



Equasis Protocols

Core data, ship and company information

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1 Introduction

1.1 Purpose of this document

The present document is a technical reference available to current or potential providers of core data to Equasis. It explains the technical details of a specific protocol that is available for the loading of core data into the Equasis system.

1.2 Data covered by this protocol

This protocol is intended to provide core ship information to the Equasis database.

The Equasis database gathers safety and environmental related information on ships and companies that operate them. The purpose of receiving core-ship information is to have basic information on ships in order to be able to have an overview of the worldwide fleet.

Safety information on ships provided by other partners will be attached to the ship and enrich the information available in the Equasis website. The link will be made through the IMO number of the ship.

The protocol allows the following data to be provided to the Equasis database:

- ❖ **Ships particulars** (current values)
 - IMO number of the ship
 - Status of the ship
 - Name, Call sign, Gross Tonnage, Year of Built,
 - Type of ship
 - Flag of the ship
 - Class of the ship
- ❖ **History of ships particulars** (since 2000)
 - History is provided, with dates of effects for the following data:
 - Status, Name, Type, Gross Tonnage, Class and Flag
- ❖ **Company Information**
 - IMO number of companies
 - Address and country of registration
- ❖ **History of relations between ships and companies** (since 2000)
 - IMO number of the ship in relation with IMO number of a company
 - Identification of the relation between the ship and the company
 - It can be the registered owner, ISM Manager, Ship manager...
 - For each relation, a date of effect
- ❖ **The coding system** used to describe the information above
 - List of codes for "Class", "Status of ships", "Type of ships", "Flags" and "Countries"

1.2.1 Lot-1 and Lot-2

If necessary, the data delivered through this protocol may be split in two different and independent lots.

- 1. Lot-1 concerns "ship data" and it contains the following data:**
 - a. Ships Particulars (all that is described above)
 - b. History of ships particulars (all that is described above)
 - c. The coding system (all that is described above)
- 2. Lot-2 is the "company data" and it contains the following data**
 - a. Company Information (all that is described above)
 - b. History of relations ships/companies (all that is described above)
 - c. The coding system (only Codes for "countries")

1.3 Scope of the data

Data of all ships and companies with a valid IMO number can technically be loaded into the Equasis database.

Ships and companies without a valid IMO number cannot be loaded into the Equasis database for technical and interoperability reasons.

On the basis of the contract (or agreement) established with each provider other non-technical restrictions may apply. Typically, ships that have not been active after the year 2000, military or non-maritime vessels will not be usually shown in the Equasis website.

Companies that have no known relations with any ship in the Equasis database can also be eliminated from the data delivery.

1.4 Frequency and type of delivery

1.4.1 Frequency of deliveries and retrieval method

The frequency of the delivery may vary depending on the agreement established with each provider. However, in order to keep the Equasis website reasonably up-to-date, a weekly delivery is desirable.

The delivery consists of one « zip » file that can be sent to the Technical Unit by any appropriate means, including (s)FTP, email or offer to download the file from a webserver.

The frequency and method of retrieving the file shall be agreed between the provider and the Equasis Technical Unit under the supervision of the Equasis Management Unit.

1.4.2 Type of delivery

This protocol allows both a "full" delivery of data or "incremental" delivery of data. The full delivery replaces all the content of the Equasis database while the incremental delivery keeps the previous content and only modifies its content to reflect changes that have occurred since the last delivery.

It is important to note that, in this protocol, "Incremental" deliveries can overwrite existing data (records). Through the change of the status of a ship, the provider can remove a ship from the Equasis database, but it is technically impossible to delete other categories of data related with a ship with an Incremental delivery.

The provider should be technically able to provide both kinds of deliveries.

Given that the result in the Equasis database of a successful load of either a "full" delivery or an "incremental" delivery is the same it is left to the provider to decide on the type of delivery, while keeping in mind the following:

- The Equasis Technical Unit must receive a full delivery at least once a year;
- A "full" delivery may be requested at any moment by the Equasis Technical Unit if, for any reason, the Equasis Technical Unit suspects that the data may not be fully synchronised with the provider's database;
- A "full" delivery may be sent by the provider if some deletions are necessary to be done that cannot be performed with an Incremental delivery.

In case an "incremental" delivery fails to load or contains too many errors the Equasis Technical Unit is likely to ask a "full" delivery to make sure that all of the data is fully synchronised with the provider.

2 Becoming a provider

2.1 Rules on display of the data

As a principle Equasis displays data as close as possible from the source.

For the previous reason the coding system (for flags, ship type...) has to be fully provided. Note that the Equasis Management Unit or Technical Unit may decide to display data in a different way than originally provided due to harmonisation purposes or to respect a specific technical constraint.

For instance, the label of a country may be altered to match the way the same country is displayed in other contexts on the Equasis website (e.g., "China" vs "People's Republic of China", etc...).

Textual data may also be modified in a mixture of upper/lower cases to be consistent with the way similar data is displayed throughout the website. This can affect ship and company names, ship types, flag, call sign, etc.

In some other cases textual data may be displayed graphically. Typically, the Equasis Management Unit may decide to display flags of ship as text but also with an image representing the actual flag.

If addresses are provided they may be processed to respect a certain format when displayed (same rule applies to phone numbers, email addresses...).

In some contexts, a "short label" (or long labels) may be derived from the original label and used to fit on label with a small (or large) width.

2.2 Process to load a file

When a file is sent to the Equasis Technical Unit for loading, the Equasis Technical Unit always sends a feedback to report whether or not the file was loaded. Additionally, the Technical Unit sends a "log file" generated by the import process giving indication on minor or major problems of coherence found while loading the data.

