Base Load Power Hub (BLPH)

PRE-COMMISSIONING / COMMISSIONING PROCEDURE

Document Number: 1724000775-QC-PRO-00014

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
A. IVESON	17-DEC-2024

Document Class: 2

01	28/11/2024	Accepted for Construction (AFC)	s.buffoni	m.galeazzi	r.morbidelli
00	28/10/2024	Issue for Review (IFR)	s.buffoni	m.galeazzi	r.morbidelli
Rev.	Date	Description	Prepared	Reviewed	Approved

SICE ELETTRONICA sice

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1	
2	
3	
4	

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1 MEETING FOR PLANNING THE COMMISSIONING & START-UP PROCEDURE

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
START-UP PROCEDURE CHECK	Check this procedure together with the CUSTOMER responsible in order to plan all the following activities, to identify possible problems and find the corresponding solutions, to carry-out the tests and checks here below listed.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

2 SAFETY RULES



All actions and services on the system must be carried-out only by qualified personnel. All the operations on **ATEX** certified equipment must be carried out by authorized personnel, in conformity with European Rules **EN 60079-01.**



WARNING: RISK OF ELECTRIC SHOCK HAZARD

The system has some parts that are powered by 230Vac mains line so all the actions must be carried-out in safe conditions.



WARNING

Do not lift heavy loads without assistance.



SICE recommends to always close the enclosures with bolts. During the commissioning procedure close the enclosure with at least one bolt every two on the top side of the enclosure and one bolt for each corner in order to avoid water access. Once the commissioning procedure is completed install all the bolts on the enclosures.

3 REFERENCE DOCUMENTS

The reference documents are the following:

CUSTOMER DOC. NO.	SICE DOC. NO.	DESCRIPTION
1724000775-EL-DG-00008	DW-864-1	SYSTEM BLOCK DIAGRAM
1724000775-EL-DG-00005	DW-864-2	SINGLE LINE DIAGRAMS
1724000775-EL-DA-00003	DW-864-3	GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS
1724000775-EL-DG-00007	DW-864-4	ELECTRICAL INTERCONNECTIONS DIAGRAMS
1724000775-EL-DG-00006	DW-864-5	SCHEMATIC WIRING DIAGRAMS
1724000775-EL-LIS-00009	DW-864-6	MATERIAL LIST AND BILL OF MATERIAL
1724000775-EL-LIS-00010	DW-864-7	BATTERY SIZING CALCULATION AND LOAD LIST
1724000775-EL-LIS-00011	DW-864-8	I/O LIST
1724000775-EL-MAN-00019	OM-776/DE-OM	INSTALLATION, OPERATING AND MAINTENANCE MANUAL
1724000775-COM-LIS-00020	SPIR	SPARE PART INDEX REGISTER

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4 MECHANICAL INSTALLATION CHECK LIST

During the mechanical checks, the system must be switched-off with no power supply. All circuit breakers must be switched-off. The following actions are carried out to check if each system component has been properly installed/fixed accordingly to the instructions described in the reference documents.

