Date: 12 July 2018

Clarification to ITB PAL-0000046488/ Addendum No. 2

PAL 10-00047395: Construction of Khan Younis Waste Water Treatment Plant (KY WWTP)

ITB: PAL-0000046488 - Construction of Main Electrical Power Supply Line

ITB PAL-0000046488:	Construction of Main Electrical Power Supply Line (KY WWTP)
Issue Date:	25 June 2018
Initial Bids Submission Date:	18 July 2018 @ or before 12:00 hrs (Jerusalem Time)
Extended Bids Submission Date:	22 July 2018 @ or before 12:00 hrs (Jerusalem Time)

Dear Bidders,

The following is considered as addendum No. 2 to the ITB: PAL-0000046488, which shall be deemed to form, be read as part of the tender.

Upon the request of GEDCO, the following documents stated in the Tender Documents, VOLUME 4 – ADDITIONAL DOCUMENTS PROVIDED BY THE EMPLOYER, PART 1 – ADDITIONAL DOCUMENTS PROVIDED BY GEDCO, TECHNICAL SPECIFICATIONS FOR DISTRIBUTION TRANSFORMERS have been modified:

1. Technical Guarantees No. IDT_1600S, 22/0.4 KV Low Losses, 3 phase, Indoor Distribution Transformer 1600 KVA Rating with Silicon Oil (pages 1/5 - 5/5).
2. Technical Guarantees No. IDT_630S, 22/0.4 KV Low Losses, 3 phase, Indoor Distribution Transformer 630 KVA Rating with Silicon Oil (pages 1/6 - 6/6).

The above-mentioned documents shall be replaced by the following and attached new documents:

1. Technical Guarantees No. IDT_1600, 22/0.4 KV Low Losses, 3 phase, Indoor Distribution Transformer 1600 KVA Rating (pages 1/5 - 5/5 + one sheet indicative drawing).
2. Technical Guarantees No. IDT_630, 22/0.4 KV Low Losses, 3 phase, Indoor Distribution Transformer 630 KVA Rating ((pages 1/4 - 4/4 + one sheet indicative drawing).

Please consider these new documents as part of the Tender Documents and shall cancel and supersede the previous ones:

Accordingly, the last part of item 33 of the Bill of Quantities (….**Technical Guarantees No. IDT_630S**) shall be replaced and read (…. **Technical Guarantees No. IDT_630**).

The last part of item 34 in the Bill of Quantities (….**Technical Guarantees No. IDT_1600S**) shall be replaced and read (…. **Technical Guarantees No. IDT_1600**).

To enable the bidders to comport with this modification, please be informed the following:

1. The Original Bids Submission Date of the ITB under subject has been extended to read 22 July 2018 @ or before 12:00hr (Jerusalem Time).

2. Opening of Bids of the ITB under subject has been extended to read 22 July 2018 @ 12:30hr (Jerusalem Time).

The bidders shall acknowledge receipt of this Addendum No.2 and the related attachments by including them, signed and stamped, with their bids.

For your kind attention and reference,

Sincerely Yours,

Khaled Shahwan
Deputy Special Representative (Operations)
United Nations Development Programme (UNDP/PAPP)

Technical Guarantees No. IDT_1600

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 1600 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		IEC 60076 or DIN42500			
4	Type		3 phase oil-immersed Hermetically Sealed			
5	Continuous Maximum Rating (C.M.R)	KVA	1600			
6	Rated Frequency	Hz	50			
7	Cooling method		ONAN			
8	**Normal Voltage Between Phases at No Load**					
	a) H.V	Volts	22000			
	b) L.V	Volts	400			
9	**Connection and Vector Group**					
	a) H.V Winding		Delta			
	b) L.V Winding		Star			
	c) Vector Group		Dyn11			
10	**Tapping Range on H.V Side**					
	a) Rating of the Tap change		**+1x2.5% -3x2.5%**			
	b) Type of Tap Changer		Off Load			
11	**Losses (Low Losses Type)**					
	a) No-load losses	Watts	1700 (Zero Tolerance)			
	b) Load losses at 75C^{o}	Watts	14000 (Zero Tolerance)			
12	Max. Impedance Voltage of Short Circuit at 75 ^{o}C	%	6			

