# ClassNK MRV Portal

## On-Board Reporting

## (for IMO DCS ships)

## Quick Reference Guide

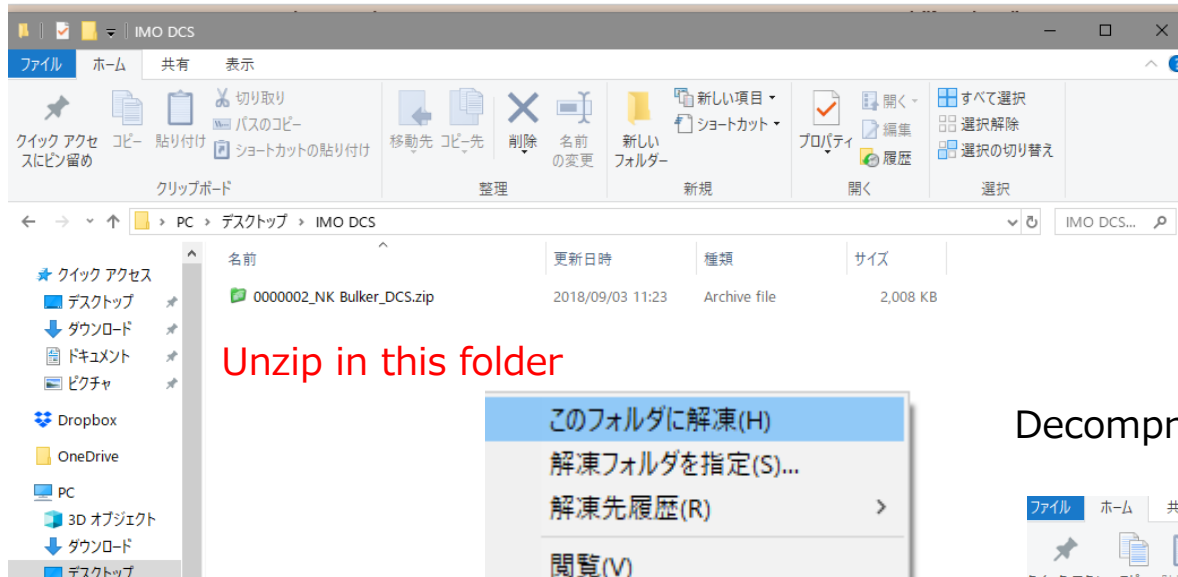January 2023
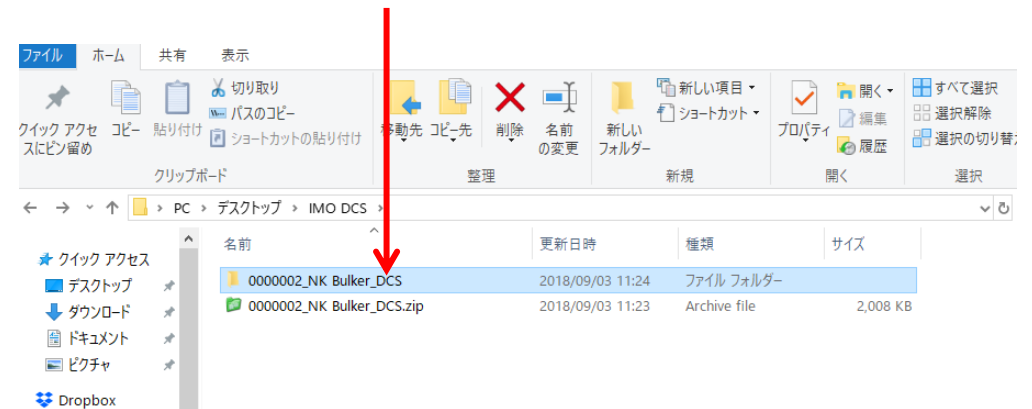
**ClassNK**

# Index

## 1. Preparation of Report template / On-board setting

Please receive template set (IMONumber_Shipname_DCS.zip) and decompress the zip file on local drive or desk top;



Unzip in this folder

Decompress the zip file…

## 2. Configuration of file

Please do not remove "bin" files from the folder.
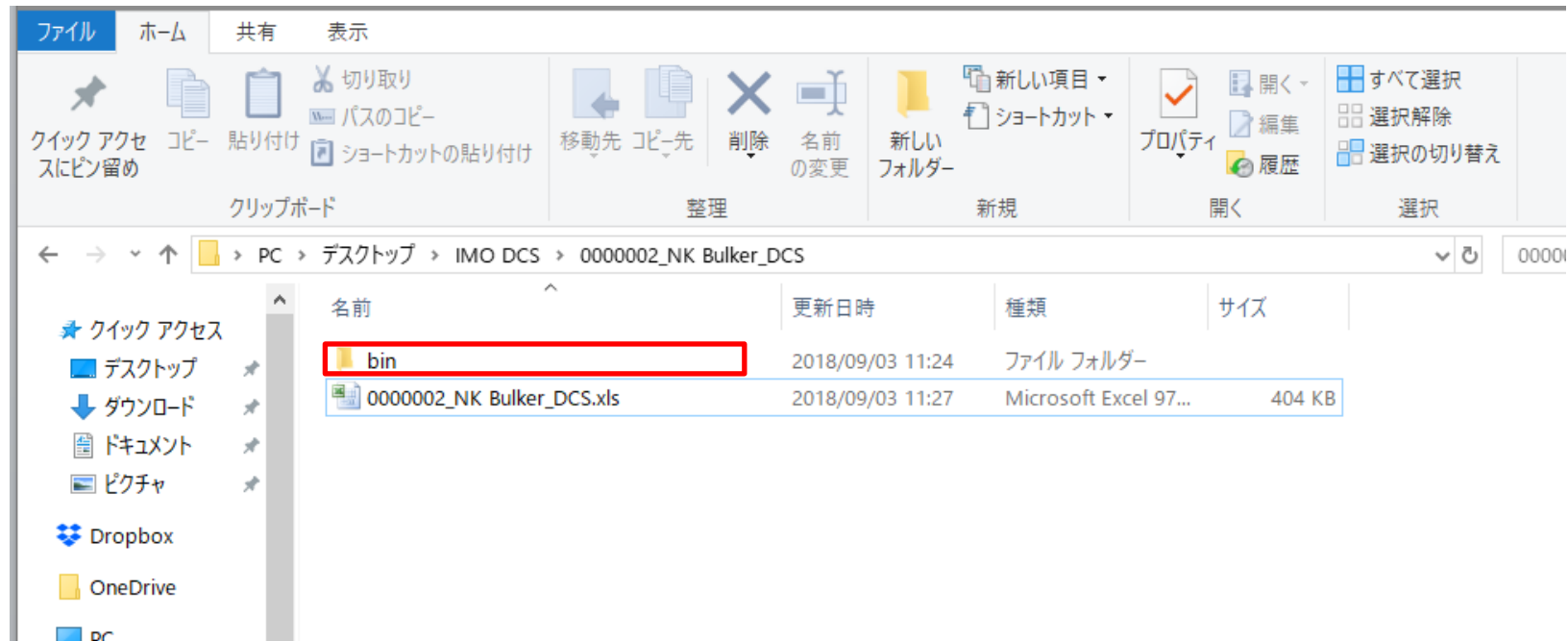
## 3. Input of monitoring data

