

Amendment of Tender Document (3rd)

Tender Name: Procurement of Transformer Oil Centrifuging Machine for NESCO Ltd.

Invitation Reference No.: 27.29.0000.012.07.028.21-709, Date: 02/06/2021

A. Amendment at Technical Specifications: Section-07

Existing As:

7.5 Technical Specifications:

1	Nominal flow during treatment	Liters/ hours	6000
2	Trailer system (road speed trailer) (Minimum)	Km/h	80
3	Application		The oil treatment plants has been designed to treat dielectric oil having a 50 ppm moisture content and a dissolved gas content of approx. 10% by volume before being treated. After getting the optimal treatment conditions, the clean treated oil goes out after 1 pass at a maximum temperature of 70°C with moisture content between 10 and 5 ppm and a dissolved gas content of approximately 0.1% by volume. The breakdown voltage of the oil will be in excess of 75 KV after treatment. Under the same conditions oil at 20 ppm will go out at 3 ppm after 1 pass. The above figures are reached with oils having a 10-2 mbar distillation curve at a temperature of 80°C.
4	Principle of operation		The dielectric fluid enters in the plant through an inlet strainer, and then passes through an inlet oil pump and into an oil heater, where it is heated by immersion heaters. After a fine filtration on cartridge, the dielectric fluid is sprayed into a vacuum chamber on a basket of Raschig rings. Finally, after the contaminants are eliminated, the clean treated fluid flows through the outlet oil pump.
5	Main characteristics		
	a) Nominal flow during treatment	L/h	6000
	b) Total heating power (Maximum)	kW	100 (maximum)
	c) Total power (Maximum)	kW	114 (maximum)
	d) Filtration; by cartridges in nominal	µm	1
	e) Limit vacuum	mbars	< 0.5
	f) Vacuum during treatment	mbars	< 2
g) Input power supply		415 Volts 3 phases 50 Hz and auxiliary operation in 220 Volts	
6	Inlet oil motor-pump:		
	a) Maxi flow of the pump	L/h	6600-9500
	b) Pump		9000 L/h Centrifugal (Non Self priming)
	c) Height of discharge (Maximum)	mCE	50 (maximum)
	d) Motor power (Maximum)	kW	2.2 (Maximum)
	e) Pump Building		Cast iron/steel
	f) Rotation speed	rpm	To be mentioned
g) Connection diameter:	mm	40	
7	Heater:		
	a) Total Heating power (Maximum)	kW	100 (Maximum)
	b) Number of thermo dippers	Nos	To be mentioned
c) Power of element	kW	15 (Maximum)	

	(Maximum)		
8	Filtering system		
	a) Number of cartridges		To be mentioned
	b) Filter building		Cast iron/steel
	c) Clogging control		Pressure indicators
9	Vacuum motor-pump:		
	a) Flow (Maximum)	m ³ /h	240
	b) Limit vacuum	mbars	<0.5
	c) Motor power (Maximum)	kW	5.5
	d) Rotation speed (Maximum)	Rpm	To be mentioned
	e) Lubricating Oil capacity maximum	Litre	8.5
	f) Vacuum measure	-	Sensors with digital display on panel
	g) Auxiliary vacuum connection (maximum)	-	50 mm
10	Outlet oil vacuum motor-pump:		
	a) Maximum Flow of the pump	L/h	6600
	b) Pump	-	7000 L/h Centrifugal
	c) Height of Discharge	mCE	50 (maximum)
	d) Motor Power (Maximum)	kW	2.2 (maximum)
	e) Rotation Speed	rpm	To be mentioned
	f) Pump Building		Cast iron/bronze
	g) Connection Diameter (Maximum)	mm	40
11	Control Panel	-	The standard oil treatment plants are equipped with an industrial water proof type cabinet in planted steel, with contactors, relays, fuses, connectors and wires necessary for the equipment running. On the door, there's the buttons and warning light of the different equipment components.
12	Finishing painting	-	The standard oil treatment plants are painted in white for the system & in blue for the platform.

