CROSSWIND

TECHNICAL QUERY
Hollandse Kust Noord

No. TQ :	CW-BALL-TQ-0001	Rev:	A

Originating Party	Crosswind					
Subject	Electrical data from CPI					
Author	Stephen Bremner	TQ Aconex unique number: CWHKN-INN-BPH-TQ-00011				
Interface TQ - from	Rosetti	TQ interface source Aconex unique number: ROSMA-INN-BPH-TQ-00028				
Type	Query			Interface		
	Deviation		x	Derogation (SHALL[PS])		
	Note: No deviations nor derogations which have an adverse effect on HSSE will be granted					
Workpackage						
Area(s) of application	Design & Eng.	x	Procurement		Construction	
	Commissioning		Operations		Other	
Issue date	20/09/2023		Urgent reply 5 days	X	Routine reply 10 days	
Close-out date	22-12-2023					
Closed-out by	ROS/WT		TQ status:		Closed-out	

1. Description

Reference documents / Aconex unique numbers:

Contractor kindly asks to receive following information from CPI vendors necessary to perform system study of the platform:
Fuel Cell:

1) Vector group of the transformer of 1.25 MVA
2) Impedance of the transformer of 3.15 MVA
3) Detailed Electrical Load List

2. Response

Reference documents / Aconex unique numbers

1) Single Line Diagram - K559-2254-CWIWP4202202-C06-001Rev004

Regarding Question:

1) Vector group of transformer "=BA30+DA03-TA30" is Dyn11 – preliminary nameplate from mfg attached.
2) Ballard scope of supply does not include any 3,15 MVA transformer. Please indicate on single line diagram which transformer is meant.
3) Expected electrical Loads are:

This communication is issued for the recipient's information and to facilitate the obligations of the Parties under the Contract. This communication has no authority to amend or vary the Contract nor relieve either Party of any duties, obligations or responsibilities.

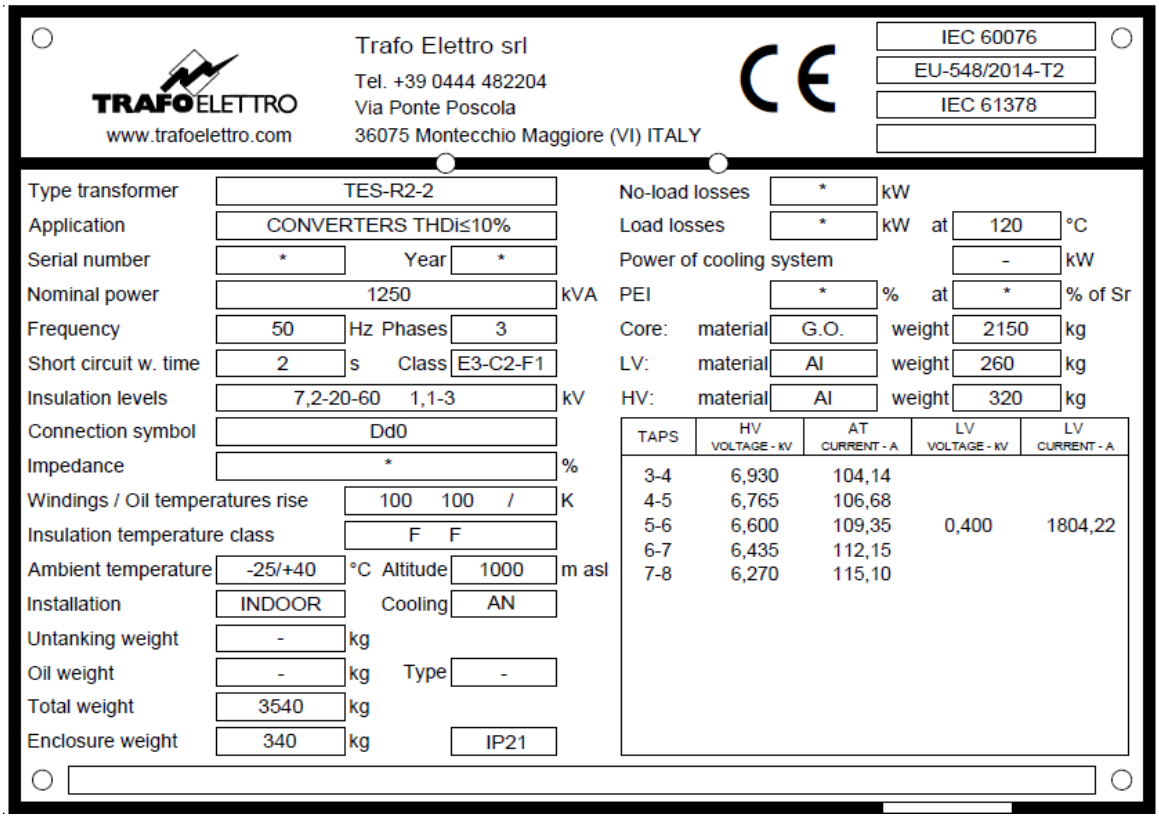
Table 1.