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	Check the installation of the panel and its support structure (to be fixed to the floor and to the wall). Verify that the installation allows the user to open the enclosures covers, to access inside the enclosures and that the cable entries are easily accessible. ***Ref. dwg.: DW-864-3 SH. 3/5 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS BATTERY BREAKER (CB-200F2)	Check the installation of the enclosure. Verify that the installation allows the user to open the enclosure cover, to access inside the enclosure and that the cable entries are easily accessible. ***Ref. dwg.: DW-864-3 SH.38 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS BATTERY BANK (BA-200F2)	Check the installation of the battery box: verify that the minimum suggested clearance has been respected and that the ventilation is guaranteed. ***Ref. dwg.: DW-864-3 SH. 42/43 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
BATTERY TEMPERATURE PROBE (EMT-200-01)	Check the installation of the temperature probe in the suitable hole of the NAVAIDS BATTERY BANK (BA-200F2). ***Ref. dwg.: DW-864-3 SH. 41/42 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)	Check the installation of the marine signal light. The proper installation of this equipment has to avoid obstacles that may reduce the visibility of the light from the sea. The arrangement of the several marine signal lights has to guarantee the visibility of at least one marine signal light from any direction of approach to the off-shore installation. Check the air bubble installed inside the light in order to verify that the light is installed on level. The marine signal light should be installed in a position that guarantees the access to carry-out the required maintenance (e.g., external cleaning of the marine signal light). ***Ref. dwg.: DW-864-3 SH. 17 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)		☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
BOAT LANDING STATUS LIGHT (ESL-200-01)	Check the installation of the status light on its support pole. The proper installation of this equipment has to avoid obstacles that may reduce the visibility of the light from the sea. Check the air bubble installed inside the light in order to verify that the light is installed on level. The status light should be installed in a position that guarantees the access to carry-out the required maintenance (e.g., external cleaning of the status light). ***Ref. dwg.: DW-864-3 SH.20-22 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
MEDIUM INTENSITY AOL 1 (EOL-200-01)	Check the installation of the light. The light should be installed in a position that guarantees the access to carry-out the required maintenance (e.g., external cleaning of the light). ***Ref. dwg.: DW-864-3 SH.27 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 2 (EOL-200-02)		☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 3 (EOL-200-03)	Check the installation of the light on the corresponding support pole. The light should be installed in a position that guarantees the access to carry-out the required maintenance (e.g., external cleaning of the light). ***Ref. dwg.: DW-864-3 SH.25-27 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 4 (EOL-200-04)		☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
PHOTOCELL SYSTEM (EPH-200-01)	Check the installation of the photocell system: the photocell installation must avoid any artificial light or obstacle that may affect the natural light detection by the photocell sensor. The photocell enclosure should be installed in a position that guarantees the access to carry-out the required maintenance (e.g., cleaning of the enclosure glass). ***Ref. dwg.: DW-864-3 SH. 35 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
VISIBILITY METER (EVM-200-01)	Check the installation of the visibility meter on its support pole. The visibility meter should be installed in a position that guarantees the access to carry-out the required maintenance (e.g., cleaning of the sensor optics). ***Ref. dwg.: DW-864-3 SH. 30-33 OF 44*** ***Reference doc.: OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

5 SPARE PARTS CHECK

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
SPARE PARTS FOR COMMISSIONING	Check the availability of spare parts for commissioning: • 1x Set of terminals • 1x Power relay 24VDC complete of socket • 1x Interface relay 24VDC complete of socket • 1x Interface relay 230VAC complete of socket ***Ref. dwg.: DW-864-6 SH. 11 OF 12***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

6 ELECTRICAL INTERCONNECTION CHECK LIST

During the electrical interconnection checks the system has to be switched-off with no power supply. All circuit breakers must be switched-off. The following actions are carried out to check that each system component has been properly interconnected accordingly to the interconnection diagrams available in the ELECTRICAL INTERCONNECTIONS DIAGRAMS (DW-864-4).

FROM UNIT	TO UNIT	CABLE TAG	CABLE SIZE (mm^2)	SICE	CUSTOMER	REMARKS
LV SWITCHGEAR (SG-200N1)	NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	83036-CEL	3G16	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
		83037-CEL	3G16	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	NAVAIDS BATTERY BREAKER (CB-200F2)	72214-CEL-P	1x70 (+)	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
		72214-N	1x70 (-)	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
		72208-CEC	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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FROM UNIT	TO UNIT	CABLE TAG	CABLE SIZE (mm^2)	SICE	CUSTOMER	REMARKS
NAVAIDS BATTERY BREAKER (CB-200F2)	NAVAIDS BATTERY BANK (BA-200F2)	72215-CEL-P	1x70 (+)	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
		72215-CEL-N	1x70 (-)	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	BATTERY TEMPERATURE PROBE (ETM-200-01)	72209-CEC	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	VISIBILITY METER (EVM-200-01)	72217-CEC	7x1.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
	PHOTOCELL SYSTEM (EPH-200-01)	72207-CEC	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	*SIS (B400-SIS-001)*	C-NC-200F2/B400-SIS-001	1x2x0.75	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**GENERAL SYSTEM ALARM**

