



وسرا المعروب موسر ورج ع وفرارده

سرَسْرَهُ ثَمَ: FNK-K(T)/FNK/IUL/2017/039

06) K(T)/FNK/IUL/2017/024 مِدْرُسِّرُم دُوءُسُّرُ مُرْمَدُ وَيُوسِّمُ مِنْ مُسْرَّمِ مِنْ مُرْمَدُ مُنْ وَمُرْسِمُ مِ . רבים " סיר בינים לה בינים בינים היום אום אום אום היום נדים בינים בינים בינים בינים בינים בינים בינים בינים ב ה ההפית ששפעת בינים בינים בינים של הצפיע פרחפ במשפעת הפית הצפיבפים

#	Description	Unit	Quantity
1	The Standard of the genset shall meet the relevant British Standards. 400 kW prime rated diesel genarator set. 0.8 P.F, 415 Volts, 3 Phase, 4 Wires, 50 Hz at 1500 r.p.m. Powered by Cummins engine origin (UK, USA),And supplier must submit certificate conforming they are Licenced OEM cummins manufacturer or assembler. The engine must produce a mechanical power output which should meet the required 400 KW and must be coupled with 400 kW stamford Altenator with pre Installed Droop CT, with remote mounted control panel. The controller should be Deepsea model: 8810 engine controller.  Motorised TP, 800 A, ACB c/w UVT Coil AC 230 V, ("MERLIN GERIN") or equivalent.	Nos.	1
1.1	Engine to be complete with  Heavy electrical flywheel SAE flywheel housing Air filters Lubricating oil filters Low lubricating oil pressure switch High engine temperature switch lub oil sender water Temperature Sender Together with all necessary items to run and to protect the engine		
1.1.1	Starting equipment The engine should be fitted with the following equipment 24 Volt charging altenator (Brushless) 24 Volt starting motor Fuel Shut-off solenoid Heavy duty lead acid batteries, supplied in a dry charged condition		
1.1.2	Governing The engine to be fitted with a close tolerance Cummins Electronic Governing system, which should include efc, actuators, magnetic pickups, etc, including wiring		





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### 1.1.3 | Cooling Equipment

Cooling equipment compromising a heavy-duty tropical radiator, together with pusher type cooling fan and guards to be fitted. The radiator core should be electroplated with silver solder tin plated to prevent early failure due to corrosion. Coupon plated radiators are acceptable, the radiator has to be mounted on the vibration mounts and it should have enough strength to with stand the radiator.

#### 1.1.4 Exhaust system

450 mm of stainless steel below type flexible exhaust, together with suitable flanges and fittings shall be supplied for each silencer.

#### 1.1.5 | Alternator

The alternator shall be brushless revolving type altenator, having class H insulation on both the stator and field windings. It shall be built and rated to BS 5000, tropically impregnated with voltage regulation being in the order of  $\pm$ 1.5% from no load to full load under the steady state conditions assuming a speed variation not exceeding 4% on the engine. Anti-Condensation Coil to be fitted in the Alternator.

#### 1.1.6 Generator arrangement and drive

The simplex type base plate is of heavy duty rolled steel constructed, bolted and electrically welded, drilled on the underside to allow the fitting of foundation bolts. The engine and the alternator are to be mounted on a base plate and vibration mounts to be mounted underside of the base plate. The vibration mounts are to be supplied as loose item.

#### 1.1.7 Fuel system

A fuel day tank of 12 hours capacity complete with level indicator, drain plug, filler, fuel return with fuel outlet connections and a fuel filter fitted with outlet connection is to be mounted. These mounts are are to be supplied as loose item. All necessary fittings to be supplied in conformity with fuel flow diagram.

Nos.

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#### 1.2 Factory testing

The generator should be fully tested at the manufacturer workshop in the presence of client/apointees to check the ratings, overload, functional tests on a dummy load prior to dispatch in case the bidder is unable to provide factory test as mentined, the bidder shall provide an extended warranty of one extre year than mentioned in iteme no 10 of this document.

#### 1.3 Finishing





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	After assembling the genset zinc coated self-etching primer should be applied to the complete set.		
1.4	Warranty		
	Generator set should carry a warranty of one year from the date of commisioning the equipment.		
1.5	Literature and drawings		
1.5.1	How to handle the generation equipment	Nos.	1
1.5.2	Electrical wiring diagram	Nos.	1
1.5.3	Engine operation and maintenance manual	Nos.	1
1.5.4	Engine parts catalogue	Nos.	1
1.5.5	Generator parts catalogue	Nos.	1
1.5.6	Generator operation and maintenace manual	Nos.	1
1.5.7	Generator AVR manual	Nos.	1
1.5.8	Governor control unit manual	Nos.	1
1.5.9	Engine shop manual	Nos.	1
	*Two separate manuals for the generator set shall be supplied and all the manuals to be enclosed in a fiber box file and the file should be labeled as "FENAKA CORP. LTD.400kW Generator Manuals".		
1.6	Accessories		
	The Components shall meet the British Standard and ISO standards. Items are for the above mentioned generator sets.		
1.6.1	Primary silencer barrel(to match engine exhaust)	Nos.	1
1.6.2	Secondary silencer barrel(to match engine exhaust)	Nos.	1
1.6.3	3m Exhaust pipe dia( to match engine exhaust)	Nos.	4
1.6.4	Elbows having dia (to match the engine exhaust)	Nos.	4
1.6.5	Flanges having dia (to match the engine exhaust)	Nos.	8

