NPW SOLAR (Pvt) Ltd

G-30/4 KDA Scheme No. 5,
Block-8, Clifton Karachi, Pakistan.
U.A.N.: +92-21-111-176-527,
Ph: +92-21-35360583-4,
+92-21-35304863-4.

The Registrar
National Electric Power Regulatory Authority
2nd Floor, OPF Building, Sector G-5/2
Islamabad.

Subject: **Application for Modification in Generation License No. SGC/142/2020 for 11.3MW Solar Power Plants by NPW Solar (Private) Limited**

Dear Sir,

a) The Company was granted Generation License No. SGC/142/2020 dated September 09,2020 ("The Generation License pursuant to Section 14(B) of Regulation of Generation, transmission and distribution of Electric Power act 1997, read with relevant provisions of NEPRA Licensing (Application and Modification Procedure regulation), 1999.
The Company intends to add three Consumers to the existing License. Plant is already Installed at MES Main Pump and Duct Pump Now, NPW Solar (Private) Limited Intends to supply energy to three more consumers under the same license at MES Hyderabad, Sakrand & Zhob.
These modifications have no negative impact on the overall obligations of licensee under the signed contract with customer. However total Capacity allowed under issued GL will be increased as addition of new site is requested under the Licensee Proposed Modification.

b) Pursuant to NEPRA Regulations 2021, Section 3 (10), No impact will be occurred on tariff, Quality of services and the performance by licensee of its obligations under the license: However, one more site will be added in addition with some changes in plant capacities and technical prospects of existing sites mentioned in the Issued Generation License.

c) Therefore, the company hereby submits the application for modification of generation license, Pursuant to National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021

d) I, **Usman Ahmad, Chief Executive Officer,** being the duly authorized representative of **NPW Solar (Private) Limited** by virtue of Board Resolution dated 1st Nov 2024, hereby apply to National Electric Power Authority for the Grant of Generation License Modification in the existing to **NPW Solar (Private) Limited.** Generation License No. SGC/142/2020 pursuant to Nepra Licensing regulations 2021, for application and modification procedure.

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e) I certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and belief.

f) A BANK DRAFT in sum of Rupees 545,655/- being the non-refundable license application fee calculated in accordance with Schedule II to National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021, is also attached herewith.

   a. Existing License No. SGC/142/2020 is herewith attached.
   b. The application is filed in triplicate with all annexure appended with each set of the application.

Sincerely,

NPW SOLAR (PVT) LTD.

Usman Ahmad
Chief Executive Officer

NPW SOLAR (Pvt) Ltd

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Block-8, Clifton Karachi, Pakistan.
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APPLICATION FOR MODIFICATION IN GENERATION LICENSE NO. SGC142/2020 FOR 11.3MW SOLAR POWER PLANTS BY NPW SOLAR(PRIVATE) LIMITED.

ANNEXURE-2

BOARD RESOLUTION

EXTRACTS OF BOARD RESOLUTION PASSED ON 01 November, 2024

"RESOLVED THAT an application under Regulation 10 (1)(2) of National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 shall be filed with National Electric Power Regulatory Authority for necessary modifications in Generation License No SGC/142/2020 dated:01 Nov,2024.

RESOLVED FUTHER THAT Mr. Usman Ahmed, Chief Executive Officer of the Company be and are hereby singly and severally authorized to sign all/any forms, documents as may be required to be filed with the National Electric Power Regulatory Authority.

CEO

NPW SOLAR (PVT) LTD.

NPW SOLAR
(Pvt) Ltd

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APPLICATION FOR MODIFICATION IN GENERATION LICENSE NO. SGC142/2020 FOR 11.3MW SOLAR POWER PLANTS BY NPW SOLAR(PRIVATE) LIMITED.

ANNEXURE-4

LICENSE PROPOSED MODIFICATION

Reference: **National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 2021**

2. Licensee Proposed Modification

This application for modification is being filed pursuant to:

a) Sub-regulation 1 of Regulation 10 of the NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 which provides, inter alia, that:

"A licensee may, at any time during the term of a license, communicate to the Authority a Licensee proposed modification setting out the:

(i) the text of the proposed modification;

(ii) a statement of reasons in support of the modifications; and

(iii) a statement of the impact on tariff, quality of service and the performance of the licensee of its obligations under the license."

2.1 Text of Proposed Modification

2.1.1. The Existing Generation License No. SGC/142/2020 dated September 09,2020 issued to NPW Solar (Private) Limited for supplying of power to Malir, Cantonments in the province of Sindh Capacity allowed in the Existing Generation License is 4.5MW.

2.1.2 Now, NPW Solar (Private) Limited Intends to supply energy to three more consumers under the same license and also enhanse the existing consumer energy from 4.5MW to 5.8MW. Consumer Sites details are below.

MES Malir

- Name of Consumer: MES Malir
- Plant Location: MES Malir
- Installed Capacity of Generation Capacity: 5.8MWp
- Plant Installation is completed.
- Technical Details are duly attached as Schedule I and II in Annexure 5

MES Hyderabad

- Name of Consumer: MES Hyderabad
- Plant Location: MES Hyderabad
- Installed Capacity of Generation Capacity: 2.5MWp
- Plant Installation is In-Progress.

- Technical Details are duly attached as Schedule I and II in Annexure 5.

MES Sakrand

- Name of Consumer: MES Sakrand
- Plant Location: MES Sakrand
- Installed Capacity of Generation Capacity: 2MWp
- Plant Installation is In-Progress.
- Technical Details are duly attached as Schedule I and II in Annexure 5.

MES Zhob

- Name of Consumer: MES Zhob
- Plant Location: MES Zhob
- Installed Capacity of Generation Capacity: 1MWp
- Plant Installation is In-Progress.
- Technical Details are duly attached as Schedule I and II in Annexure 5

After the addition of above Consumers, Revised capacity of Generation shall be 11.3MWp as per the below mentioned details.

1	MES Malir Cantonment	5.8 MWp
2	MES Hyderabad Cantonment	2.5 MWp
3	MES Sakrand	2 MWp
4	MES Zhob Cantonment	1 MWp
	Total Capacity (After Modification)	**11.3 MWp**

2.2 Statement of reasons in support of the modifications

NPW Solar (Private) Limited Intends to add the sites to the existing License, pursuant to the award of project by MES Head Quarters under the same Power Purchase Agreements (PPA). All terms and conditions of the contract and tariff remains the same and also the purchasing authority is the same. Therefore, NPW Solar (Private) Limited intends to add the mentioned sites to the existing generation license and enhance the capacity of the existing generation license to 11.3MW.

2.3 Statement of the impact on tariff, quality of service and the performance of the licensee of its obligations under the license.

The generation of Solar power at the consumer location is based on bilateral contract under the PPA Model. Thus, the proposed modification will not have any impact on the tariff, quality of service and the performance by the licensee of its obligations under the license. The Tariff agreed with MES "The Purchaser" is same for all the cantonments under the contract. Thus, no impact on Tariff as per the agreement. The Capacity of Generation License will be enhanced only. These modifications have no negative impact on the overall obligations of licensee having the signed contract with same terms for all sites. However total Capacity allowed under issued GL will be increased as the addition of a new site is requested under the Licensee Proposed Modification.

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APPLICATION FOR MODIFICATION IN GENERATION LICENSE NO. SGC142/2020 FOR 11.3MW SOLAR POWER PLANTS BY NPW SOLAR(PRIVATE) LIMITED.