Please open reporttemplate "<IMO No.>_<Name of ship>_DCS.xls".

➢ **Sample Input**

Sample input for DCS ships is shown below.

This sample shows the case when the master inputs monitoring data at Departure/Arrival/Noon and other key event such as drifting/anchoring. Company can choose the frequency of input such as Departure/Arrival only, etc.

**Detail input for each columns**

**Reporting basic data** In this block, please input basic information of the report

| | | Reporting basic data | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Voyage Info | Time at the report (UTC/GMT) | | Position at the report | | | | Port information | | |
| Voyage No. | Date | Time | Latitude | | Longitude | | Status (event) | Port name (at dep/arr) | UNLOCODE |
| X | yyyymmdd | 0000 to 2359 | 0000.0000 to 9000.0000 | N or S | 00000.0000 to 18000.0000 | E or W | X | XXXXXXXXXX | ABCDE |
| 1 | 20180106 | 0000 | 1843.8482 | S | 04835.0450 | E | Arrival | Jakarta | IDJKT |
| 36A | 20171231 | 2106 | 3654.8000 | N | 12614.2000 | E | Departure | Taean | KRTAN |
| 36A | 20171231 | 2224 | 3651.4000 | N | 12606.7000 | E | SOSP | | |
| 36A | 20180101 | 0300 | 3543.1000 | N | 12545.2000 | E | Noon | | |
| 36A | 20180102 | 0300 | 3007.5000 | N | 12731.6000 | E | Noon | | |
| 36A | 20180103 | 0300 | 2445.9000 | N | 13029.9000 | E | Noon | | |
| 36A | 20180104 | 0300 | 1941.8000 | N | 13329.8000 | E | Noon | | |
| 36A | 20180105 | 0300 | 1437.6000 | N | 13623.2000 | E | Noon | | |
| 36A | 20180106 | 0300 | 0933.2000 | N | 13913.8000 | E | Noon | | |
| 36A | 20180107 | 0300 | 0428.8000 | N | 14200.6000 | E | Noon | | |
| 36A | 20180108 | 0200 | 0023.7000 | S | 14441.4000 | E | Noon | | |
| 36A | 20180109 | 0200 | 0550.5000 | S | 14738.4000 | E | Noon | | |
| 36A | 20180110 | 0200 | 0957.4000 | S | 15141.3000 | E | Noon | | |
| 36A | 20180111 | 0200 | 1546.2000 | S | 15254.1000 | E | Noon | | |
| 36A | 20180112 | 0100 | 2118.6000 | S | 15356.5000 | E | Noon | | |
| 36A | 20180113 | 0100 | 2740.6000 | S | 15346.0000 | E | Noon | | |
| 36A | 20180113 | 2130 | 3254.4000 | S | 15201.1000 | E | EOSP | | |
| 36A | 20180113 | 2242 | 3312.7000 | S | 15224.4000 | E | Drifting start | | |
| 36A | 20180116 | 1106 | 3308.0000 | S | 15207.0000 | E | Drifting end | | |
| 36A | 20180116 | 1454 | 3253.3000 | S | 15146.1000 | E | Arrival | New Castle | AUNTL |
| 36A | 20180117 | 0930 | 3253.3000 | S | 15146.1000 | E | Departure | New Castle | AUNTL |

**Voyage Info - Voyage No.**

Please input Voyage No. which is used on-board or your company (any number is Okay).

**Time at the report (UTC/GMT) - Date/Time.**

GMT/UTC at the event shall be input.

**Position at the report - Lati./Longi.**

Please take care about Longitude/Latitude format

Lat. : ddmm.mmmm  Long. : dddmm.mmmm

i.e.) 23deg 53min 30sec = 2353.5000

(Please see following page)

## Reporting basic data (continued)

| Voyage Info | Time at the report (UTC/GMT) | | Position at the report | | | | | Port information | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Voyage No. | Date | Time | Latitude | | | Longitude | | Status (event) | Port name (at dep/arr) | UNLO |
| X | yyyymmdd | 0000 to 2359 | 0000.0000 to 9000.0000 | N or S | | 00000.0000 to 18000.0000 | E or W | X | XXXXXXXXXX | AB |
| 1 | 20180106 | 0000 | 1843.8482 | S | | 04835.0450 | E | Arrival | Jakarta | ID |
| 23 | 20221001 | 0300 | 4238.5000 | N | | 14138.9600 | E | Noon | | |
| 24 | 20221001 | 0748 | 4238.5000 | N | | 14138.9600 | E | Departure | TOMAKOMAI | JPT |
| 24 | 20221001 | 0830 | 4235.3200 | N | | 14136.2500 | E | SOSP | | |
| 24 | 20221002 | 0300 | 4030.3800 | N | | 13900.4000 | E | Noon | | |
| 24 | 20221003 | 0300 | 3751.4700 | N | | 13455.7700 | E | Noon | | |
| 24 | 20221004 | 0300 | 3506.5700 | N | | 13124.0400 | E | Noon | | |
| 24 | 20221004 | 1600 | 3354.2600 | N | | 13142.2700 | E | EOSP | | |
| 24 | 20221004 | 1706 | 3400.3500 | N | | 13144.2300 | E | Anchor start | | |
| 24 | 20221004 | 2100 | 3400.3500 | N | | 13144.2300 | E | Anchor end | | |
| 24 | 20221004 | 2336 | 3359.2700 | N | | 13152.5200 | E | Arrival | KUDAMATSU | JPKUD |
| 24 | 20221005 | 0300 | 3359.2700 | N | | 13152.5200 | E | Noon | | |
| 24 | 20221006 | 0300 | 3359.2700 | N | | 13152.5200 | E | Noon | | |
| 24 | 20221006 | 0342 | 3359.2700 | N | | 13152.5200 | E | Departure | KUDAMATSU | JPKUD |
| 24 | 20221006 | 0412 | 3356.0500 | N | | 13155.34 | | | | |
| 24 | 20221007 | 0300 | 3036.3700 | N | | 13014.07 | | | | |