FROM UNIT	TO UNIT	CABLE TAG	CABLE SIZE (mm^2)	SICE	CUSTOMER	REMARKS
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	*F&G SYSTEM (B400-FGS-002)*	C-NC-200F2/B400-FGS-002.01	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**BOAT LANDING STATUS LIGHT ACTIVATION COMMAND**
		C-NC-200F2/B400-FGS-002.02	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**VISIBILITY METER ACTIVATION COMMAND**
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	MAIN MARINE YELLOW LIGHT 1 (EML-200-01)	72201-CEL	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
	MAIN MARINE YELLOW LIGHT 2 (EML-200-02)	72202-CEL	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	BOAT LANDING STATUS LIGHT (ESL-200-01)	72210-CEL	2x2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)*	72203-CEL	3G2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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FROM UNIT	TO UNIT	CABLE TAG	CABLE SIZE (mm^2)	SICE	CUSTOMER	REMARKS
NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)*	72211-CEL	3G2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)	MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)	72204-CEL	3G2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
	MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)	72205-CEL	3G2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)	MEDIUM INTENSITY AOL 3 (INTERM.) (EOL-200-03)	72212-CEL	3G2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
	MEDIUM INTENSITY AOL 4 (INTERM.) (EOL-200-04)	72213-CEL	3G2.5	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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7 POWER SUPPLY CHECK LIST

This check is carried-out to verify that the power supplies that power the systems are available and within the parameter tolerances before proceeding with the system component activation.

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
VOLTAGE & FREQUENCY VALUES FROM *LV-SWITCHGEAR (SG-200N1)* TO NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	Check the mains line voltage and frequency values (open circuit) measured at **X1-3/4** terminals of the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) once the upstream feeder, installed in the *LV-SWITCHGEAR*, is closed. **ACCEPTANCE CRITERIA:** V_{PS1}= 207÷253Vac F_{PS1} = 47÷63Hz	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**MAINS LINE DATA** V_{PS1} = _____ Vac F_{PS1} = _____ Hz
VOLTAGE & FREQUENCY VALUES FROM *LV-SWITCHGEAR (SG-200N1)* TO NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	Check the mains line voltage and frequency values (open circuit) measured at **X1-5/6** terminals of the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) once the upstream feeder, installed in the *LV-SWITCHGEAR*, is closed. **ACCEPTANCE CRITERIA:** V_{PS2}= 207÷253Vac F_{PS2} = 47÷63Hz	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**MAINS LINE DATA** V_{PS2} = _____ Vac F_{PS2} = _____ Hz
VOLTAGE VALUE OF THE NAVAIDS BATTERY BANK (BA-200F2)	Check the battery voltage value (open circuit) measured at NAVAIDS BATTERY BANK (BA-200F2) +/- terminals (value detected before activating the battery chargers inside the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B). **ACCEPTANCE CRITERIA:** V_{BATT} = 24.0Vdc ± 10%	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**BATTERY BANK DATA** V_{BATT} = _____ Vdc

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
VOLTAGE VALUE OF THE BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC = OFF; 0VDC = ON) FROM *F&G SYSTEM (B400-FGS-002)*	Check the voltage value of the BOAT LANDING STATUS LIGHT ACTIVATION COMMAND incoming from *F&G SYSTEM (B400-FGS-002)* at **X3-1(+)/X3-2(-)** terminals of the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B). **ACCEPTANCE CRITERIA:** V_{BLC}= 24.0Vdc ± 20%	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**COMMAND DATA** V_{BLC} = _____ Vdc
VOLTAGE VALUE OF THE VISIBILITY METER ACTIVATION COMMAND (24VDC = ON; 0VDC = OFF) FROM *F&G SYSTEM (B400-FGS-002)*	Check the voltage value of the VISIBILITY METER ACTIVATION COMMAND incoming from *F&G SYSTEM (B400-FGS-002)* at **X3-3(+)/X3-4(-)** terminals of the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B). **ACCEPTANCE CRITERIA:** V_{VMC}= 24.0Vdc ± 20%	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	**COMMAND DATA** V_{VMC} = _____ Vdc

8 SYSTEM STARTING-UP PROCEDURE

Once the mechanical installation, the electrical interconnections and the power supply sources were checked with satisfactory results, it is possible to activate the systems for the first time (black start). The procedures to be followed are available in the operating manual (DOC. No. OM-776/DE OM).

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
ACTIVATION OF THE NAVAIDS BATTERY BREAKER (CB-200F2)	Activate the NAVAIDS BATTERY BREAKER (CB-200F2) by following the instructions given in the operating manual. ***Reference doc.:*** ***OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
ACTIVATION OF THE NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)	Activate the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) by following the instructions given in the operating manual. ***Reference doc.:*** ***OM-776/DE OM***	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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9 SYSTEM WORKING CHECK LIST