Technical Guarantees No. IDT_1600

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 1600 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
13	**Voltage Drop at Full Load**					
	a) at unity Power Factor (Cosφ = 1)	%	1.095			
	b) at 0.8 Power Factor (Cosφ = 0.8)	%	4.38			
14	**Efficiency at full load**					
	a)at unity Power Factor (Cosφ = 1)	%	98.99			
	b)at 0.8 Power Factor (Cosφ = 0.8)	%	98.74			
15	**Max Temperature rise at C.M.R**					
	a) Top Oil by Thermometer	^{o}C	45			
	b) Average Winding by Resistance	^{o}C	50			
	c) Hot Spot Corresponding to (b)	^{o}C	98			
16	**Insulating Voltage Level**					
	a) Rated lighting – Impulse withstand Voltage 1.2/50 µs (Peak Value)	kV	125			
	b) Rated Duration Power Frequency withstand Voltage 1 min (r.m.s Value)	kV	50			
17	Material thermal class insulation (According IEC 60085)		Class A			
18	**Overloading**					
	a) Minimum Duration of %133 Overloading at 30C^{o} Ambient Temperature and Preload 75% F.L	Min.	240			
	b) Minimum Duration of %150 Overloading at 30C^{o} Ambient Temperature and Preload 75% F.L	Min.	98			
19	**Winding Conductor Material**					
	a) H.V winding		high conductivity electrolytic copper			
	b) L.V winding		high conductivity electrolytic copper			

Technical Guarantees No. IDT_1600

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 1600 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
20	**Type of insulation**					
	a) H.V winding		Diamond pattern Kraft paper			
	b) L.V winding		Diamond pattern epoxy coated Kraft paper			
21	**Type of Bushing**					
	a) H.V Plug in Bushing		Euromold K180-AR3			
	b) L.V Bushing (with drilled hole 4x Ø14 mm Brass Flag)		DT3150			
22	Installation		Indoor			
23	Noise level at 0.3 m (Lwa)	dB	≤ 66			
24	**Transformer Oil (as Standard IEC60296:3.0)**					
	a) Kinematic Viscosity , at 40 ^{o}C	mm^2/s	8			
	b) Density, at 20 ^{o}C	kg/dm^3	≤ 0.895			
	c) Breaking Voltage before Treatment	KV	≥30			
	d) Breaking Voltage After Treatment	KV	>60			
	e) Environmental Requirements		Polychlorinated biphenyls (PCBs) Free			
	f) Type		Nytro 10XN or Equivalent			
25	Oil weight	Kg	shall be filled by manufacturer			
26	Total weight	Kg	shall be filled by manufacturer			

Technical Guarantees No. IDT_1600

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 1600 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
27	**Internal Dimensions**					
	a) Winding Length and shape of the windings	mm	shall be filled by manufacturer			
	b) Space Between the Windings	mm	Bigger than 20 mm			
	c) Space between Windings and Transformer Top Body	mm	Bigger than 40 mm			
	e) Space between Windings and Transformer Side Body	mm	shall be filled by manufacturer			
28	**Overall Dimensions**					
	a) Height	mm	shall be filled by manufacturer			
	b) Length	mm	shall be filled by manufacturer			
	c) Width	mm	shall be filled by manufacturer			
	e) Space Between Wheel Centers	mm	shall be filled by manufacturer			
29	**Accessories**					
	a) Oil Filling Opening		Required			
	b) Manual Ball Oil Drain Valve with Sampling Devices		Required			
	c) Grounding Terminals		Required			
	d) Diagram and Name Plate		Required			
	e) Thermometer Pocket		Required			
	f) Lifting lugs		Required			
	g) Safety Valve (over Pressure Relief Device)		Required			
	h) Wheels		Required			
	i) DGPT (Combined Gas-Pressure Temperature Relay) or R.I.S. (Integrated Safety detector) Including Oil Level Indicator		Required			
30	Short Circuit withstand ability test Certificates/Reports from internationally reputed testing agency		Required			

