

**GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED
AREA, PESHAWAR**

TECHNICAL EVALUATION

FOR THE PROJECT

**SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND
SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER
PAKHTUNKHWA
PACKAGE 03**



AUGUST 2020

Consultant:



BARG Engineering

Management, Consulting Engineers, Planners and Technical Advisors

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

TECHNICAL EVALUATION (MANDATORY REQUIREMENT)
PACKAGE 03

PROJECT NAME:
SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER PAKHTUNKHWA

FIRM / CONTRACT NAME: TSK ENGINEERING
INTERNATIONAL PVT LTD

S.No	ELIGIBILITY	Yes / No	DETAIL OF FIRM
1	Registration with Pakistan Engineering Council (PEC) in C3 Category	Yes / No	YES (C2/1804)
2	Specialization code EE11 (Solar Technology)	Yes / No	YES
3	Registration with Income Tax Department (NTN Certificate) The proof of being an active tax payer must be provided with the Income Tax registration certificate.	Yes / No	YES (1773720-6) Active
4	Sales Tax Registration (STRN certificate)	Yes / No	YES (0501850007137)
5	Registration with Khyber Pakhtunkhwa Revenue Authority (KPRA).	Yes / No	YES (1773720-6) Active
6	Affidavit that the Firm is NOT Blacklisted from any Government/Semi-Government Agency/Department/NGO in accordance with KPPRA Rules.	Yes / No	YES
7	Affidavit that the Firm DOESN'T have any Litigation History in which Decision has been given against the firm(s)	Yes / No	YES
8	JV agreement as per PEC criteria on Judicial stamp paper , signed by authorized persons of all the firms should be provided. All JV partners must be registered with PEC.	Yes / No	N/A
9	Form of Bid (Letter of Offer) Provided / accordingly to be filled and submitted in the technical proposal	Yes / No	YES
10	Affidavit of Bid security amounting to 2 percent of bid cost	Yes / No	YES
11	Registration with LG&RDD under new Centralized enlistment system	Yes / No	YES

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

TECHNICAL EVALUATION (DESIGN DETAIL OF SOLAR STREET LIGHTS)
PACKAGE 03

PROJECT NAME:

SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER PAKHTUNKHWA

FIRM / CONTRACT NAME:

TSK ENGINEERING
INTERNATIONAL PVT LTD

S #	Description of Item	Required Data		Remarks
1	Solar PV Module	PV Module Wattage	300 W	Technically ok as per specifications
		Efficiency	17.50%	
		Certification	IEC 61215-1, 61215-2:2016 IEC 61730-1,61730-2:2016 IEC TS-62804-1 / PPP-58042B:2015 IEC 61701, IEC 62716 IEC 60068-2-68	
2	MPPT Solar Charge controller	Charge Controller Size (A)	15 Amps	Technically ok as per specifications
		Battery Bank Voltage	24 V	
		Maximum Conversion Efficiency %	97%	
		Battery Configuration	LiFePO4	
		IP	IP 67	
3	Battery Bank	Certification	ISO 9001 CE Certified	Technically ok as per specifications
		Battery Type	LiFePO4	
		Battery Size (Ah)	70 Ah	
		Battery Terminal Voltage	24 V	
		Cycle life of battery before 80 % capacity of initial capacity @ 50 % DOD at discharge rate of 10 Hours	5750 @ 0.1 C	
		Charge and discharge rate of battery.	0.2 C Standard Use	
		Certification/ Codes	IEC 61427, IEC 60896	
4	Road light fixture SMD Type	Total Watt Hour	1680	Technically ok as per specifications
		Type	IESNA Type-II	
		Rated Power	60 W	
		Lumens per Watt	130	
		Operating Temperatures	(-40C) to (+60C)	
5	PV Mounting structure	Life time of Lamp (Hours)	50000 hrs	Technically ok as per specifications
		PV Mounting Structure Material Type	Angle Iron Hot Dipped Galvanized	
		PV Mounting Structure Type	Pole mounting (top of the pole)	
		Minimum Thickness of the PV Mounting Structure	4 mm	
		Minimum Galvanization of the PV Mounting Structure	>80 microns	
6	Road light pole	Type of material for Array fasteners (nut/bolts/Washers) b/w PV Module and structure	Stainless Steel (SS)	Technically ok as per specifications
		Pole Material Type	Hot Dipped Galvanized	
		PV Mounting Structure Type	Round Conical Pole	
		Minimum Thickness of the Pole	4 mm	
		Length	8 meter	
		Top Dia / Base Dia	75 mm / 180 mm	
		Minimum Galvanization of the Pole	>80 microns	
		Type of material for Pole fasteners (nut/bolts/Washers) b/w Pole and foundation	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)	

