the Italy	IT	HZA

Code	Name	Description	MNSW country	Corresponding formality
		legislative decree 3 April 2006, n. 152 (international travel only) (7.3b)		
ATT-023	Loading and unloading plan		IT	BLU
ATT-024	Manual referred to in rule 5.3.5 of Annex II to Marpol 73/78	Manual, approved by the Administration, ensuring that no operational mixing of cargo residues and water will occur and that no cargo residues will remain in the tank after applying the ventilation procedures prescribed in the Manual.	IT	HZA
ATT-025	Manufacturer statement on the goods to be loaded or unloaded	Goods manufacturer statement about the characteristics and quantity of the substances / products to be loaded	IT	HZA
ATT-026	Means used to carry explosive materials	Data relating to the means of transport used for entry into or exit from the port of the explosives to be loaded or disembarked (7.2 d)	IT	HZA
ATT-027	Means used to carry radioactive materials	Data relating to the means of transport used for entry or exit of the radioactive material to be loaded or disembarked (7.1b)	IT	HZA
ATT-028	Multimodal dangerous goods declaration	Dangerous goods declaration according to SOLAS 74, chapter VII, regulation 4; MARPOL 73/74 Annex III, Regulation 5.2.	IT	HZA
ATT-029	No impediment to goods unload	Form to communicate that there are no impediments to the unloading of the goods	IT	CGA
ATT-030	Non-hazardous waste loading declaration		IT	CGA
ATT-031	Permission to disembark		IT	CGA
ATT-032	Person's photograph		BE	STW, ABS
ATT-033	Pilot card			SRV
ATT-034	Road vehicles and rail cars loader declaration	Declaration of the loader for road vehicles and rail cars (7.2 b2 b3)	IT	HZA
ATT-035	Road vehicles registration certificate	Registration certificate, for road vehicles, with annotation on the suitability of transportation of explosives (or equivalent) (7.2 b1)	IT	HZA
ATT-036	Safety checklist		IT	BLU, HZA
ATT-037	Ship certificate		CY, ES, FI, IT	CRT
ATT-038	Side shell plan		IE	NOA
ATT-039	Suitability Attestation	Attestation of suitability as per Italy D.P.R. 50/84	IT	HZA
ATT-040	Suitability tanks statement	Commander Statement regarding tank suitability and their facilities to receive the substances / products to be loaded	IT	HZA

Code	Name	Description	MNSW country	Corresponding formality
ATT-041	Technical special standards compliance certification	Certification of compliance with the special technical standards referred to in Article 8 of Italy D.P.R. 50/84	IT	HZA
ATT-042	Towage certificate		MT	SRV
ATT-043	Towage plan		MT	SRV
ATT-044	Towage recommendations		MT	SRV
ATT-045	Waste classification declaration	Waste classification declaration (art.5 paragraph 2 of Italy dm 459/1991)	IT	CGA
ATT-046	Waste tracking documentation	Documentation for the traceability of waste provided for in articles 188-bis, 188-ter and 193 of Italy Legislative Decree 3 April 2006, n. 152 (7.3a)	IT	HZA
ATT-047	NIL list	Document used by ship masters to inform that there is no animals, ammunitions, weapons, dangerous goods etc. on board the ship	HR	NOA
ATT-048	Technical data form for lightering of mineral oil	Form to be provided in case of lightering of mineral oil according to Italy DM 3/5/1984	IT	SRV
ATT-049	Technical data form for lightering of gas	Form to be provided in case of lightering of gas according to Italian DD 673/2007	IT	SRV
ATT-050	Master declaration as per art. 21 – DM 3/5/1984	Ship master declaration to be provided in case of lightering of mineral oil according to Italy DM 3/5/1984	IT	SRV
ATT-051	Master declaration as per Italian DD 673/2007 - art. 22	Ship master declaration to be provided in case of lightering of gas according to Italian DD 673/2007	IT	SRV
ATT-052	ICOF - GC (International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk)	Attachment to be provided in compliance with Italian DD 673/2007 article 6 and DPR 50/1984 article 8.	IT	SRV, HZA
ATT-053	Master declaration as per R.D. 30 march 1942, n. 327 -art.179	Declaration to be provided by the master in order to get the clearance at departure.	IT	NOD
ATT-054	Statement of compliance for the carriage of liquified gases in bulk (only for non - GC Code compliant Italian ships)	Attachment to be provided in compliance with Italian DD 673/2007 article 6 and DPR 50/1984 article 8.	IT	SRV, HZA
ATT-055	ICOF-CC (International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk)	Attachment to be provided in compliance with Italian DD 673/2007 article 6 and DPR 50/1984 article 8.	IT	SRV, HZA
ATT-056	COF (Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk)	Attachment to be provided in compliance with Italian DD 673/2007 article 6 and DPR 50/1984 article 8.	IT	SRV, HZA
ATT-057	Cargo inhibition certificate issued by the manufacturer, according to Reg. 17.8 IGC Code	Attachment to be provided in compliance with art. 12 comma 4.d. and Annex II and III of Italian DD 673/2007	IT	SRV, HZA
ATT-058	Gas Lightering emergency plan	Attachment to be provided in compliance with art. 12 comma 5 of Italian DD 673/2007	IT	SRV
ATT-059	Checklist for in-transit fumigation	Attachment to be provided in compliance with par. 3.6. MARICOGECAP Circular Serie MP n. 41/2022 - Appendix 3, part A and B, of MSC.1/Circ. 1264	IT	HZA

Code	Name	Description	MNSW country	Corresponding formality
ATT-060	Fumigation certificate or in-transit fumigation certificate or fumigant application certificate	Attachment to be provided in compliance with par. 2.h. MARICOGECAP Circular Serie MP n. 41/2022	IT	HZA

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