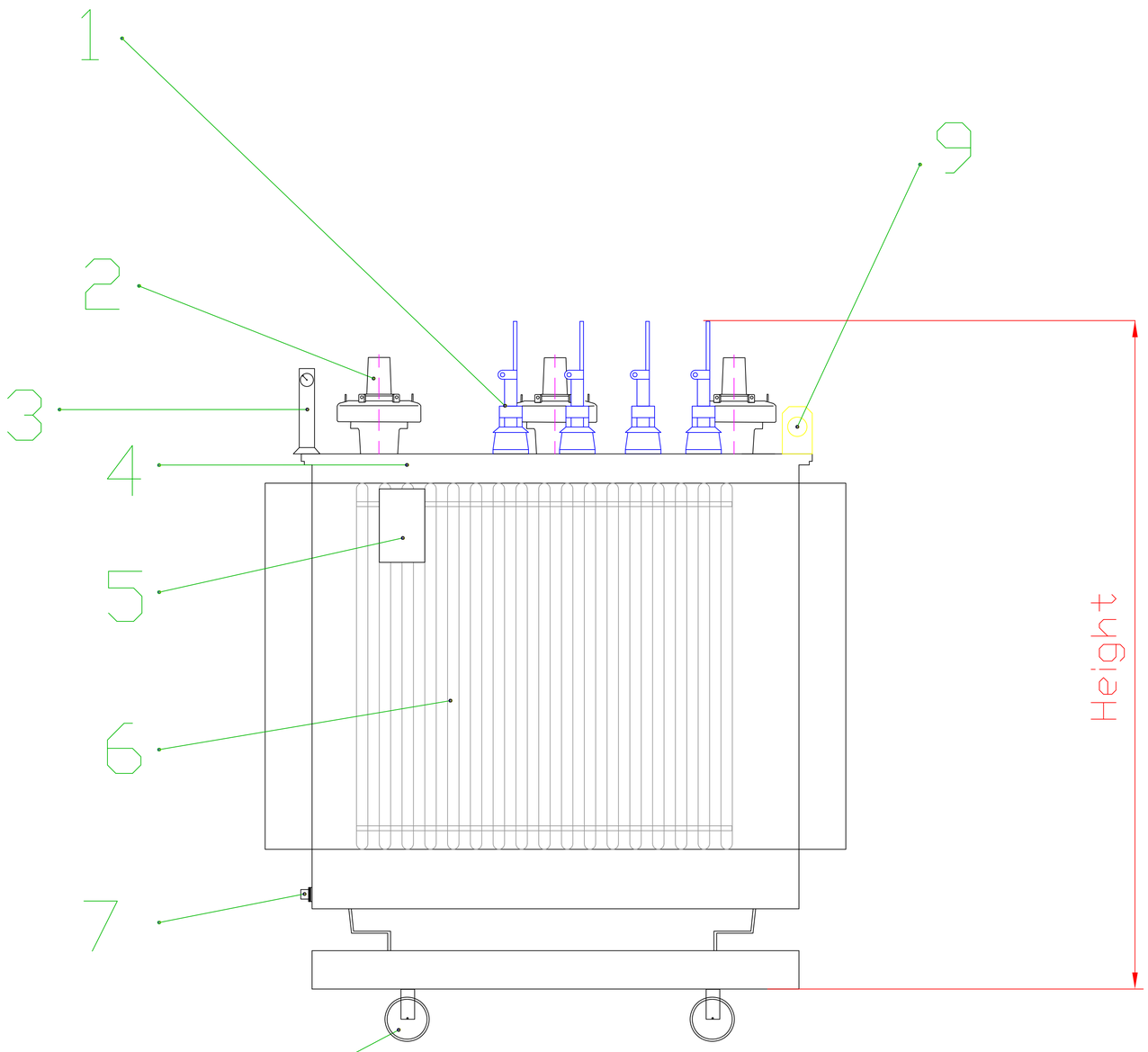
Technical Guarantees No. IDT_1600

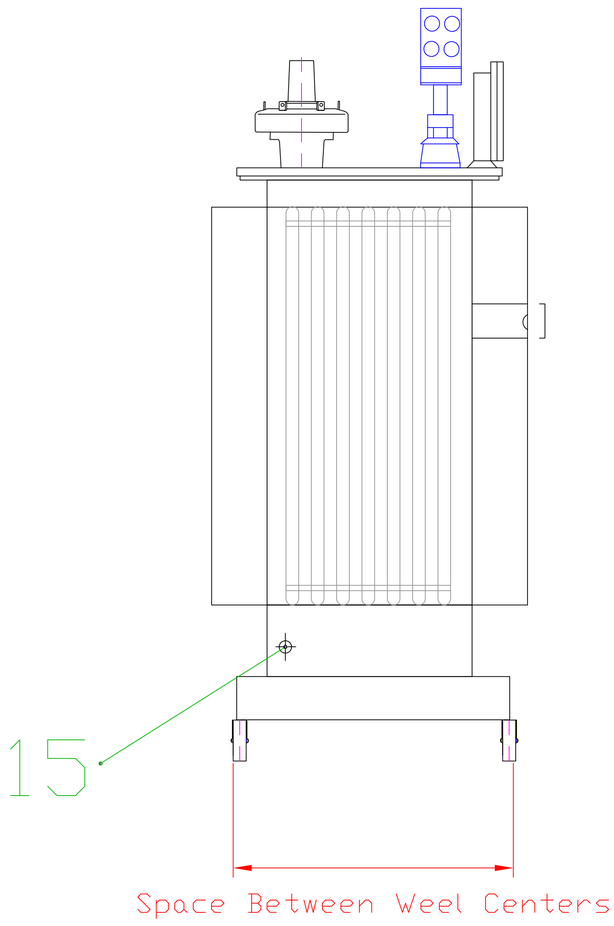
22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 1600 KVA Rating