ANNEXURE-5

MES ARMY Modified Newly Added Site (SCHEDULE-I)

SCHEDULE-I

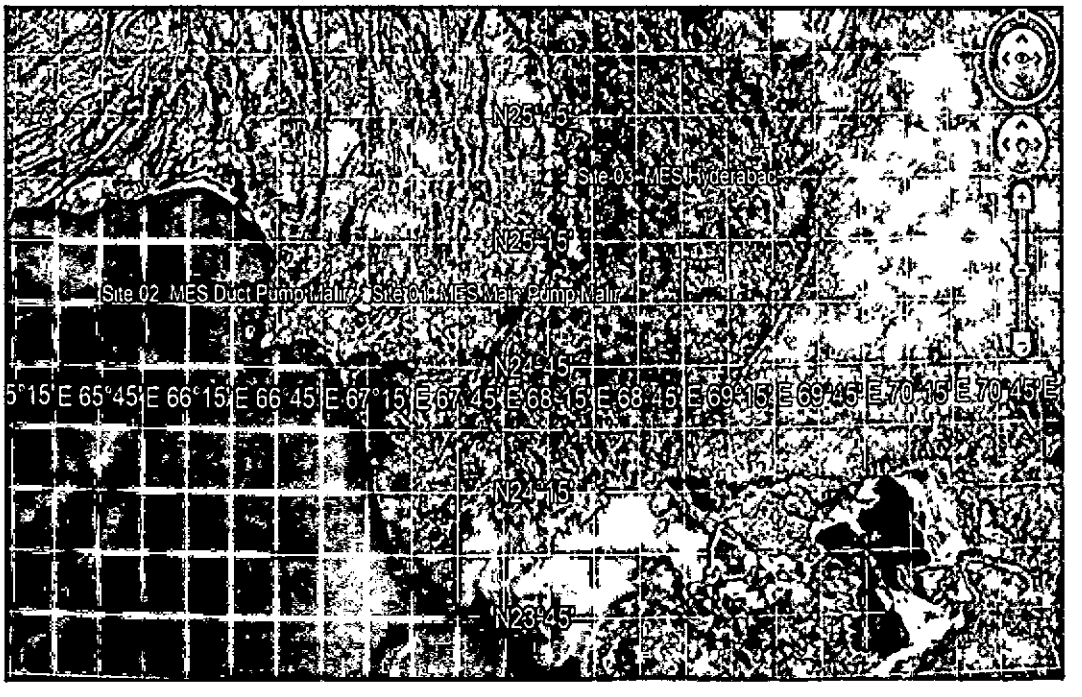
The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.

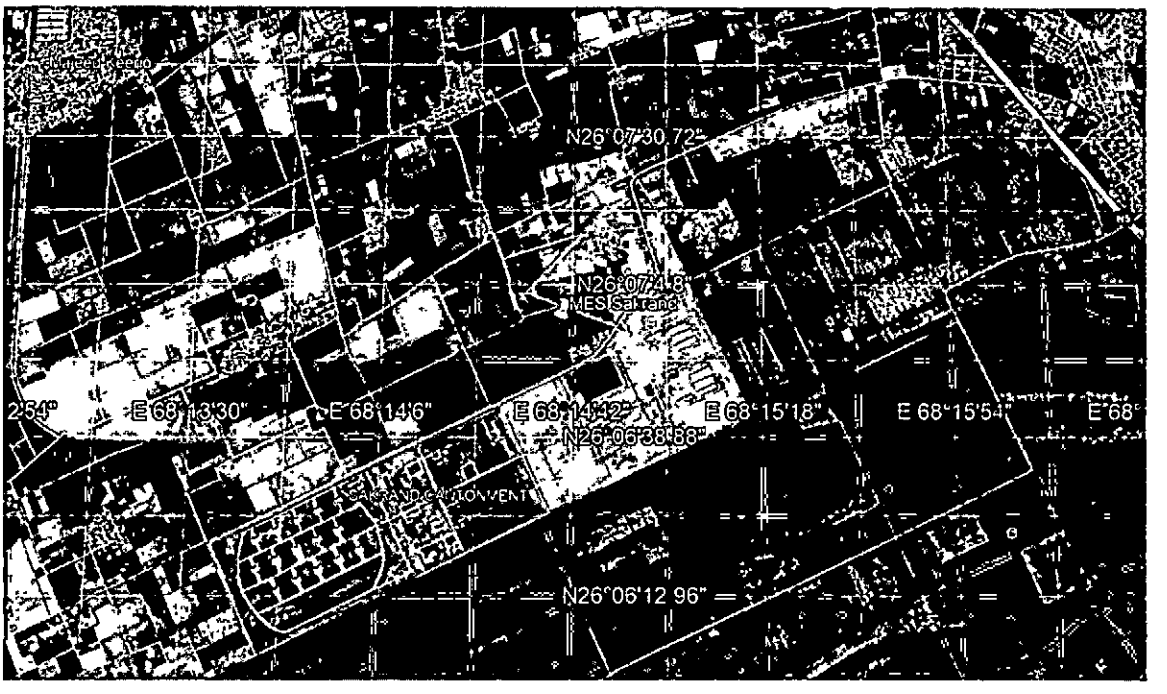
1.MES ARMY

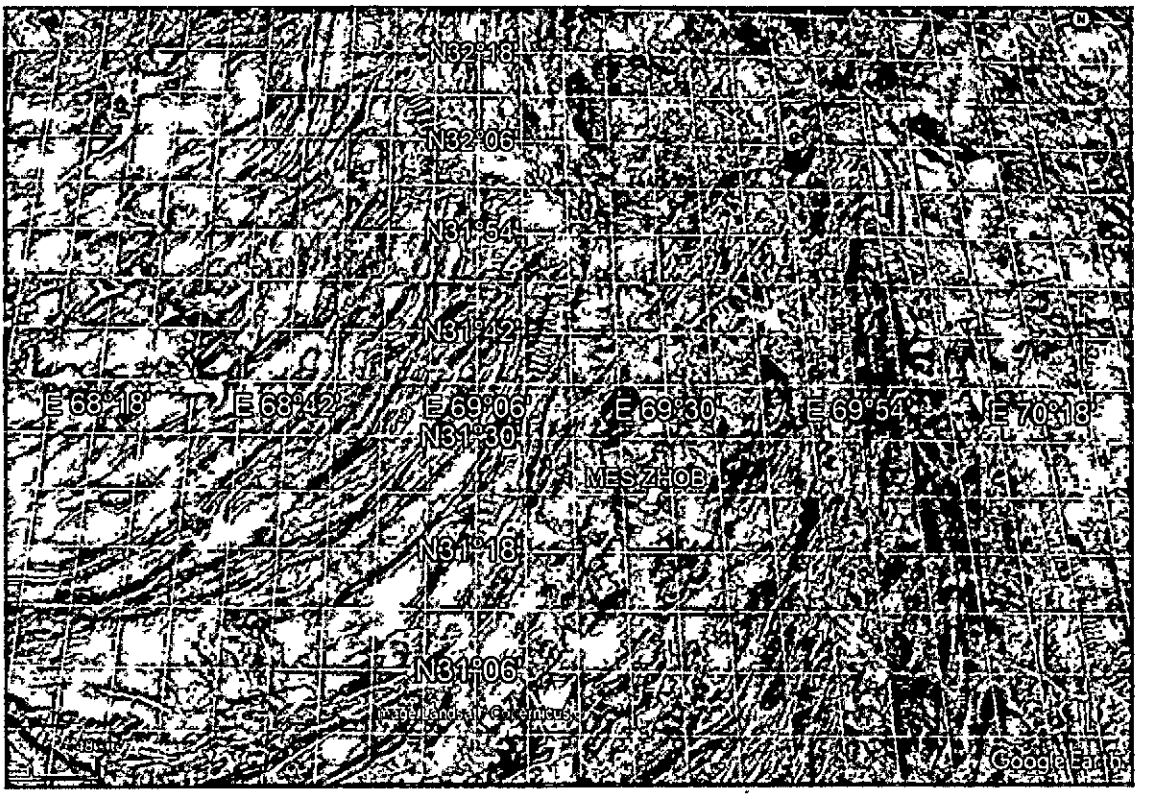
Location of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