9.1 NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
A.C.O. SYSTEM	Inside the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) is installed an Automatic Change Over System used to switch from one mains power supply line to the other one in case the first one is not available. Check if the system is working properly.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
BATTERY CHARGERS (BC-200F2A / BC-200F2B)	Inside the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) are installed two battery chargers (named BC-200F2A / BC-200F2B) used to re-charge the NAVAIDS BATTERY BANK (BA-200F2). This check is carried-out to verify that both the battery chargers are working properly and they can charge the battery bank (when the mains power supply is available).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
CONTROL SYSTEM	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has a local display (installed on the enclosure B cover) through which it is possible to monitor the status of each component of the system. This check is carried-out to verify that the local display panel shows all the information properly.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
SELECTOR SWITCH (S1)	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has one (1) selector switch (installed on the enclosure B cover) through which it is possible to set the working mode of the following system components: • MAIN MARINE LIGHTS (ON/AUTO/OFF) • OBSTRUCTION LIGHT (ON/OFF) This check is carried-out to verify that the selector switch works properly.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
PUSH-BUTTONS (P5/P6/P7)	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has three (3) push-buttons (installed on the enclosure B cover) through which it is possible to set the working mode of the following system components: • BOAT LANDING STATUS LIGHT This check is carried-out to verify that the push-buttons work properly.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
CODERS, INVERTERS AND UNDERCURRENT MONITORING RELAYS	Inside the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) are installed the coders, the inverters and the undercurrent monitoring relays used to properly drive the following system components: • MAIN MARINE SIGNAL LIGHTS • BOAT LANDING STATUS LIGHT • OBSTRUCTION LIGHTS This check is carried-out to verify that the coders, the inverters and the undercurrent monitoring relays are working properly and that they are not providing any alarm.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
24VDC EARTH INSULATION MONITORING RELAY (KE1)	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has one 24VDC earth insulation monitoring relay used to detect the earth insulation alarm of the 24Vdc battery bank poles. Verify that the insulation to earth of both polarities of the battery bank is at a value exceeding the selected trip threshold (i.e., 10kΩ).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
230VAC EARTH INSULATION MONITORING RELAYS (KE2/KE3)	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has two 230VAC earth insulation monitoring relays used to detect the earth insulation alarm of the 230Vac inverter system outputs. Verify that the insulation to earth of both phase and neutral of the inverter system outputs is at a value exceeding the selected trip threshold (i.e., 25kΩ).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
NETWORK ANALYZERS (NA1/NA2)	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has two (2) network analyzers that are used to provide to the control system some analog values (current, voltage). This check is carried-out to verify that these components are working properly.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
ASTRONOMICAL TIMER (KA1)	The NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) has one astronomical timer used to switch-on/off the main marine signal lights when the main marine signal light working mode is set on "AUTO" position. Check the working of the astronomical timer by means of the local joystick in order to simulate the night conditions and verify that, after a settable delay (*), the marine lanterns start flashing. Restore day condition and verify that, after a settable delay (*), the marine lanterns stop flashing. (*) = in order to set the triggering delay, modify the corresponding configuration on the NCCP local display panel (-60min means instant activation/deactivation).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
SURGE ARRESTERS (SA1÷SA10)	Inside the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) are installed ten (10) surge arresters used to avoid damage to the system due to the lightning. Check that they are not providing any alarm.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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9.2 NAVAIDS BATTERY BREAKER (CB-200F2)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
PILOT LIGHT	Check the pilot light installed on the enclosure cover and the corresponding functions.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
SELECTOR SWITCH (Q1)	The NAVAIDS BATTERY BREAKER (CB-200F2) has one (1) selector switch (installed on the enclosure cover) through which it is possible to manually open/close the Q1 battery circuit breaker installed inside the enclosure. This check is carried-out to verify that the selector switch works properly.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
REMOTE CONTROL (*STATUS*)	The NAVAIDS BATTERY BREAKER (CB-200F2) provides one hard-wired volt-free contact remote control (GENERAL SYSTEM ALARM). This check is carried-out to verify that the remote control is properly received by the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