Shall be Amended As:

1	Nominal flow during treatment	Liters/hours	6000
2	Trailer system (road speed trailer)	Km/h	80 (minimum)
3	Application		The oil treatment plants has been designed to treat dielectric oil having a 50 ppm moisture content and a dissolved gas content of approx. 10% by volume before being treated. After getting the optimal treatment conditions, the clean treated oil goes out after 1 pass at a maximum temperature of 70°C with moisture content less than 5 ppm and a dissolved gas content of approximately 0.1% by volume. The breakdown voltage of the oil will be in excess of 75 KV after treatment. Under the same conditions oil at 20 ppm will go out at 3 ppm after 1 pass.
4	Principle of operation		The dielectric fluid enters in the plant through an inlet strainer, and then passes through an inlet oil pump and into an oil heater, where it is heated by immersion heaters. After a fine filtration on cartridge, the dielectric fluid is sprayed into a vacuum chamber on a basket of Raschig rings. Finally, after the contaminants are eliminated, the clean treated fluid flows through the outlet oil pump.
5	Main characteristics		
	a) Nominal flow during treatment	L/h	6000
	b) Total heating power (Maximum)	kW	100 (maximum)
	c) Total power (Maximum)	kW	114 (maximum)
	d) Filtration; by cartridges in nominal	µm	1
	e) Limit vacuum	mbars	< 0.5
	f) Vacuum during treatment	mbars	< 2

	g) Input power supply		415 Volts 3 phases 50 Hz and auxiliary operation in 220 Volts
6	Inlet oil motor-pump:		
	a) Flow of the pump	L/h	6000 (minimum)
	b) Pump	-	To be mentioned
	c) Height of discharge	mCE	50 (maximum)
	d) Motor power	kW	2.2 (maximum)
	e) Pump Building	-	Cast iron/steel
	f) Rotation speed	rpm	To be mentioned
	g) Connection diameter:	mm	40 (maximum)
7	Heater:		
	a) Total Heating power	kW	100 (maximum)
	b) Number of thermo dippers	Nos	To be mentioned
	c) Power of element	kW	15 (maximum)
8	Filtering system		
	a) Number of cartridges		To be mentioned
	b) Filter building		Cast iron/steel
	c) Clogging control		Pressure indicators
9	Vacuum System	-	Vacuum system consists of Vacuum motor pump and Roots motor-pump
	Vacuum motor-pump:		
	a) Flow	m ³ /h	240 (minimum)
	b) Limit vacuum	mbars	<0.5
	c) Motor power	kW	5.5 (maximum)
	d) Rotation speed	rpm	To be mentioned
	e) Lubricating Oil capacity	Litre	8.5
	f) Vacuum measure	-	Sensors with digital display on panel
	g) Auxiliary vacuum connection	-	50 mm (maximum)
	Roots motor-pump:		
	a) Flow	m ³ /h	1000 (minimum)
	b) Limit vacuum	mbars	<0.5
	c) Motor power	kW	4 (maximum)
	d) Rotation speed	Rpm	To be mentioned
	e) Lubricating Oil capacity	Litre	3.8
	f) Vacuum measure	-	Sensors with digital display on panel
	g) Auxiliary vacuum connection	-	50 mm (maximum)
	10	Outlet oil vacuum motor-pump:	
a) Flow of the pump		L/h	6000 (minimum)
b) Pump		-	To be Mentioned
c) Height of Discharge		mCE	50 (maximum)
d) Motor Power		kW	2.2 (maximum)
e) Rotation Speed		rpm	To be mentioned
f) Pump Building		-	Cast iron/bronze
g) Connection Diameter		mm	40 (maximum)
11	Control Panel	-	The standard oil treatment plants are equipped with an industrial water proof type cabinet in planted steel, with contactors, relays, fuses, connectors and wires necessary for the equipment running. On the door, there's the buttons and warning light of the different equipment components.
12	Finishing painting	-	The standard oil treatment plants are painted in white for the system & in blue for the platform.

B. Amendment at Guaranteed Technical Particulars: Section-08

Existing As:

Guaranteed Technical Particulars (GTP) of Transformer Oil Centrifuging Machine

(To be filled up by the Manufacturer in Manufacturer Letterhead Pad with appropriate data, otherwise the bid shall be rejected.)

