

Safety

Partnership

Profit

Ballast water management, planning, advisory and recordkeeping software

BWM Sequencer

As cooperative development of:

Herbert Software Solutions, Inc.
and The Glosten Associates, Inc.

The Ballast Management Sequencer provides a planning, advisory and recordkeeping tool to aid the mariner in maintaining compliance with the mandatory international, national and regional Ballast Water Management regulations. The entered data is used to automate the generation of the IMO, USCG and other regional ballast water reporting logs and forms.

For use onboard,

Crude Oil Tankers

Product Tankers

LPG / LNG Tankers

Chemical Tankers

RoRo

General Cargo

Container Vessels

Passenger Vessels

Barge / ATB / ITB

Drill Ships

FPSO / FSO

Research Vessels

Military Vessels

Ballast Water Exchange Plan

Vessel Information:
 Vessel Name: Container Venture
 IMO Number: 1234567
 Owner: Stubart Software
 Type: Containership
 GT: 10000
 Call Sign: NCS123
 Flag: USA

Locations:
 Define New Location: View/Edit Location
 San Francisco
 Seattle
 Shanghai
 Singapore
 Tokyo
 Valdez
 Vancouver
 Yokohama
 Mid Ocean

Define Locations:
 Location: Mid Ocean
 Description:
 Latitude:
 Longitude:
 Depth: 105M Min: 54 Sec: 0
 Longitude: 119W Min: 41 Sec: 0

Ballast Water Exchange Verification

Step	Location	FORE PEAK	NO.1 C	NO.2 C	NO.2 S	NO.3 P	NO.3 S	NO.4 P	NO.4 S	NO.5 P	NO.5 S	NO.6 P	NO.6 S	AFT PEAK
Start		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Step # 1	Seattle	75.0	50.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Step # 2	Mid Ocean	---	0.0	---	---	---	---	---	---	---	---	---	---	---
Step # 3	L.A. / Long Beach	80.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Step # 4	Mid Ocean	50.0	---	---	---	---	---	---	---	---	---	---	---	---
Step # 5	Vancouver	40.0	60.0	---	80.0	---	---	---	---	---	---	---	---	---
Step # 6	Mid Ocean	---	---	---	---	---	---	---	---	---	---	---	---	---
Step # 7	Seattle	---	25.0	---	50.0	---	---	---	---	---	---	---	---	---
End		40.0	25.0	50.0	50.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0

Ballast Water Exchange Verification

Apply to	Check Result	AP Draft	FP Draft	TP Draft	Heel deg	GkM Margin	Visibility Margin	Prop. Imm. %	Max. SF	Max. SF	Max. SF	Max. SF	Max. SF
Start		17.89	0.36	16.9A	0.00	51.98	0.00	45%	F1.39	50%	F1.50	F1.50	F1.50
Step # 1	Valid	15.03	0.13	7.6A	0.00	36.16	0.00	73%	F1.63	80%	F1.63	F1.63	F1.63
Step # 2	Valid	15.66	6.67	10.0A	0.00	39.73	0.00	67%	F1.63	73%	F1.63	F1.63	F1.63
Step # 3	Valid	15.89	8.07	7.6A	0.00	38.00	0.00	80%	F1.63	80%	F1.63	F1.63	F1.63
Step # 4	Valid	16.47	8.97	9.5A	0.00	39.96	0.00	72%	F1.63	74%	F1.63	F1.63	F1.63
Step # 5	Invalid	16.40	7.13	9.3A	0.305	39.37	0.00	72%	F1.63	74%	F1.63	F1.63	F1.63
Step # 6	Valid	16.40	7.13	9.3A	0.305	39.37	0.00	72%	F1.63	74%	F1.63	F1.63	F1.63
Step # 7	Invalid	17.36	5.64	11.7A	0.30P	40.87	0.00	62%	F1.63	67%	F1.63	F1.63	F1.63
End		17.36	5.64	11.7A	0.30P	40.87	0.00	62%	F1.63	67%	F1.63	F1.63	F1.63

Maximum & Minimum Values:
 Maximum AP Draft: 17.89
 Minimum AP Draft: 15.03
 Maximum FP Draft: 8.13
 Minimum FP Draft: 5.64
 Maximum TP Draft: 16.9A
 Minimum TP Draft: 7.6A
 Maximum Heel: 0.305
 Minimum GH Margin: 36.00
 Minimum Visibility Length: 36.16
 Minimum Propeller Immersion: 68%
 Maximum Shear Force: 80%
 Maximum Bending Moment: 80%



Efficient and Safe Loading

For CargoMax users, the Ballast Management Sequencer module is fully integrated, providing vessel hull stress, stability, and bridge visibility at all stages of ballast management.

