



## KENYA ELECTRICITY GENERATING COMPANY PLC

**KGN-OPS-03-2023**

**RFx: 5000012348**

### **TENDER FOR REPAIR, RE-METALING AND MACHINING OF BEARINGS, OIL SEALS AND OIL DEFLECTORS** *Framework Contract for Three (3) Years* **(Open National)**

**Date: 20<sup>th</sup> April, 2023**

#### **Addendum No. 2**

In accordance with the **Tender for Repair, Re-Metaling and Machining of Bearings, Oil Seals and Oil Deflectors**, KenGen issues **Addendum No. 2** as follows:

#### **I. REVISED PRICE SCHEDULES**

##### **Price Schedules A: Re-Metalling and Machining of Bearings**

No.	Descriptions	Qty	UoM	Kes
<b>Olkaria 280 MW Geothermal Power Plants</b>				
1	Re-metaling and machining of Olkaria 280MW Geothermal Power Plants, Turbine Journal Bearings no. 1. Bore diameter 350mm, width 325 mm with white metal 5mm thickness.	1	<b>SET (Upper and lower halves)</b>	
2	Re-metaling and machining of Olkaria 280MW Geothermal Power Plants, Turbine Journal Bearings no. 2. Bore diameter 375 mm, length 325 mm and with 5mm white metal thickness.	1	<b>SET (Upper and lower halves)</b>	
3	Re-metaling and machining of Olkaria 280MW Geothermal Power Plants, Turbine Journal Bearings no. 3. Bore diameter 300 mm, width 325 mm and 5mm white metal thickness.	1	<b>SET (Upper and lower halves)</b>	

4	Re-metaling and machining of Olkaria 280MW Geothermal Power Plants, Turbine Journal Bearings no. 4. Bore diameter 300 mm, width 325 mm and 5mm white metal thickness.	1	SET (Upper and lower halves)	
<b>Olkaria 2 Geothermal Power Plant</b>				
<b>No.</b>	<b>Descriptions</b>	<b>Qty</b>	<b>UOM</b>	<b>KES</b>
5	Re-metaling and machining of Olkaria 2 Geothermal Power Plants, Turbine Tilt Pad Bearings no. 1. Rectangular- X-Section 155mm x 181mm long. White metal thickness 4mm	1	SET (Upper and lower halves)	
6	Re-metaling and machining of Olkaria 2 Geothermal Power Plants, Turbine Tilt Pad Bearings no. 2. Rectangular- X-Section 175mm x 230mm long. White metal thickness 4mm	1	SET (Upper and lower halves)	
7	Re-metaling and machining of Olkaria 2 Geothermal Power Plants, Turbine Journal Bearings no. 3. Bore diameter 270 mm, width of bearing 270 mm and 4mm thickness.	1	SET (Upper and lower halves)	
8	Re-metaling and machining of Olkaria 2 Geothermal Power Plants, Turbine Journal Bearings no. 4. Bore diameter 270 mm, width of bearing 270 mm and 4mm thickness.	1	SET (Upper and lower halves)	
9	Re-metaling and machining of Olkaria 2 Geothermal Power Plants, Turbine thrust pad bearing to length 106 mm, 125mm, width 90mm and 3mm thickness.	1	PC	
<b>Olkaria V Geothermal Power Plant</b>				
10	Re-metaling and machining of Olkaria V Geothermal Plants, Turbine Tilt Pad Bearings no. 1. Rectangular- Section 405mm x 405mm long. White metal thickness 4mm	1	SET (Upper and lower halves)	
11	Re-metaling and machining of Olkaria V Geothermal Plants, Turbine Tilt Pad Bearings no. 2. Rectangular- X-Section 405mm x 405mm long. White metal	1	SET (Upper and lower halves)	