If loading issues block the import process then a new file will be requested to the provider with the necessary fixes to be loaded into the Equasis database. If the issues found while loading do not block the import process then the "log file" is just provided for general information.

If errors are detected in one or several of the files of the delivery, an "error" file is generated for each delivered file containing at least one error. This file references the records that are producing the loading error. Error file(s), with extension ".bad", is (are) zipped and sent together with the log file.

When a file is successfully loaded a message is displayed on the home page to any user of the Equasis website informing that new data has been loaded from the provider. All Equasis users have access to a page that gives information on how frequently the data is loaded per provider.

2.3 Contact Points

The provider must inform the Equasis Management and Technical Unit with the name and contact point (telephone, email) to whom all technical aspects can be addressed to and a contact point (can eventually be the same as the later) for all queries sent by Equasis users.

Users of Equasis have the possibility to challenge/contest specific data displayed in the Equasis website. The Management Unit/Technical Unit forwards each claim to the

corresponding data-provider that should investigate the case and answer directly to the user while keeping the Management Unit/Technical Unit informed.

2.4 Hyperlink for details on Ships or Companies

Hyperlinks are a possibility offered to the Equasis users to retrieve more detailed information by redirecting them to the provider's website automatically when clicking on a special icon or text next to the ship or company folder.

The hyperlink in addition of giving extra-information not available in the Equasis website, one of the other advantages is the access at all times to "fresh" information.

2.4.1 Technical considerations

In this context, hyperlinks are considered to be "deep-hyperlinks", meaning that the user is redirected to the precise page that corresponds to what he was viewing in the Equasis website, without having to "search" for the ship/company or select it from a list.

The hyperlink needs to be of the form of an URL activated by the HTTP method "GET" where all the relevant details are given as arguments. One of the URL query parameters must be the IMO number of the ship (or company) and other arguments may be given at the request of the provider to identify the Equasis website as the source of the activation (referrer).

The URL should be of a fixed form that can be constructed by the Equasis system internally based on parameters that are provided through this protocol. Typically, the URL of a deep hyperlink following the below pattern:

- <http://my.web.site/specificpage?imo=1234567>
 - where 1234567 is the IMO number of a ship/company
 - The URL is likely to be different for ships and companies and may include additional (fixed) parameters.

In case of need and at the request of the provider, hyperlinks may be secured with a timestamp and a cryptographic signature/sealing algorithm in order to ensure that the URL cannot be used by a simple copy/paste outside of Equasis website more than a few minutes. However such a feature requires further developments and therefore is considered to be a modification to this protocol.

2.4.2 Hyperlink for companies

The provider of Lot-2 may also offer a deep-hyperlink to its website for each company that is provided to the Equasis database. When this deep-hyperlink is activated, the Equasis user is redirected to a website where he can read all available details on the company, including:

- Address of the headquarters of the company;
- Contact details (telephone, fax, email, website...);
- Nationality of registration;
- Etc...;

2.4.3 Hyperlink for ships

The provider of Lot-1 may provide a deep-hyperlink to its website for each ship that is provided to the Equasis database (dead or active). When this deep-hyperlink is activated, the Equasis user is redirected to a website where he can read all available details on ship, including:

- Ships particulars and history of particulars;
- Ships certificates and classification societies (current);
- Companies managing/owning the ship currently;
- Eventually photos of the ship;
- Etc...;

2.5 Communication through Equasis

If the providers so desire the Equasis website can display any relevant information on its dedicated pages, for example to present the company, its activities, website(s), contact point...

2.6 Copyright and protection of the data

The conditions of use of the Equasis website are available at this address:

<http://www.equasis.org/EquasisWeb/public/About?fs=HomePage>

Concerning the right of use on the data displayed in the Equasis website, it is stated that:

No part of the information contained in the Equasis website may be stored in a retrieval system, or transmitted in any form, or by any means without prior permission in writing from Equasis (Management Unit).

The following actions are forbidden:

- Bulk-downloading of data contained on the site
- Use of downloaded data for financial gain
- Use of a robot or similar remote device to download large batches of data.

The above list is not exhaustive, and it should be noted that Equasis continually monitors the activity on its website and if misuse is detected, then the user's account can be locked without prior notice.

The Equasis Management Unit frequently receives requests from third-parties for the provision of raw data of Equasis to which it has always answered negatively. In some cases, the request may be redirected to the provider of information in case the Management Unit considers being of the interest of the provider. However, the Equasis Management and Technical Unit never provide raw data and do not process the data specifically for any of its users and/or stakeholders without explicit approval of the owner of the data.

Equasis is a public website with no commercial purposes aiming at the dissemination of factual information as widely as possible. Therefore, the data as such, is not protected and can be consulted as much as necessary by the users of Equasis.

However, the right of use available on Equasis explicitly forbids the use of robot or any other similar automated techniques to download data from the Equasis website. In order to limit the possibility to plunder data out of Equasis with automatic robots, active/passive security mechanisms are enacted. An example is the limitation imposed to the number of data records each Equasis user is authorised to consult on a daily and monthly basis.

3 Description of the delivery

3.1 Providing Lot-1 and Lot-2 separately

It is possible to provide Lot-1 and Lot-2 either jointly or separately, meaning one single delivery for both lots or two separate (and independent) deliveries, one for each lot.

3.2 Active and Dead ships

A zip file that is part of a "full" delivery may contain "dead ships", "active ships" or both types of ships, as detailed below.