**Status (event)**

Please select event at the report from drop down

| | E or W | X | | XXXXXXXXXX |
|---|---|---|---|---|
| 00 00 | | | | |
| 0 | E | Arrival | | Jakarta |
| 0 | E | Departure | ▾ | jean |
| 0 | | Departure | | |
| 0 | | Arrival | | |
| 0 | | Noon | | |
| 0 | | SOSP | | |
| 0 | | EOSP | | |
| 0 | | At pilot station | | |
| 0 | | Anchor start | | |
| 0 | | Shifting start | | |
| 0 | E | Noon | | |
| 0 | E | Noon | | |
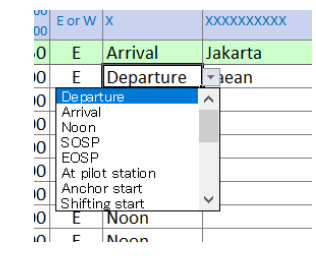
**Port information - Port name / UNLOCODE / EU·UK / Loading·Unloading**

Please input port name and/or UNLOCODE at Departure report and Arrival report.

\* In this case, the vessel arrived at AUNTL on 16 Jan 2018 and departed on 17 Jan 2018.

In case the port is EU or UK port, please select EU or UK as applicable. If not please keep it blank.

In case the cargo is laden/unladen on the port, please select "Y" on L/U column.

If it is carried out by STS (ship to ship operation), please select "S".

### IMO DCS Monitoring data

These columns are mandatory required items for IMO DCS

| IMO DCS Monitoring Data | | | | | |
|---|---|---|---|---|---|
| Distance and time from last report | | ALL FOC since the last reporting [MT] | | | Electrical power for gas cargo cooling/discharging pump/reefer containers |
| Distance travelled [nm] | Hours underway [hour] | HSFO | LFO | MGO | Number of reefer containers |
| 0000.0 | 0000.00 | 0000.0 | 0000.0 | 0000.0 | 00000 |
| 6627.0 | 568.25 | 432.1 | 42.3 | | |
| 0.0 | 0.00 | 0.35 | 0.95 | 0.00 | |
| 0.0 | 0.00 | 0.11 | 0.35 | 0.00 | 300 |
| 4.0 | 0.60 | 0.08 | 0.04 | 0.00 | |
| 179.0 | 18.50 | 5.50 | 0.76 | 0.00 | |
| 248.0 | 24.00 | 7.25 | 0.90 | 0.00 | |
| 239.0 | 24.00 | 7.62 | 0.99 | 0.00 | |
| 139.0 | 13.00 | 4.28 | 0.52 | 0.00 | |
| 7.0 | 1.10 | 0.14 | 0.08 | 0.00 | |
| 0.0 | 0.00 | 0.07 | 0.17 | 0.00 | |
| 15.0 | 2.60 | 0.29 | 0.15 | 0.00 | |
| 0.0 | 0.00 | 0.06 | 0.23 | 0.00 | |
| 0.0 | 0.00 | 0.41 | 1.19 | 0.00 | |
| 0.0 | 0.00 | 0.02 | 0.06 | 0.00 | 300 |
| 4.0 | 0.40 | 0.09 | 0.02 | 0.00 | |
| 244.0 | 22.80 | 6.70 | 0.93 | 0.00 | |

### IMO DCS Supplemental data

**Distance and time from last report**

**- Distance Travelled**

Please input distance travelled from last report.

**- Hours underway**

Please input hours underway from last report.

**All FOC since the last reporting - each Fuel**

Please input total fuel consumption of each fuels from last report.

Note: Please do not input ROB here.

Note: Please do not input aggregated FOC in the voyage.

**CII correction factor items**

If CII correction factor applied, please also refer to the appendix;

Guidance for inputting CII correction factor (from page 19)

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These columns are used for IMO DCS annual report verification

| Monitoring Data | | | IMO DCS Supplemental data | | | | | |
|---|---|---|---|---|---|---|---|---|
| FOC from last report [MT] | | | ROB [MT] | | | Bunkered [MT] | | |
| HSFO | MDO | MGO | HSFO | MDO | MGO | HSFO | MDO | MGO |
| 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 |
| 432.1 | 42.3 | | 432.1 | 42.3 | | 432.1 | 42.3 | |
| 3.03 | 0.00 | 0.00 | 1461.11 | 0.00 | 210.00 | 1400.00 | | |
| 1.99 | 0.00 | 0.00 | 1459.12 | 0.00 | 210.00 | | | |
| 8.03 | 0.00 | 0.00 | 1451.09 | 0.00 | 210.00 | | | |
| 45.60 | 0.00 | 0.00 | 1405.49 | 0.00 | 210.00 | | | |
| 45.61 | 0.00 | 0.00 | 1359.88 | 0.00 | 210.00 | | | |
| 45.60 | 0.00 | 0.00 | 1314.28 | 0.00 | 210.00 | | | |
| 45.60 | 0.00 | 0.00 | 1268.68 | 0.00 | 210.00 | | | |
| 45.60 | 0.00 | 0.00 | 1223.08 | 0.00 | 210.00 | | | |
| 45.51 | 0.00 | 0.00 | 1177.57 | 0.00 | 210.00 | | | |
| 43.62 | 0.00 | 0.00 | 1133.95 | 0.00 | 210.00 | | | |
| 45.51 | 0.00 | 0.00 | 1088.44 | 0.00 | 210.00 | | | |
| 45.51 | 0.00 | 0.00 | 1042.93 | 0.00 | 210.00 | | | |
| 45.52 | 0.00 | 0.00 | 997.41 | 0.00 | 210.00 | | | |
| 43.62 | 0.00 | 0.00 | 953.79 | 0.00 | 210.00 | | | |
| 45.51 | 0.00 | 0.00 | 908.28 | 0.00 | 210.00 | | | |
| 38.87 | 0.00 | 0.00 | 869.41 | 0.00 | 210.00 | | | |
| 1.77 | 0.00 | 0.00 | 867.64 | 0.00 | 210.00 | | | |
| 9.22 | 0.00 | 0.00 | 858.42 | 0.00 | 210.00 | | | |
| 5.87 | 0.00 | 0.00 | 852.55 | 0.00 | 210.00 | | | |
| 3.17 | 0.00 | 0.00 | 849.38 | 0.00 | 210.00 | | | |