There are five sites for the MES Solar Farms, located in Malir, Hyderabad, Sakrand, Zhob:

Site 01: **MES Main Pump, Malir (2.89MWp)**
Site 02: **MES Duct Pump, Malir (2.88MWp)**
Site 03: **MES Hyderabad (2.5MWp)**
Site 04: **MES Sakrand (2MWp)**
Site 05: **MES Zhob (1MWp)**

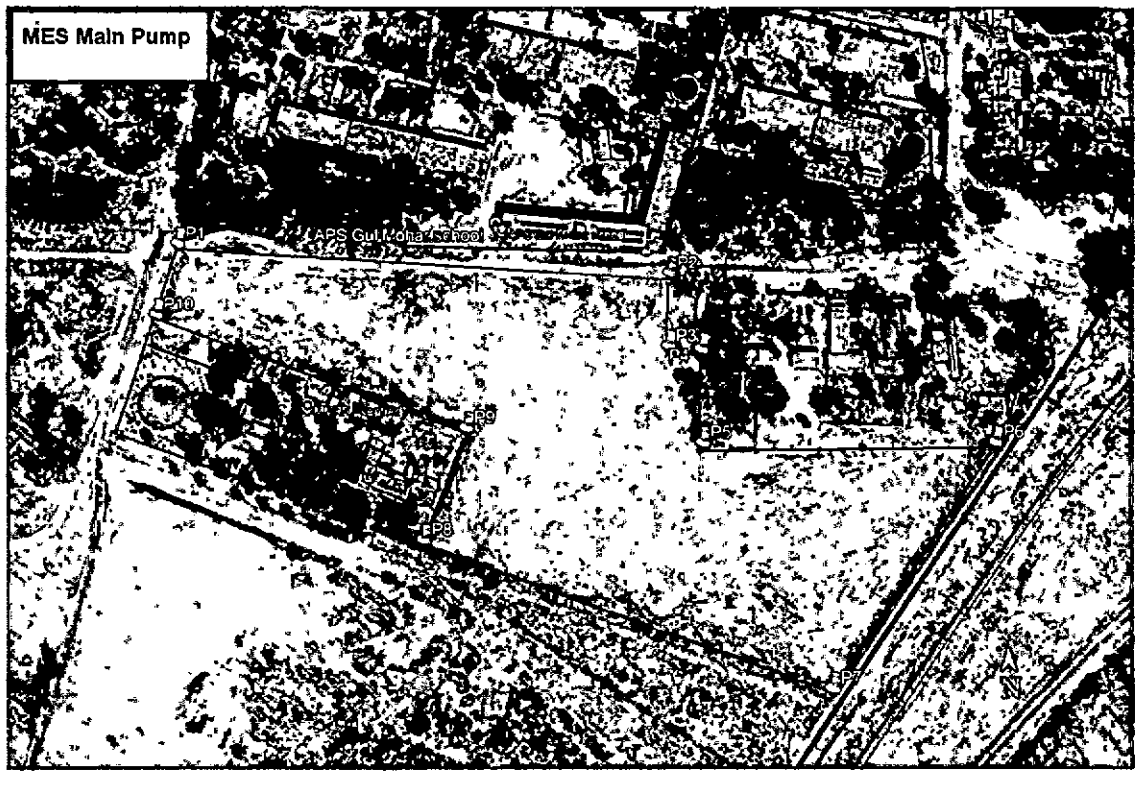



N26°07'30.72"
N26°07'4.8"
MES Sakrand
E 68°13'30"
E 68°14'6"
E 68°14'42"
E 68°15'18"
E 68°15'54"
N26°06'38.88"
SAKRAND CANTONMENT
N26°06'12.96"


N32°18'
N32°06'
N31°54'
N31°42'
E 68°18'
E 68°42'
E 69°06'
E 69°30'
E 69°54'
E 70°18'
N31°30'
MES ZHOB
N31°18'
N31°06'
Google Earth

Land Coordinates of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

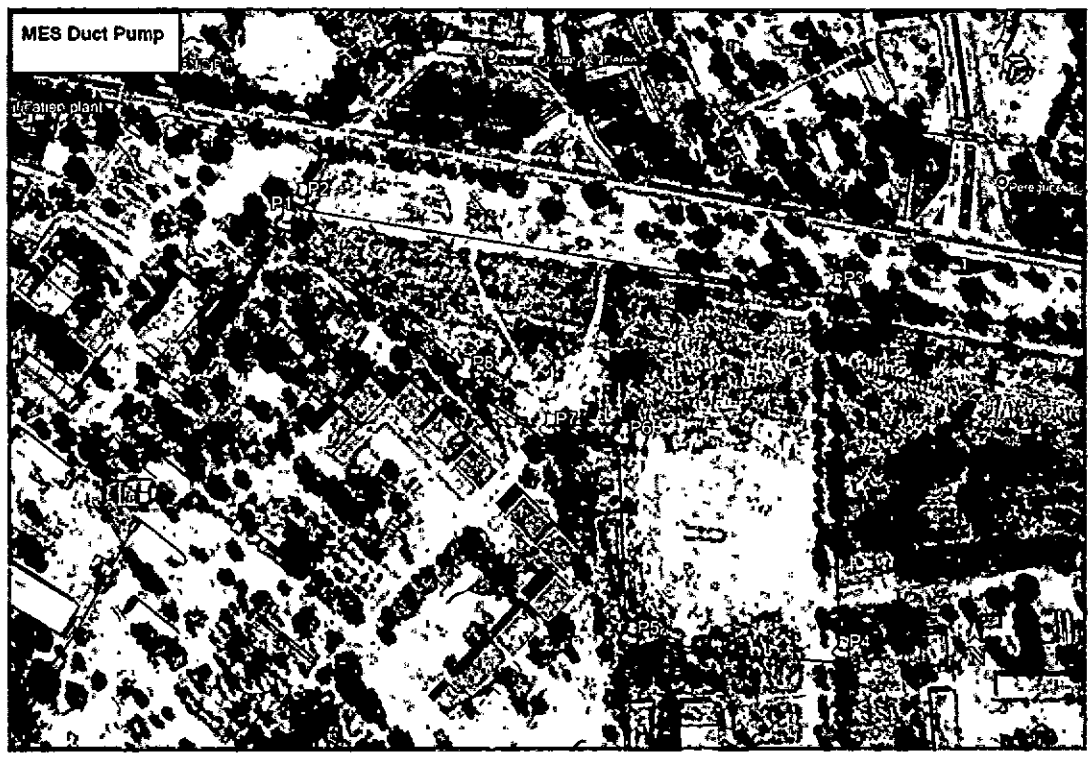
Site 01: MES (Main Pump) Khairpur Lines, MES Karachi



