

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)

Tajuk Projek : PERKHIDMATAN PENYELENGGARAAN INFRASTRUKTUR SISTEM BEKALAN ELEKTRIK SERTA KERJA-KERJA BERKAITAN DI UiTM CAWANGAN PAHANG, PAHANG DARUL MAKMUR BAGI TEMPOH SATU (1) TAHUN

Keterangan : 3 - ITEM POPULAR

BIL	KETERANGAN	UNIT	HARGA (RM)
A	PENYELENGGARAAN BERJADUAL UiTM CAWANGAN PAHANG, PAHANG DARUL MAKMUR BAGI PENCAWANG ELEKTRIK (SKOP KERJA SEPERTI DI DALAM BAHAGIAN C1 DAN C2) BERIKUT:		
1	PPU (MAIN INTAKE) - 11/.433KV (300KVA) merangkumi : - VCB 8 NOS, BATTERY 1NOS, MSB 1 NOS	SERVIS	
2	P/E KOMPLEKS 2000 - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS , MSB 1 NOS, PFR 1 NOS, 156 KVA GENSET	SERVIS	
3	P/E DEWAN - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 3 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 500 KVA GENSET	SERVIS	
4	P/E PUSAT KESIHATAN - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 100 KVA GENSET	SERVIS	
5	P/E PENTADBIRAN - 11/.433KV (1500KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 75 KVA GENSET	SERVIS	
6	P/E PERKAYUAN - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS	SERVIS	
7	P/E MAKMAL - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 2 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 75 KVA GENSET	SERVIS	
8	P/E INFRA SCIENCE TECH - 11/.433KV (2000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 400 KVA GENSET	SERVIS	
9	P/E PUSAT PELAJAR - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS	SERVIS	
10	P/E KOLEJ MAT KILAU - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS	SERVIS	
11	P/E KOMPLEKS MSN merangkumi : - ACB 1 NOS, MSB 1 NOS, PFR 1 NOS	SERVIS	
B	LAWATAN JURUTERA KOMPETEN UiTM CAWANGAN PAHANG, PAHANG DARUL MAKMUR BAGI PENCAWANG ELEKTRIK (SKOP KERJA SEPERTI DI DALAM BAHAGIAN C1 DAN C2) BERIKUT:		
1	PPU (MAIN INTAKE) - 11/.433KV (300KVA) merangkumi : - VCB 8 NOS, BATTERY 1 NOS, MSB 1 NOS	PER LAWATAN	
2	P/E KOMPLEKS 2000 - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS , MSB 1 NOS, PFR 1 NOS, 156 KVA GENSET	PER LAWATAN	
3	P/E DEWAN - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 3 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 500 KVA GENSET	PER LAWATAN	

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Keterangan : 3 - ITEM POPULAR

BIL	KETERANGAN	UNIT	HARGA (RM)
4	P/E PUSAT KESIHATAN - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 100 KVA GENSET	PER LAWATAN	
5	P/E PENTADBIRAN - 11/.433KV (1500KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 75 KVA GENSET	PER LAWATAN	
6	P/E PERKAYUAN - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS	PER LAWATAN	
7	P/E MAKMAL - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 2 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 75 KVA GENSET	PER LAWATAN	
8	P/E INFRA SCIENCE TECH - 11/.433KV (2000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS, 400 KVA GENSET	PER LAWATAN	
9	P/E PUSAT PELAJAR - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS	PER LAWATAN	
10	P/E KOLEJ MAT KILAU - 11/.433KV (1000KVA) merangkumi : - VCB 3 NOS, ACB 1 NOS, BATTERY 1 NOS, MSB 1 NOS, PFR 1 NOS	PER LAWATAN	
11	P/E KOMPLEKS MSN merangkumi : - ACB 1 NOS, MSB 1 NOS, PFR 1 NOS	PER LAWATAN	
C	11kV SWITCHGEAR		
1	To supply, install, test and commissioning of 11kV VCB components/ parts :-		
1.1	Indicating Light 30Vdc c/w bulb	NOS	
1.2	Voltmeter selector switch	NOS	
1.3	HT Insulation Busbar	METER	
1.4	Meter (PowerLogic)		
	i) PM500	NOS	
	ii) PM710	NOS	
D	BATTERY AND BATTERY CHARGER		
1	To supply and install battery & battery charger :-		
1.1	30 VDC	NOS	
2	To supply and install battery charger only :-		
2.1	30 VDC	NOS	
2.2	24 VDC	NOS	
2.3	To dismantle the existing battery charger / batteries.	SET	