Non-CargoMax users enjoy all features of the Ballast Management Sequencer as a stand-alone program.

The Right Tool for the Job

The following features are incorporated into both the CargoMax and Standalone versions of the Ballast Management Sequencer:

- CargoMax version is fully integrated with real-time hull stress, stability and bridge calculations at each stage in the ballast management sequence.
- Standalone version runs independent of CargoMax, ready for installation on any vessel.
- Generates one or many ballast management plans, including 'what if' scenarios, which can be saved for recordkeeping and future reference.
- Utilizes Graphical Information System (GIS) mapping of Pacific Rim shipping routes from U.S. West Coast to Asia East Coast, considering uptake-discharge location relationships.
- Provides real-time visual regulatory guidance on U.S. Federal and regional U.S. West Coast regulations. (Does not yet include Asian regional ballast water movement regulations.)
- Automates generation of IMO and USCG Ballast Water Report and California Log using user-defined ballast management plan.
- Prints required recordkeeping to PDF format for email or hard copy use.

Ballast Water Report
IS THIS AN AMENDED BALLAST REPORTING FORM? YES [] NO []

1. VESSEL INFORMATION		2. VOYAGE INFORMATION		3. BALLAST WATER USAGE AND CAPACITY	
Vessel Name:	Container Venture	Arrival Port:	San Francisco	Specify Units Below (m ³ , MT, LT, ST)	
IMO Number:	1224207	Arrival Date:		Total Ballast Water on Board:	
Owner:	Herbert Software	Agent:		Volume	Units - No. of Tanks in Ballast
Type:	Containership	Last Port:	Shanghai	18,013	m ³ 11
GT:	30000	Country of Last Port:		Total Ballast Water Capacity	
Call Sign:	HSS1123	Next Port:	Seattle	Volume	Units - No. of Tanks on Ship
Flag:	USA	Country of Next Port:		19,210	m ³ 11

4. BALLAST WATER MANAGEMENT Total No. Ballast Water Tanks to be discharged:

Of tanks to be discharge, how many: Underwent Exchange: Underwent Alternative Management:

Please specify alternative method(s) used, if any:

If no ballast treatment conducted, state reason why not:

Ballast management plan on board? YES NO Management plan implemented? YES NO

IMO ballast water guidelines on board [res. A.868(20)]? YES NO

5. BALLAST WATER HISTORY: Record all tanks to be deballasted in port state of arrival. IF NONE, GO TO #6

Tank/Heads	BW SOURCE				BW MANAGEMENT PRACTICES				BW DISCHARGE					
	DATE	PORT or LAT/LONG	VOLUME (m ³)	TEMP (°C)	DATE	ENDPOINT LAT/LONG	VOLUME (m ³)	% EXCH	METHOD (ER/FT)	SFA HT (m)	DATE	PORT or LAT/LONG	VOLUME (m ³)	SUBSTY
FP	10/10/2005	120°W 16°19'00"	100		10/10/2005	118°W 15°15'00"	100	100	ER		10/10/2005	120°W 16°19'00"	100	
WT	10/10/2005	120°W 16°19'00"	100		10/10/2005	118°W 15°15'00"	100	100	ER		10/10/2005	120°W 16°19'00"	100	
WT	10/10/2005	120°W 16°19'00"	100		10/10/2005	118°W 15°15'00"	100	100	ER		10/10/2005	120°W 16°19'00"	100	

Ballast Water Tank Codes: K=Keppel = FF, Aframax = AP, Double Bottom = LB, Wing = WT, Topside = TS, Cargo Hold = CH, Other = O

This form was generated by the automated CargoMax with Ballast System, and has been verified against hand records.

6. RESPONSIBLE OFFICER'S NAME AND TITLE: _____

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