Here are some definitions:

- Ships "in service" are ships that are currently trading.
- Ships that are "active" are ships currently in service or that may be in service in the future. If a ship has just been launched, is being repaired/rebuilt or is laid-up, the ship is still considered as "active".
- Ships that are "dead" are ships that are no longer active. It may be ships that have been scrapped, have been lost at sea, hulked or scuttled. It might be also ships that have never been active, in case their construction was never finished. A ship that is "dead" can never be active anymore in the future.

When a full delivery contains "dead ships", it means that all data in the delivery relates to ships that are dead (at the date of the extract of the delivery).

When a full delivery contains "active ships", it means that all data in the delivery relates to ships that are active (at the date of the extract of the delivery).

In the context of a full delivery of only Lot-1, "active ships" implies that all ships in the main ship file must have an **active** status (likewise for "dead ships" with the **dead** status). It follows that the History files should only make reference to the ships provided in this lot.

In the context of a full joint delivery for Lot-1 and Lot-2, "active ships" means that all ships of the Lot-1 have an **active** status and that all relations between a company and a ship in the Lot-2 are relative to "active" ships (likewise for "dead ships" with the **dead** status).

In the context of a full delivery of only Lot-2, all companies are provided in relation with both "dead ships" and "active ships" (without discrimination), in a single delivery.

3.3 Content of the delivery

Each delivery is composed of one or two¹ zip files that contains text files ending with the extension “.txt” (filenames are case sensitive). The actual list of text files depends on the expected content of the delivery.

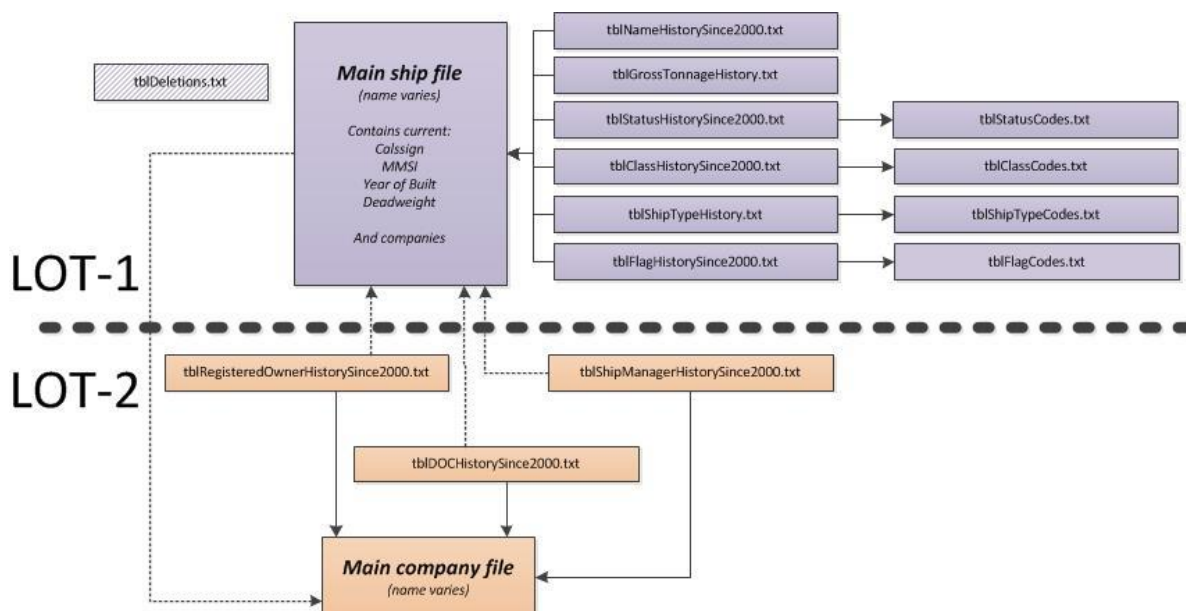


Figure 1: Content of deliveries, for each lot

The name of the “Main ship file” is different in case it contains active ships or dead ships.

- If the delivery is about “active ships” (and/or their associated companies), the Main ship file is “eq_data.txt”
- If the delivery is about “dead ships” (and/or their associated companies), the Main ship file is “eq_Yds.txt”

The name of the “Main company file” is different in case of full or incremental deliveries but also if Lot-1 and Lot-2 are provided jointly or not:

- If Lot-2 is provided independently from Lot-1 and if this is an “incremental” delivery, then the main company file is named “tblCompanyDetailsChange.txt”
- In all other cases, when the file is present, its name is “tblCompanyDetailsAll.txt”

Files on the upper part of Figure 1 are to be found if Lot-1 is included in the delivery (Lot-1 only or Lot-1 and Lot-2 combined) and files on the lower part are to be found if Lot-2 is included in the delivery (Lot-2 only or Lot-1 and Lot-2 combined).

File “tblDeletions.txt” is part of Lot-1 but it may not always be present. If this file is found, the whole delivery will be considered as “incremental” (including data from Lot-2, if Lot-1 and Lot-2 are combined). If the file is absent, the delivery will be considered as “full” delivery. All other files are mandatory (in their respective lot).

Arrows on Figure 1 above represent references between files (see below for more details)

¹ “Incremental” deliveries contain one zip file but “full” deliveries may contain two zip files (one for active ships and another one for dead ships)

If Lot-1 and Lot-2 are provided in separate files, then the four arrows crossing the separation between Lot-1 and Lot-2 should not be considered when interpreting Figure 1 above.

