

# EU MRV Regulation 2015/757

Automated Systems, Data Exchange Formats including  
Electronic Templates under the EU MRV Regulation.

Miguel Madeira / Carlos Pereira

Unit B.3 - Environment & Enforcement

Brussels / 20 January 2016



- Companies shall submit to the Commission and Flag the Verified ER using automated systems
- Verifiers shall transmit the information of issuing a DoC using automated systems
- System to be developed as an IT tool as an extension of tools operated by EMSA (THETIS)
- System should also provide MS (and FS) with information of ships flying their Flag

**Q1.** Do you consider it useful for the Member States (and the Flag States) to have such option in place?

## Outside the System

- ✓ Drafts **MP**
- ✓ Monitors CO<sub>2</sub> emissions
- ✓ Produces **ER**



COMPANY

- ✓ Assesses **MP**
- ✓ Verifies **ER**
- ✓ Drafts **VR**



VERIFIER



COMMISSION  
MS / FLAG

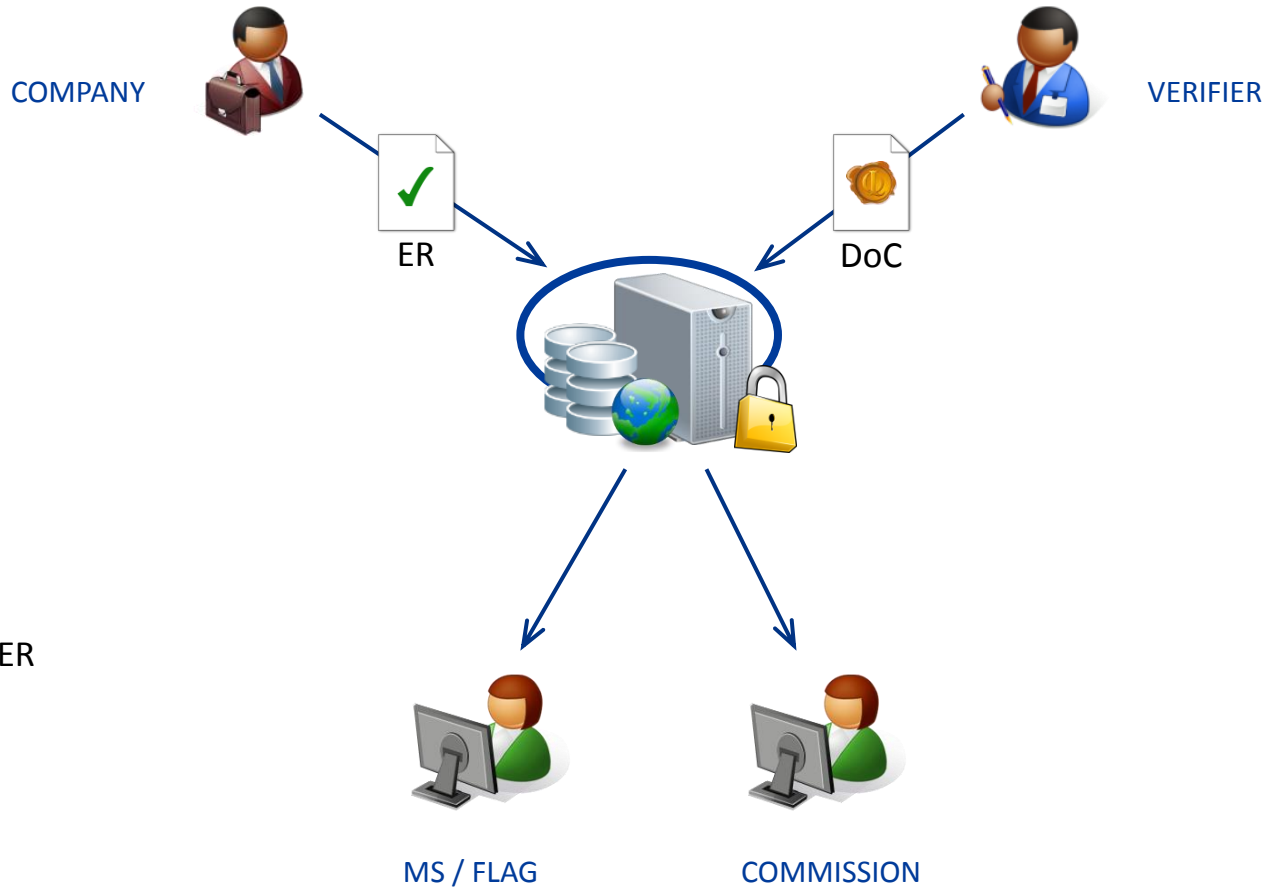


## In the System

- ✓ Submits **Verified ER**

- ✓ Issues **DoC**


- ✓ Accesses the **Verified ER** and **DoC**



# Emission Report (ER)

## Ship and Company details (Art 11.3)

*Inclusion of ship type in the ER not foreseen in the Regulation*



### Ship

<b>IMO</b>	8145965	<b>Name</b>	WOOD SEA GLORY	<b>Flag state/Registry</b>	Panama
<b>Ship type</b>	General cargo / multipurpose	<b>Ice Classed</b>	Yes (1A Super)	<b>Port of registry</b>	Panama
<b>Technical Efficiency</b>	EEDI 2.99 (g CO <sub>2</sub> / m tonne · n mile)				

### Ship Owner

<b>Number</b>	654987	<b>Name</b>	MMD WOOD Co	<b>Principal place of business</b>	Portugal
<b>Address</b>	Praça Europa 4 1249-206 Lisboa	<b>City</b>	Lisbon	<b>Country</b>	Portugal

### Company

<b>Nature</b>	ISM Company				
<b>Number</b>	5687545	<b>Name</b>	CGS Shipping	<b>Principal place of business</b>	Portugal
<b>Address</b>	Ribeira das Naus 21 1250-124 Lisboa	<b>City</b>	Lisbon	<b>Country</b>	Portugal

### Company contact person (Art 11.3.a.x)

<b>Address</b>	Rua dos Albardeiros 24 2415-45 Porto	<b>Email</b>	cgs@gmail.com	<b>Telephone</b>	915454545
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### Verifier

<b>Number</b>	35425155	<b>Name</b>	CPE Veritas Portugal		
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- Q2.** Do you agree to include the ship type as additional information on the ship (to be used on a voluntary basis)?
- Q3.** Do you agree with the proposed list of ship types or should the list be more detailed?

Ship type	Definition