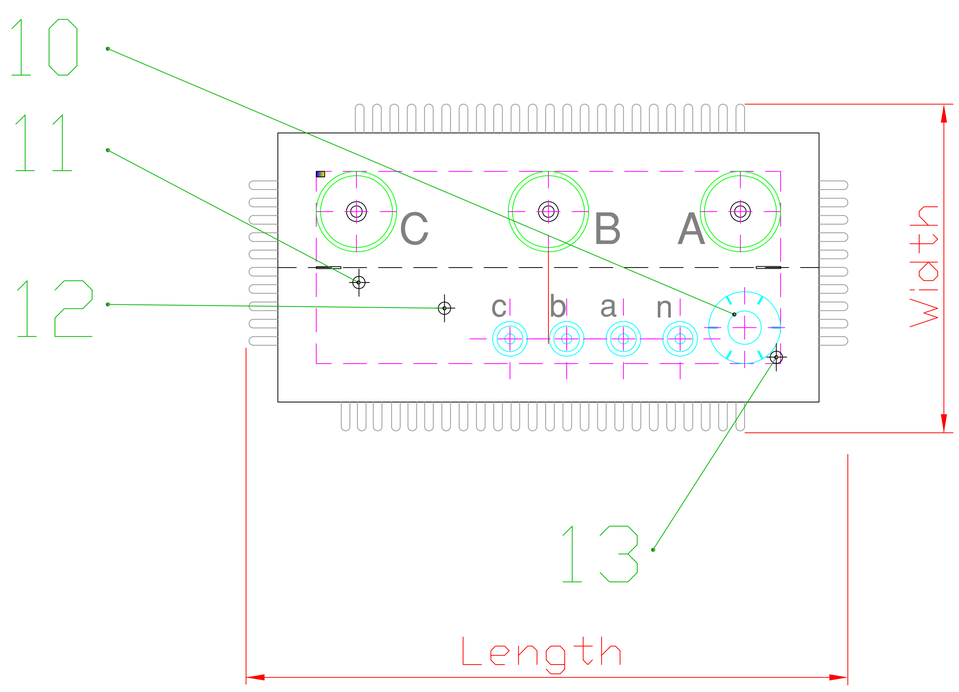
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
31	Type, Acceptance, Overload capacity & Routine tests witnessed by Beneficiary		Required			
32	Attached Drawing		Drawing No IDT_1600			