3.4 Full and incremental deliveries

It is possible to provide "Full" or "Incremental" deliveries. "Full" deliveries contain all the data to be integrated in Equasis (for the considered lot) while "Incremental" deliveries only contains changes since the last delivery.

When delivering data on dead ships (or companies in relation with dead ships only), then the delivery must be a "full" delivery. When delivering data for active ships (or companies in relation with active ships), it is possible to provide a "full" or "incremental" delivery. The method to indicate the situation is different depending if Lot-1 and Lot-2 are provided jointly or separately.

	FULL deliveries		INCREMENTAL deliveries	
Lot 1 and Lot 2 are provided jointly, in the same delivery	<div> <div>EQ_DATA</div> <div>All files from Lot-1 and Lot-2 are present</div> <div>Only ACTIVE ships in the Main ship file (and only active ships in the history files for Lot-2)</div> <div>No file « tbdetention.txt »</div> <div>Main file of Lot-2 is named « tbiCompanyDetailsAll.txt »</div> </div>		<div> <div>EQ_DATA</div> <div>All files from Lot-1 and Lot-2 are present</div> <div>File « tbdetention.txt » is present</div> <div>Main file of Lot-2 is named « tbiCompanyDetailsAll.txt »</div> </div>	
	<div> <div>EQ_YDS</div> <div>All files from Lot-1 and Lot-2 are present</div> <div>Only DEAD ships in the Main ship file (and only dead ships in the history files for Lot-2)</div> <div>No file « tbdetention.txt »</div> <div>Main file of Lot-2 is named « tbiCompanyDetailsAll.txt »</div> </div>			
Lot 1 and Lot2 are provided separately	<div> <div>LOT-1</div> <div>EQ_SHIP_DATA</div> <div>All files from Lot-1 are present</div> <div>No files from Lot-2</div> <div>Only ACTIVE ships in the Main ship file</div> <div>No file « tbdetention.txt »</div> </div>		<div> <div>LOT-2</div> <div>EQ_COMP_DATA</div> <div>No file from Lot-1</div> <div>All files from Lot-2 are present</div> <div>Ships that are referenced in the history files may be ACTIVE or DEAD</div> <div>No file « tbdetention.txt »</div> <div>Main file of Lot-2 is named « tbiCompanyDetailsAll.txt »</div> </div>	
	<div> <div>EQ_SHIP_YDS</div> <div>All files from Lot-1 are present</div> <div>No files from Lot-2</div> <div>Only DEAD ships in the Main ship file</div> <div>No file « tbdetention.txt »</div> </div>		<div> <div>LOT-1</div> <div>EQ_SHIP_DATA</div> <div>All files from Lot-1 are present</div> <div>No files from Lot-2</div> <div>File « tbdetention.txt » is present</div> </div>	
			<div> <div>LOT-2</div> <div>EQ_COMP_DATA</div> <div>No file from Lot-1</div> <div>All files from Lot-2 are present</div> <div>No file « tbdetention.txt »</div> <div>Main file of Lot-2 is named « tbiCompanyDetailsChange.txt »</div> </div>	

Figure 2: Differences between full and incremental deliveries

The names of each of the zip files are constructed with a pattern that is described in paragraph 3.5 below. The first part of the pattern is a suffix which is indicated in Figure 2 above, on top of each box (eq_data, eq_yds...).

3.4.1 Number of files in the deliveries

Incremental deliveries have always one zip file. Full deliveries may contain one or two zip files. There are two zip files when Lot-1 is included and there is only one zip file for Lot-2 when it is provided separately from Lot-1.

3.4.2 Interpretation of the content of the files

The structure of the data inside the deliveries is not different between full and incremental deliveries. However, the interpretation of their purpose may not be the same.

Therefore, it is very important to pay attention to the slight differences that are described above (presence of the file "tbdetention.txt" and name of the main company file) as they will be used to indicate to the Equasis loading system how a specific delivery

shall be interpreted (full or incremental), especially when considering that the name of the zip file can be identical for a "full" or "incremental" delivery.

3.5 Name of the ZIP files

The ZIP files which are to be provided to the Equasis system have different names, depending on their content. However, the filenames are always in lowercase and the pattern is fixed "<name>_YYMMDD.zip" where:

- <name> is a string indicating the expected content of the delivery
- YYMMDD is a timestamp giving the date of extract
- Zip is the extension, the provider must use a standard ZIP data compression file format, according to the .ZIP file specifications by PKWARE Inc

The content may vary according to two factors:

1. The delivery contains data for Lot-1 (ship core data) or Lot-2 (company core data) or Lot-1 and Lot-2 combined.
2. The delivery contains information on ships that are currently active (and/or on companies in relation with ships that are currently active) or on ships that are dead (and/or on companies in relation with ships that are dead).

The prefix <name> can have one of the following values depending on the combination of factors as indicated below.

	Dead Ships/Companies	Active Ships/Companies
Lot-1 only	eq_ship_yds	eq_ship_data
Lot-2 only	N/A	eq_comp_data
Combined Lot-1 & Lot-2	eq_yds	eq_data

Figure 3: Name of the deliveries, depending on the content

Note: Figure 2 above, in paragraph 3.4, illustrates the different possible situation and, in each case, the corresponding prefix for filenames.

Note (2): files in bold characters (active ships) are files that may be either "full" or "incremental" deliveries. To discriminate the situation, it is necessary to look at the content of the delivery. Files for dead ships are always part of "full" deliveries.