Passenger ship	"Passenger ships" means a ship that carries more than twelve passengers but not cargo.
Ro-Ro ship	"Ro-Ro ship" means a ship designed for the carriage of roll-on-roll-off cargo transportation units or with roll-on-roll-off cargo spaces.
Container ship	"Container ship" means a ship designed exclusively for the carriage of containers in holds and on deck.
Oil Tanker	"Oil Tanker" means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces. Note that this definition does not include combination carriers, NLS tankers or gas tankers.
Chemical tankers	"Chemical tanker" means a ship constructed or adapted for the carriage in bulk of any liquid product listed in chapter 17 of the International Bulk Chemical Code (a Chemical Tanker) or a ship constructed or adapted to carry a cargo of noxious liquid substances in bulk (an NLS Tanker)
LNG carrier	"LNG Carrier" means a tanker for the bulk carriage of Liquefied Natural Gas (primarily methane) in independent insulated tanks. Liquefaction is achieved at temperatures down to -163 deg C
Gas carriers	"Gas Carrier" means a tanker for the bulk carriage of liquefied gases other than LNG.
Bulk carrier	"Bulk carrier" means a ship which is intended primarily to carry dry cargo in bulk, including such types as ore carriers as defined in SOLAS chapter XII, regulation 1, but excluding combination carriers.
General cargo ship	"General cargo ship" means a ship with a multi-deck or single deck hull designed primarily for the carriage of general cargo. This definition excludes specialized dry cargo ships, which are not included in the calculation of reference lines for general cargo ships, namely livestock carrier, barge carrier, heavy load carrier, yacht carrier, nuclear fuel carrier.
Refrigerated cargo ship	"Refrigerated cargo carrier" means a ship designed exclusively for the carriage of refrigerated cargoes in holds.
Vehicle carrier	"Vehicle carrier" means a multi deck roll-on-roll-off cargo ship designed for the carriage of empty cars and trucks.
Combination carrier	"Combination carrier" means a ship designed to load 100% deadweight with both liquid and dry cargo in bulk.
Ro-pax	"Ro-pax ship" means a passenger ship with roll-on-roll-off cargo space
Container/ Ro-Ro cargo ship	"Container/ Ro-Ro cargo ship" means a hybrid of a container ship and a ro-ro cargo ship in independent sections
Other ship types	"Other ship types" mean ships not covered by any of the above definitions, which fall under the scope of the regulation.