**ROB - each Fuel**

Please input Remaining on Board of each fuels <u>at the report</u>.

**Bunkered - each Fuel**

Please input mass of bunkered fuel on each fuels cell.

It is not necessary to input zero when not bunkered/

**Voluntary data field** These columns are available if company selected them at downloading template.

| Voluntary data field | | | | |
|---|---|---|---|---|
| Voyage state (Volunary) | | | Loading Condition | Cargo Carried |
| propeller revolution [RPM] | Ave. ME Output [kW] | Sea state [BF] | Laden or Ballast | Mass [MT] |
| 000.000 | 00000 | 0 to 12 | L or B | 00000.0 |
| 80 | 4000 | 4 | L | |
| | | | | |
| 95.000 | 9223 | 4 | | |
| 95.100 | 10082 | 5 | | |
| 95.110 | 10084 | 5 | | |
| 95.100 | 10082 | 5 | | |
| 95.100 | 10082 | 5 | | |
| 95.100 | 10082 | 4 | | |
| 95.090 | 10081 | 4 | | |
| 95.090 | 10082 | 4 | | |
| 95.100 | 10081 | 4 | | |
| 95.090 | 10081 | 4 | | |
| 95.080 | 10083 | 4 | | |
| 95.100 | 10082 | 4 | | |
| 95.090 | 10081 | 4 | | |
| 95.100 | 10081 | 4 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | L | 113102 |
| | | | | |

**Voyage state (Voluntary) - Propeller revolution**

Please input RPM of M/E at the report.

**Voyage state (Voluntary) - Ave. ME Output**

Please input M/E outpt in kW

**Voyage state (Voluntary) - Sea State (BF)**

Please input sea state in Beaufort Scale (1-10)

**Loading Condition - Laden or Ballast**

Please Select L or B at Departure report

**Cargo Carried - Mass [MT]**

Please input cargo mass at departure report

Please note that Mass may be volume, TEUs, Units depending on each vessel's spec.

**Evidence**

In case when "Bunkered" value is input, please attach Bunker delivery note as follow;

| olemental data | | | Voluntary data field | | | | | Evidence | |
|---|---|---|---|---|---|---|---|---|---|
| Bunkered [MT] | | | Voyage state (Volunary) | | | Loading Condition | Cargo Carried | File (BDN) | |
| HSFO | MDO | MGO | propeller revolution [RPM] | Ave. ME Output [kW] | Sea state [BF] | Laden or Ballast | Mass [MT] | BDN Filename (Please attach pdf or image files when fuel is bunkered.) | |
| 0000.0 | 0000.0 | 0000.0 | 000.000 | 00000 | 0 to 12 | L or B | 00000.0 | xxxxxxxxxxxxxx.yyy | |
| 432.1 | 42.3 | | 80 | 4000 | 4 | L | | abcdefghijkl.pdf | |
| 1400.00 | | | | | | B | | C:\Users\0838\Desktop\User guide etc\BDN sample.png | Browse |
| | | | | | | | | | Browse |
| | | | 95.000 | 9223 | 4 | | | | Browse |
| | | | 95.100 | 10082 | 5 | | | | Browse |
| | | | 95.110 | 10084 | 5 | | | | Browse |
| | | | 95.100 | 10082 | 5 | | | | Browse |
| | | | 95.100 | 10082 | 5 | | | | Browse |

1. Click "Browse" on the same line with bunker data
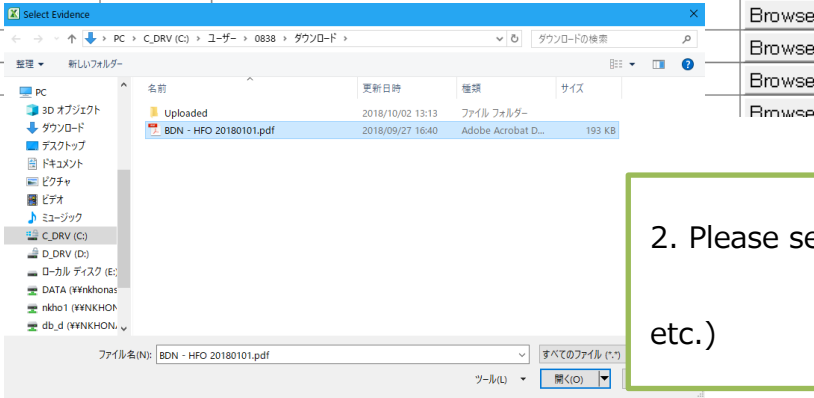
2. Please select a BDN file (pdf, png, jpg etc.)

## 4. generation and transmission of report file (zip)

When the monitoring data and evidenced document information is accumulated, reporting file to be sent to ClassNK MRV Portal can be generated at user's discretion (at any timing).

1) Please select "Report" sheet and click "Validation" button to check input data. In case when any error is detected, please modify such incorrected data to make validate result "OK".

