ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Operation (RFO) Certificate

COMPLETE	●	PARTIAL	

Revision:	2		Issued on:	2025-05-19	
System:	77	/	Heating & Ventilation		
SubSystem:	77-20	/	HVAC LV Switchgear Room B-200		

We hereby confirm that all Mechanical Completion (MC) and Pre-Commissioning/Commissioning (Pre-Comm./Comm.) activities for the above-mentioned System/Sub-System have been successfully completed in accordance with project specifications, relevant standards and contractual requirements. The System/Sub-System has been tested and verified to ensure readiness for operation. Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.

Mechanical Completion: All required MC activities have been completed and approved
Pre-Commissioning & Commissioning: All required Pre-Comm. and Comm. activities and OTPs have been completed and approved (Status Index attached)
Punch List: All Punch items categorized as A and B have been cleared (PL report attached)
Documentation: As-built documentation and Commissioning dossier has been completed, reviewed and approved

PUNCH LIST	PENDING POINTS
Note: All Category "A" and "B" Items must be cleared prior to issuance of the Ready For Operation (RFO) Certificate	B: 1

REMARKS:

	CONTRACTOR Commissioning Manager	**COMPANY** Commissioning Lead
Name	Anthony Iveson	Martin Taylor
Date	2025-05-19	2025-05-22
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-05-19T09:39:55.799Z	PROVERLIS Digitaly signed by Martin Taylor 2025-05-22T09:25:38.853Z

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STATUS INDEX DETAIL

Filtered on subsystem: 77-20 & process: COMM

Electrical	77-20 HVAC LV Switchgear Room B-200						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A5/+02-QF1	DRAWER HVAC PANELS LV ROOM - A5/+02-QF1	ONSHORE	C10002870	FP00	100	2024-10-14	RFO 2
		ONSHORE	C10002871	FTR-2	100	2024-09-20	RFO 2
		ONSHORE	C10002872	FTR-6	100	2024-10-03	RFO 2
		ONSHORE	C10003015	FTR-5	100	2025-04-29	RFO 2
B200-HSB-001	Distribution & HVAC Panel - LV Room	ONSHORE	C10002988	FP00	100	2024-10-28	RFO 2
UP-200F3-QF40	UCP - HVAC ROOM	ONSHORE	C10004577	FTR-2	100	2024-12-07	RFO 2

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STATUS INDEX DETAIL

Filtered on subsystem: 77-20 & process: COMM

Instrumental	77-20 HVAC LV Switchgear Room B-200

ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
77-XA-002	B-200 LV SWGR room HVAC fault	ONSHORE	C10003795	FJ01D	100	2025-03-11	RFO 2
77-XS-002	SHUT-DOWN B-200 LV SWGR room HVAC	ONSHORE	C10003799	FJ01D	100	2025-03-11	RFO 2
B200-HSB-001	Distribution & HVAC Panel - LV Room	ONSHORE	C10004880	FJ05	100	2025-05-16	RFO 2

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PUNCH LIST REPORT

SYSTEM 77 Heating & Ventilation

SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000529	A	B200-HSB-001	Install Ethernet port locks on HVAC panels to prevent access by external devices without an authorized permit, as requested by the	Add ethernet port locks to allHVAC panel boards	installed	SLinari 2024-10-30	Vendor 2025-02-22	SLinari 2025-02-22	2025-02-22
C30000533	A	B200-HSB-001	The modbus I/O list have been updated during SAT, due to changes needed. During SAT activities several signals have not been checked.	Revise and issue on fusion live the HVAC I/O list documents for each HVAC panel. Before commissioning activities, all signals shall be	Spot check with Yokogawa and the communication work	SLinari 2024-10-30	Vendor 2025-02-22	SLinari 2025-02-22	2025-02-22
C30000023	B	B-200	Roof-top cables to be fixed with cable ties made by AISI 316L		ACTIVITY PERFORMED - SEE PICTURES	SLinari 2024-08-02	SLinari 2024-12-05	SLinari 2024-12-05	2024-12-05
C30000027	B	B-200	Earthing connection to be provided for all space heaters. To be done at RM yard		EARTHING INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000031	B	B-200	Earthing connection to be provided for all HVAC units. To be done at RM yard		EARTHING INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000035	B	B-200	Identification traffolyte tag to be provided for all E&I Items (lights, switches, space heaters,etc.). All traffolyte labels missing will be installed at RM		installed anche checked	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000039	B	B-200	HVAC cable tags to be provided on the panel top. Alex Sistemi will supply all loose cable tags. RM will install it		activity done - see picture	SLinari 2024-08-02	SLinari 2024-12-05	SLinari 2024-12-05	2024-12-05
C30000043	B	B-200	Cable's tag to be provided / fixed at all MCTs (IN/OUT). Alex Sistemi will supply all loose cable tags. RM will instali it		ACTIVITY DONE	SLinari 2024-08-02	SLinari 2024-12-05	SLinari 2024-12-05	2024-12-05
C30000051	B	B-200	HVAC fixed with screws M8. To be replaced with correct ones, as per drawing. Alex Sistemi will supply all final screws. RM will install it during		FIXED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29