יפו היים לל היינים ביינים לא היינים אל ה התפרשת היינים התרבתם בתפסעת האר התשכעת הב התרבתם פתהפי

# رْسَرْرُوسُومٍ جُمْعِ:

- جهُنَاءِ سَهُوَرِ مَنْوَرُوْنَ رُدُهُ (رِسَعُ وَرِوَّ رُبِرً هُنَادُهُوْ رُدُو رُزُوْدُوَنَرُوْنَرُوْنَ رُوْ بِهِ رَسَهُ عِمْرُوُّ فَوْرُ دُوْرُ وَنِيْ رِسِيْنَرُيْنِ )
- - وَوَمُ وَسَهُمُ مُعْرَوُهُمُ وَصَوْرَ وَسَهُمُمُ مُعْرِوْهُ وَمِعْرَدُ وَسَهُمُ مُعْرِمُونُ وَمِعْرَ





# وسرك كالمرور المالم ورجاه

**ڔۏڔۼۘڎۼ** ڝٛڔٛۅؘڔ ڵێۘٷۺٷۼۮٷڛڔٷڞ؋ڛۅٟڛڝۺ

## مرور مراست و مروع و و دو:

• رُدُرُ (عِرْفِ عُرُورً) 60 بُرْمِرُجُ

60 \* 36 2000 / 36 2000 4000

- سَعْ دِنْ هُ رُوْ دُوْرُونُ وَ وَجُرِيْ وَ دُرُدُنْ دُنِي مِرْ اللهِ عَلَى مَا وَنَعْ دَاعُ وَمُعْ دُنُونُ مُرَدُونُ مُرُونُ مُرُونُ مُرُونُ وَ اللهِ مُعْلَمُ وَمُ مُرَدُونُ مُرُونُ اللهِ مَا وَمُعْلَمُ وَمُ مُرَدُونُ اللهِ وَمُونُونُ مُرَدُونُ اللهِ وَمُؤْمِنُ وَمُرْدُونُ اللهِ وَمُؤْمِنُ وَمُرْدُونُ اللهِ وَمُؤْمِنُ وَمُرْدُونُ اللهِ وَمُؤْمِنُ وَمُرْدُونُ اللهِ وَمُؤْمِنُ وَمُ اللهِ وَمُؤْمِنُ وَمُ اللهِ وَمُؤْمِنُ وَمُ اللهِ وَمُؤْمِنُ وَمُرْدُونُ اللهِ وَمُؤْمِنُ وَمُرْدُونُ اللهِ وَمُؤْمِنُ وَمُ اللهِ وَمُؤْمِنُ وَمُ
  - ששתשל של בנת של 15 בנת של (ששתשל הפלחש של שת בתול אל בל הל החבלה לי
    - مُرَام وَمُرَارُونُ وَرُدُومُ (وَرُونُ ) 20 فِرسِرُقُ

20 \* המל מע במלה / המיע במלה

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ورك المركز المرك

درْرُوَّ سُرُسُونَ مِن سُرُصُ مِن FNK-K(T)/FNK/IUL/2017/039

بر مر مر مردوس مروس المرسور المردوس ا

20/1/ 3/2//

عَدْ رَوْوَرُرْ رَوْجُرِهِ وَسِ 2017 مُؤْمِرُ 11 وَ مُشْرَقُهِ قُرُورُهُ 11:30 كُم وَسُمَا لَاؤِمُرُ مُشْرَ وَوَعْ (وَمِرْ צָּאֶהֶפָּאֶינִ נִّ־יִאָנִבְוֹפִי פָבִּי כָ כֹּ־יִבְּאִים שׁמִבְּהְפָּבִי הִבְפָצִּ הְצִימִיעִ 2017 הְנָּאָבָ 11 פּ הُמֵצֵא قرۇرى 11:30 كىر كىرى سىرى دىر ئۇدۇس كىرۇرۇ

00 / ררני ? ? / רר מי מי מי מי מי מי מי מי מי בי לא מי אי אי אי אי מי אי לא מי מיש: ברתלבה צמרב ממי של האח שהתל מעבד צמרב המחומ צמיע מצמיים מי לבשלת לשבות בשבית באחרי האח الله و المردود و دوروس المركز و المروس المركز و المرود و المرود و المرود عرد کر دسرد و ترس و ترکی و در سرو.

07 مَرْمَ هُ \$ 1438

04 مُرُوبِرِثُو 2017