*Monitoring methods relates to equipment and type of fuel*

*Figures depending on on-going discussions*

Monitoring method (Art 11.3.c)

Identification ↑↓	Fuel type used ↑↓	Method ↑↓	Measuring equipment description	Level of uncertainty ↑↓
Main engine	HFO MDO	Method C : Flow meters for applicable combustion process	Flow meter	Medium
Main engine	HFO MDO	Method D : Direct CO2 emissions measurement		Low
Auxiliary Engine	Ethanol	Method D : Direct CO2 emissions measurement		Low
Boiler	HFO	Method A : BDN and periodic stocktakes of fuel tanks		High

## Annual monitoring results (Art 11.d -> Art 10)

Type of fuel	At berth	Amount [m tonnes]	Emission factor [t-CO <sub>2</sub> /t-Fuel]	CO <sub>2</sub> emissions [m tonnes]
HFO		150	3.114	467.1
MDO		70	3.206	224.42
MDO	√	35	3.206	112.21
Ethanol		5	1.913	9.565
<b>TOTAL</b>	-	<b>260</b>	-	<b>813.295</b>

# Emission Report (ER)

Parameter	Value
Total CO <sub>2</sub> emissions	0000.00 m tonnes
CO <sub>2</sub> emissions from all voyages between ports under a MS jurisdiction	0000.00 m tonnes
CO <sub>2</sub> emissions from all voyages which departed from ports under a MS jurisdiction	0000.00 m tonnes
CO <sub>2</sub> emissions from all voyages to ports under a MS jurisdiction	0000.00 m tonnes
CO <sub>2</sub> emissions which occurred within ports under a MS jurisdiction at berth	0000.00 m tonnes
Total distance travelled	0000.00 n miles
Regular navigation	0000.00 n miles
Through Ice	0000.00 n miles
Total time spent at sea	0000.00 days
Regular navigation	0000.00 days
Through Ice	0000.00 days
At Anchorage	0000.00 days
Total transport work	0000.00 m tonnes · n mile
Average energy efficiency: Fuel consumption per distance	0000.00 m tonnes / n mile
Average energy efficiency: Fuel consumption per transport work	0000.00 per n mile
Average energy efficiency: CO <sub>2</sub> emissions per distance	0000.00 g CO <sub>2</sub> / n mile
Average energy efficiency: CO <sub>2</sub> emissions per transport work	0000.00 g CO <sub>2</sub> / m tonnes · n mile

*If so decided and according to the Monitoring Plan*

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*Pre-defined differentiated criteria resulting from the on-going discussions*



Differentiating criteria (Art 10 last paragraph)