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

QUOTED PRODUCTS DETAIL

S #	Description of Item	Required Data		TSK ENGINEERING PVT LTD	Remarks
1	Solar Panel (PV module) mono-crystalline	Make		JA Solar	Technically OK As per Specification
		Model		JAM60 series	
		PV Module Wattage	300 W	300	
		Efficiency	17.50%	18.70%	
		Certification	IEC 61215-1, 61215-2:2016 IEC 61730-1,61730-2:2016 IEC TS-62804-1 / PPP-58042B:2015 IEC 61701,IEC 62716 IEC 60068-2-68	IEC 61215-1, 61215-2:2016 IEC 61730-1,61730-2:2018 PPP-58042B:2015 IEC 61701,IEC 62716 IEC 60068-2-68	
2	Solar charge controller MPPT	Make		Lumiax	Technically OK As per Specification
		Model		MPPT1575-DCLi	
		Charge Controller Size (A)	15 Amps	15 Amps	
		Battery Bank Voltage	24 V	24 V DC	
		Maximum Conversion Efficiency %	97%	97.50%	
		Battery Configuration	LiFePO4	Lithium Ion	
		IP	IP 67	IP67	
		Certification	ISO 9001 CE Certified	ISO 9001:2015 CE certified	
3	Battery Data	Make		Dongguan Sunnew Energy Technology Co, Ltd.	Technically OK As per Specification
		Model		SN-2470	
		Battery Type	LiFePO4	LiFePO4	
		Battery Size (Ah)	70 Ah	70 Ah	
		Battery Terminal Voltage	24 V	25.6 V	
		Cycle life of battery before 80 % capacity of initial capacity @ 50 % DOD at discharge rate of 10 Hours	5750 @ 0.1 C	6000 @ 0.2 C	
		Charge and discharge rate of battery.	0.2 C Standard Use	0.2 C Standard use	
		Certification/ Codes	IEC 61427, IEC 60896	CE, UN38.3, MSDS	
		Total Watt Hour	1680	1680	
4	Road light fixture SMD Type	Make		Unilumin	Technically OK As per Specification
		Type	IESNA Type-II	Type II	
		Rated Power	60 W	60 W	
		Lumens per Watt	130	115-140	
		Life time of Lamp (Hours)	50000 hrs	50000 hrs	
5	PV Mounting Structure	PV Mounting Structure Material Type	Angle Iron Hot Dipped Galvanized	Angle Iron Hot Dipped Galvanized	Technically OK As per Specification
		PV Mounting Structure Type	Pole mounting (top of the pole)	Pole mounting (top of the pole)	
		Minimum Thickness of the PV Mounting Structure	4 mm	4 mm	
		Minimum Galvanization of the PV Mounting Structure	>80 microns	>80 microns	
		Type of material for Array fasteners (nut/bolts/Washers) b/w PV Module and structure	Stainless Steel (SS)	Stainless Steel (SS)	
6	Road light pole	Pole Material Type	Hot Dipped Galvanized	Hot Dipped Galvanized	Technically OK As per Specification
		PV Mounting Structure Type	Round Conical Pole	Round Conical Pole	
		Minimum Thickness of the Pole	4 mm	4 mm	
		Length	8 meter	8 meter	
		Top Dia/ Base Dia	75 mm / 180 mm	75 mm / 180 mm	
		Minimum Galvanization of the Pole	>80 microns	>80 microns	
		Type of material for Pole fasteners (nut/bolts/Washers) b/w Pole and foundation	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)	

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

TECHNICAL EVALUATION (DESIGN DETAIL OF WSS)
PACKAGE 03

PROJECT NAME:
SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER PAKHTUNKHWA