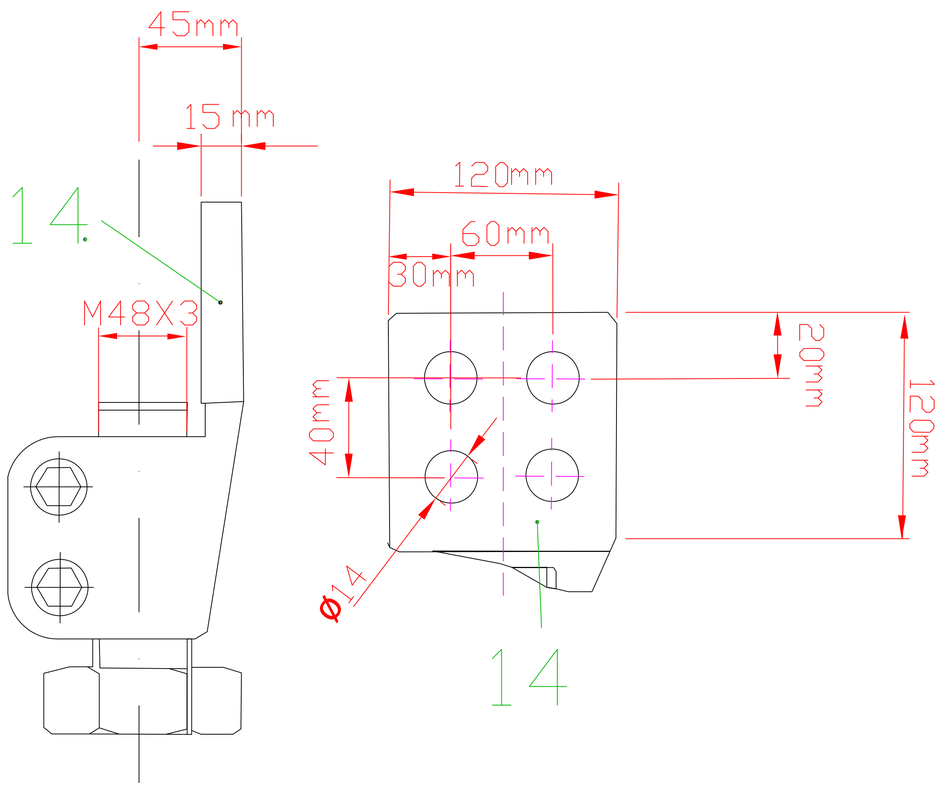
Tenderer's Signature : ……..... Date: ……

IDT_1600	22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 1600 KVA Rating









1 L.V Bushing

2 H.V Plug in Bushing

3 R.I.S

4 Cover

5 Rating Plate

6 Tank

7 1" Drain Valve

8 Wheels

9 Lifting Lugs

10 Safety Valve

11 Tap Changer

12 Thermometer Pocket

13 Oil Filling Opening

14 Brass Flag for L.V Bushing

15 Grounding Terminal

Prepared by: Eng. Wael Ahmed Ismail Elhefni

Technical Guarantees No. IDT_630

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 630 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		IEC 60076 or DIN42500			
4	Type		3 phase oil-immersed			
5	Continuous Maximum Rating (C.M.R)	KVA	630			
6	Rated Frequency	Hz	50			
7	Cooling method		ONAN			
8	**Normal Voltage Between Phases at No Load**					
	a) H.V	Volts	22000			
	b) L.V	Volts	400			
9	**Connection and Vector Group**					
	a) H.V Winding		Delta			
	b) L.V Winding		Star			
	c) Vector Group		Dyn11			
10	**Tapping Range on H.V Side**					
	a) Rating of the Tap change		**+1x2.5% -3x2.5%**			
	b) Type of Tap Changer		Off Load			
11	**Losses (Low Losses Type)**					
	a) No-load losses	Watts	900 (Zero Tolerance)			
	b) Load losses at 75C^{o}	Watts	5100 (Zero Tolerance)			
12	Max. Impedance Voltage of Short Circuit at 75 ^{o}C	%	4			
13	**Voltage Drop at Full Load**					
	a) at unity Power Factor (Cosφ = 1)	%	1.11			

Technical Guarantees No. IDT_630

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 630 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
	b) at 0.8 Power Factor (Cosφ = 0.8)	%	3.17			
14	**Efficiency at full load**					
	a)at unity Power Factor (Cosφ = 1)	%	98.76			
	b)at 0.8 Power Factor (Cosφ = 0.8)	%	98.45			
15	**Max Temperature rise at C.M.R**					
	a) Top Oil by Thermometer	^{o}C	45			
	b) Average Winding by Resistance	^{o}C	50			
	c) Hot Spot Corresponding to (b)	^{o}C	98			
16	**Insulating Voltage Level**					
	a) Rated lighting – Impulse withstand Voltage 1.2/50 µs (Peak Value)	kV	125			
	b) Rated Duration Power Frequency withstand Voltage 1 min (r.m.s Value)	kV	50			
17	Material thermal class insulation (According IEC 60085)		Class A			
18	**Overloading**					
	a) Minimum Duration of %133 Overloading at 30C^{o} Ambient Temperature and Preload 75% F.L	Min.	240			
	b) Minimum Duration of %150 Overloading at 30C^{o} Ambient Temperature and Preload 75% F.L	Min.	98			
19	**Winding Conductor Material**					
	a) H.V winding		high conductivity electrolytic copper			
	b) L.V winding		high conductivity electrolytic copper			
20	**Type of insulation**					
	a) H.V winding		Diamond pattern Kraft paper			