Sl No.	Description	Unit	NESCO's Requirements	Manufacturer's Particulars
1	Name of Manufacturer	-	To be mentioned	
2	Model/Type	-	To be mentioned	
3	Reference Standard	-	ANSI/ASTM/IEC or Equivalent Standard.	
4	Country of Origin and Country of Manufacture	-	North America/UK/EU/Australia/Japan	
5	Nominal flow during treatment	Liters /hours	6000	
6	Trailer system (road speed trailer) (Minimum)	Km/h	80	
7	Application	-	The oil treatment plants has been designed to treat dielectric oil having a 50 ppm moisture content and a dissolved gas content of approx. 10% by volume before being treated. After getting the optimal treatment conditions, the clean treated oil goes out after 1 pass at a maximum temperature of 70°C with moisture content between 10 and 5 ppm and a dissolved gas content of approximately 0.1% by volume. The breakdown voltage of the oil will be in excess of 75 KV after treatment. Under the same conditions oil at 20 ppm will go out at 3 ppm after 1 (One) pass. The above figures are reached with oils having a 10-2 mbar distillation curve at a temperature of 80°C.	
8	Principle of operation	-	The dielectric fluid enters in the plant through an inlet strainer, and then passes through an inlet oil pump and into an oil heater, where it is heated by immersion heaters. After a fine filtration on cartridge, the dielectric fluid is sprayed into a vacuum chamber on a basket of coalescers. Finally, after the contaminants are eliminated, the clean treated fluid flows through the outlet oil pump.	
9	Main characteristics			
	a) Nominal flow during treatment	L/h	6000	
	b) Total heating power (Maximum)	kW	100 (maximum)	
	c) Total power (Maximum)	kW	114 (maximum)	
	d) Filtration; by cartridges in nominal	µm	1	
	e) Limit vacuum	mbars	< 0.5	
	f) Vacuum during treatment	mbars	< 2	
	g) Input power supply	-	415 Volts 3 phases 50 Hz and auxiliary operation in 220 Volts	
10	Inlet oil motor-pump:			
	a) Maxi flow of the pump	L/h	6600-9500	
	b) Pump		9000 L/h Centrifugal (Non Self priming)	
	c) Height of discharge (Maximum)	mCE	50 (maximum)	
	d) Motor power (Maximum)	kW	2.2 (Maximum)	
	e) Pump Building	-	Cast iron/steel	
	f) Rotation speed	rpm	To be mentioned	
	g) Connection diameter;	mm	40	
11	Heater:			
	a) Total Heating power (Maximum)	kW	100 (Maximum)	
	b) Number of thermo dippers	Nos	To be mentioned	
	c) Power of element (Maximum)	kW	15 (Maximum)	
12	Filtering system			