FIRM / CONTRACT NAME: TSK ENGINEERING INTERNATIONAL
PVT LTD

ADP#	NAME OF WORK	DISCHARGE (US-GPH)	HEAD (FT)	PUMP SETTING (FT)	Pump Efficiency (%)	Motor Efficiency (%)	Water Horse Power (WHP)	SHAFT POWER (BHP)	Motor HP/0.9	Pump + Motor (HP)	Motor Basic Input Power (W)	Total PV Power Required (MBIP * 1.75)	PV Safety Factor (%)	Total PV P(Watt) Quoted	Remarks
934(2019-20)	DWSS AT HASSAN KHEL	787	310	300	56.70%	75.00%	1.23	2.17	2.41	3.00	2,162	3,783	1.92	4,160	Bid Technically OK

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TECHNICAL EVALUATION

FOR THE PROJECT

**SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND
SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER
PAKHTUNKHWA
PACKAGE 04**



AUGUST 2020

Consultant:



BARG Engineering

Management, Consulting Engineers, Planners and Technical Advisors

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

TECHNICAL EVALUATION (MANDATORY REQUIREMENT)
PACKAGE 04

PROJECT NAME:

SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER PAKHTUNKHWA

FIRM / CONTRACT NAME:			TSK ENGINEERING INTERNATIONAL PVT LTD	SKY GREEN ENGINEERING PVT LTD
S.No	ELIGIBILITY	Yes / No	DETAIL OF FIRM	DETAIL OF FIRM
1	Registration with Pakistan Engineering Council (PEC) in C3 Category	Yes / No	YES (C2/1804)	YES (C2/E/ 1732)
2	Specialization code EE11 (Solar Technology)	Yes / No	YES	YES
3	Registration with Income Tax Department (NTN Certificate) The proof of being an active tax payer must be provided with the Income Tax registration certificate.	Yes / No	YES (1773720-6) Active	YES (7186402-1) Active
4	Sales Tax Registration (STRN certificate)	Yes / No	YES (0501850007137)	YES (3277876121416)
5	Registration with Khyber Pakhtunkhwa Revenue Authority (KPRA).	Yes / No	YES (1773720-6) Active	YES (7186402-1) Active
6	Affidavit that the Firm is NOT Blacklisted from any Government/Semi-Government Agency/Department/NGO in accordance with KPPRA Rules.	Yes / No	YES	YES
7	Affidavit that the Firm DOESN'T have any Litigation History in which Decision has been given against the firm(s)	Yes / No	YES	YES
8	JV agreement as per PEC criteria on Judicial stamp paper , signed by authorized persons of all the firms should be provided. All JV partners must be registered with PEC.	Yes / No	N/A	N/A
9	Form of Bid (Letter of Offer) Provided / accordingly to be filled and submitted in the technical proposal	Yes / No	YES	NO
10	Affidavit of Bid security amounting to 2 percent of bid cost	Yes / No	YES	YES
11	Registration with LG&RDD under new Centralized enlistment system	Yes / No	YES	YES

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

TECHNICAL EVALUATION (DESIGN DETAIL OF SOLAR STREET LIGHTS)
PACKAGE 04

PROJECT NAME:
SUPPLY AND INSTALLATION OF SINGLE ARM SOLAR STREET LIGHTS AND SOLARIZATION OF WSS AT MERGED DISTRICTS OF KHYBER PAKHTUNKHWA