Parameter	Value
Fuel consumption on ballast voyages	0000.00 m tonnes
Fuel consumption on laden voyages	0000.00 m tonnes
CO <sub>2</sub> emissions on ballast voyages	0000.00 m tonnes
CO <sub>2</sub> emissions no laden voyages	0000.00 m tonnes
Fuel consumption related to cargo heating operations	0000.00 m tonnes
CO <sub>2</sub> emissions related to cargo heating operations	0000.00 m tonnes

*Pre-defined parameters resulting  
from the on-going discussions*

Additional voluntary reporting (IA as per Art 12)

Parameter	Value
Average density of the cargo transported	0000.00 m tonnes / m <sup>3</sup>
Average level of filling of cargo tank	0000.00 % total capacity
Average level of ullage of cargo tank	0000.00 % total capacity

- Q4.** Do you agree to include fuel consumption and emission data differentiated for laden and ballast voyages and related to cargo handling operations?
- Q5.** If yes, do you prefer absolute figures or efficiency parameters (referring to distance and/ or transport work)?
- Q6.** Do you agree to include information on cargo density for chemical tankers?
- Q7.** If yes, do you prefer the average density of the cargoes transported in a reporting year or the average share of available tank volume used in a reporting year?
- Q8.** Is there anything else you would consider relevant to include in the ER?

# Document of Compliance (DoC)

Issued under the provisions of EU Regulation 2015/757

This is to confirm that ship <SHIP NAME> Emission Report covering the period of <Reporting Period> has been verified as satisfactory fulfilling the requirements set out in Articles 11 to 15 and those in Annex I and II of the EU Regulation 2015/757

This document shall be kept on board the vessel from 30 June <year of the reporting period>



## Ship Particulars

- ✓ IMO Number
- ✓ Name
- ✓ Ship type
- ✓ Flag State/Registry
- ✓ Keel laying date
- ✓ Port of registry
- ✓ Gross Tonnage



## Ship Owner

- ✓ Number
- ✓ Name
- ✓ Address
- ✓ Principal place of business

The image shows a sample of the Document of Compliance form. It includes a title 'DOCUMENT OF COMPLIANCE' and a subtitle 'Issued under the provisions of EU Regulation 2015/757, as amended'. The main text states: 'This is to confirm that ship <SHIP NAME> Emission Report covering the period of <Reporting Period> fulfills the requirements set out in Articles 11 to 15 and those in Annex I and II of the EU Regulation 2015/757. This document shall be kept on board the vessel from 30 June <year of the reporting period>'. Below this, there are sections for 'DoC info', 'Ship particulars', 'Ship Owner', and 'Verifier', each with fields for various details like dates, names, addresses, and numbers.



## DoC info

- ✓ Issue date
- ✓ Expiry date
- ✓ Reporting period
- ✓ Issued by (Verifier)



## Verifier

- ✓ Name
- ✓ Accreditation number
- ✓ Name of NAB
- ✓ Address
- ✓ Principal place of business
- ✓ Signed, Name and Date

**Q9.** Is there anything else you would consider relevant to include in the DoC?





**Thank you!**

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# EU MRV Regulation 2015/757

Voluntary modules under the MRV IT tool on monitoring and verification pursuant the EU MRV Regulation.

Miguel Madeira / Carlos Pereira

Unit B.3 - Environment & Enforcement

Brussels / 20 January 2016



- Additional requirements supporting Monitoring and Verification on a voluntary basis
  
- Considering:
  - (i) ESSF feedback
  - (ii) cost-effectiveness
  - (iii) uniform implementation
  