Total Project Land for MES Main Pump Site= 9.23 Acres		
P1	24°55'47.13"N	67°12'39.60"E
P2	24°55'46.58"N	67°12'48.26"E
P3	24°55'45.42"N	67°12'48.22"E
P4	24°55'45.37"N	67°12'48.79"E
P5	24°55'43.91"N	67°12'48.80"E
P6	24°55'43.88"N	67°12'53.83"E
P7	24°55'40.19"N	67°12'50.93"E
P8	24°55'42.46"N	67°12'44.04"E
P9	24°55'44.17"N	67°12'44.74"E
P10	24°55'46.00"N	67°12'39.29"E

Land Coordinates of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 02: **MES (Duct Pump) Sukkur Lines, MES Karachi**



Total Project Land for MES Duct Pump Site= 8.93 Acres		
P1	24°55'52.37"N	67°11'46.20"E
P2	24°55'52.82"N	67°11'46.49"E
P3	24°55'51.03"N	67°11'56.99"E
P4	24°55'44.78"N	67°11'56.90"E
P5	24°55'45.09"N	67°11'52.88"E
P6	24°55'48.49"N	67°11'52.78"E
P7	24°55'48.67"N	67°11'51.35"E
P8	24°55'49.67"N	67°11'49.74"E

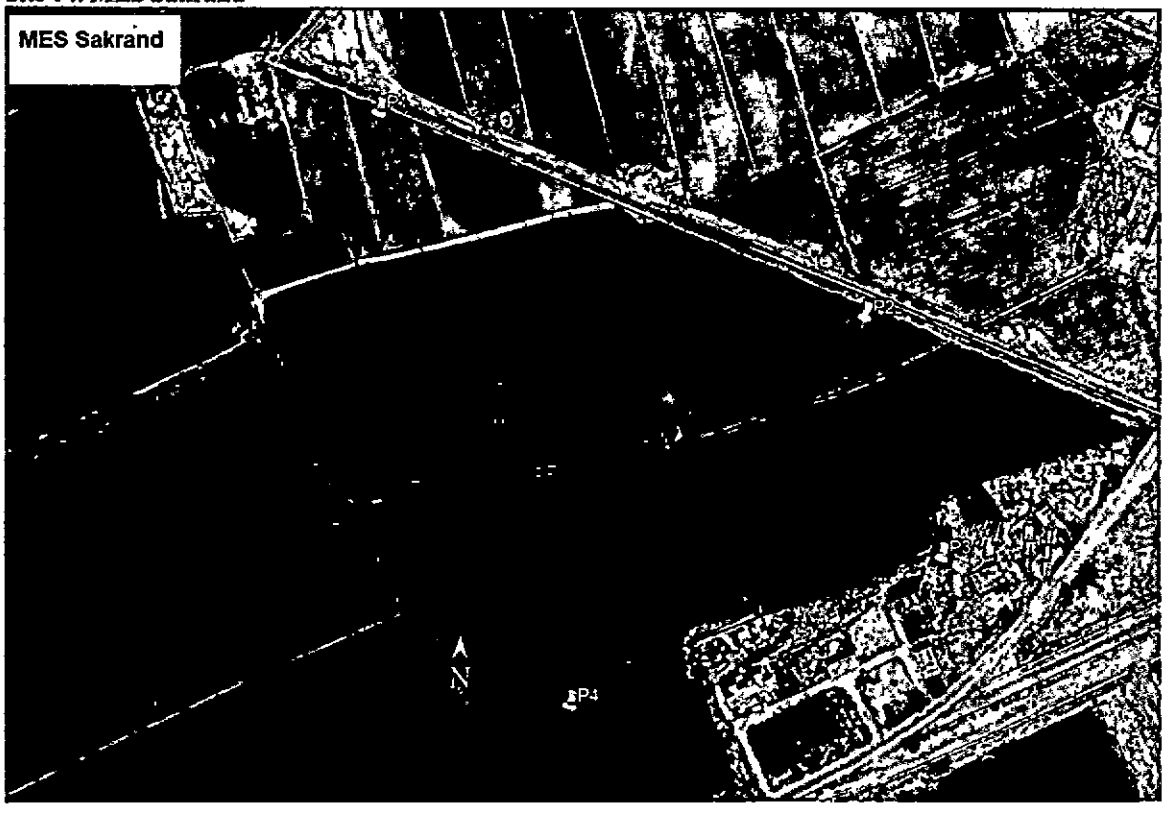
Land Coordinates of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 03: **MES Hyderabad**

Total Project Land for MES Hyderabad= 7.1 Acres		
P1	25°23'40.19"N	68°21'3.12"E
P2	25°23'43.78"N	68°21'5.83"E
P3	25°23'42.43"N	68°21'8.97"E
P4	25°23'41.58"N	68°21'7.99"E
P5	25°23'40.84"N	68°21'8.77"E
P6	25°23'40.97"N	68°21'9.11"E
P7	25°23'40.19"N	68°21'9.89"E
P8	25°23'37.20"N	68°21'8.18"E
P9	25°23'46.37"N	68°20'59.47"E
P10	25°23'48.50"N	68°20'58.58"E
P11	25°23'50.58"N	68°20'57.95"E
P12	25°23'51.73"N	68°20'59.04"E
P13	25°23'50.15"N	68°21'0.62"E
P14	25°23'49.24"N	68°21'1.68"E