2) Please click "Create zip" button to make report zip file. You can find created file name and size at "Create zip" field.

| Report | IMO No. | 0000002 | | Name of Ship | NK Bulker | | | | | | | | Ver.2018/6/5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Validation | | Create zip | | |
| | **Validation** | | | | | | | | | | | | |
| | | Meta data | | | | Version | Check data | Check file | Count | | | | |
| | DCS | VoyageReport. BunkerReport | | | | 1 | OK | OK | 19 | Events | | | |
| | **Create zip** | | | | | | | | | | | | |
| | Date | Time | Zip | | | | | | Size(KB) | | | | |
| | 2018/09/11 | 2018/9/11 7:19 | 0000002_20180911071934.zip | | | | | | 1796.984 | | | | |

DCS | Report

3) You can find created zip file and "hmac" file for system verification.
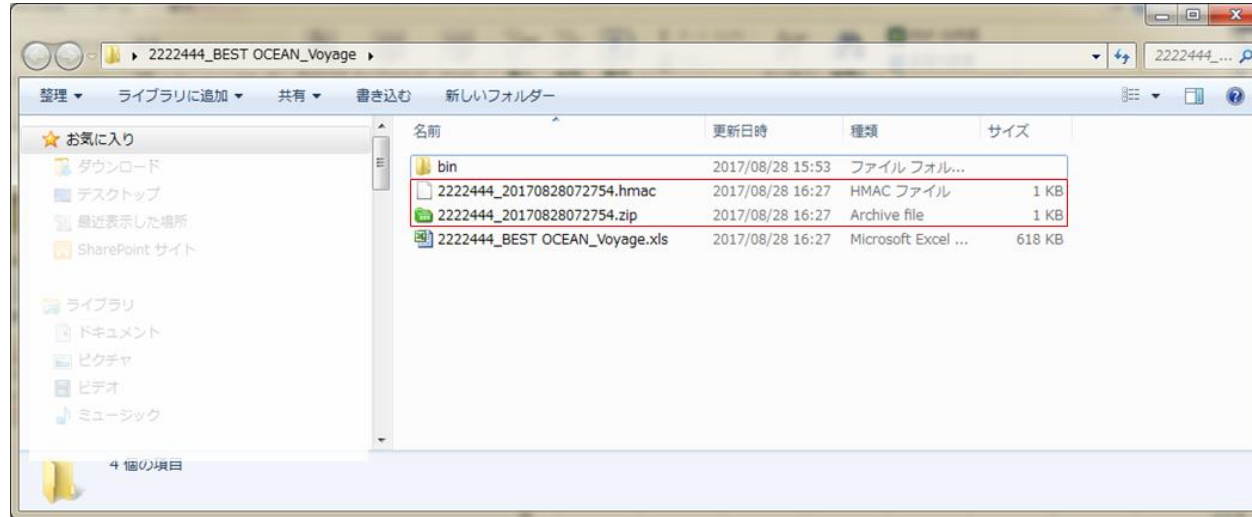


4) Please send e-mail attaching above 2 files to ClassNK MRV Portal. Please refer to "5 Sending address for report file" regarding sending address for ClassNK MRV Portal. Please do NOT divide above 2 files to 2 email and do NOT change file names. Any title and body of email is acceptable.
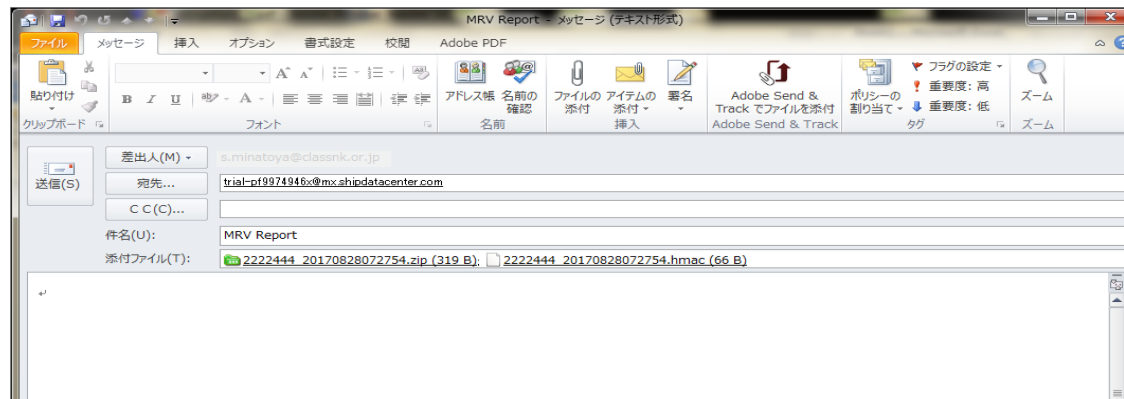
5) Exported data to zip file shall be locked (gray out) and cannot be edited. Please click "add row" button to continue data input for following report data.