	thickness 4mm			
12	Re-metalling and machining of Olkaria V Geothermal Plants, Generator Journal Bearings no. 3. Bore diameter 350 mm, length of bearing 300 mm and 4mm thickness.	1	<b>SET (Upper and lower halves)</b>	
13	Final machining of Olkaria V Geothermal Plants, Generator Journal Bearings no. 4. Bore diameter 270 mm, width of bearing 300 mm and 4mm thickness.	1	<b>SET (Upper and lower halves)</b>	
14	Re-metaling and machining of Olkaria V Geothermal Plants, Turbine thrust pad bearing to long length 106 mm, 125mm, 90mm and 3mm thickness.	1	<b>PC</b>	
<b>Wellheads Plants</b>				
15	Re-metaling and machining of Wellheads Geothermal Plants, C50 5MW Turbine Bearings, HP side with diameter 100 mm x length 120mm. White metal thickness 3 mm.	1	SET (Upper and lower halves)	
16	Re-metaling and machining of Wellheads Geothermal Plants, C50 5MW Turbine Bearings, LP side with diameter 125 mm x length 150mm White metal thickness 3 mm.	1	SET (Upper and lower halves)	
17	Re-metaling and machining of Wellheads Geothermal Plants, C64 3.2 MW Turbine Bearings, HP side with diameter 100 mm x length 120mm White metal thickness 3 mm.	1	SET (Upper and lower halves)	
18	Re-metaling and machining of Wellheads Geothermal Plants, C64 3.2MW Turbine Bearings, LP side with diameter 100 mm x length 120mm White metal thickness 3 mm.	1	SET (Upper and lower halves)	
19	Re-metaling and machining of Wellheads Geothermal Plants, Eburru 2.3 MW. Turbine Bearings, Diameter 130 mm x length 120mm White metal thickness 3 mm.	1	SET (Upper and lower halves)	
20	Re-metaling and machining of Wellheads Geothermal Plants, C50 Gearbox, Pinion, Diameter 130 mm x length 120mm White metal thickness 3	1	SET (Upper and lower halves)	

	mm.			
21	Re-metaling and machining of Wellheads Geothermal Plants, C50 Gearbox, Bull-gear, Diameter 180 mm x length 120mm White metal thickness 3 mm.	1	SET (Upper and lower halves)	
22	Re-metaling and machining of Wellheads Geothermal Plants, C64 3.2 MW HP Turbine, Pinion, Diameter 110 mm x length 120mm, White metal thickness 3 mm.	1	SET (Upper and lower halves)	
23	Re-metaling and machining of Wellheads Geothermal Plants, C64 3.2 MW HP Turbine Gearbox, Bullgear, Diameter 160 mm x length 120mm. White metal thickness 3 mm.	1	SET (Upper and lower halves)	
24	Re-metaling and machining of Wellheads Geothermal Plants, C50 Generator Bearing DE, Diameter 225mm x 210 mm. White metal thickness 3 mm.	1	SET (Upper and lower halves)	
25	Re-metaling and machining of Wellheads Geothermal Plants, C50 Generator Bearing NDE, Diameter 225mm x 210 mm. White metal thickness 3 mm.	1	SET (Upper and lower halves)	
26	Re-metaling and machining of Wellheads Geothermal Plants, C50 Generator DE, Diameter 225mm x 210 mm. White metal thickness 3 mm.	1	SET (Upper and lower halves)	
27	Re-metaling and machining of Wellheads Geothermal Plants, C64 Generator 3.2MW DE, Diameter 200mm x 210 mm. White metal thickness 3 mm	1	SET (Upper and lower halves)	
28	Re-metaling and machining Wellheads Geothermal Plants, C64 Generator 3.2MW NDE, Diameter 200mm x 210 mm. White metal thickness 3 mm	1	SET (Upper and lower halves)	
29	Re-metaling and machining of Wellheads Geothermal Plants, C64 Generator 3.2MW DE, Diameter 200mm x 210 mm. White metal thickness 3 mm	1	SET (Upper and lower halves)	