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Keterangan : 3 - ITEM POPULAR

BIL	KETERANGAN	UNIT	HARGA (RM)
E	PROTECTION DEVICES		
1	To supply, install, test and commissioning the following HV and LV protection relay c/w associated accessories as follows :-		
1.1	HV protection relay		
	i) Combined OC/EF	NOS	
1.2	LV protection relay		
	i) Combined OC/EF	NOS	
	ii) OC / EF	NOS	
	iii) ELR	NOS	
	iv) EFR	NOS	
	v) Oil Dash-Pot	NOS	
F	MOULDED CASE CIRCUIT BREAKERS (MCCB)		
1	To supply Moulded Case Circuit Breakers (MCCB) of appropriate ratings for installation in Main Switchboard or Sub-Switchboard or Distribution Board.		
1.1	Tiga Kutub dan neutral dengan beban memutus 30kA		
	i) 30A sehingga 60A	NOS	
	ii) 100A sehingga 150A	NOS	
1.2	Tiga Kutub dan neutral dengan beban memutus 50kA		
	i) 30A sehingga 60A	NOS	
	ii) 100A sehingga 150A	NOS	
	iii) 200A	NOS	
1.3	CONTACTOR		
	i) TP 30A AC 3	NOS	
	ii) TP 60A AC 3	NOS	
G	CAPACITOR BANK		
1	To supply and install the following :-		
1.1	Capacitor (440V)		
	i) 20 KVAR	NOS	
	ii) 30 KVAR	NOS	
	iii) 50 KVAR	NOS	

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Keterangan : 3 - ITEM POPULAR

BIL	KETERANGAN	UNIT	HARGA (RM)
	iv) 70 KVAR	NOS	
1.2	Capacitor (525V)		
	i) 20 KVAR	NOS	
	ii) 30 KVAR	NOS	
	iii) 50 KVAR	NOS	
	iv) 70 KVAR	NOS	
H	AMF BOARD / MSB / SSB H.V PANEL		
1	To supply and install :-		
1.1	Amps Meter	NOS	
1.2	Voltmeter	NOS	
1.3	RPM Meter for genset	NOS	
1.4	Frequency Meter	NOS	
1.5	Indicator Light	NOS	
1.6	Time Relay Switch	NOS	
1.7	Automatic Changeover Contactor	NOS	
1.8	Change Over Contactor - 4 pole 200Amp	NOS	
1.9	Generator Controller	NOS	
I	MISCELLANEOUS MATERIALS & EQUIPMENT		
1	To supply and install the following items :-		
1.1	LED Tube 4' - 30W	NOS	
2	To supply and install the following :		
2.1	Regulation-type, DILARANG MASUK notice plate each.	NOS	
2.2	Regulation-type, BAHAYA plate each	NOS	
J	Maintenance For Generator Set		
1	Menjalankan kerja-kerja Servis Set Generator Janakuasa Tunggusedia. Servis dan menggantikan air filter, oil filter, fuel filter dan menukar baru air radiator (water radiator) termasuk top-up coolant untuk set generator seperti berikut:		
1.1	Generator Berkuasa dari 60 KVA - 125 KVA	LUMP SUM	
1.2	Generator Berkuasa dari 150 KVA - 250 KVA	LUMP SUM	
1.3	Generator Berkuasa dari 300 KVA - 500 KVA	LUMP SUM	