Container State	Power from AUX Connection (400V 3p)	Power from MV Connection (6,6kV, 3p)
Idle	3kW + Heating Loss (Table 2)	0 (+ 1,6kW No-Load transformer loss)
Standby	8kW + Heating Loss (Table 2)	0 (+ 1,6kW No-Load transformer loss)
Operating	0 (Self powered)	Exporting power
Startup/Shutdown	8kW	10-30kW

Table 2.

Ambient Temperature	Expected Heating Loss, 40ft	Expected Heating Loss, 10ft	Total Heating Loss, 40+10 ft
-20	7,6 kW	2,3 kW	9,9 kW
-15	6,2 kW	2,0 kW	8,2 kW
-10	4,8 kW	1,4 kW	6,2 kW
-5	3,4 kW	< 1 kW	4 kW
0	2,0 kW	< 1 kW	3 kW
5	< 0,5 kW	< 0,5 kW	1 kW
>5	0	0	0

Attachment 1 – Preliminary nameplate for 1,25MVA transformer.



TRAFOELETTRO
www.trafoelettro.com

Trafo Elettro srl
Tel. +39 0444 482204
Via Ponte Poscola
36075 Montecchio Maggiore (VI) ITALY

CE

IEC 60076
EU-548/2014-T2
IEC 61378

Type transformer	TES-R2-2			No-load losses	*	kW			
Application	CONVERTERS THDi≤10%			Load losses	*	kW	at	120	°C
Serial number	*	Year	*	Power of cooling system				-	kW
Nominal power	1250	kVA		PEI	*	%	at	*	% of Sr
Frequency	50 Hz	Phases	3	Core: material	G.O.		weight	2150	kg
Short circuit w. time	2 s	Class	E3-C2-F1	LV: material	Al		weight	260	kg
Insulation levels	7,2-20-60 1,1-3	kV		HV: material	Al		weight	320	kg
Connection symbol	Dd0								
Impedance	*	%							
Windings / Oil temperatures rise	100 100 /	K							
Insulation temperature class	F F								
Ambient temperature	-25/+40 °C	Altitude	1000 m asl						
Installation	INDOOR	Cooling	AN						
Untanking weight	- kg								
Oil weight	- kg	Type	-						
Total weight	3540 kg								
Enclosure weight	340 kg		IP21						

TAPS	HV VOLTAGE - kV	AT CURRENT - A	LV VOLTAGE - kV	LV CURRENT - A
3-4	6,930	104,14		
4-5	6,765	106,68		
5-6	6,600	109,35	0,400	1804,22
6-7	6,435	112,15		
7-8	6,270	115,10		

This communication is issued for the recipient's information and to facilitate the obligations of the Parties under the Contract. This communication has no authority to amend or vary the Contract nor relieve either Party of any duties, obligations or responsibilities.