	a) Number of cartridges	-	To be mentioned	
	b) Filter building	-	Cast iron/steel	
	c) Clogging control	-	Pressure indicators	
13	Vacuum motor-pump:			
	a) Flow (Maximum)	m ³ /h	240	
	b) Limit vacuum	mbars	<0.5	
	c) Motor power (Maximum)	kW	5.5	
	d) Rotation speed (Maximum)	Rpm	To be mentioned	
	e) Lubricating Oil capacity	Litre	8.5	
	f) Vacuum measure	-	Sensors with digital display on panel	
	g) Auxiliary vacuum connection (maximum)	-	50 mm	
14	Outlet oil vacuum motor-pump:			
	a) Maximum Flow of the pump	L/h	6600	
	b) Pump		7000 L/h Centrifugal	
	c) Height of Discharge	mCE	50 (maximum)	
	d) Motor Power (Maximum)	kW	2.2 (maximum)	
	e) Rotation Speed	rpm	To be mentioned	
	f) Pump Building		Cast iron/bronze	
	g) Connection Diameter (Maximum)	mm	40	
15	Control Panel	-	The standard oil treatment plants are equipped with an industrial water proof type cabinet in plated steel, with contactors, relays, fuses, connectors and wires necessary for the equipment running. On the door, there's the buttons and warning light of the different equipment components.	
16	Finishing painting	-	The standard oil treatment plants are painted in white for the system & in blue for the platform.	
17	Dimension of Plant on road trailer with metallic cover:			
	a) Length	mm	To be mentioned	
	b) Width	mm	To be mentioned	
	c) Height	mm	To be mentioned	
	d) Weight	Kg	To be mentioned	
18	Accessories to be Supplied	-	a) 1 foam regulation system-01 set b) 1 electronic temperature control with digital display c) 2 oil pressure switches mounted at inlet at outlet d) 1 vacuum sensor with digital display on control panel e) 1 set of 2 oil flexible hoses Ø 40, each 10 meters long, with Guillemín connections -01 Set f) 1 vacuum flexible hose Ø 50, 10 meters long, with Guillemín connections -01 Set g) 1 road speed trailer (80 km/h), with hard Protection body, opening panels and access doors-01Set h) 1 electronic filter clogging indicator i) 1 electric valve at oil inlet-01 set j) 1 power supply cable, 10 meter long, with free ends-01 Set k) 1 seaworthy packing SEI IVC NIMP 15-01 Set l) 1 oil flow measuring system at outlet with totalizer and digital display on control panel door m) 1 power phase connection control device-01 set n) Connection outlet to inlet (internal recirculation)-01 Set (not limited to mentioned accessories)	
19	The functional diagram along with components lists, operating instructions, maintenance manuals, manufacturer's catalogue, recommended list of spares for 5 (five) years of operation for the offered type of the unit to be provided with the tender.	-	To be submitted	

Shall be Amended As:

Guaranteed Technical Particulars (GTP) of Transformer Oil Centrifuging Machine

(To be filled up by the Manufacturer in Manufacturer Letterhead Pad with appropriate data, otherwise the bid shall be rejected.)

SI No.	Description	Unit	NESCO's Requirements	Manufacturer's Particulars
1	Name of Manufacturer	-	To be mentioned	
2	Model/Type	-	To be mentioned	
3	Reference Standard	-	ANSI/ASTM/IEC or Equivalent Standard.	
4	Country of Origin and Country of Manufacture	-	USA/Canada/UK/EU/Australia/Japan	
5	Nominal flow during treatment	Liters /hours	6000	
6	Trailer system (road speed trailer)	Km/h	80 (minimum)	
7	Application	-	The oil treatment plants has been designed to treat dielectric oil having a 50 ppm moisture content and a dissolved gas content of approx. 10% by volume before being treated. After getting the optimal treatment conditions, the clean treated oil goes out after 1 pass at a maximum temperature of 70°C with moisture content less than 5 ppm and a dissolved gas content of approximately 0.1% by volume. The breakdown voltage of the oil will be in excess of 75 KV after treatment. Under the same conditions oil at 20 ppm will go out at 3 ppm after 1 (One) pass.	
8	Principle of operation	-	The dielectric fluid enters in the plant through an inlet strainer, and then passes through an inlet oil pump and into an oil heater, where it is heated by immersion heaters. After a fine filtration on cartridge, the dielectric fluid is sprayed into a vacuum chamber on a basket of coalescers. Finally, after the contaminants are eliminated, the clean treated fluid flows through the outlet oil pump.	
9	Main characteristics			
	a) Nominal flow during treatment	L/h	6000	
	b) Total heating power	kW	100 (maximum)	
	c) Total power	kW	114 (maximum)	
	d) Filtration; by cartridges in nominal	µm	1	
	e) Limit vacuum	mbars	< 0.5	
	f) Vacuum during treatment	mbars	< 2	
	g) Input power supply	-	415 Volts 3 phases 50 Hz and auxiliary operation in 220 Volts	
10	Inlet oil motor-pump:			
	a) Flow of the pump	L/h	6000 (minimum)	
	b) Pump	-	To be mentioned	
	c) Height of discharge	mCE	50 (maximum)	
	d) Motor power	kW	2.2 (maximum)	
	e) Pump Building	-	Cast iron/steel	
	f) Rotation speed	rpm	To be mentioned	
	g) Connection diameter:	mm	40 (maximum)	
11	Heater:			
	a) Total Heating power	kW	100 (maximum)	
	b) Number of thermo dippers	Nos	To be mentioned	
	c) Power of element	kW	15 (maximum)	
12	Filtering system			
	a) Number of cartridges	-	To be mentioned	
	b) Filter building	-	Cast iron/steel	