- Integrated web based approach in support of EU MRV workflow processes

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VERIFIER



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**MANDATORY**



## In the System



COMPANY

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VERIFIER

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NAB

- ✓ Accreditation of Verifier

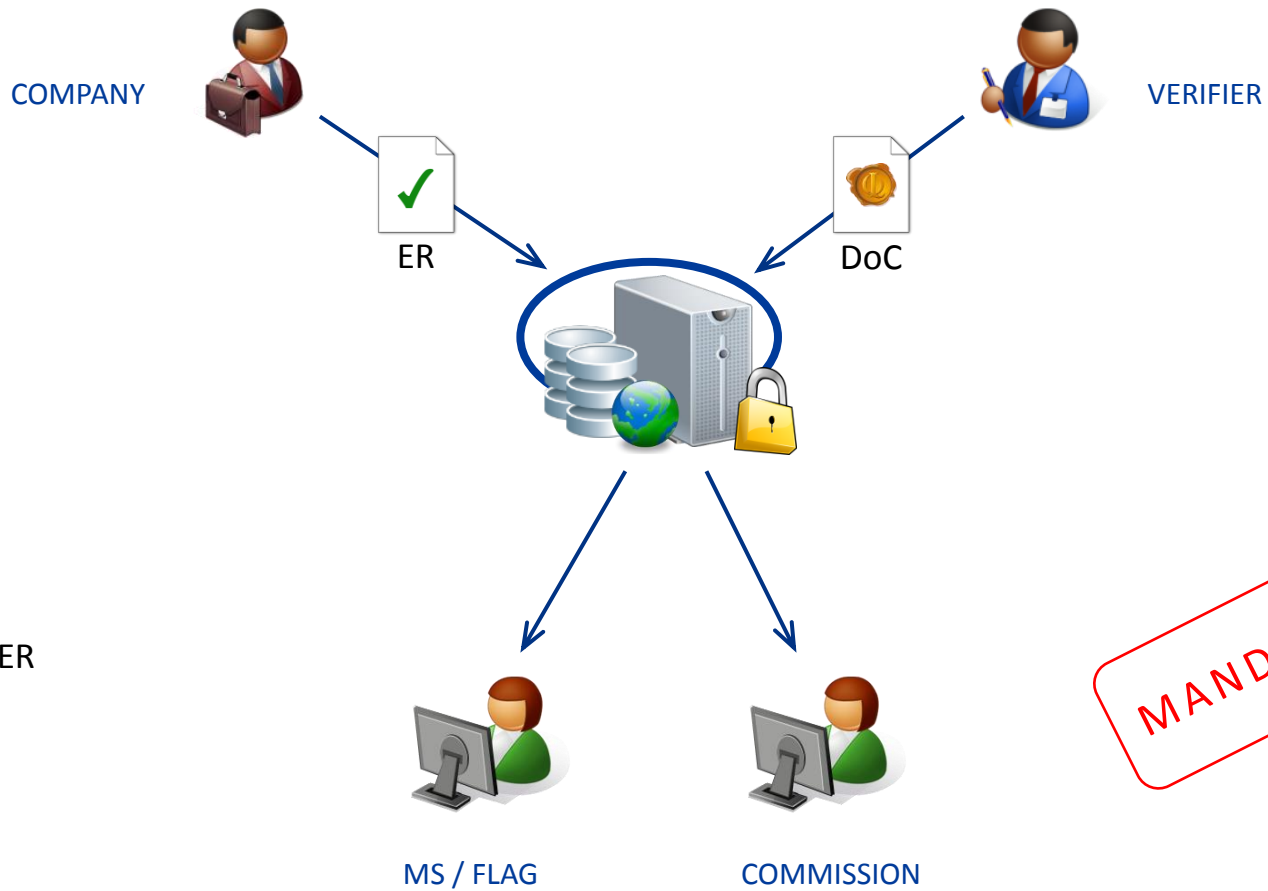


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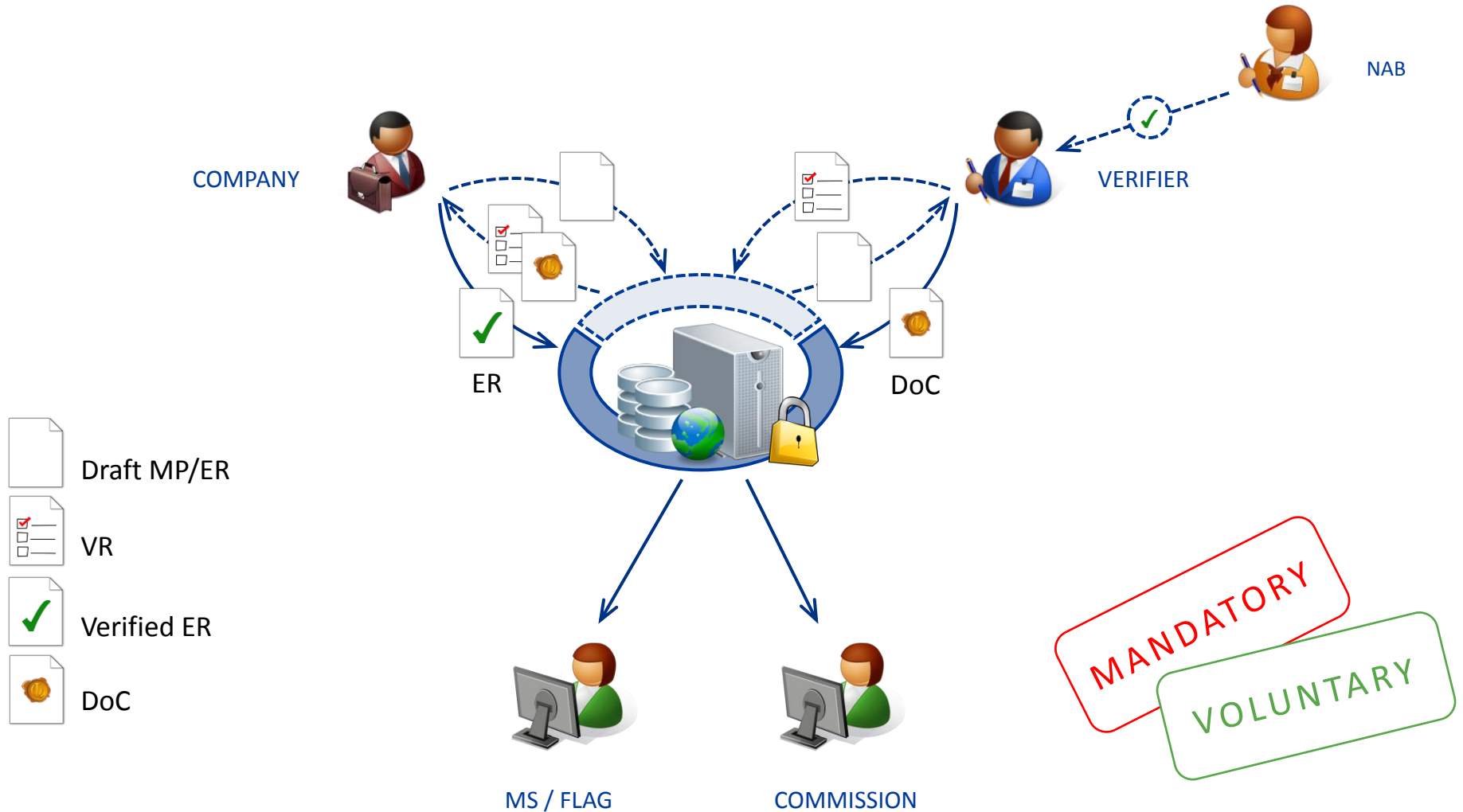
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MANDATORY