FIRM / CONTRACT NAME:				TSK ENGINEERING INTERNATIONAL PVT LTD	SKY GREEN ENGINEERING PVT LTD	
S #	Description of Item	Required Data		Remarks	Remarks	
1	Solar PV Module	PV Module Wattage	300 W	Technically ok as per specifications	No technical Compliance sheet Provided by Sky green Engineering Pvt Ltd	
		Efficiency	17.50%			
		Certification	IEC 61215-1, 61215-2:2016 IEC 61730-1,61730-2:2016 IEC TS-62804-1 / PPP-58042B:2015 IEC 61701,IEC 62716 IEC 60068-2-68			
2	MPPT Solar Charge controller	Charge Controller Size (A)	15 Amps	Technically ok as per specifications		
		Battery Bank Voltage	24 V			
		Maximum Conversion Efficiency %	97%			
		Battery Configuration	LiFePO4			
		IP	IP 67			
		Certification	ISO 9001 CE Certified			
3	Battery Bank	Battery Type	LiFePO4	Technically ok as per specifications		
		Battery Size (Ah)	70 Ah			
		Battery Terminal Voltage	24 V			
		Cycle life of battery before 80 % capacity of initial capacity @ 50 % DOD at discharge rate of 10 Hours	5750 @ 0.1 C			
		Charge and discharge rate of battery.	0.2 C Standard Use			
		Certification/ Codes	IEC 61427, IEC 60896			
		Total Watt Hour	1680			
4	Road light fixture SMD Type	Type	IESNA Type-II	Technically ok as per specifications		
		Rated Power	60 W			
		Lumens per Watt	130			
		Operating Temperatures	(-40C) to (+60C)			
		Life time of Lamp (Hours)	50000 hrs			
5	PV Mounting structure	PV Mounting Structure Material Type	Angle Iron Hot Dipped Galvanized	Technically ok as per specifications		
		PV Mounting Structure Type	Pole mounting (top of the pole)			
		Minimum Thickness of the PV Mounting Structure	4 mm			
		Minimum Galvanization of the PV Mounting Structure	>80 microns			
		Type of material for Array fasteners (nut/bolts/Washers) b/w PV Module and structure	Stainless Steel (SS)			
6	Road light pole	Pole Material Type	Hot Dipped Galvanized	Technically ok as per specifications		
		PV Mounting Structure Type	Round Conical Pole			
		Minimum Thickness of the Pole	4 mm			
		Length	8 meter			
		Top Dia / Base Dia	75 mm / 180 mm			
		Minimum Galvanization of the Pole	>80 microns			
		Type of material for Pole fasteners (nut/bolts/Washers) b/w Pole and foundation	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)			
RECOMMENDATIONS				BID TECHNICALLY RESPONSIVE	BID TECHNICALLY NON-RESPONSIVE	

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

QUOTED PRODUCTS DETAIL

S #	Description of Item	Required Data		TSK ENGINEERING PVT LTD	Remarks
1	Solar Panel (PV module) mono-crystalline	Make		JA Solar	Technically OK As per Specification
		Model		JAM60 series	
		PV Module Wattage	300 W	300	
		Efficiency	17.50%	18.70%	
		Certification	IEC 61215-1, 61215-2:2016 IEC 61730-1,61730-2:2016 IEC TS-62804-1 / PPP-58042B:2015 IEC 61701,IEC 62716 IEC 60068-2-68	IEC 61215-1, 61215-2:2016 IEC 61730-1,61730-2:2018 PPP-58042B:2015 IEC 61701,IEC 62716 IEC 60068-2-68	
2	Solar charge controller MPPT	Make		Lumiax	Technically OK As per Specification
		Model		MPPT1575-DCLi	
		Charge Controller Size (A)	15 Amps	15 Amps	
		Battery Bank Voltage	24 V	24 V DC	
		Maximum Conversion Efficiency %	97%	97.50%	
		Battery Configuration	LiFePO4	Lithium Ion	
		IP	IP 67	IP67	
		Certification	ISO 9001 CE Certified	ISO 9001:2015 CE certified	
3	Battery Data	Make		Dongguan Sunnew Energy Technology Co, Ltd.	Technically OK As per Specification
		Model		SN-2470	
		Battery Type	LiFePO4	LiFePO4	
		Battery Size (Ah)	70 Ah	70 Ah	
		Battery Terminal Voltage	24 V	25.6 V	
		Cycle life of battery before 80 % capacity of initial capacity @ 50 % DOD at discharge rate of 10 Hours	5750 @ 0.1 C	6000 @ 0.2 C	
		Charge and discharge rate of battery.	0.2 C Standard Use	0.2 C Standard use	
		Certification/ Codes	IEC 61427, IEC 60896	CE, UN38.3, MSDS	
		Total Watt Hour	1680	1680	
4	Road light fixture SMD Type	Make		Unilumin	Technically OK As per Specification
		Type	IESNA Type-II	Type II	
		Rated Power	60 W	60 W	
		Lumens per Watt	130	115-140	
		Life time of Lamp (Hours)	50000 hrs	50000 hrs	
5	PV Mounting Structure	PV Mounting Structure Material Type	Angle Iron Hot Dipped Galvanized	Angle Iron Hot Dipped Galvanized	Technically OK As per Specification
		PV Mounting Structure Type	Pole mounting (top of the pole)	Pole mounting (top of the pole)	
		Minimum Thickness of the PV Mounting Structure	4 mm	4 mm	
		Minimum Galvanization of the PV Mounting Structure	>80 microns	>80 microns	
		Type of material for Array fasteners (nut/bolts/Washers) b/w PV Module and structure	Stainless Steel (SS)	Stainless Steel (SS)	
6	Road light pole	Pole Material Type	Hot Dipped Galvanized	Hot Dipped Galvanized	Technically OK As per Specification
		PV Mounting Structure Type	Round Conical Pole	Round Conical Pole	
		Minimum Thickness of the Pole	4 mm	4 mm	
		Length	8 meter	8 meter	
		Top Dia/ Base Dia	75 mm / 180 mm	75 mm / 180 mm	
		Minimum Galvanization of the Pole	>80 microns	>80 microns	
		Type of material for Pole fasteners (nut/bolts/Washers) b/w Pole and foundation	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)	