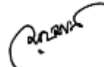
	c) Clogging control	-	Pressure indicators	
13	Vacuum System	-	Vacuum System consists of Vacuum Motor Pump and Roots Motor-Pump	
	Vacuum motor-pump:			
	a) Flow	m ³ /h	240 (minimum)	
	b) Limit vacuum	mbars	<0.5	
	c) Motor power	kW	5.5 (maximum)	
	d) Rotation speed	Rpm	To be mentioned	
	e) Lubricating Oil capacity	Liters	8.5	
	f) Vacuum measure	-	Sensors with digital display on panel	
	g) Auxiliary vacuum connection	-	50 mm (maximum)	
	Roots Motor-Pump:			
	a) Flow	m ³ /h	1000 (minimum)	
	b) Limit vacuum	mbars	<0.5	
	c) Motor power	kW	4 (maximum)	
	d) Rotation speed	Rpm	To be mentioned	
	e) Lubricating Oil capacity	Liters	3.8	
f) Vacuum measure	-	Sensors with digital display on panel		
g) Auxiliary vacuum connection	-	50 mm (maximum)		
14	Outlet oil vacuum motor-pump:			
	a) Flow of the pump	L/h	6000 (minimum)	
	b) Pump	-	To be mentioned	
	c) Height of Discharge	mCE	50 (maximum)	
	d) Motor Power	kW	2.2 (maximum)	
	e) Rotation Speed	rpm	To be mentioned	
	f) Pump Building	-	Cast iron/bronze	
g) Connection Diameter	mm	40 (maximum)		
15	Country of Origin and Country of Manufacture: Inlet oil motor-pump, Vacuum motor-pump, Roots motor-pump and Outlet oil vacuum motor-pump	-	USA/Canada/UK/EU/Australia/Japan	
16	Control Panel	-	The standard oil treatment plants are equipped with an industrial water proof type cabinet in planted steel, with contactors, relays, fuses, connectors and wires necessary for the equipment running. On the door, there's the buttons and warning light of the different equipment components.	
17	Finishing painting	-	The standard oil treatment plants are painted in white for the system & in blue for the platform.	
18	Dimension of Plant on road trailer with metallic cover:			
	a) Length	mm	To be mentioned	
	b) Width	mm	To be mentioned	
	c) Height	mm	To be mentioned	
	d) Weight	Kg	To be mentioned	
19	Accessories to be Supplied	-	a) 1 foam regulation system-01 set b) 1 electronic temperature control with digital display c) 2 oil pressure switches mounted at inlet at outlet d) 1 vacuum sensor with digital display on control panel e) 1 set of 2 oil flexible hoses Ø 40, each 10 meters long, with Guillemin connections -01 Set f) 1 vacuum flexible hose Ø 50, 10 meters long, with Guillemin connections -01 Set g) 1 road speed trailer (80 km/h), with hard Protection body, opening panels and access	

			doors-01Set h)1 electronic filter clogging indicator i) 1 electric valve at oil inlet-01 set j) 1 power supply cable, 10 meter long, with free ends-01 Set k)1 seaworthy packing SEI IVC NIMP 15-01 Set l) 1 oil flow measuring system at outlet with totalizer and digital display on control panel door m)1 power phase connection control device-01 set n) Connection outlet to inlet (internal recirculation)-01 Set (not limited to mentioned accessories)	
20	The functional diagram along with components lists, operating instructions, maintenance manuals, manufacturer's catalogue, recommended list of spares for 5 (five) years of operation for the offered type of the unit to be provided with the tender.	-	To be submitted	

Seal & Signature
of the Manufacturer

Seal & Signature
of the Bidder

Note: This amendment shall be a part of the tender document. All other terms and conditions shall remain unchanged.


 (Md. Mizanur Rahman)
 Superintending Engineer (Procurement)
 NESCO Ltd., Bidyut Bhaban
 Hetem Khan, Rajshahi