30	Re-metaling and machining of Eburru 2.4 MW Wellheads Geothermal Plants, Generator 3.2MW DE, Diameter 160mm x 70 mm. White metal thickness 3 mm	1	SET (Upper and lower halves)	
31	Re-metaling and machining of Eburru 2.4 MW Wellheads Geothermal Plants, Generator 3.2MW NDE, Diameter 160mm x 70 mm. White metal thickness 3 mm	1	SET (Upper and lower halves)	
32	Re-metalling and machining of Wellheads Geothermal Plants, Turbine thrust pad bearing to long length 75mm, 70mm, 60mm and 4mm thickness. (As per drawing C50 & C64 Turbine Thrust Pads)	1	PC	
<b>Muhoroni Gas Turbines</b>				
33	Re-metalling and machining of Gas Turbine Bearing number 1 of bore diameter of 243.00mm x 200mm. White metal thickness 4 mm	1	SET (Upper and lower halves)	
34	Re-metalling and machining of Gas Turbine Bearing number 2 of bore diameter of 254.44mm x length 200mm. White metal thickness 4 mm	1	SET (Upper and lower halves)	
35	Re-metalling and machining of Gas Gen Bearing number 1 of bore diameter of 254.44mm length 200mm. White metal thickness 4 mm. DE	1	SET (Upper and lower halves)	
36	Re-metalling and machining of Gas Turbine Gen Bearing number 2 of bore diameter of 254.44m length 200mm. White metal thickness 4 mm. NDE	1	SET (Upper and lower halves)	
37	Re-metalling and machining of Load Gear Bearing High Speed bore diameter of 243.00mm x 200mm. White metal thickness 4 mm.	1	SET (Upper and lower halves)	
38	Re-metalling and machining of Load Gear Bearing Low Speed bore diameter of 243.00mm x 200mm. White metal thickness 4 mm	1	SET (Upper and lower halves)	
<b>San'goro Power Station</b>				

39	Re-metaling and pre-liminary and final machining of Sangoro upper guide bearing diameter, 600mm, and height 295mm long. White metal thickness 3mm	1	SET (Upper and lower halves)	
40	Re-metaling and pre-liminary and final machining of Sangoro Turbine guide bearing diameter, 400mm, and height 200 mm long. White metal thickness 3mm	1	SET (Upper and lower halves)	
41	Re-metaling and pre-liminary and final machining of Sangoro upper guide bearing diameter, 600mm, and height 200mm long. White metal thickness 3mm	1	SET (Upper and lower halves)	
<b>Quality Control Activities</b>				
42	Determine Metturlugy of white metal material on damaged bearing	1	AU	
43	Carry out peel force test on re-metalled bearing	1	AU	
44	Bearing insulation tests for generator bearings	1	AU	
45	Proposed non-destructive tests	1	AU	
<b>TOTAL COST</b>				

#### Price Schedules B: Oil Seals & Deflector

No.	Descriptions	Quantity	UOM	KES
UOM	<b>Olkaria 280 MW Geothermal Power Plants</b>			
1	Repair and machine Olkaria 280 MW Plants, oil baffle, worn aluminium seals and machine to internal diameter 325mm and 60 mm thickness, machine seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	

2	Olkaria 280MW Plants Oil Baffle, repair worn aluminium seals and machine to internal diameter 374mm and 60 mm width- and 5mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	
3	Olkaria 280MW Plants Oil Baffle, repair worn aluminium seals and machine to internal diameter 356.02mm and 60 mm width- and 5mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	
4	Olkaria 280 MW Generator seal rings, repair and machine, worn out aluminium seals to internal diameter 325mm and 20mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	
<b>Olkaria 2 Geothermal Power Plants</b>				
5	Repair and machine Olkaria 2MW Plants, oil baffle, worn aluminium seals and machine to internal diameter 325mm and 60 mm thickness, machine seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	
6	Olkaria 2 P oil baffle, repair worn aluminium seals and machine to internal diameter 374mm and 60 mm width- and 5mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	

7	Olkaria 2 Generator seal rings, repair and machine, worn out aluminium seals to internal diameter 325mm and 20mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	SET (Upper and lower halves)	
<b>Olkaria V Geothermal Power Plant</b>				
8	Olkaria V. Power Plant 2 Units, Turbine Seal Ring (Gen End) White metal rebuild and machine to Internal Bore Diameter of 350.0.35 ±0.05, Thickness 100mm	1	SET (Upper and lower halves)	
9	Olkaria V power plant, 2 Units, Pressurised oil seals are mounted on the inboard and outboard faces of the bearing Housing. Bore Diameter 430.0.35 ±0.05. Thickness 100mm	1	<b>SET (Upper and lower halves)</b>	
<b>Wellheads Geothermal Power Plants</b>				
1.	Repair and machine of Wellheads Plants, oil baffle, worn aluminium seals and machine to internal diameter 200mm and 60 mm thickness, machine seal strips as illustrated in drawings/ picture or sample provided.	1	<b>SET (Upper and lower halves)</b>	
2.	Repair and machine of Wellheads Plants, repair worn aluminium seals and machine to internal diameter 125mm and 60 mm width- and 5mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	<b>SET (Upper and lower halves)</b>	



