DEPARTURE PILOT PASSAGE

Vessel	**MV NAVIOS LIBRA II**
From:	**Kashima, Japan**
Distance Berth to Pilot	**4.5 NMs**

Date	**02 November 2013**
Voyage No	**04/2013**
To:	**Astoria, USA**
Steaming Time:	**00d 00h 35m @ 8.0 kn**

(1) No	(2) Reference Point	(3) Ref.Pt. Passed Time	(4) Course to next Ref.Pt	(5) Distance to next Ref.Pt	(6) Engine Status	(7) Speed in Kts	(8) Predicted Current Kts	(9) Estim. Set/Drift	(10) Minimum Depth in Mtrs*	(11) Position Fixing Method	(12) Position Fixing Intervals	(13) Underkeel Clearance in Mtrs	(14) Chart No/s	(15) Remarks Main Hazards and Risks to be highlighted
0	Berth	21.00	107.6	0.5	VAR	VAR	VAR	VAR	12.3	RADAR/ GPS/VIS	5min	4.5	JP1049	Preparation for pilot embarkation. Pay attention during unmooring and works with tugs; activate ECHOSounder.Watch level2.
1	Sundries Quay	21.18	054.8	1.7	VAR	VAR	VAR	VAR	13.9	RADAR/ GPS/VIS	5min	6.1	JP1049	Navigate with caution current inside the channel, checked psn frequently using parallel indexing; avoid no go areas, no garbage disposal. Watch level2.
2	South breakwater	21.32	003.6	2.3	VAR	VAR	VAR	VAR	21.8	RADAR/ GPS/VIS	5min	14.0	JP1049	Navigate with caution current inside the channel, checked psn frequently using parallel indexing; avoid no go areas, no garbage disposal. Watch level2.
3	Buoy No1	21.49	-	-	VAR	VAR	VAR	VAR	24.3	RADAR/ GPS/VIS	5min	16.5	JP1049	Preparation for pilot disembarkation, checked psn frequently, using parallel indexing, avoid no go areas no garbage disposal Watch level2.

*** Minimum depth in meters (column 10) to be corrected for tide range (column 19)**

Nautical Pub. Last NTM	Restrictions-Notes	Draft	Signed
Light List: NP85 M	(16) Minimum Passage Depth: 12 mtr	(22) Sailing Draft: F: 5.85 m A: 7.80 m	Chief Officer: Dogadayev Mykola
Sailing Dir: NP41	(17) Berth depth: 12 mtr	(23) Arrival Draft: F: 7.10 m A: 9.80 m	2nd Officer: Denysenko Denys
Tide Table: NP204	(18) Bridge Height Clear: N/A	(24) Air Draft: 36.52 mtr	3rd Officer: Yu Laurence F.
Rad. Nav Aids: NP281(2), NP282, NP283(2),NP284,NP285, NP286(6)	(19) Tide Range: LOW 0.3 mtr HIGH 1.4 mtr	(25) Squat (confined): 1.05 mtr	Checked and approved by Master: Capt. Dinekin Sergey
Last NTM: 43/2013	(20) Current: VAR kts	(26) Swell: S/2 mtr	
	(21) Safe speed at min UKC: 8 kts		

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SEA PASSAGE

Vessel	**MV NAVIOS LIBRA II**
From:	**Kashima, Japan**
Distance Pilot to Pilot	**4442.8 NMs**

Date	**02 November 2013**
Voyage No	**04/2013**
To:	**Astoria, USA**
Steaming Time:	**15d 10h 15m @ 12.0 kn**

(1) No	(2) Reference Point	(3) Waypoint Lat	(3) Waypoint Long	(4) WP passage Date	(4) WP passage Time	(5) Course to next WP	(6) Distance WP To WP Nm	(7) Distance To Go NM	(8) Minimum Depth in Mtrs	(9) Position Fixing Method	(10) Position Fixing Intervals	(11) Chart No/s	(12) Remarks: Main Hazards and Risks to be highlighted
3	Buoy No1	35-58.3 N	140-42.6 E	02.11. 2013	21.49	058.4	3.2	4442.8	24	RADAR/ GPS/VIS	5 min	JP1049, JP1097	Preparation for pilot disembarkation, checked psn frequently, using parallel indexing, avoid no go areas no garbage disposal Watch level2.
4	Kashima Ko	36-00.0 N	140-46.0 E	02.11. 2013	22.11	091.1	989.8	4439.6	24	RADAR/ GPS/VIS	10 min	JP1097, BA4510	Checked psn frequently, watch out for crossing meeting vsl, avoid no go areas; no garbage disposal
5	Deviation point	35-40.6 N	161-01.4 E	06.11 2013	12.00	079.5	927.5	3449.8	3169	GPS/VIS	1 hour	BA4521, BA4053	Checked psn frequently, watch out for crossing meeting vsl, avoid no go areas; no garbage disposal
6	International Date Line	38-29.8N	180-00.0E	09.11. 2013	16.15	079.5	1394.3	2522.3	5331	GPS/VIS	1 hour	BA4053	Checked psn frequently, watch out for crossing meeting vsl, avoid no go areas; no garbage disposal
7	Surveyor Fracture Zone	42-44.2N	150-00.0W			079.5	1128.0	1128.0	5000	GPS/VIS	1 hour	BA4806	Checked psn frequently, watch out for crossing meeting vsl, avoid no go areas; no garbage disposal
8	Astoria plt	46-10.0 N	124-11.0 W			-	-	0	51.2	RADAR/ GPS/VIS	10 min	BA4801, BA2531, BA3124, BA2839	Preparation for pilot embarkation, checked psn frequently, using parallel indexing, avoid no go areas no garbage disposal.Switch on Echo Sounder .Watch level2