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PUNCH LIST REPORT

SYSTEM 77 Heating & Ventilation
SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000085	B	B-200	Earthing connection to be provided for all electrical conduits. Alex Sistemi will supply all material, RM will install it		INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000089	B	B-200	Teflon to be provided between different materials for Hvac ducts unistrut and supports		INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000093	B	B-200	External ducts (inside) welding to be cleaned before re-installation		ACTIVITY DONE - ALL DUCTS HAS BEEN INSTALLED	SLinari 2024-08-02	SLinari 2024-12-05	SLinari 2024-12-05	2024-12-05
C30000146	B	83024-CEL C10000549	Cable to be fixed with proper cable ties, after MCT installetion (point valid for internal and exsternal cable routing.	.		Gtangianu 2024-10-07	2025-01-30	APolo 2025-01-30	2025-01-30
C30000147	B	83024-CEL C10000549	Identification numbers on terminal strip are missing (L1/L2/N).	.		Gtangianu 2024-10-07	2025-02-04	APolo 2025-02-04	2025-02-04
C30000160	B	B200-HSB-001 C10000836	Black Thermoshrink is used on earthing connection inside the panel	To be replaced with Y/G		Gtangianu 2024-10-10	2024-12-03	Ecarotenuto 2024-12-03	2024-12-03
C30000161	B	B-200 C10002299	Missing copper grease on external earthing connection.	-		Gtangianu 2024-10-10	2024-12-14	Ecarotenuto 2024-12-14	2024-12-14
C30000162	B	B-200 C10002299	Black Thermoshrink is used on all earthing connection of HVAC System and cable trays. To be replaced with Y/G	-		Gtangianu 2024-10-10	2025-02-12	Pschintu 2025-02-12	2025-02-12
C30000521	B	B200-HSB-001	Heat shrinks for grounding inside HVAC panel installed of black color instead of yellow-green color as earthing cable itself	Heat shrink tubing to be replaced of yellow-green color type as earthing cable.	accepted	SLinari 2024-10-30	Vendor 2025-02-25	SLinari 2025-02-25	2025-02-25

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PUNCH LIST REPORT

SYSTEM 77 Heating & Ventilation
SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000525	B	B200-HSB-001	Add an auxiliary IP address in addition to those already provided for each CPU, to allow communication and signals exchange between	Update software on all PLCs to enable switching to the standby CPU without losing the necessary communications	Implemented	SLinari 2024-10-30	Vendor 2025-02-20	SLinari 2025-02-20	2025-02-20
C30000537	B	B200-HSB-001	Verify for each HVAC panel a perfect correspondence between tag reported on P&IDs and HMIs. During SAT some TAGs were bot	Update and issue final P&IDs on fusion live and update PLC software to hace a perfect match between P&IDs and HMIs.	Implemented	SLinari 2024-10-30	Vendor 2025-02-25	SLinari 2025-02-25	2025-02-25
C30000917	B	84315-CEL C10000591	Missing cable tag , cabinet input B200-HSB-001.	.		APolo 2024-11-25	2025-02-21	APolo 2025-02-21	2025-02-21
C30000920	B	84315-CEL C10000591	Missing the cross-ferruling (Cores) . Cabinet side B200-HSB-001 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-25	2025-02-15	AAndreani 2025-02-15	2025-02-15