| DCS | | | IMO No. | 0000002 | Name of ship | | NK Bulker | | | Validation | | Clear | | Add Row | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | Reporting basic data | | | | | | | IMO DCS Monitoring Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Voyage Info | Time at the report (UTC/GMT) | | Position at the report | | | | Port information | | Distance and time from last report | | FOC from last report [MT] | | |
| # | Del | Sent | Voyage No. | Date | Time | Latitude | | Longitude | | Status (event) | Port name (at dep/arr) | UNLOCODE | Distance travelled [nm] | Hours underway [hour] | HSFO | MDO | MGO |
| Format | | | X | yyyymmdd | 0000 to 2359 | 0000.0000 to 9000.0000 | N or S | 00000.0000 to 18000.0000 | E or W | X | XXXXXXXXXX | ABCDE | 0000.0 | 0000.00 | 0000.0 | 0000.0 | 0000.0 |
| Sample | | | 1 | 20180106 | 0000 | 1843.8482 | S | 04835.0450 | E | Arrival | Jakarta | IDJKT | 6627.0 | 568.25 | 432.1 | 42.3 | |
| 1 | ☐ | ☑ | 36A | 20171231 | 2106 | 3654.8000 | N | 12614.2000 | E | Departure | Taean | KRTAN | | | 3.03 | 0.00 | 0.00 |
| 2 | ☐ | ☑ | 36A | 20171231 | 2224 | 3651.4000 | N | 12606.7000 | E | SOSP | | | 7.0 | 1.30 | 1.99 | 0.00 | 0.00 |
| 3 | ☐ | ☑ | 36A | 20180101 | 0300 | 3543.1000 | N | 12545.2000 | E | Noon | | | 74.0 | 4.60 | 8.03 | 0.00 | 0.00 |
| 4 | ☐ | ☑ | 36A | 20180102 | 0300 | 3007.5000 | N | 12731.6000 | E | Noon | | | 355.0 | 24.00 | 45.60 | 0.00 | 0.00 |
| 5 | ☐ | ☑ | 36A | 20180103 | 0300 | 2445.9000 | N | 13029.9000 | E | Noon | | | 359.0 | 24.00 | 45.61 | 0.00 | 0.00 |
| 6 | ☐ | ☑ | 36A | 20180104 | 0300 | 1941.8000 | N | 13329.8000 | E | Noon | | | 348.0 | 24.00 | 45.60 | 0.00 | 0.00 |
| 7 | ☐ | ☑ | 36A | 20180105 | 0300 | 1437.6000 | N | 13623.2000 | E | Noon | | | 346.0 | 24.00 | 45.60 | 0.00 | 0.00 |
| 8 | ☐ | ☑ | 36A | 20180106 | 0300 | 0933.2000 | N | 13913.8000 | E | Noon | | | 348.0 | 24.00 | 45.60 | 0.00 | 0.00 |
| 9 | ☐ | ☑ | 36A | 20180107 | 0300 | 0428.8000 | N | 14200.6000 | E | Noon | | | 347.0 | 24.00 | 45.51 | 0.00 | 0.00 |
| 10 | ☐ | ☑ | 36A | 20180108 | 0200 | 0023.7000 | S | 14441.4000 | E | Noon | | | 334.0 | 23.00 | 43.62 | 0.00 | 0.00 |
| 11 | ☐ | ☑ | 36A | 20180109 | 0200 | 0550.5000 | S | 14738.4000 | E | Noon | | | 372.0 | 24.00 | 45.51 | 0.00 | 0.00 |
| 12 | ☐ | ☑ | 36A | 20180110 | 0200 | 0957.4000 | S | 15141.3000 | E | Noon | | | 361.0 | 24.00 | 45.51 | 0.00 | 0.00 |
| 13 | ☐ | ☑ | 36A | 20180111 | 0200 | 1546.2000 | S | 15254.1000 | E | Noon | | | 360.0 | 24.00 | 45.52 | 0.00 | 0.00 |
| 14 | ☐ | ☑ | 36A | 20180112 | 0100 | 2118.6000 | S | 15356.5000 | E | Noon | | | 338.0 | 23.00 | 43.62 | 0.00 | 0.00 |
| 15 | ☐ | ☑ | 36A | 20180113 | 0100 | 2740.6000 | S | 15346.0000 | E | Noon | | | 383.0 | 24.00 | 45.51 | 0.00 | 0.00 |
| 16 | ☐ | ☑ | 36A | 20180113 | 2130 | 3254.4000 | S | 15201.1000 | E | EOSP | | | 339.0 | 20.50 | 38.87 | 0.00 | 0.00 |
| 17 | ☐ | ☑ | 36A | 20180113 | 2242 | 3312.7000 | S | 15224.4000 | E | Drifting start | | | 22.0 | 1.20 | 1.77 | 0.00 | 0.00 |
| 18 | ☐ | ☑ | 36A | 20180116 | 1106 | 3308.0000 | S | 15207.0000 | E | Drifting end | | | 8.0 | 0.80 | 9.22 | 0.00 | 0.00 |
| 19 | ☐ | ☑ | 36A | 20180116 | 1454 | 3253.3000 | S | 15146.1000 | E | Arrival | New Castle | AUNTL | 26.0 | 3.80 | 5.87 | 0.00 | 0.00 |
| 20 | ☐ | ☑ | 36A | 20180117 | 0930 | 3253.3000 | S | 15146.1000 | E | Departure | New Castle | AUNTL | 0.0 | 18.60 | 3.17 | 0.00 | 0.00 |

# 5. Correction / Delete of data which is already exported



Please remove the check of "Sent" cell so that you can correct / resend report data.

When deleting data, please check "Del" cell.

| | A1 | | | $f_x$ | Voyage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | E | F | G | H | I | J | K | L | M | N | O | |
| | **Voyage** | | | IMO No. | 2222444 | Name of ship | BEST OCEAN | | | | | | |
| | | | | Reporting basic data | | | | | | | | Departure | |
| | | | | Time at the report | | Position at the report | | | | Voyage Info | | Departure time | |
| | # | Del | Sent | Date | Time | Latitude | | Longitude | | Voyage No. | Status | Date | |
| | Format | | | yyyymmdd | 0000 to 2359 | 0000.0000 to 9000.0000 | N or S | 00000.0000 to 18000.0000 | E or W X | | X | yyyymmdd | |
| | Sample | | | 20180106 | 0000 | 1843.8482 | S | 04835.0450 | E | 1 | Voyage | 20180106 | |
| | 1 | ☑ | ☐ | 20180106 | 1200 | 1843.2000 | N | 04835.0450 | E | 1 | Voyage | 20180106 | |

# 6. Sending address for report file

Email which is attached Report files (zip and hmac) shall be sent to following address.

**<On and after 1 January 2018 >**

pf79669814@mx.shipdatacenter.com

# 7. Appendix 1 Guidance for inputting Correction factor of CII

In accordance with the regulation and guideline, *RESOLUTION MEPC.355(78) 2022 INTERIM GUIDELINES ON CORRECTION FACTORS AND VOYAGE ADJUSTMENTS FOR CII CALCULATIONS (CII GUIDELINES, G5)*, ships of the following types are allowed to consider correction factor on CII for specific consumption by boiler or A/E;

a) **Tankers (Oil or Chemical)**

b) **Tankers which operate an STS(ship-to-ship) transfer of cargo**

c) **LNG or Gas Carriers**

d) **Ships carrying reefer containers, such as Container ships, General cargo ships**

e) **Ice class ships**

## 1. CII correction factor inputting method for each ship types

### 2.1) Tankers (Oil and/or Chemical)

Tankers can consider three type of correction factor $FC_{electrical,j}$, $FC_{boiler,j}$ and/or $FC_{other,j}$:

The parameter $FC_{electrical,j}$ is the mass (in grams) of fuel of type $j$, consumed for production of electrical power during the calendar year which may be deducted from the calculation of the attained CII for the following purposes:

The parameter $FC_{boiler,j}$, $j$ is the mass (in grams) of fuel of type $j$, consumed by the oil-fired boiler during the calendar year which may be deducted from the calculation of the attained CII, for the purposes of cargo heating and cargo discharge on tankers.