Examples:

- eq_data_20130609.zip is a file with date of extract 9th of June 2013 which may contain (depending on the presence of the file "tbldeletion.txt" inside) either:
 - all the changes since the last delivery for both Lot-1 and Lot-2
 - a full delivery of data for both Lot-1 and Lot-2
- eq_ship_yds_20120228 is a file with date of extract 28th of February 2012 which contains full ship data (Lot-1) for ships that are currently dead

3.6 Historical data

The files that are named with the suffix "HistorySince2000" or "History" contain historical data. History data in the Equasis database is meant to track all available and recorded information since the 1st of January 2000, including the values of the data at the date of the 1st of January 2000.

Considering ship names, for example, the history should contain as the first record the name of the ship on the 1st of January 2000 (even if the name was given in 1990 for

example). The following records are all the change of names that have occurred since this date and the last record is the current name of the ship at the date of the generation of the delivery.

Consequently, historical information should always contain at least one record which is the current value.

All historical records are given with a "date of effect" which is not the date at which the information was recorded in the database, but the actual date at which the data has changed. In case this date is not precisely known, this protocol allows some flexibility to give an estimation of actual date rather than a precise date.

3.7 References between files

The data on the txt files are not independent. Sometimes, data on one file reference data on another file. For example data of the "Flag History" file are referencing both a ship (from the Main ship file) and a Flag (from the Flag code file).

Relations between files are shown in Figure 1, paragraph 3.3, with an arrow. The provider must ensure that, when a reference is made from one file to another, the referenced records exist in the second file. If this requirement, referred to as "referential integrity" fails, the delivery may be refused and another delivery should be sent by the provider with the error fixed.

In case of "incremental" files the referential integrity is validated by taking into consideration the data already present in the Equasis database after the last delivery.

3.8 Encoding of the files

The files must use a basic ASCII7US encoding system. All characters which are not in this *charset* must be replaced by the closest character in the *charset*. For example characters with accents must be replaced by the original non-accented characters (é, è, ê or ë will become "e").

All types of escapement to encode other type of characters using a hexadecimal encoding or similar are not allowed.

It is forbidden to use a "carriage return" or a "line feed" inside a field in any of the files. It is forbidden also to use the character "|" ("pipe", hexadecimal code = 7C) inside a field. This latest character is used to separate fields. Each record in a file ends with the two hexadecimal characters "0d" and "0a" (carriage return, line feed).

3.9 Structure of the files and records

The first line of each file is a "header" that contains the name of the fields separated by field separators. Each following line contains a record with each field in the same order of the header, separated by field separator.

The header is mandatory even if the content of the file is empty. The fields in the header and in the records should appear in the exact same order as described in this protocol.

The field separator is the character "|" ("pipe", hexadecimal code = 7C). The record separator (used at the end of the header and at the end of each record) is "Windows-style" meaning a Carriage Return followed by a Line Feed (hexadecimal characters 0A and 0C).

The last field of a record does not need a field separator at the end, before the record separator. In other words, if there are N header fields in a file, there should be exactly N-1 field separators in each record (as well as in the header).

The file should end with a blank line, but no other blank line is allowed before the end of the file. In other words, the last characters of a file should always be a record separator.

If a field has no value (null/empty value), then its content should be a 0-length string, meaning that there will be two consecutive record separators. In case a field is filled with white spaces only, it will be considered as "null" (and an error will be generated by Equasis if the field is mandatory). More generally, white spaces at the beginning and at the end of a field should be avoided when creating the file (and may be ignored when the data is imported into the Equasis database).

The fields should not contain any "text separator" such as quotes or double quotes, only the field separator is necessary and sufficient to separate the fields regardless the content of the field is a string, a number or a date.

3.10 Description of files

All files to be provided under a data delivery are mandatory in each delivery, even if empty, with the exception of "tblDeletions.txt" that may not be present as explained in paragraph 3.3.

An empty file contains only the "header" which is the first line providing the names of the fields. When the file is not empty, for each record, the different fields can be either mandatory or not. If it is mandatory, it cannot be null or blank or filled only with "spaces". Mandatory fields are highlighted in **red** in the first column of the description below.

Some fields must obey certain rules which will be described in the next chapter or some warning will be generated or eventually errors. If these rules are not respected, the data will be rejected.

Some fields are considered as "Primary Key", it means that they identify a unique record. There must be only one value of a Primary Key in a file. If the delivery is an "incremental" delivery and if the record has a Primary Key that is already present in the data then the record will be interpreted as being an update. If there is no value for this Primary Key in the database then the record will be interpreted as a new record. Primary Keys are identified in **bold** in the tables below.

All fields have limitation of length. If these limits are not respected the data will be rejected.

When a code is used in a file it must appear in the "Code" file, otherwise, the full delivery may be rejected.

4 Description of files for Lot-1

4.1 Main Ship File

4.1.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	IMOShipNo (PK)	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	CallSign	Max 13 char	Mandatory: Call Sign of the ship (current)	
3	MaritimeMobileService IdentityMMSINumber	Max 9 char	MMSI number of the ship (current)	
4	YearOfBuild	4 digits	Mandatory: Year of build of the ship (keel date)	
5	Deadweight	7 digits	Deadweight tonnage of the ship	
6	DocumentofComplianceDOCCompanyCode	7 digits	Mandatory *: IMO number of the company that issued the DOC certificate (current)	Forbidden if Lot-1 only Company IMO checksum
7	RegisteredOwnerCode	7 digits	Mandatory *: IMO number of the company that is the registered owner (current)	Forbidden if Lot-1 only Company IMO checksum
8	ShipManagerCompany Code	7 digits	Mandatory *: IMO number of the company that is managing the ship (currently)	Forbidden if Lot-1 only Company IMO checksum

4.1.2 Special rules

**Forbidden if Lot-1 only:* Fields 6, 7 and 8 are only mandatory when the delivery contains jointly Lot-1 and Lot-2. But if the delivery is only related to Lot-1, then these fields are forbidden (they must be null/empty for all records).