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(1) No	(2) Reference Point	(3) Waypoint Lat	(3) Waypoint Long	(4) WP passage Date	(4) WP passage Time	(5) Course to next WP	(6) Distance WP To WP Nm	(7) Distance To Go NM	(8) Minimum Depth in Mtrs	(9) Position Fixing Method	(10) Position Fixing Intervals	(11) Chart No/s	(12) Remarks Main Hazards and Risks to be highlighted.

Nautical Pub. Last NTM	Restrictions-Notes	Draft	Signed
Light List: NP85 M, NP80 G	(13) Minimum Passage Depth: 24 mtr	(19) Sailing Draft: F: 6.77 m A: 7.96 m	Chief Officer: Dogadayev Mykola
Sailing Dir: NP41, NP8	(14) Minimum UKC: 16.04 mtr	(20) Arrival Draft: F: 4.85 m A: 6.56 m	2nd Officer: Denysenko Denys
Tide Table: NP204	(15) Load Line Zone: Sumer Zone	(21) Air Draft: 37.75 mtr	3rd Officer: Yu Laurence F.
Rad. Nav Aids: NP281(2), NP282, NP283(2),NP284, NP285, NP286(5), NP286(6).	(16) Areas Restr To Nav: YES	(22) Squat (confined): 1.62 mtr	Checked and approved by Master: Capt. Dinekin Sergey
Last NTM: 43/2013	(17) No Go Areas: YES	(23) Ballast Water Exch: Yes	
	(18) US COTP ZONE: Columbia River - Astoria		

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ARRIVAL PILOT PASSAGE

Vessel	**MV NAVIOS LIBRA II**
From:	**Kashima, Japan**
Distance Pilot to Berth	**17.8 NMs**

Date	**November 2013**
Voyage No	**04/2013**
To:	**Astoria, USA**
Steaming Time:	**00d 1h 47m @ 10.0 kn**

(1) No	(2) Reference Point	(3) Ref.Pt. Passed Time	(4) Course to next Ref.Pt	(5) Distance to next Ref.Pt	(6) Engine Status	(7) Speed in Kts	(8) Predicted Current Kts	(9) Estim. Set/Drift	(10) Minimum Depth in Mtrs*	(11) Position Fixing Method	(12) Position Fixing Intervals	(13) Underkeel Clearance in Mtrs.	(14) Chart No/s	(15) Remarks Main Hazards and Risks to be highlighted.
6	Astoria plt		032.3	3.5	VAR	VAR	VAR	VAR	51.2	RADAR/ GPS/VIS	5min	44.64	BA2839	Preparation for pilot embarkation; Avoid shallower waters; checked posn frequently; no garbage disposal. Activate ECHO Sounder. Watch level2.
7	Buoy Whis'2'		045.0	3.3	VAR	VAR	VAR	VAR	26.4	RADAR/ GPS/VIS	5min	19.81	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage dispossal. Watch level2. Abort psn
8	North Jetty		079.7	1.8	VAR	VAR	VAR	VAR	15.4	RADAR/ GPS/VIS	5min	8.84	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage disposal. Watch level2.
9	Jetty 'A'		113.4	1.2	VAR	VAR	VAR	VAR	15.4	RADAR/ GPS/VIS	5min	8.84	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage disposal. Watch level2.
10	Lower Desdemona Shoal		132.0	5.4	VAR	VAR	VAR	VAR	14.1	RADAR/ GPS/VIS	5min	7.54	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage disposal. Watch level2.
11	Upper Desdemona Shoal		109.5	0.5	VAR	VAR	VAR	VAR	15.0	RADAR/ GPS/VIS	5min	8.44	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage disposal. Watch level2.
12	Skipunou waterway		084.5	1.6	VAR	VAR	VAR	VAR	12.4	RADAR/ GPS/VIS	5min	5.84	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage disposal. Watch level2.