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PUNCH LIST REPORT

SYSTEM 77 Heating & Ventilation

SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000549	A	B200-HSB-001	Make temperature and differental pressure trends visible on all HMIs	Update PLC software to apply the request	Implemented by Vendor	SLinari 2024-10-30	Vendor 2025-02-20	SLinari 2025-02-20	2025-02-20
C30000015	B	B-200	Handles fixed on external doors are made of plastic material. Temporary key cylinder and handles to be replaced with the ones made of SS		DONE	SLinari 2024-08-02	SLinari 2025-02-06	SLinari 2025-02-06	2025-02-06
C30000019	B	B-200	Master key (common for all modules) to be provided		DONE	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000047	B	B-200	Some brass cable glands are overtightened and need to be untightened to avoid cold flow of cables. Will be performed a spot check at RM		CHECKED CEMBRE INSTALLATION MANUAL - ACCEPTED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000541	B	B-200	During SAT drainage pipes were not completely installed, incluede heat tracing and related connection to JB.	The work described has to be concluded. During commissioning heat tracing will be tested	Verified	SLinari 2024-10-30	Vendor 2025-02-20	SLinari 2025-02-20	2025-02-20
C30000545	B	B-200	None pressure relief damper HDR-77-201 work properly as per design conditions. They remain closed even thogh inside the shelters more then	Investigate the malfunction with the manufacturer and take corrctive actions to adjust or replace the pressure relief request.	The damper HDR-77-102 has been adjusted. Inside the shelter a constant pressure	SLinari 2024-10-30	GDelmissier 2025-05-09	GDelmissier 2025-05-09	2025-05-09
C30000553	B	B-200	Several doors present a not perfect closure on the three deadbolts, probably due to a misalignment.	Check the doors and fix the closure issue. This activity vould be done during commissioning activities.		SLinari 2024-10-30			
C30000557	B	B-200	Since the drainage pipe and heating cable datasheet have not yet been sent to RM, the suitability of the materials used cannot be verified.	Submit both the drainage pipe and heating cable datasheet (by inserting them HVAC COMPONENTS LIST AND DS - E&I	COMPONENTS LIST AND DS - E&I SHELTERS has been re issued and approved	SLinari 2024-10-30	Vendor 2025-04-04	SLinari 2025-04-04	2025-04-04
C30000561	B	B-200	Most of documntation is still in draft form. All documents must be finalized and approved by RM before commissioning activities. During	Review and issue al documentation by 15/11/2024 to allow for finalization by the end of november 2024, accounting fot the time	all documentation has been re issued and approved by vendor, in particulat	SLinari 2024-10-30	Vendor 2025-04-04	SLinari 2025-04-04	2025-04-04

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SYSTEM 77 Heating & Ventilation
SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004325	B	B-200	During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with		Logic implemented and tested	GDelmissier 2025-04-15	GDelmissier 2025-05-15	GDelmissier 2025-05-15	2025-05-15

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SYSTEM 77 Heating & Ventilation

SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000898	A	C-77-XA-002/B400-SIS-001 C10000185	cable is not as specified in project cable schedule. (is a different gray color than what is shown in the project documentation).	.		APolo 2024-11-25	2024-12-05	Gtangianu 2024-12-05	2024-12-05
C30000163	B	B-200 C10002300	Instrument installation to be completed: 77-TP-201	-	POINT CLOSED - INSTRUMENT IS FREE FOR MAINTENANCE	Gtangianu 2024-10-10	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000164	B	B-200 C10002300	77-TP-201 INSTRUMENT IS NOT ACCESIBLE FOR MAINTENANCE.	-	POINT CLOSED - INSTRUMENT IS FREE FOR MAINTENANCE	Gtangianu 2024-10-10	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000616	B	B200-HSB-001/ B400-FGS-003 C10002036	The plastic fixing ties , on external routing cable , to be replaced with stainless steel.	.		APolo 2024-11-19	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30000617	B	B200-HSB-001/ B400-FGS-003 C10002036	Missing the tags plastic project on the cables , cabinet side B400-FGS-002 / Panel B200-HSB-001	.		APolo 2024-11-19	2025-02-21	JKrizanic 2025-02-21	2025-02-21
C30000618	B	B200-HSB-001/ B400-FGS-003 C10002036	Missing the cross-ferruling (Cores + Shields) . cabinet side B400-FGS-002 / Panel B200-HSB-001 . (see document	.		APolo 2024-11-19	2025-02-21	JKrizanic 2025-02-21	2025-02-21
C30000619	B	B200-HSB-001/ B400-FGS-003 C10002036	Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-002 : cables	.		APolo 2024-11-19	2025-02-21	JKrizanic 2025-02-21	2025-02-21
C30000683	B	C-77-HY-006/77 -HS-006A C10000374	Identification tag wire missing inside C-77-HY-006 connection.	.		Gtangianu 2024-11-21	2024-12-17	Gtangianu 2024-12-17	2024-12-17
C30000690	B	C-77-HY-004/77 -HS-004A C10000368	Vendor HVAC Documentation (1724000049-HV-DA-00065_Rev.1) is not alligned with GA and P&I	.		Gtangianu 2024-11-21	2025-02-15	Ecarotenuto 2025-02-15	2025-02-15