Land Coordinates of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

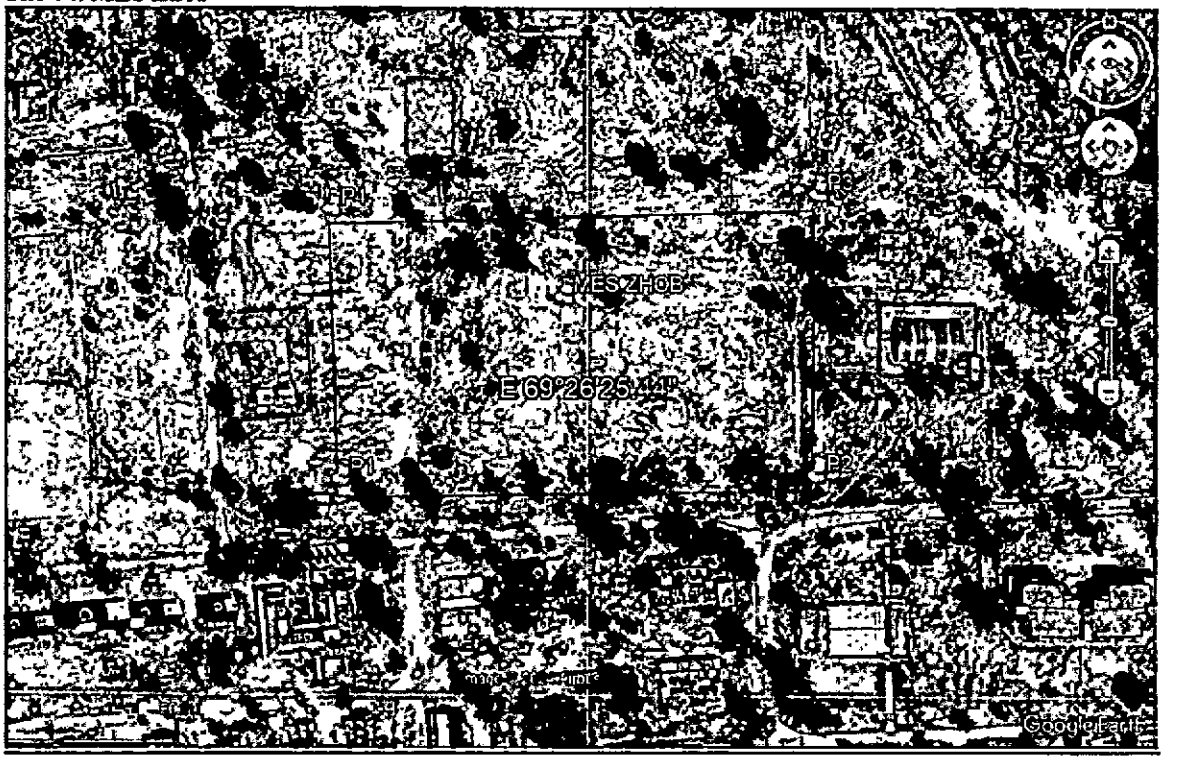
Site 04: MES Sakrand



Total Project Land for MES Sakrand = 12.2 Acres		
P1	26° 7'2.19"N	68°14'34.90"E
P2	26° 6'58.92"N	68°14'44.41"E
P3	26° 6'54.85"N	68°14'46.00"E
P4	26° 6'52.19"N	68°14'38.87"E

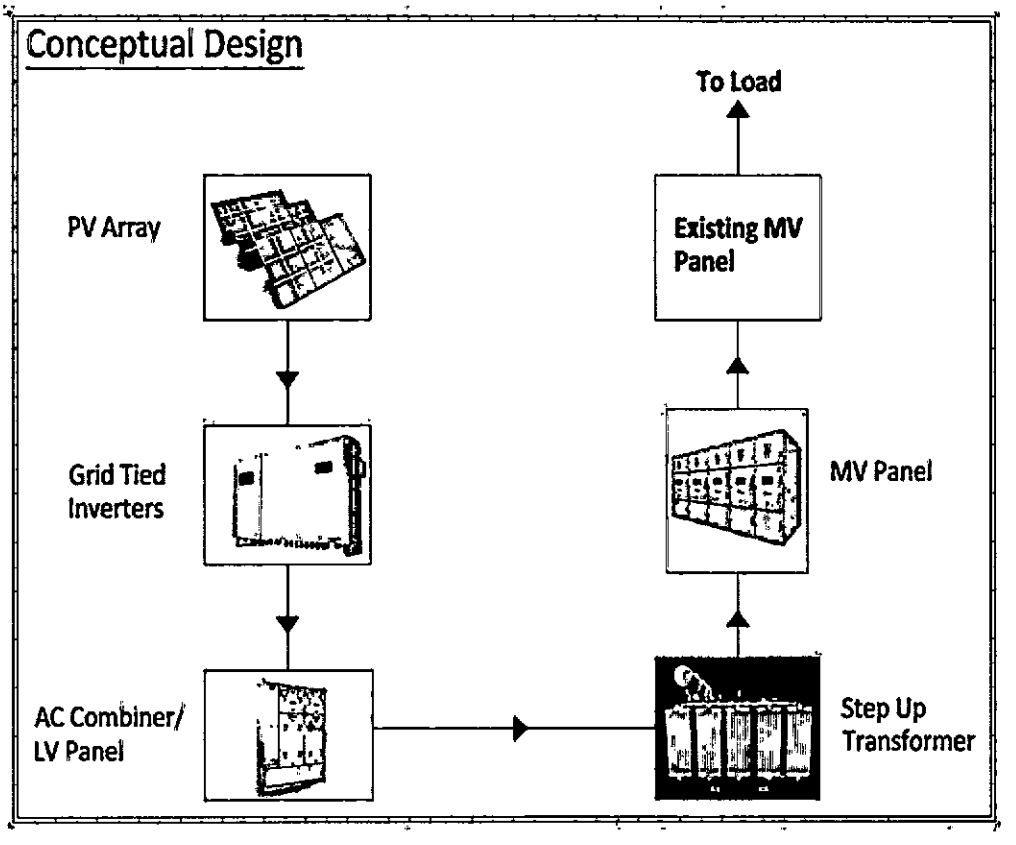
Land Coordinates of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 04: MES Zhob



Total Project Land for MES Zhob, Balochistan = 4.2 Acres		
Point	31°20'57.93"N	69°26'22.06"E
Point	31°20'57.97"N	69°26'28.44"E
Point	31°21'1.10"N	69°26'28.43"E
Point	31°20'57.97"N	69°26'28.44"E

Process Flow Diagram of the Generation Facility/Solar Power Plant/Solar Farm of the Licensees



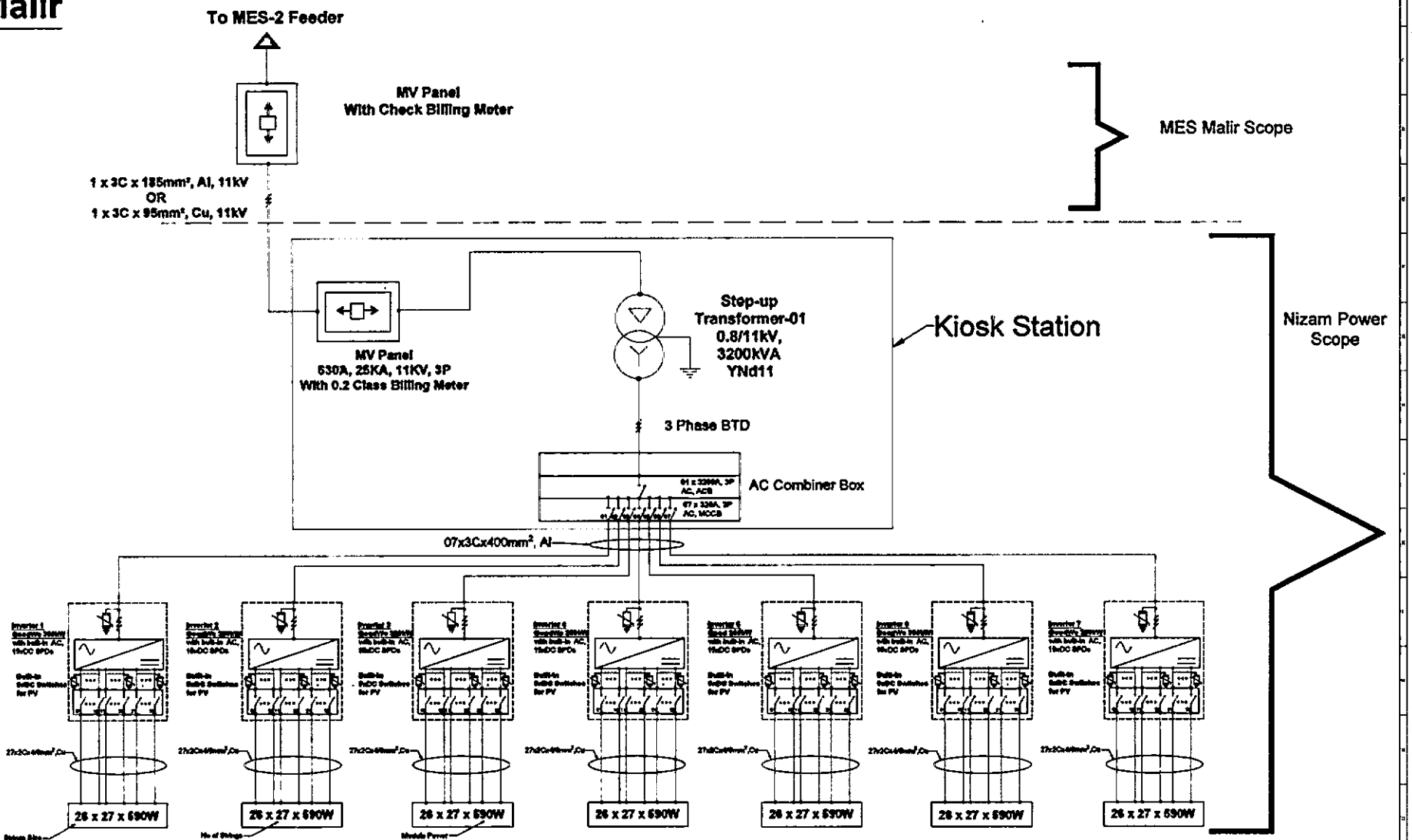
Single Line Diagram of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 01: MES Main Pump Malir