The parameter $FC_{other,j}$, is the mass (in grams) of fuel of type $j$, consumed by standalone engine driven cargo pumps during discharge operations on tankers which may be deducted from the calculation of the attained CII.

## 2.1.1) $FC_{electrical,j}$

- Electrical consumption of discharge pumps on tankers. (Part A. 3 of the G5 guidelines)

In case that the ship uses electrical power for discharge pumps, such electric consumption can be considered in CII calculation. To calculate $FC_{electrical,j}$, please input kWh measured by the kWh meter on board for driving the cargo pumps as follows:

| Reporting basic data | | | | | Electrical power for gas cargo cooling/discharg pump/reefer containers (FC_electrical) |
|---|---|---|---|---|---|
| Time at the report (UTC/GMT) | | Position at the | Voyage Info | | |
| Date | Time | Latitude | Voyage No. | Status | kWh |
| yyyymmdd | 0000 to 2359 | 00 to 90 | X | X | 0000000000.00 |
| 20180106 | 0000 | 184 | 1 | Arrival | |
| 20230101 | 2000 | | 20231 | Departure | 400.00 |
| 20230102 | 0400 | | 20231 | Noon | 100.00 |
| 20230103 | 0400 | | 20231 | Noon | 100.00 |
| 20230104 | 0400 | | 20231 | Noon | 100.00 |
| 20230104 | 1600 | | 20231 | Arrival | 100.00 |
| 20230105 | 0200 | | 20232 | Departure | 100.00 |
| 20230105 | 0400 | | 20232 | Noon | 100.00 |
| 20230106 | 0400 | | 20232 | Noon | 100.00 |
| 20230107 | 0400 | | 20232 | Noon | 100.00 |
| 20230108 | 0400 | | 20232 | Noon | 100.00 |
| 20230108 | 2000 | | 20232 | Arrival | 100.00 |
| 20230110 | 0200 | | 20233 | Departure | 300.00 |

In case when "kWh" of discharging pump is not monitored, the following simplified method of kWh calculation is acceptable;

$$Electric\ Consumption\ (kWh) = Total\ load\ of\ the\ system\ (kW) \times Running\ hours\ (h)$$

Where;

Total load of the system is based on the figure in "Electric Load Analysis Table" for each mode of operation at continuous load

condition (NOT peak load)

Running hours is the total hours that the system (including cargo and ballast pump) has been in operation.

Sample input $FC_{electrical,j}$

Here is the sample input.

Please note that;

Only input when discharging pump is running

Calculate kWh by total output of pump and running hours

| Reporting basic data | | | Electrical power for gas cargo cooling/discharg pump/reefer containers (FC_electrical) |
|---|---|---|---|
| Time at the report (UTC/GMT) | | Position at the | |
| Date | Time | Latitude | kWh |
| yyyymmdd | 0000 to 2359 | 00 to 90 | 0000000000.00 |
| 20180106 | 0000 | 184 | |
| 20230101 | 2000 | | 400 00 |
| 20230102 | 0400 | | |
| 20230103 | 0400 | | |
| 20230104 | 0400 | | |
| 20230104 | 1600 | | |
| 20230105 | 0200 | | |
| 20230105 | 0400 | | |
| 20230106 | 0400 | | |
| 20230107 | 0400 | | |
| 20230108 | 0400 | | |
| 20230108 | 2000 | | |
| 20230110 | 0200 | | |
| | | | 300 00 |

**2.1.2)** $FC_{boiler,j}$ **and** $FC_{other,j}$

In case that the vessel uses boiler for cargo heating or cargo discharging, the user can input the specific fuel consumption by such

emission sources by MT into the specific columns of an NK Excel reporting template. In case standalone A/Es are fitted for the cargo

discharge pumps, the same columns can be used;

Sample input ($FC_{boiler,j}$ and $FC_{other,j}$)

Here is the sample input.

Please note that;

- ✓ All boiler and separate engine consumption when cargo heating / discharging shall be input.

- ✓ Not applicable when the vessel doesn't use cargo heating system / discharging pump

| Reporting basic data | | | | Voyage Info | | All FOC since the last reporting[MT] | | | | | FOC by Boiler for cargo Heating/Discharge pumps on tankers [MT] (FC_boiler) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time at the report (UTC/GMT) | | | Position at the | | | | | | | | | | | | |
| Date | Time | Latitude | | Voyage No. | Status | HSFO | LSFO | MDO | MGO | LFO | HSFO | LSFO | MDO | MGO | LFO |
| yyyymmdd | 0000 to 2359 | 00 to 90 | | x | x | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 | 0000.0 |
| 20180106 | 0000 | 184 | | 1 | Arrival | 432.1 | 42.3 | | | 84.5 | 432.1 | 42.3 | | | 84.5 |
| 20230101 | 2000 | | | 20231 | Departure | | | | 3.40 | | | | | 2.00 | |
| 20230102 | 0400 | | | 20231 | Noon | | | | 1.50 | 16.00 | | | | | |
| 20230103 | 0400 | | | 20231 | Noon | | | | 1.50 | 25.00 | | | | | |
| 20230104 | 0400 | | | 20231 | Noon | | | | 1.50 | 25.50 | | | | | |
| 20230104 | 1600 | | | 20231 | Arrival | | | | 1.50 | 20.00 | | | | | |
| 20230105 | 0200 | | | 20232 | Departure | | | | 3.40 | | | | | | |
| 20230105 | 0400 | | | 20232 | Noon | | | | 0.50 | 5.00 | | | | 0.20 | |
| 20230106 | 0400 | | | 20232 | Noon | | | | 3.00 | 25.00 | | | | 3.00 | |
| 20230107 | 0400 | | | 20232 | Noon | | | | 3.00 | 26.00 | | | | 3.00 | |
| 20230108 | 0400 | | | 20232 | Noon | | | | 3.00 | 24.00 | | | | 3.00 | |
| 20230108 | 2000 | | | 20232 | Arrival | | | | 2.50 | 16.00 | | | | 2.50 | |
| 20230110 | 0200 | | | 20233 | Departure | | | | 5.50 | | | | | 3.00 | |

In above case, <u>all</u> fuel consumption by boiler during laden voyage with cargo heating (green) are counted and fuel consumption

of discharging pump (orange) is counted as follows;