4.1.3 References to other files

Fields 6, 7 and 8 are referencing the field "OWCODE" of the Main company file (tblCompanyDetailsAll.txt or tblCompanyDetailsChange.txt)

4.2 Ship Status History

Filename is "tblStatusHistorySince2000.txt".

4.2.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	StatusDate	Date	Mandatory: Date of effect for the status of the ship	Date
4	StatusCode	1 char code "STATUS"	Mandatory: Status of the ship	Dead or Active status

4.2.2 Special rules

Dead or Active status: Depending if the delivery is related to dead or active ships, the values of the Status Code is restricted to a subset of the values possible and described in the file "tblStatusCodes.txt". By default, all statuses are considered as "active" ships. The provider has to give the status which corresponds to "dead ships" and use them only in the context of a "dead ship" delivery.

Currently, the "dead status" is one of the possible values: 'K', 'D', 'W', 'Q', 'H'. This list can be updated by the provider at any moment by informing the Technical Unit.

4.2.3 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo)

Field #4 is referencing the file "tblStatusCodes.txt" (StatusCode).

4.3 Ship Name History

Filename is "tblNameHistorySince2000.txt".

4.3.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	VesselName	Max 50 char	Mandatory: Name of the ship	
4	Effective_Date	Date	Mandatory: Date of effect for the name of the ship	Date

4.3.2 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo).

4.4 Ship Type History

Filename is "tblShipTypeHistory.txt".

4.4.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffDate	Date	Mandatory: Date of effect for the type of the ship	Date
4	ShipTypeCode	1 char code "TYPE"	Mandatory: Type of the ship	

4.4.2 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo)

Field #4 is referencing the file "tblShipTypeCodes.txt" (StatCode5).

4.5 Ship Gross Tonnage History

Filename is "tblGrossTonnageHistory.txt".

4.5.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffectiveDate	Date	Mandatory: Date of effect for the GT of the ship	Date
4	GT	Max 7 digits	Mandatory: Gross Tonnage of the ship	

4.5.2 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo).

4.6 Ship Flag History

Filename is "tblFlagHistorySince2000.txt".

4.6.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	IMO (PK)	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	Sequence (PK)	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffectiveDate	Date	Mandatory: Date of effect for the flag of the ship	Date
4	FlagCode	1 char code "FLAG"	Mandatory: Flag of the ship	

4.6.2 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo)

Field #4 is referencing the file "tblFlagCodes.txt" (CountryNameCode).

4.7 Ship Class History

Filename is "tblClassHistorySince2000.txt".

4.7.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	IMO (PK)	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	Sequence (PK)	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffectiveDate	Date	Mandatory: Date of effect for the class of the ship	Date
4	ClassIndicator	"Class", "Disclassed", "Class contemplated", "Transfer" or "Unknown"	Mandatory: Status of the class	Closed list of values
5	ClassCode	2 char code "CLASS"	Mandatory: Class of the ship	

4.7.2 Special rules

Closed list of values: There are 5 possible values for the field #4:

- **Class:** The ship is in the Class from the effective date until a Disclassed record is received. Note there can be more than one Class at the same time.
- **Disclassed:** The ship is no longer in the Class from the effective date
- **Class Contemplated:** The ship is planned to enter the Class, but is not yet "In Class". This code is used for new buildings prior to a certificate of class

being issued. This code may also be used for class transfers between classification societies.

- **Transfer:** The ship has recently been transferred into the Class.
- **Unknown:** The status of the class is unknown by the provider.

4.7.3 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo)

Field #5 is referencing the file "tblClassCodes.txt" (ClassCode).

4.8 Deletion files

Filename is "tblDeletions.txt".

This file has a special role: when present it means that the delivery only gives the modifications since the last delivery and not the full data.

The content of this file, when present, is interpreted as active ships becoming dead (since the Main ship file only contains active ships, as a rule).

4.8.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	DeleteKey (PK)	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	CodeStatus	1 char	Mandatory: Status of the ship	The status should be dead
3	Status	Max 30 char	Decoding of the Code Status	Ignored
4	DateStatus	Date	Mandatory: Date of effect for the change of status	Date

4.8.2 Special rules

The Status should be dead: See the special rules on the file giving the status history of ships (tblStatusHistorySince2000.txt). The status provided in this file must correspond to "dead" status.

Ignored: The decoding value of the status is ignored by the Equasis loading procedure and this field has only a role when looking manually at the file. Only the "CodeStatus" will be used, decoded by the code file "tblStatusCodes.txt".

4.8.3 References to other files

Field #1 is referencing the Main Ship file (IMOShipNo)

Field #2 is referencing the file "tblStatusCodes.txt" (StatusCode).

Note that this file is only present when in an incremental delivery and the Field #1 is not referencing any ship that is in the Main Ship File in this delivery (since all these ships are still active). Instead this field references a ship that was delivered in a previous Main Ship File when the ship was active.

5 Description of code files (Lot-1)

5.1 Status codes

Filename is "tblStatusCodes.txt".