Single Line Diagram

Main Pump Malir

DC Cable
AC Cable



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-0924-MES2450kW-GM
Total Number of Inverters	07	Nominal Module Power	590Wp	PV per MPPT	15.34/30.68kW	DWG. No.	NEL-0924-MES2450kW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	4914	Site & Location of the Project	Malir,Karachi Pakistan	Designed by	M.Mazhar
Number of MPPTs per Inv.	15	Number of Modules per String	26			Checked by	Uzair Hashmi
Total MPPTs	105	Total Number of Strings	189	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	27	Revision No.	Advanced Copy	Date	09-09-2024

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 2899.26kWp PV Grid Tied Project at Main Pump , Malir.

Client: MES.

Title: Single Line Diagram

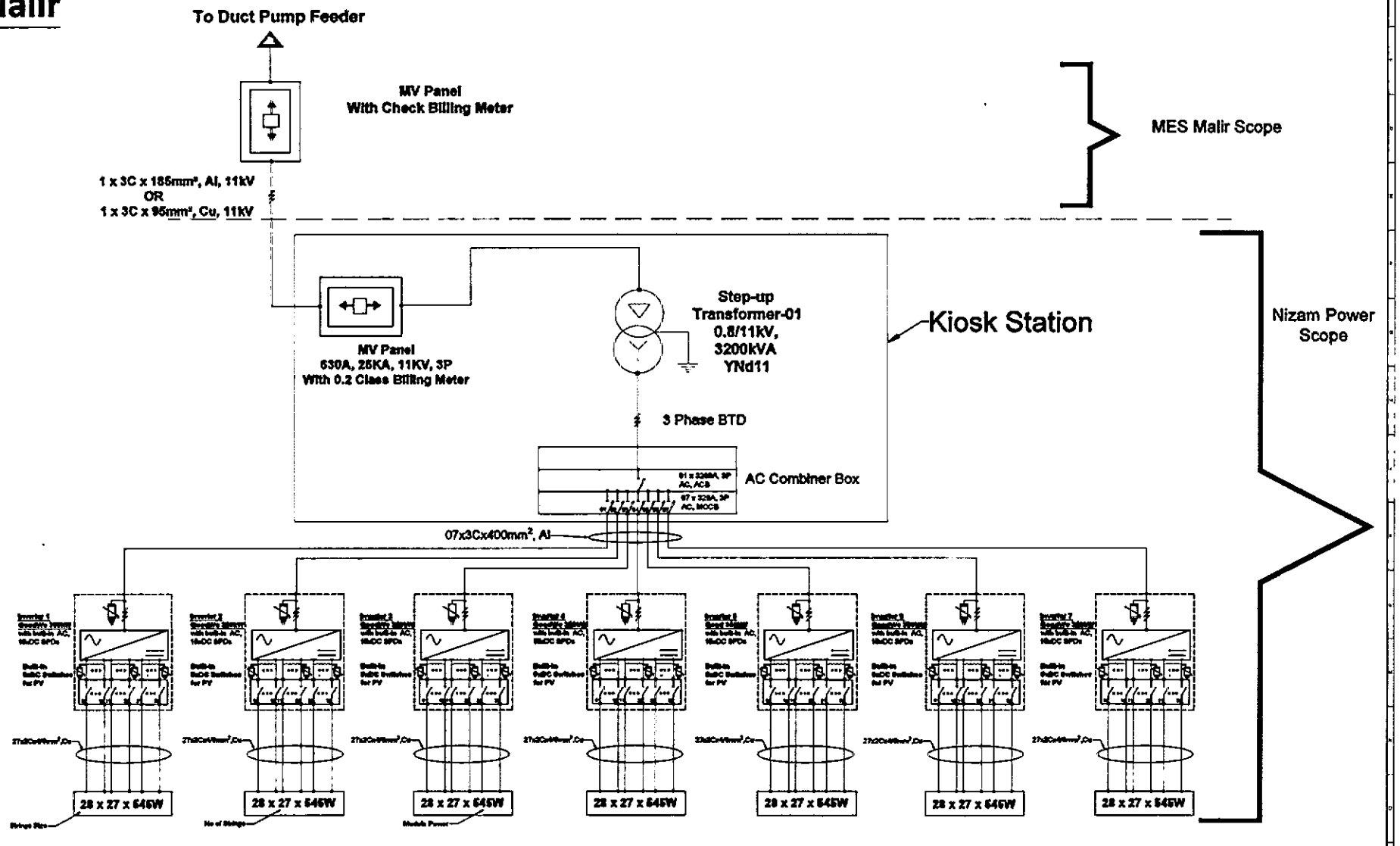
Single Line Diagram of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 02: MES Duct Pump Malir

Single Line Diagram

Duct Pump Malir

DC Cable
AC Cable



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-0924-MES2450kW-GM
Total Number of Inverters	07	Nominal Module Power	545Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-0924-MES2450kW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	5292	Site & Location of the Project	Malir,Karachi Pakistan	Designed by	M.Mazhar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Uzair Hashmi
Total MPPTs	105	Total Number of Strings	189	Stage	Preliminery DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	27	Revision No.	Advanced Copy	Date	12-09-2024

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 2884.14kWp PV Grid Tied Project at Duct Pump, Malir.

Client: MES.