-Arrival 2023/Jan/08 2000            MGO by separate engine

-Start discharge 2023/Jan/09 0200        1.0 ton

-End discharge 2023/Jan/09 2300        <u>3.0 ton</u>

-Departure 2023/Jan/10 0200          1.5 ton

**2.2) Tanker which carry out an STS(ship-to-ship) transfer of cargo**

When the ship carry out an STS transfer of cargo carried, please select "S" on the following columns, "Cargo operation/STS operation?" to calculate correction factor of STS operation.

| Port information (In case of STS operation, select "STS" in "Cargo operation/STS operation?" column.) | | | | Bunkered [MT] | |
|---|---|---|---|---|---|
| Name of port | UNLOC | EU / UK ? | Cargo operation/STS operation? | HSFO | LSFO |
| XXXXXXXXXX | ABCDE | EU or UK | Y or N or S | 0000.0 | 0000.0 |
| Jakarta | IDJKT | UK | Y | 432.1 | |
| | | | S ▼ | | |
| | | | Y | | |
| | | | N | | |
| | | | S | | |

### 2.3) LNG or Gas Carrier

LNG or Gas carrier can consider the correction factor $FC_{electrical,j}$:

The parameter $FC_{electrical,j}$ is the mass (in grams) of fuel of type $j$, consumed for production of electrical power during the

calendar year which may be deducted from the calculation of the attained CII for the following purposes:

- ✓ Electrical consumption of cargo cooling/reliquefaction systems on gas carriers and LNG Carriers.

**Cargo cooling/reliquefaction systems of LPG Carrier (Gas carrier) and LNG Carrier**

In case if the vessel uses re-liquefaction/cooling system with generator engines, the electric use for those system can be

considered in attained CII calculation.

In case when the vessel monitors the electric consumption of cooling/reliquefaction systems, such "kWh" measured by the kWh

meter on board can be used for correction and should be recorded on excel template.

In other cases, the master may record the following electric power consumption (kWh) on excel template;

$$Electric\ Consumption\ (kWh) = Total\ load\ of\ the\ system\ (kW) \times Running\ hours\ (h)$$

Where;

Total load of the system is based on the figure in "Electric Load Analysis Table" for each mode of operation at continuous load

condition (NOT peak load)

Running hours is the total hours that the system has been in operation.

Example;

At noon report at sea going with re-liquefaction,

The total load of re-liquefaction systems is 510 kW

$$Electric\ Consumption = 510\ (kW) \times 24\ (h) = 12{,}240\ (kWh)$$

Sample input $FC_{electrical,j}$

Here is the sample input.

Please note that;

- ✓ Only input when cargo cooling or reliquefaction system is running.

| Reporting basic data | | | | | Electrical power for gas cargo cooling/discharg pump/reefer containers (FC_electrical) |
|---|---|---|---|---|---|
| Time at the report (UTC/GMT) | | Position at the | Voyage Info | | |
| Date | Time | Latitude | Voyage No. | Status | kWh |
| yyyymmdd | 0000 to 2359 | 00 to 90 | X | X | 0000000000.00 |
| 20180106 | 0000 | 184 | 1 | Arrival | |
| 20230101 | 2000 | | 20231 | Departure | 400.00 |
| 20230102 | 0400 | | 20231 | Noon | 100.00 |
| 20230103 | 0400 | | 20231 | Noon | 100.00 |
| 20230104 | 0400 | | 20231 | Noon | 100.00 |
| 20230104 | 1600 | | 20231 | Arrival | 100.00 |
| 20230105 | 0200 | | 20232 | Departure | 100.00 |
| 20230105 | 0400 | | 20232 | Noon | 100.00 |
| 20230106 | 0400 | | 20232 | Noon | 100.00 |
| 20230107 | 0400 | | 20232 | Noon | 100.00 |
| 20230108 | 0400 | | 20232 | Noon | 100.00 |
| 20230108 | 2000 | | 20232 | Arrival | 100.00 |
| 20230110 | 0200 | | 20233 | Departure | 300.00 |

### 2.4) Ships carrying reefer containers, such as Container ships, Ro-ro ships, General cargo ships

Electric consumption of refrigerated containers can be considered for $FC_{electrical,j}$.

The parameter $FC_{electrical,j}$ is the mass (in grams) of fuel of type $j$, consumed for production of electrical power during the calendar year which may be deducted from the calculation of the attained CII for the following purposes:

In case when the vessel monitors the electric consumption of reefer container cooling, such "kWh" can be used for monitoring and should be recorded on excel template. In other cases, the master may record the number of reefer containers (NOT the number of TEU containers BUT the number of active reefer plugs) on-board at Departure event on excel template.

| Voyage Info | Time at the report (UTC/GMT) | | | | ta | | |
|---|---|---|---|---|---|---|---|
| | | | | Port information | | | |
| Voyage No. | Date | Time | | Status (event) | Port name (at dep/arr) | UNLOCODE | |
| X | yyyymmdd | 0000 to 2359 | | X | XXXXXXXXX | ABCDE | |
| 1 | 20180106 | 0000 | | Arrival | Jakarta | IDJKT | |
| 20231 | 20230101 | 2000 | | Departure | Tokyo | JPTKY | |
| 20231 | 20230102 | 0400 | | Noon | | | |
| 20231 | 20230103 | 0400 | | Noon | | | |
| 20231 | 20230104 | 0400 | | Noon | | | |
| 20231 | 20230104 | 1600 | | Arrival | Shanghai | CNSHA | |
| 20232 | 20230105 | 0200 | | Departure | Shanghai | CNSHA | |
| 20232 | 20230105 | 0400 | | Noon | | | |
| 20232 | 20230106 | 0400 | | Noon | | | |
| 20232 | 20230107 | 0400 | | Noon | | | |
| 20232 | 20230108 | 0400 | | Noon | | | |
| 20232 | 20230108 | 2000 | | Arrival | Tokyo | JPTKY | |
| 20233 | 20230110 | 0200 | | Departure | Tokyo | JPTKY | |

| factors |
|---|
| Electrical power for gas cargo cooling/discharging pump/reefer containers |
| Number of reefer containers |
| 00000 |
| |
| 400 |
| |
| |
| |
| 300 |
| |
| |
| |
| |
| 600 |

- End -