#	Field Name	Data, Code Format and Length	Description
1	<u>StatusCode (PK)</u>	1 char	Mandatory: Code for the status of the ship
2	Status	Max 30 char	Mandatory: Description of the status of the ship

5.2 Flag codes

Filename is "tblFlagCodes.txt".

#	Field Name	Data, Code Format and Length	Description
1	<u>CountryNameCode (PK)</u>	3 char	Mandatory: Code of the Country (or Flag)
2	CountryName	Max 50 char	Mandatory: Name of the Country (or Flag)

5.3 Class codes

Filename is "tblClassCodes.txt".

#	Field Name	Data, Code Format and Length	Description
1	<u>ClassCode (PK)</u>	2 char	Mandatory: Code of the Classification Society
2	Class	Max 30 char	Mandatory: Name of the Classification Society

5.4 Ship Type codes

Filename is "tblShipTypeCodes.txt".

#	Field Name	Data, Code Format and Length	Description
1	<u>StatCode5 (PK)</u>	Max 7 char	Mandatory: Code of the precise ship type
2	ShipTypeLevel5	Max 50 char	Mandatory: Description of the precise ship type
3	ShipTypeLevel4	Max 50 char	Description of the group of ship type to which this precise ship type belongs to

Note: Normally, all Ship types (ShipTypeLevel5) are different and correspond to a precise ship type. However, the ShipTypeLevel4 are corresponding to "groups" of ship type and they should not be unique in the file. To be noted that this field is not mandatory.

6 Description of files for Lot-2

6.1 Main Company file (Dictionary)

Filename may be "tblCompanyDetailsAll.txt" or "tblCompanyDetailsChange.txt".

6.1.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	OWCODE (PK)	7 digits	Mandatory: IMO number of the company	Company IMO checksum
2	ShortCompanyName	Max 30 char	Mandatory: Short name for the Company	
3	CountryName	Max 50 char	Country where the headquarters of the company is located.	Mandatory when FullAddress is provided
4	FullName	Max 120 char	Full Name (not short) of the company	Mandatory for ISM and Ship Manager
5	FullAddress	Max 120 char	Full Postal Address of the Headquarters of the company, <u>including the country</u>	Mandatory for ISM and Ship Manager Address
6	NationalityofRegistration	Max 40 char	Country where the company was registered	Mandatory for owners
7	CompanyStatus	Fixed values	Mandatory: IMO number of the company that is the registered owner (current)	Closed List of Values

6.1.2 Special rules

Closed list of Values: The status of the company can be one of the two following values:

- Inactive = the company does not currently own or manage ships
- Dead = the company no longer exists
- **Null** = the company is active (note that Null is interpreted with a meaning)

Mandatory for ISM and Ship Manager: if the company has the role of ISM Manager or Ship Manager for at least one ship, then its address and country must be filled in.

Mandatory for owners: if the company has the role of Registered Owners for at least one ship, then its country of registration must be filled in.

Mandatory when FullAddress is provided: when the Full Address is provided, the corresponding country should be provided in the field #3 (in clear text)

6.1.3 References to other files

Please note that this file is not referencing any other file (not even the "country" file for nationality of registration or Country Name). The country is written in plain text.

6.2 History of DOC companies (ISM Manager)

Filename is "tblDOCHistorySince2000.txt".

6.2.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffectiveDate	Date	Mandatory: Date of effect for the class of the ship	Date
4	DocCompanyCode	7 digits	Mandatory: IMO number of the company that was the DOC company of this ship at this date	

6.2.2 References to other files

Field #4 is referencing the field "OWCODE" of the Main Company file.

If Lot-1 and Lot-2 are provided in the same delivery, then Field #1 is referencing the Main Ship file (IMOShipNo). If delivery contains only Lot-2, then Field #1 has no reference.

6.3 History of Ship Managers

Filename is "tblShipManagerHistorySince2000.txt".

6.3.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffectiveDate	Date	Mandatory: Date of effect for the class of the ship	Date
4	ShipManagerCode	7 digits	Mandatory: IMO number of the company that was the Ship Manager of this ship at this date	

6.3.2 References to other files

Field #4 is referencing the field "OWCODE" of the Main Company file.

If Lot-1 and Lot-2 are provided in the same delivery, then Field #1 is referencing the Main Ship file (IMOShipNo). If delivery contains only Lot-2, then Field #1 has no reference.

6.4 History of Registered Owners

Filename is "tblRegisteredOwnerHistorySince2000.txt".

6.4.1 Description of fields

#	Field Name	Data, Code Format and Length	Description	Special Rules
1	<u>IMO (PK)</u>	7 digits	Mandatory: IMO number of the ship	Ship IMO checksum
2	<u>Sequence (PK)</u>	2 char	Mandatory: Sequence number in the history of the ship	Sequence
3	EffectiveDate	Date	Mandatory: Date of effect for the class of the ship	Date
4	OwnerCode	7 digits	Mandatory: IMO number of the company that was the registered owner of this ship at this date	

6.4.2 References to other files

Field #4 is referencing the field "OWCODE" of the Main Company file.

If Lot-1 and Lot-2 are provided in the same delivery, then Field #1 is referencing the Main Ship file (IMOShipNo). If delivery contains only Lot-2, then Field #1 has no reference.

7 Special rules

7.1 IMO checksum (ship and company)

The IMO numbers of ships and companies are not a random sequence of 7 digits. In fact, the first 6 digits are free (except for ships where the first digit cannot be 0). However, the 7th digit is linked to the first 6 digits and can have only one value. If the value is different of what is expected, then the IMO number is considered invalid and the Equasis loading procedure will reject it. The Equasis loading procedure will also reject all numbers which are not made of exactly 7 digits (if there is a letter or if there more or less than 7 digits).