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PUNCH LIST REPORT

SYSTEM	77	Heating & Ventilation
SUBSYSTEM	77-20	HVAC LV Switchgear Room B-200

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000886	B	C-77-XS-002/B400-SIS-001 C10000181	Missing cables tag , cabinet side B200 HVAC / B400-SIS-001	.		APolo 2024-11-25	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30000887	B	C-77-XS-002/B400-SIS-001 C10000181	Missing the cross-ferruling (Cores) . Cabinet side B400-SIS-001 / B-200 HVAC . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-25	2025-04-11	Gtangianu 2025-04-11	2025-04-11
C30000888	B	C-77-XS-002/B400-SIS-001 C10000181	Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-SIS-001	.		APolo 2024-11-25	2025-02-28	AAndreani 2025-02-28	2025-02-28
C30000901	B	C-77-XA-002/B400-SIS-001 C10000185	Missing cables tag , cabinet side B400-SIS-001 / B-200 HVAC	.		APolo 2024-11-25	2025-01-03	Gtangianu 2025-01-03	2025-01-03
C30000902	B	C-77-XA-002/B400-SIS-001 C10000185	Missing the cross-ferruling (Cores) . Cabinet side B400-SIS-001 / B-200 HVAC . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-25	2025-04-11	Gtangianu 2025-04-11	2025-04-11
C30000903	B	C-77-XA-002/B400-SIS-001 C10000185	Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-SIS-001	.		APolo 2024-11-25	2025-02-28	AAndreani 2025-02-28	2025-02-28

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PUNCH LIST REPORT

SYSTEM 77 Heating & Ventilation
SUBSYSTEM 77-20 HVAC LV Switchgear Room B-200

HVAC

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000055	B	B-200	All documentation listed in the SMIR, shall be re-issued in final revision and approved by RM and CW		can be close - refer to PL n. C30000561	SLinari 2024-08-02	SLinari 2025-02-06	SLinari 2025-02-06	2025-02-06
C30000059	B	B-200	The items to be installed at RM site are coalescent filters and fire dampers. To be completed at RM yard		INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000069	B	B-200	TAG in front panels to be updated following last document revisions. All TAG traffolyte labels to be completely checked; several are missing. They		INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000073	B	B-200	All balancing and setting activities to be done on site. !t was not possible during FAT due to HVAC system installation not completed. Ali		PERFORMED - SEE REPORTS	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000077	B	B-200	Drain pipes and heating cables are missing, since they must be necessary instalied on site to avoid damages. To be completed at RM yard		INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29
C30000081	B	B-200	Duct insulation and cladding to be completed on site; it's needed to cover all duct junctions. Alex Sistemi will supply ali material, RM will install it		INSTALLED	SLinari 2024-08-02	SLinari 2024-10-29	SLinari 2024-10-29	2024-10-29

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SYSTEM	77	Heating & Ventilation
SUBSYSTEM	77-20	HVAC LV Switchgear Room B-200

Telecom									
CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000787	B	B200-HSB-001/ B400-NET-001 C10004354	Identification tag wires missing both side the B100-HSB-001/B400-NET-001 connections.	.		Gtangianu 2024-11-22	2025-02-26	Gtangianu 2025-02-26	2025-02-26