Title: Single Line Diagram

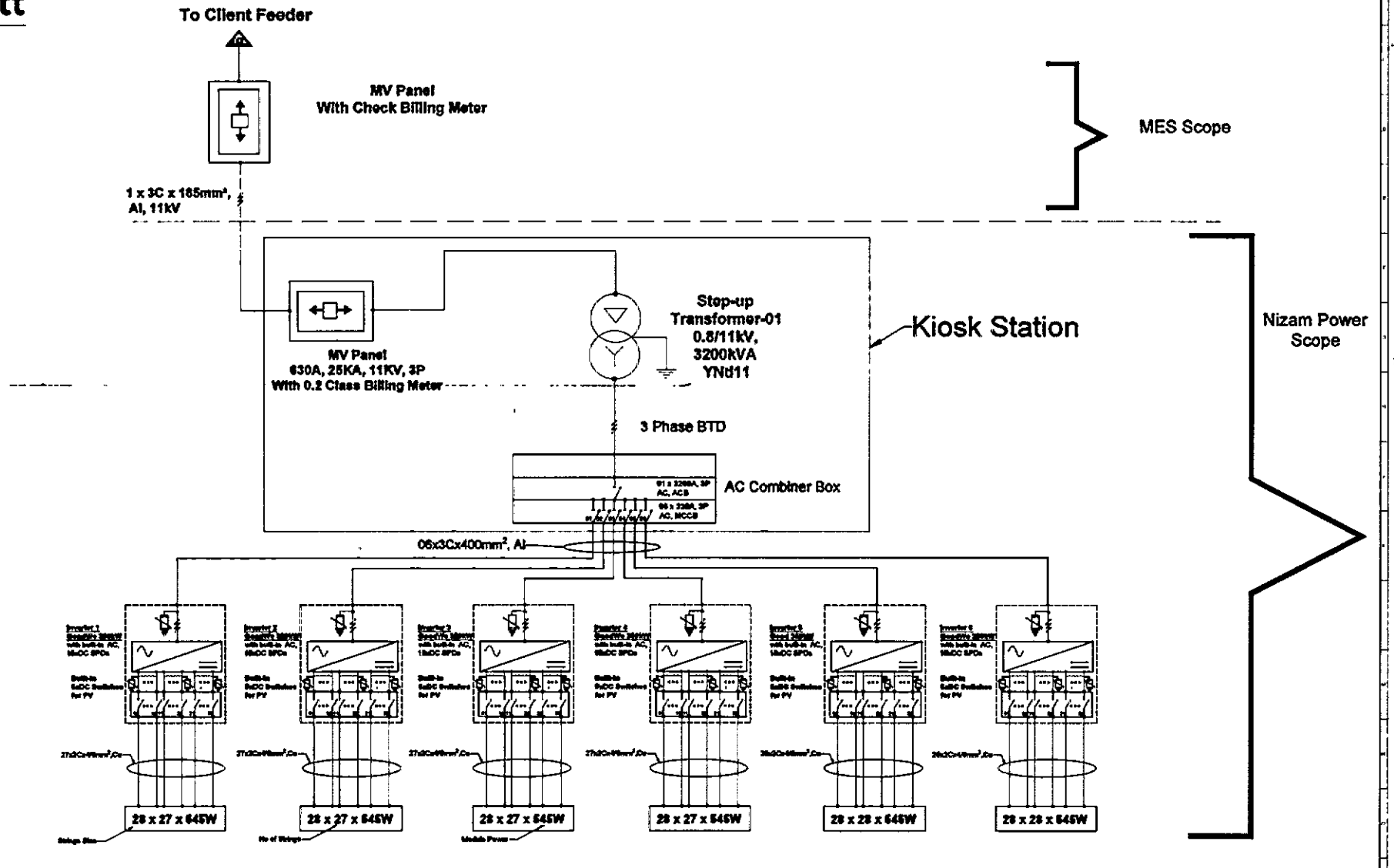
Single Line Diagram of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 03: **MES Hyderabad**

Single Line Diagram

Hyderabad Cantt

DC Cable
AC Cable



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-1024-MES2100kW-GM
Total Number of Inverters	06	Nominal Module Power	545Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-1024-MES2100kW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	4592	Site & Location of the Project	Hyderabad Pakistan	Designed by	M.Mazhar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Uzair Hashmi
Total MPPTs	90	Total Number of Strings	164	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	27/28	Revision No.	Advanced Copy	Date	30-10-2024

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 2.5MWp PV Grid Tied Project at Hyderabad Cantt .

Client: MES.

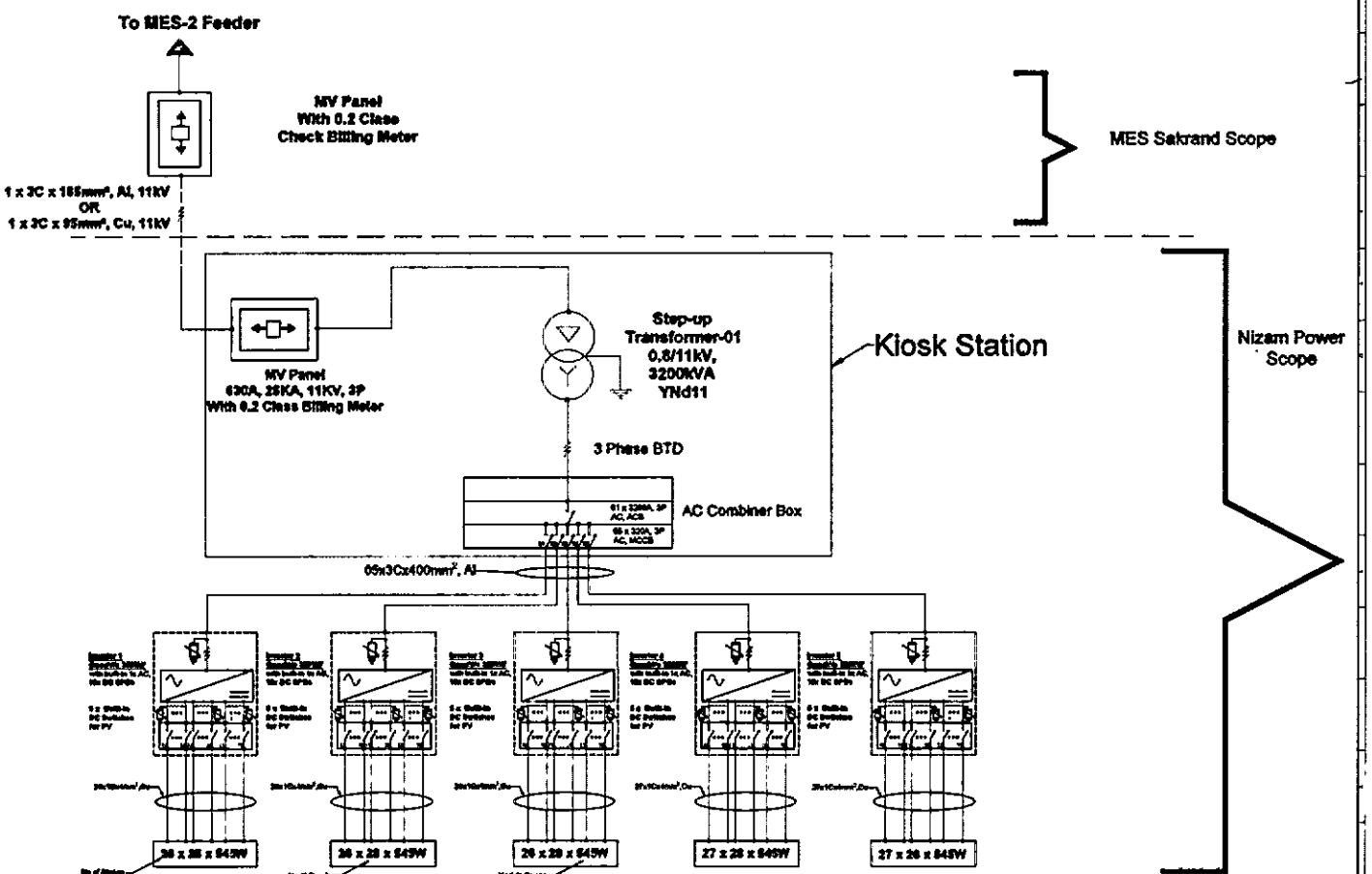
Title: Single Line Diagram

Single Line Diagram of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 04: MES Sakrand

Single Line Diagram

MES Sakrand



Inverter	Goodwe GW350K-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	MES-0524-MES2014KW-GM
Total Number of Inverters	08	Nominal Module Power	545Wp	PV per MPPT	15.24/30.52kW	Drawing No.	MES-0524-MES2014KW-SLD
Power of Inverter	350kW @45°C	Total Number of Modules	3696	Site & Location of the Project	MES Sakrand	Designed by	Zeeshan Akhtar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Irfan Yousuf
Total MPPTs	75	Total Number of Strings	132	Stage	Preliminary DWG	Verified by	Irfan Yousuf
Max Current per MPPT	30A	Strings per Inverter	26/27	Revision No.	Advanced Copy	Date	01-11-2024

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 2014kWp PV Grid Tied Project at MES Sakrand.