GOVERNMENT OF KHYBER PAKHTUNKHWA
DIRECTORATE OF LOCAL & RURAL DEPARTMENT MERGED AREA, PESHAWAR

QUOTED PRODUCTS DETAIL

S #	Description of Item	Required Data		SKY GREEN ENGINEERING PVT LTD
1	Solar Panel (PV module) mono-crystalline	Make		No technical Compliance sheet Provided by Sky green Engineering Pvt Ltd
		Model		
		PV Module Wattage	300 W	
		Efficiency	17.50%	
		Certification	IEC 61215-1, 61215-2:2016 IEC 61730-1, 61730-2:2016 IEC TS-62804-1 / PPP-58042B:2015 IEC 61701, IEC 62716 IEC 60068-2-68	
2	Solar charge controller MPPT	Make		
		Model		
		Charge Controller Size (A)	15 Amps	
		Battery Bank Voltage	24 V	
		Maximum Conversion Efficiency %	97%	
		Battery Configuration	LiFePO4	
		IP	IP 67	
		Certification	ISO 9001 CE Certified	
3	Battery Data	Make		
		Model		
		Battery Type	LiFePO4	
		Battery Size (Ah)	70 Ah	
		Battery Terminal Voltage	24 V	
		Cycle life of battery before 80 % capacity of initial capacity @ 50 % DOD at discharge rate of 10 Hours	5750 @ 0.1 C	
		Charge and discharge rate of battery.	0.2 C Standard Use	
		Certification/ Codes	IEC 61427, IEC 60896	
		Total Watt Hour	1680	
4	Road light fixture SMD Type	Make		
		Model		
		Type	IESNA Type-II	
		Rated Power	60 W	
		Lumens per Watt	130	
		Life time of Lamp (Hours)	50000 hrs	
5	PV Mounting Structure	PV Mounting Structure Material Type	Angle Iron Hot Dipped Galvanized	
		PV Mounting Structure Type	Pole mounting (top of the pole)	
		Minimum Thickness of the PV Mounting Structure	4 mm	
		Minimum Galvanization of the PV Mounting Structure	>80 microns	
		Type of material for Array fasteners (nut/bolts/Washers) b/w PV Module and structure	Stainless Steel (SS)	
6	Road light pole	Pole Material Type	Hot Dipped Galvanized	
		PV Mounting Structure Type	Round Conical Pole	
		Minimum Thickness of the Pole	4 mm	
		Length	8 meter	
		Top Dia/ Base Dia	75 mm / 180 mm	
		Minimum Galvanization of the Pole	>80 microns	
		Type of material for Pole fasteners (nut/bolts/Washers) b/w Pole and foundation	GI Nut Bolts(J-Bolts) with Threads (Double Nut/ Double washer)	