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BIL	KETERANGAN	UNIT	HARGA (RM)
2	Membekal dan top-up air bateri.		
2.1	Deionised Water (NiCad)	LITER	
3	Membekal dan mengisi minyak diesel untuk Generator set.	LITER	
4	Membekal dan memasang bateri Generator jenis NiCad seperti berikut :-		
4.1	60 KVA (NiCad).	SET	
4.2	75 KVA (NiCad).	SET	
4.3	100 KVA (NiCad).	SET	
4.4	156 KVA (NiCad).	SET	
4.5	400 KVA (NiCad).	SET	
4.6	500 KVA (NiCad).	SET	
5	Memeriksa, menguji dan membaiki litar kawalan genset (AMF Board).	NOS	
6	Memeriksa, menguji dan membaiki litar kawalan 'change over contactor'.	NOS	
7	Menjalankan kerja - kerja servis Generator Set 60KVA di Perpustakaan Al-Bukhari seperti berikut :-	NOS	
	i. Kerja - kerja membersihkan dan vakum bilik genset		
	ii. Servis dan menggantikan air filter, oil filter, fuel filter dan water filter.		
	iii. Pemeriksaan dan servis DC battery dan charging alternator.		
	iv. Pemeriksaan dan servis Panel AMF		
K	ALAT GANTI UMUM GENSET		
	To supply and install :		
1	Under Voltage Relay AC 440 V	NOS	
2	Auxiliary Contactor	NOS	
3	Battery Terminal	NOS	
4	Battery Flexible Cable (Welding cable)	METER	
5	Battery Flexible Cable	METER	
6	Tachometer	NOS	
7	Radiator Cap	NOS	
8	Engine Alternator 12V	NOS	
9	Engine Alternator 24V	NOS	

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BIL	KETERANGAN	UNIT	HARGA (RM)
10	12VDC Starter Genset	NOS	
11	24VDC Starter Genset	NOS	
12	12V Battery Charger 10A c/w wiring	NOS	
13	Auto Transfer switch 100A	NOS	
L	RELAY 240VAC		
1	Relay 240VAC - 8 pins (250VAC, 10 A) c/w base	NOS	
2	Relay 240VAC - 11 pins (250VAC, 10 A) c/w base	NOS	
3	Relay 240VAC - 14 pins (250VAC, 10 A) c/w base	NOS	
M	RELAY 24VDC		
1	Relay 24VDC - 8 pins (24VDC, 10 A) c/w base	NOS	
2	Relay 24VDC - 11 pins (24VDC, 10 A) c/w base	NOS	
3	Relay 24VDC - 14 pins (24VDC, 10 A) c/w base	NOS	
N	RELAY 12VDC		
1	Relay 12VDC - 8 pins (12VDC, 10 A) c/w base	NOS	
2	Relay 12VDC - 11 pins (12VDC, 10 A) c/w base	NOS	
3	Relay 12VDC - 14 pins (12VDC, 10 A) c/w base	NOS	
O	TIME DELAY 24VDC TDR		
1	Time Delay Relay (24VDC, 10 A) c/w base	NOS	
2	Time Delay Relay - 8 pins 0 - 30 sec (24VDC, 10 A) c/w base	NOS	
P	TIME DELAY 12VDC TDR		
1	Time Delay Relay (12VDC, 10 A) c/w base	NOS	
2	Time Delay Relay - 8 pins 0 - 30 sec (12VDC, 10 A) c/w base	NOS	
Q	TIME DELAY 240VAC TDR		
1	Time Delay Relay - 8 pins 0-30 sec (250VAC, 10 A) c/w base	NOS	
2	Time Delay Relay - 11 pins, 0 - 30 sec (250VAC, 10 A) c/w base	NOS	
JUMLAH (RM)			