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(1) No	(2) Reference Point	(3) Ref.Pt. Passed Time	(4) Course to next Ref.Pt	(5) Distance to next Ref.Pt	(6) Engine Status	(7) Speed in Kts	(8) Predicted Current Kts	(9) Estim. Set/Drift	(10) Minimum Depth in Mtrs*	(11) Position Fixing Method	(12) Position Fixing Intervals	(13) Underkeel Clearance in Mtrs	(14) Chart No/s	(15) Remarks Main Hazards and Risks to be highlighted.
13	Tansy point turn & range		102.5	0.5	VAR	VAR	VAR	VAR	12.4	RADAR/ GPS/VIS	5min	5.84	BA2839	Navigate with caution strong current inside the channel; checked posn frequently using parallel indexing; no garbage disposal. Watch level2
14	Berth		-	-	VAR	VAR	VAR	VAR	12.4	RADAR/ GPS/VIS	5min	5.84	BA2839	Pay attention during mooring and works with tugs; Preparation for Pilot disembarkation. Watch level2.

*** Minimum depth in meters (column 10) to be corrected for tide range (column 19)**

Nautical Pub. Last NTM
Light List: NP 80 G
Sailing Dir: NP8
Tide Table: NP204
Rad. Nav Aids: NP281(2), NP282,NP283(2), NP284,NP285, NP286(5)
Last NTM: 43/2013

Restrictions-Notes
(16) Minimum Passage Depth: 12.4 mtr
(17) Berth depth: 12.4 mtr
(18) Bridge Height Clear: N/A
(19) Tide Range: LOW 0.8 mtr HIGH 2.6 mtr
(20) Current: VAR kts
(21) Safe speed at min. UKC: 10.0 kts

Draft
(22) Sailing Draft F: 4.85 m A: 6.56 m
(23) Arrival Draft: F: 4.85 m A: 6.56 m
(24) Air Draft: 37.75 m
(25) Squat (confined): 1.62 mtr
(26) Swell: mtr

Signed
Chief Officer: Dogadayev Mykola
2nd Officer: Denysenko Denys
3rd Officer: Yu Laurence F.
Checked and approved by Master: Capt. Dinekin Sergey

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Under Keel Clearance Calculation

Under Keel Clearance (13) should be calculated as follows:

a. Use formula for SQUAT for confined waters when navigate from Pilot to Berth as follows:

$$Squat_{\max} = 2 \times Cb \times \frac{V^2 (Vessel\ Speed\ in\ Knots)}{100} \quad (in\ metres)$$

where

i. Use Cb from Loading Manual for specific Loading Condition.
ii. Use Speed V in knots as predicted in (7) column of Pilot Passage.

b. Effect of LIST should be calculated only when in the particular leg of Passage Plan there is a turning point. Only then, for maximum Turn of Angle of Rudder (i.e. 15 degrees) we extract from Vessel's manoeuvring data, the added draft due to list.

c. UKC (Column 13)= {Minimum Depth in Meters (Column 10)} – {Draft (Column 21/22)} - {Squat (from (a) above} – {Swell (Column 25)} – (List (from (b) above)}.

d. Place (Maximum) Squat for calculated for all legs in column (24).

- *If final calculated UKC is less than minimum allowed as per BWM Sect. 1.20.3 Master to carry out Risk Assessment identifying all hazards for the operation setting relevant controls and in case still in doubt company to be informed.*

- *For each UKC value, a separate calculation sheet should be completed. Such calculation sheet should be attached to passage plan.*

Remarks:

1. SMS Form BRF_04A to be assessed and completed by Navigation Officer prior and after completion of this form. Relevant form BRF_04A to be attached here.
2. Please note that when vessel is approaching loading or discharging port and navigating in restricted areas with various buoys, narrow passages etc particular attention for prior entering in pilot book(s), Ports of the World and Pilot Charts, Charts of Port Approaches, Tidal Charts and any other information you may find available (i.e. warning notices received by Navtex), safeguarding that way vessel's safe approach in the Pilot Station / Port.
3. Upon approaching Pilot Station, prepare Pilot Embarkation / Disembarkation Ladder or helicopter areas based on safe practice on board for this task and any other information that can be found at the latest edition of "Helicopter Operation Guide".
4. ***Parallel Index Technique to always be used in confined waters and especially during Pilotage Passage Sections of this Plan. Same to be always evidenced in relevant charts.***
5. ***When vessel is navigating under Pilot order, a strict watch shall monitor ship's position continuously till vessel safely berthed alongside.***

PASSAGE PLAN MUST COVER THE PERIOD FROM DEPARTURE BERTH TO ARRIVAL BERTH AT ALL TIMES

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