If this rule is not respected, the line containing this IMO number (regardless of the file it is in) will be rejected and will not appear in the Equasis website. A warning will be written in the output log file of the import process, which will be sent back to the provider.

7.1.1 Algorithm for ships

The algorithm is based on "modulos". As a reminder, here is the definition of the modulo:

*Given two positive numbers, a (the dividend) and n (the divisor), a **modulo** n (abbreviated as "a mod n") can be thought of as the remainder, on division of a by n.*

Examples:

- $5 \bmod 4 = 1$ $[5 = 4*1 + \underline{1}]$
- $9 \bmod 3 = 0$ $[9 = 3*3 + \underline{0}]$
- $136 \bmod 24 = 16$ $[136 = 24*5 + \underline{16}]$

Let's consider the 7 digits of the IMO number as d1, d2, d3, d4, d5, d6 and d7.

To be valid, we must have the relation:

$$d7 = (d1*7 + d2*6 + d3*5 + d4*4 + d5*3 + d6*2) \bmod 10$$

Examples:

- **1234567** is valid because
 - $1*7+2*6+3*5+4*4+5*3+6*2 = 77$
 - And $77 = \mathbf{7} \bmod 10$ (7 is the last digit)
- **9109483** is valid because
 - $9*7+1*6+0*5+9*4+4*3+8*2 = 133$
 - And $133 = \mathbf{3} \bmod 10$ (3 is the last digit)
- **5678414** is not valid because
 - $5*7+6*6+7*5+8*4+4*3+1*2 = 152$
 - And $152 = \mathbf{2} \bmod 10$ (2 is not the last digit, it is "4")
 - To be valid, it should be "5678412" (last digit must be "2")

7.1.2 Algorithm for companies

The algorithm is also based on "modulos", but the calculus is different.

To be valid, we must have the relation:

$$d7 = (11 - (d1*19 + d2*17 + d3*15 + d4*13 + d5*9 + d6*7) \bmod 11) \bmod 10$$

Aside the coefficients that are different for each digit in the IMO number, there are two things which differ from the Ship's algorithm and need to be outlined.

- The main calculus is "*11-(computation of other digits)*" while for the ship this is directly "*(computation of other digits)*"
- The Modulo on the main calculus is by eleven (11) and not by ten (10), which make it possible to have a remainder of more than 10 (ie: 10 or 11)
 - This is the reason why the result is processed through another Modulo 10, to make sure than d7 is between 0 and 9 (in other words, a result of 10 after the modulo on the main calculus is interpreted as 0 and 11 as 1)

Examples:

- **1234565** is valid because
 - $1*19+2*17+3*15+4*13+5*9+6*7 = 237 = 6 \bmod(11)$
 - And $11-6 = 5$ (equal to the last digit)
- **5450861** is valid because
 - $5*19+4*17+5*15+0*13+8*9+6*7 = 352 = 0 \bmod(11)$
 - And $11-0 = 11 = 1 \bmod(10)$ (and 1 is the last digit)
- **5678424** is not valid because
 - $5*19+6*17+7*15+8*13+4*9+1*7 = 456 = 5 \bmod(11)$
 - And $11-5 = 6$ (which is not the last digit, it is "4")
 - To be valid, it should be "5678426" (last digit must be "6")

Note: 9991001 is, by convention, a special number which means "Company unknown".

7.2 Rules on dates (dates of effect)

The dates of effect that can be found in various parts of the protocol may not be precise on the day or month.

The dates can have 8 or 6 digits, with format "YYYYMM" or "YYYYMMDD".

The year is mandatory in all cases. However, the Month (between 01 and 12) or the Day (between 01 and 28, 29, 30 or 31 depending on the number of days for the given month/year) may be replaced by 00 or 99 with the following meanings:

- 00 means during the year YYYY or Month MM of the year YYYY
- 99 means before the year YYYY or Month MM of the year YYYY

Notes:

- If Month is 00 or 99, the day (DD), if the date is on 8 digits, is ignored.
- If the date is on 6 digits with a month between 01 and 12, it will be interpreted as "during" the month indicated (same interpretation that if "00" in the end).

Examples:

- 197300 means "during the year 1973"
- 19891299 means "before December 1989"
- 20020023 means "during the year 2002" (the "23" at the end is ignored)
- 199599 means "before 1995"
- 19870600 or 198706 both mean "in June 1987" (during the month of June 1987)

7.3 Sequences (ordering the history)

Sequences are used in history file to ensure the ordering of the information is correct. Indeed, considering the possible imprecision on dates, there are some situations where it is not possible to know which entry comes first in the history. For example, a date "198700" (during 1987) and "19870612" (12/06/1987) cannot be ordered with certainty. There is also a possibility that two records happen in the same year and have the same date of effect (for example "200500" to say "during 2005").

Sequences are useful to indicate explicitly the order of the history in relative terms:

- The sequence "00" means that this is the current information.
- Sequences "95" down to "01" (95, 94, 93, 92... 04, 03, 02, 01) relate to previous record from the most recent (95) to the most ancient (01).

There might be "holes" in the sequences, if needed, the only important things is that, when ordering the sequence from 1 to 95, the chronological order is respected.

The sequence "00" must always be present in the file for each referenced ship (or company). If the company has disappeared or if the ship is scrapped or dead, the most recent value appear with the sequence equals to "00".