3.	Repair and machine of Wellheads Plants, repair worn aluminium seals and machine to internal diameter 130mm and 60 mm width- and 5mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	<b>SET (Upper and lower halves)</b>	
4.	Repair and machine of Wellheads Plants, repair and machine, worn out aluminium seals to internal diameter 220mm and 60mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	<b>SET (Upper and lower halves)</b>	
5.	Repair and machine of Wellheads Plants, repair and machine, worn out aluminium seals to internal diameter 100mm and 20mm thickness, seal strips as illustrated in drawings/ picture or sample provided.	1	<b>SET (Upper and lower halves)</b>	
6.	Machine or manufacture C64, HP&LP Turbine Oil Seals as per DRAWING NO. C64, HP&LP Turbine Oil Seals.pdf	1	<b>SET (Upper and lower halves)</b>	
7.	Machine or manufacture Eburru Al Only, Ext. Dia 210mm, Generator Oil Seals as per DRAWING NO. Eburru Al Only, Ext. Dia 210mm, Generator Oil Seals.pdf	1	<b>SET (Upper and lower halves)</b>	
8.	Machine or manufacture Eburru Al+Teflon, Ext. Dia 190mm, Generator Oil Seals as per DRAWING NO. Eburru Al+Teflon, Ext. Dia 190mm, Generator Oil Seals.pdf	1	<b>SET (Upper and lower halves)</b>	

9.	Machine or manufacture Eburru Al+Teflon, Ext. Dia 210mm, Generator Oil Seals as per DRAWING NO. Eburru Al+Teflon, Ext. Dia 210mm, Generator Oil Seals.pdf	1	SET (Upper and lower halves)	
10.	Machine or manufacture KWG 5 UNIT II Generator Shaft_Aluminum with Teflon Inserts as per DRAWING NO. KWG 5 UNT II Generator Shaft_Aluminum with Teflon Inserts.pdf	1	SET (Upper and lower halves)	
11.	Machine or manufacture Oil Seals for C64 Plants as per DRAWING NO. Oil Seals for C64 Plants-Model.1.pdf	1	SET (Upper and lower halves)	
12.	Machine or manufacture Pilot&C64 Al+Teflon, Ext. Dia 230mm, Generator Oil Seals as per DRAWING NO. Pilot&C64 Al+Teflon, Ext. Dia 230mm, Generator Oil Seals.pdf	1	SET (Upper and lower halves)	
13.	Machine or manufacture Pilot&C64 Al+Teflon, Ext. Dia 255mm, Generator Oil Seals as per DRAWING NO. Pilot&C64 Al+Teflon, Ext. Dia 255mm, Generator Oil Seals.pdf	1	SET (Upper and lower halves)	
<b>Muhoroni Gas Turbines</b>				
1	Machine new low speed quill shaft labyrinth seal, aluminum plate, type: Annulus, diameter 240mm and thickness 25.4mm	1	SET (Upper and lower halves)	
2	Fabricate new Turbine bearing number 1 oil labyrinth seals, aluminum plate, type: Annulus, diameter 240mm and thickness	1	SET (Upper and lower halves)	

	25.4mm			
3	Fabricate new Turbine bearing number 2 oil labyrinth seals, aluminum plate, type: Annulus, diameter 240mm and thickness 25.4mm	1	SET (Upper and lower halves)	
6	Machine, generator bearing oil labyrinth seals, brass plate, spring loaded annulus, ID 350 mm, Thickness 15mm and width 30mm	1	SET (Upper and lower halves)	
8	Accessory gear driven cooling water pump housing, cast steel, rebuilding and machining works, Surface area 5.025mm <sup>2</sup> x 5mm thickness	1	SET (Upper and lower halves)	

TENDERER'S NAME: \_\_\_\_\_

TENDERER'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**SUPPLIER ACKNOWLEDGEMENT OF ADDENDUM NO. 2**

We, the undersigned hereby certify that the addendum is an integral part of the document and the alterations set out in addendum has been incorporated in the Tender document.

Signed.....

Tenderer.....

Date.....