Technical Guarantees No. IDT_630

22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 630 KVA Rating

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
	b) L.V winding		Diamond pattern epoxy coated Kraft paper			
21	**Type of Bushing**					
	a) H.V Plug in Bushing		Euromold K180-AR3			
	b) L.V Bushing (with drilled hole 4x Ø14 mm Brass Flag)		DT2000			
22	Installation		Indoor			
23	Noise level at 0.3 m (Lwa)	dB	≤ 60			
24	**Transformer Oil (as Standard IEC60296:3.0)**					
	a) Kinematic Viscosity , at 40 ^{o}C	mm^2/s	8			
	b) Density, at 20 ^{o}C	kg/dm^3	≤ 0.895			
	c) Breaking Voltage before Treatment	KV	≥30			
	d) Breaking Voltage After Treatment	KV	>60			
	e) Environmental Requirements		Polychlorinated biphenyls (PCBs) Free			
	f) Type		Nytro 10XN or Equivalent			
25	Oil weight	Kg	shall be filled by manufacturer			
26	Total weight	Kg	shall be filled by manufacturer			
27	**Internal Dimensions**					
	a) Winding Length and shape of the windings	mm	shall be filled by manufacturer			
	b) Space Between the Windings	mm	Bigger than 20 mm			
	c) Space between Windings and Transformer Top Body	mm	Bigger than 40 mm			