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9.3 PHOTOCELL SYSTEM (EPH-200-01)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
PHOTOCELL SYSTEM (EPH-200-01)	On the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) is installed the local display panel through which the user is able to see what the photocell sensor of the PHOTOCELL SYSTEM (EPH-200-01) is detecting (day/night). Check the working of the photocell sensor by covering the sensor glass in order to simulate the night condition. Verify that after a short delay (1 minute approx.) the marine lanterns start flashing if the selected working mode is “AUTO”. Uncover the sensor in order to simulate the day conditions and verify that after a short delay (1 minute approx.) the marine lanterns stop flashing.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.4 VISIBILITY METER (EVM-200-01)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
VISIBILITY METER (EVM-200-01)	On the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B) is installed the local display panel through which the user is able to see what the VISIBILITY METER (EVM-200-01) is detecting (fog/no fog). What is detected by the visibility meter can be simulated by covering properly one of the optics (to simulate the presence of the fog). Verify that after a short delay (few minutes) the marine lanterns start flashing if the selected working mode is “AUTO”. Uncover the optic and verify that after a short delay (few minutes) the marine lanterns stop flashing.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.6 MAIN MARINE YELLOW LIGHTS (EML-200-01/02)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)	To carry-out this test the main marine yellow lights must be switched-on (S1 selector switch properly set to have the lights flashing). The checks, to carry-out on the marine signal lights, are the following: • Check the code generated by each marine signal light (to be in accordance with IALA standard U-code) • Check the synchronization of the marine lights (the marine signal lights must flash synchronized together when activated)	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)	**IALA standard U-code (expected):** ○ ON = 0,4 s ○ OFF = 0,5 s ○ ON = 0,4 s ○ OFF = 0,5 s ○ ON = 1,2 s ○ OFF = 12 s	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.8 MEDIUM INTENSITY OBSTRUCTION LIGHTS (EOL-200-01/02/03/04)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)	The check, to carry-out on the lights, is that each light is steady-on.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)		☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 3 (INTERM.) (EOL-200-03)		☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	
MEDIUM INTENSITY AOL 4 (INTERM.) (EOL-200-04)		☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.9 BOAT LANDING STATUS LIGHT (ESL-200-01)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
BOAT LANDING STATUS LIGHT (ESL-200-01)	To carry-out this test the status light must be activated through the P5 push button placed on the cover of the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B). The checks, to carry-out on the status light, are the following: • Check the flashing code generated by the status light **Flashing code (expected):** ○ ON = 0,25 s ○ OFF = 0,25 s	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.10 BATTERY TEMPERATURE PROBE (ETM-200-01)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
BATTERY TEMPERATURE PROBE (ETM-200-01)	Check that the temperature value incoming from the sensor is properly shown on the local display panel of the NAVAIDS CENTRAL CONTROL PANEL (NC-200F2/BC-200F2A/B).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.11 DIGITAL INPUT SIGNAL (HARD-WIRED)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
DIGITAL INPUT GENERATED BY THE NAVAIDS CENTRAL CONTROL PANEL (HARD-WIRED)	Check that *SIS (B400-SIS-001)* receives properly the hard-wired digital input as per sheet 3 of the DOC. NO. DW-864-8. The corresponding alarm must be simulated during this test.	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

9.12 DIGITAL OUTPUT COMMANDS (HARD-WIRED)

SUBJECT	DESCRIPTION	SICE	CUSTOMER	REMARKS
DIGITAL OUTPUTS RECEIVED BY THE NAVAIDS CENTRAL CONTROL PANEL (HARD-WIRED VOLTAGE COMMANDS)	Check that the hard-wired digital outputs (voltage commands) named "BOAT LANDING STATUS LIGHT ACTIVATION COMMAND" and "VISIBILITY METER ACTIVATION COMMAND" are executed properly when provided by the *F&G SYSTEM (B400-FGS-002)* (see sheet 3 of the DOC. NO. DW-864-8).	☐ **OK** ☐ **NOK** ☐ **N/A**	☐ **OK** ☐ **NOK** ☐ **N/A**	

10 COMPLIANCE TO ENVIRONMENTAL RULES

SICE declares that during the commissioning and the start-up of the system, to which this test report is referred to, no garbage has been produced by SICE since all the installation operations were under customer responsibilities.

11 NOTES

INTENTIONALLY LEFT BLANK
(IT SHALL BE FILLED-IN LATER DURING
COMMISSIONING AND START-UP)

12 FIELD ACCEPTANCE TEST

ON XX/XX/XXXX HAS BEEN CARRIED OUT THE FINAL WORKING TEST OF THE "NAVIGATION AIDS SYSTEM" FOR BLPH TOGETHER WITH CUSTOMER RESPONSIBLE, WITH SATISFACTORY RESULTS.

SICE	CUSTOMER
SICE s.r.l. Via G. Bartolucci 16-61122 Borgo S. Maria (PU) Tel. +39 (0) 721.201301 / 202035 Fax +39 (0) 721.202086 C. F. e Part. IVA 02099830412	