

---

## **SPECIFICATIONS FOR THE SUPPLY, AND INSTALLATION OF COMPONENTS FOR BOOSTER PUMP STATION 02 AND CLEAR WATER-INTAKE AT SAND-BYPASS TNPA PORT OF NGQURA FOR A ONCE-OFF PERIOD**

For: **Infrastructure, Port of Ngqura**

Prepared by: **TNPA – Mechanical Department**

Complied by: **Xola Mdingi**

Technical Manager: **Ayanda Dlula**

Senior Engineer: **Masande Betela**

Date: 2023/11/09

DOCUMENT NAME.	PAGE
SPECIFICATIONS FOR THE SUPPLY, DELIVERY AND INSTALLATION OF COMPONENTS FOR BOOSTER PUMP STATION AT SAND-BYPASS AT PORT OF NGQURA.	1 OF 5

## 1. Introduction

Invitation to service providers to tender for the supply and installation of components for Booster pump station 02 and clear water intake at Sand bypass TNPA Port of Ngqura for a once-off period in accordance with the Original Equipment Manufacturers (OEM's) manual.

## 2. Scope of Work and Specification

2.1.(a) Supply and installation of components for Booster 02. As per the below table.

(b) Integrate Booster 02 into the Scada system of Sand bypass, test and commission.

2.2 (a) Reconfigure safety devices and features on the clear water station.

(b) Integrate pump monitoring safety device into the Scada for faults and failure of submersible pump(180kw), test and commission as per clause 2.3

ITEM	DESCRIPTION	OEM MANUFACTURE PART NUMBER / SUPPLIER ORDER NUMBER	SAMPLE ALLOCATIO N
Inverter power layer interface PCB	Allen-Bradley Inverter power interface Series B	SK-R1-PINT2-F8	On site if required
Invert power PCB	Allen-Bradly Invert power PCB Series A	SK-R1-PC1-F8	On site if required
Inverter Power Control PCB	Allen-Bradley Powerflex 750 main power supply board kit Series A	SK-R1-PWRS1-CD-F8	On site if required
Inverter gate PCB	Powerflex 750 inverter gate board Series A	SK-R1-IG1-C770D740	On site if required
Pressure limit Switch	Johnson controls pressure limit switch	P77AAA-9300	On site if required
IGBTs Transistor	Infineon FF1800R12IE5PBPSA 1 Dual IGBT Module,	FF1800R12IE5PBPSA 1	On site if required

	1.8 kA 1200 V, 10-Pin PRIME3+		
Bussmann Fuse	Fuse-link, high speed, 1100 A, AC 690 V, size 3, 76 x 92 x 135 mm, aR, IEC, UL, single indicator	170M6665	On site if required
Bussmann Fuse	Fuse-link, high speed, 800 A, AC 690 V, DIN 3, 76 x 92 x 109 mm, aR, DIN, IEC, single indicator	170M6112	On site if required
Bussmann Fuse	Fuse-link, high speed, 1400 A, AC 690 V, size 3, aR, IEC, UL, type K indicator	170M6467	On site if required
Micro Switch	Eaton Bussmann series high speed microswitch, 2A 250V AC, With Indicator	170H0069	On site if required
Single Incremental Encoder	Single Incremental Encoder Input, 5V DC, use with Powerflex 750 Series	20-750-ENC-1	On site if required
Encoder	X-heavy duty Hollow shaft encoder, Incremental	750729-03	On site if required
Pressure Transducer	VEGA VEGABAR 82 Pressure Transmitter 0-100Kpa	54344418	On site if required
Pressure Transducer	VEGA VEGABAR 82 Pressure Transmitter 0- 400Kpa	54344418	On site if required
Pressure Transducer	VEGA VEGABAR 82 Pressure Transmitter 0-4000Kpa	54344418	On site if required
TEMPERATURE PROBE	ENDRESS-HAUSER EASYTEMP PT100 TEMPERATURE PROBE SENSOR 0-100	TMR31-A1AAAAAC1AAA	On site if required

- For Pressure Transducer the supplier is required to take flange measurements as they have different sizes

<p>DOCUMENT NAME.</p> <p>SPECIFICATIONS FOR THE SUPPLY, DELIVERY AND INSTALLATION OF COMPONENTS FOR BOOSTER PUMP STATION AT SAND-BYPASS AT PORT OF NGQURA.</p>	<p>PAGE</p> <p>3 OF 5</p>
--	---------------------------

## 2.3 Clear water Station Specification

- (a) PLC installed: Allen Bradley Logix 5573
- (b) Pump control: Soft starter-Allen-Bradley SMC flex MFG LOC 1150
- (c) Pump installed: Flygt 400V, 3phase, 180kW, 360A

## 3. Guarantee/ Warranty

- The service provider shall provide a 6-months warranty for the components and the works.
- The service provider must ensure the supplied components aligned with the specification provided and in accordance with the OEM's manual.
- The sole responsibility for ensuring that the components supplied conform with the specification, shall rest with the awarded service provider.

## 4. Bill of Quantities

Item No	Description	Unity	Qty	Total Price
1	Health and Safety Environmental file	Ea	1	
2	Supply and installation of components for Booster 02 as per <b>clause 2.1 (a)</b>	Sum	1	
3	Integrate Booster 02 into the Scada system of Sand bypass, test and commission. as per <b>clause 2.1 (b)</b>	Sum	1	
4	Reconfigure safety devices and features on the clear water system as per <b>clause 2.2 (a)</b>	Sum	1	
5	Integrate pump monitoring device into the Scada for faults and failure of submersible pump, test and commission as per <b>clause 2.1 (b)</b>	Sum	1	
6	Contingencies	Sum	1	
<b>Sub Total (Excl VAT)</b>				
<b>VAT (15%)</b>				
<b>GRAND TOTAL</b>				