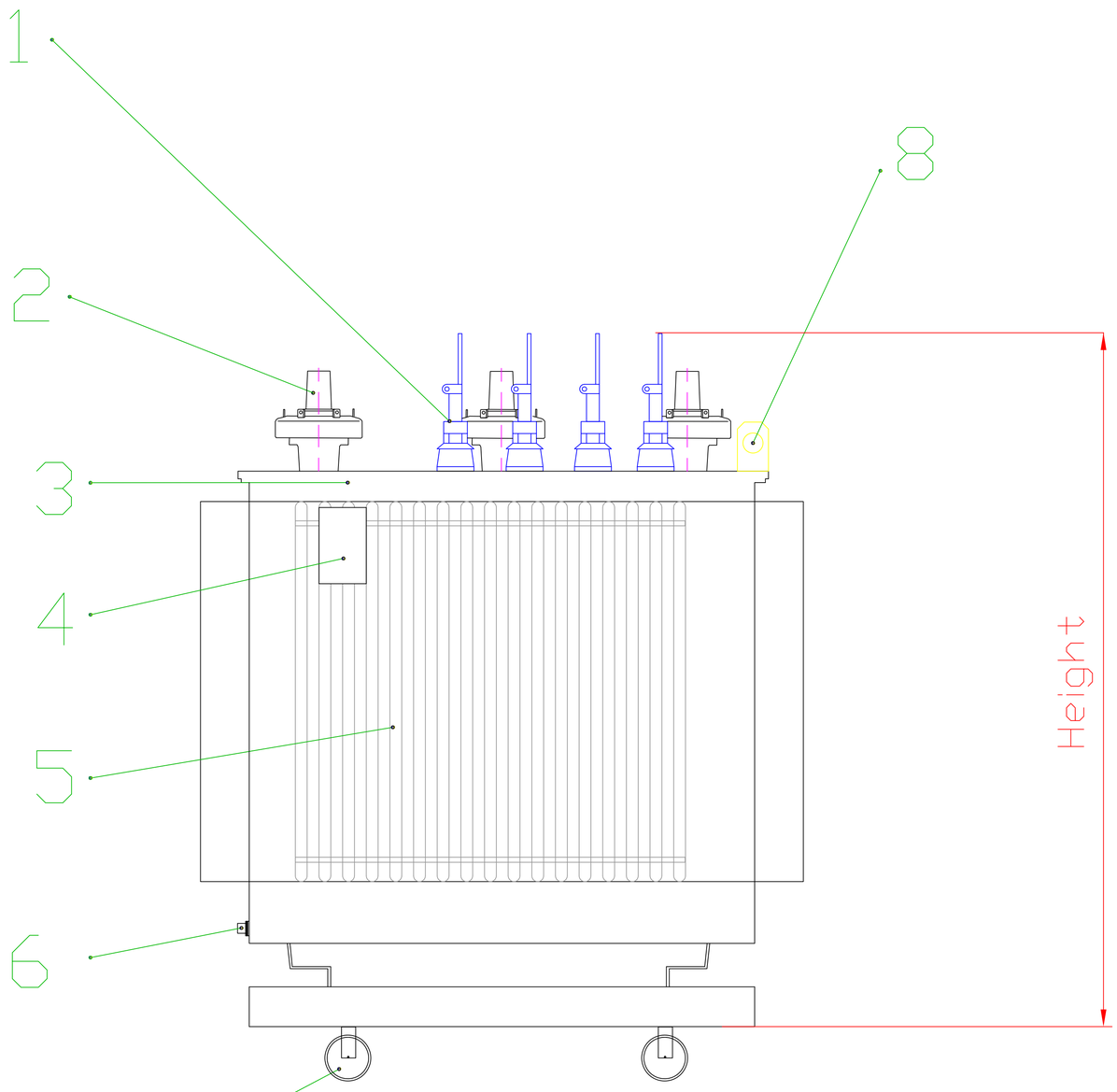
Technical Guarantees No. IDT_630

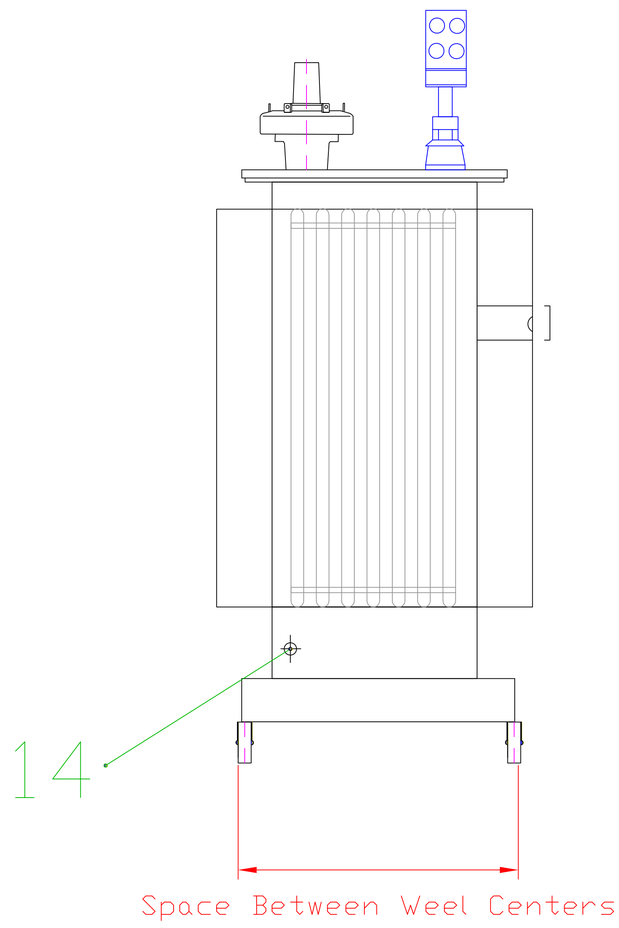
22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 630 KVA Rating

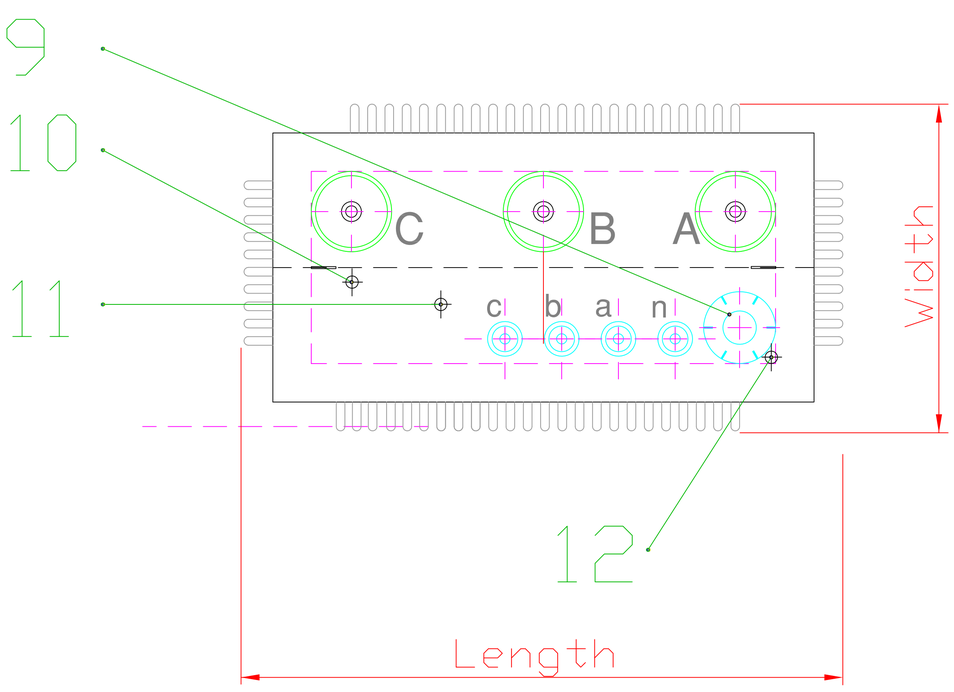
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
	e) Space between Windings and Transformer Side Body	mm	shall be filled by manufacturer			
28	**Overall Dimensions**					
	a) Height	mm	shall be filled by manufacturer			
	b) Length	mm	shall be filled by manufacturer			
	c) Width	mm	shall be filled by manufacturer			
	e) Space Between Wheel Centers	mm	shall be filled by manufacturer			
29	**Accessories**					
	a) Oil Filling Opening		Required			
	b) Manual Ball Oil Drain Valve with Sampling Devices		Required			
	c) Grounding Terminals		Required			
	d) Diagram and Name Plate		Required			
	e) Thermometer Pocket		Required			
	f) Oil Level Indicator		Required			
	g) Lifting lugs		Required			
	h) Safety Valve (over Pressure Relief Device)		Required			
	i) Wheels		Required			
	j) Oil temperature indicator with Ability to Connection with SCADA System for Indication		Required			
30	Short Circuit withstand ability test Certificates/Reports from internationally reputed testing agency		Required			
31	Type, Acceptance, Overload capacity & Routine tests witnessed by Beneficiary		Required			
32	Attached Drawing		Drawing No IDT_630			