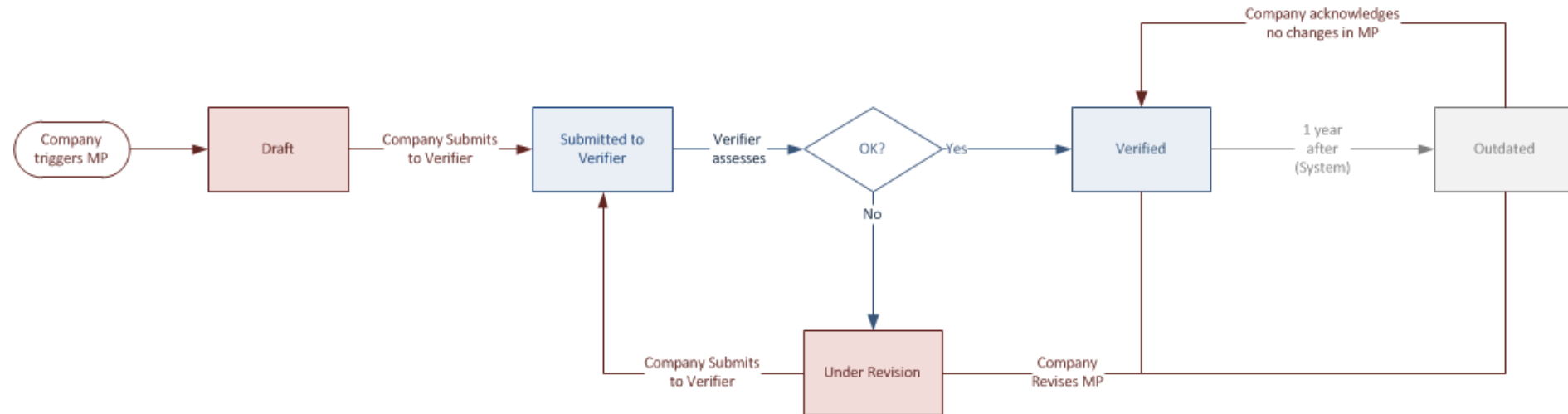
VOLUNTARY



# Enhanced MRV IT Tool Schematics

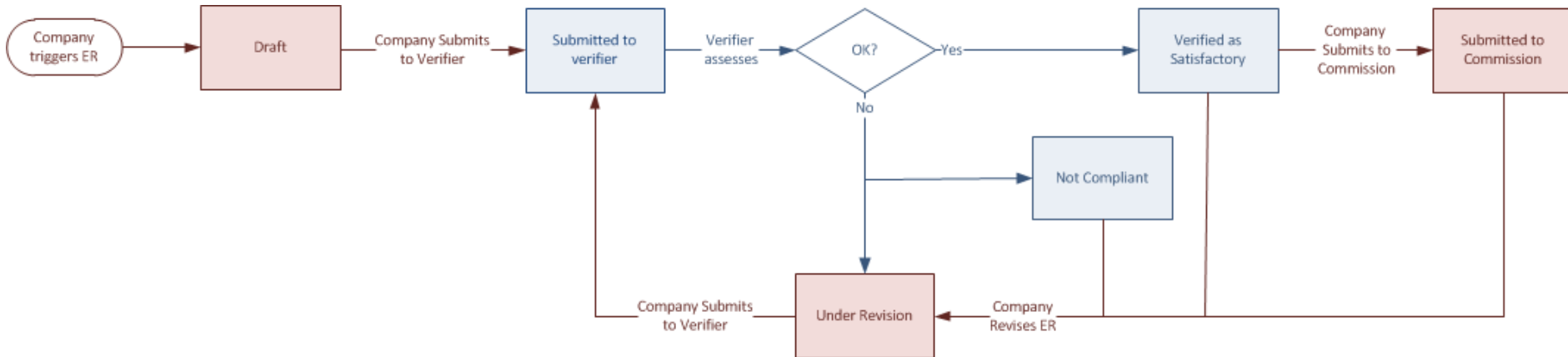


# MP status diagram





# ER status diagram



**Q1.** Which additional functionalities (by means of voluntary modules) you would consider useful to include?



**Thank you!**

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