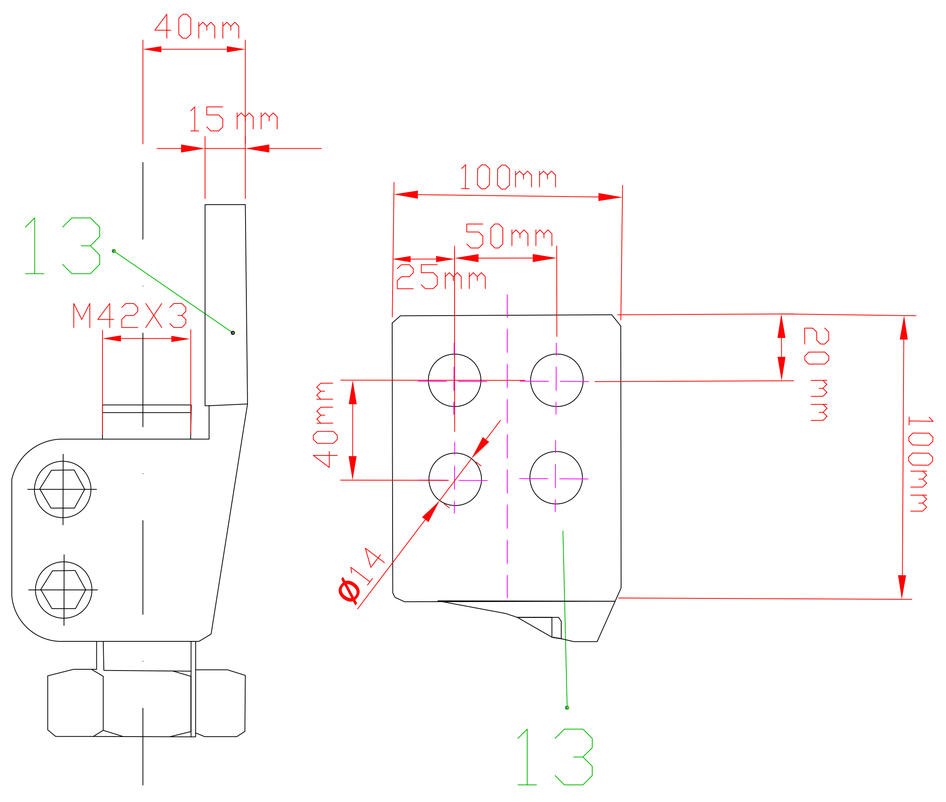
Tenderer's Signature : ……..… Date: ……

IDT_630	22/0.4 KV Low Losses , 3 phase , Indoor Distribution Transformer 630 KVA Rating









1	L.V Bushing
2	H.V Plug in Bushing
3	Cover
4	Rating Plate
5	Tank
6	1" Drain Valve
7	Wheels
8	Lifting Lugs
9	Safety Valve
10	Tap Changer
11	Thermometer Pocket
12	Oil Filling Opening
13	Brass Flag for L.V Bushing
14	Grounding Terminal

Prepared by: Eng. Wael Ahmed
Ismail Elhefni