Client: MES.

Title: Single Line Diagram

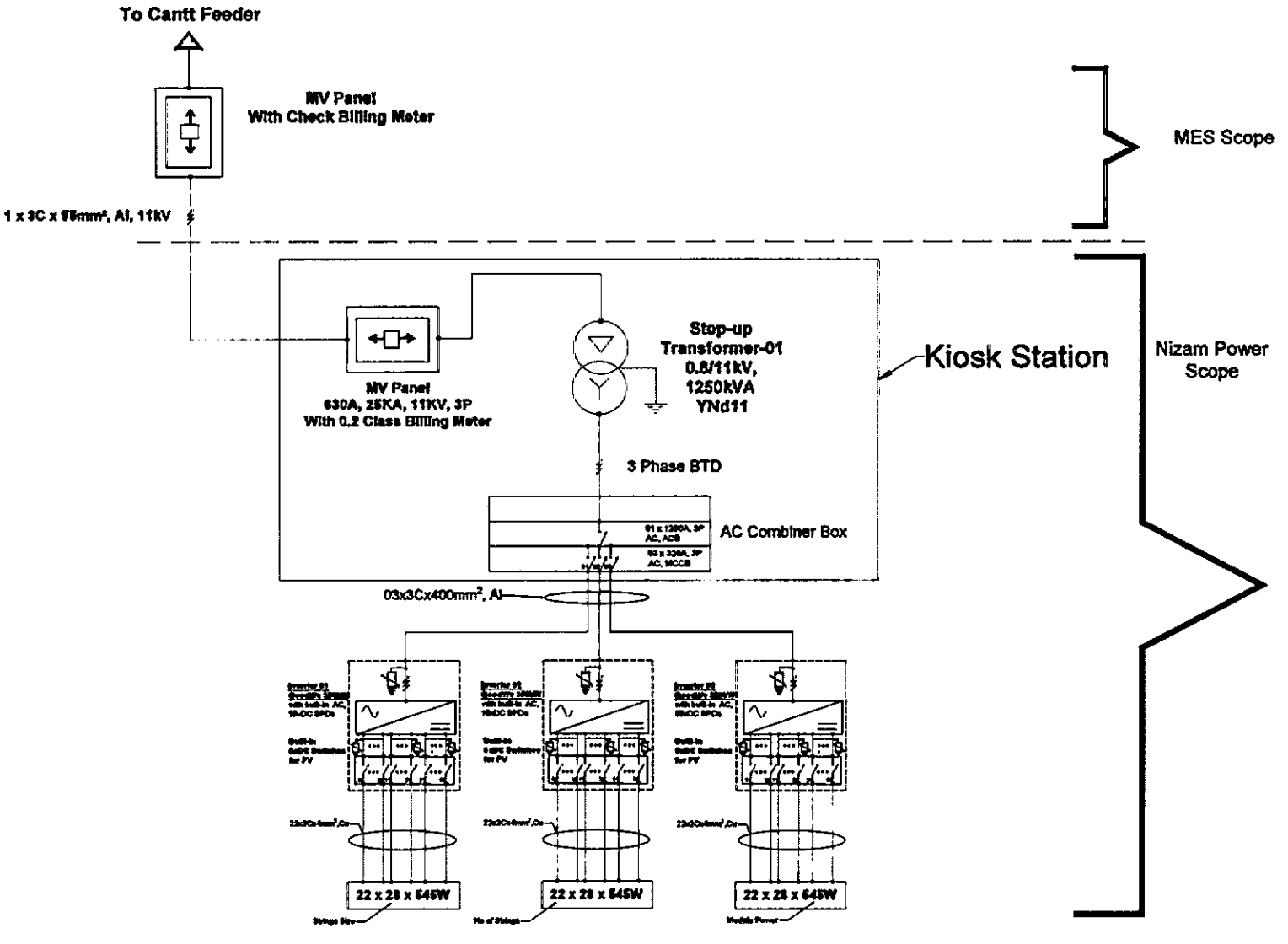
Single Line Diagram of the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

Site 05: **MES Zhob**

Single Line Diagram

MES Zhob

DC Cable
AC Cable



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-1224-MES1007.1kW-GM
Total Number of Inverters	03	Nominal Module Power	545Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-1224-MES1007.1kW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	1848	Site & Location of the Project	MES Zhob	Designed by	M.Mezhar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Hafiz Saad
Total MPPTs	45	Total Number of Strings	66	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	22	Revision No.	Advanced Copy	Date	04-12-2024

NIZAM ENERGY

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 1007.16kWp PV Grid Tied Project MES Zhob.

Client: MES.

Title: Single Line Diagram

Interconnection Arrangement/Transmission Facilities for Dispersal of Power from the Generation Facility/Solar Power Plant/Solar Farm of the Licensee

The electric power generated from the generation facility/Solar Power Plant/Solar Farm of the Licensee/NPW Solar (Private) Limited., will be delivered/supplied to a Bulk Power Consumer (BPC) in the name of Military Engineering Services (MES) located at Hyderabad, Malir Cantonment, Sakrand in the province of Sindh and Zhob in the province of Balochistan.

The details pertaining to BPC, supply arrangement, and other relating information is provided in the subsequent description of this Schedule-I. Any change in the above Interconnection Arrangement/Transmission Facility duly agreed by Licensee/NPW Solar (Private) Limited., and Military Engineering Service, shall be communicated to the Authority in due course of time.

Details of Generation Facility/Solar Power Plant/Solar Farm

A. General Information

(i).	Name of the Company/Licensee	NPW Solar (Private) Limited
(ii).	Registered/ Business office of the Company/Licensee	G-30/4 KDA Scheme No. 5, Block-8, Clifton Karachi, Pakistan.
(iii).	Location of the generation facility Solar Power Plant/ Solar Farm	Hyderabad, Malir, Sakrand, Zhob
(iv).	Type of the generation facility/ Solar Power Plant/ Solar Farm	Solar Photovoltaic (PV)

B. Solar Power Generation Technology & Capacity

(i).	Type of Technology	Photovoltaic (PV) Cell
(ii).	System Type	On Grid
(iii).	Installed Capacity of the generation facility Solar Power Plant/ Solar Farm (MW)	Site 01: MES Malir 5.8MWp (Revised) Site 02: MES Hyderabad 2.502MWp Site 02: MES Sakrand 2.014 MWp Site 03: MES Zhob 1.007 MWp **GL Total Capacity: 11.3MWp(After Adding above plants)**

C. Solar Power Generation Technology & Capacity

Items Description	MES Duct Pump Malir	MES Hyderabad	MES Main Pump Malir	MES Sakrand	MES Zhob
Solar Panels-PV Modules					
Type of Module	DAS-DH144PA-545W		CHSM72N(DG)/ F -BH590W	DAS-DH144PA-545W	DAS-DH144PA-545W
Type of Cell	P Type		N Type	P Type	P Type
Dimension of each Module	2278x1134x30mm				
No. of Panel/Modules	5292	4592	4914	3696	1848
Total Module Area	2.583m²				
Frame of Panel	Anodized Aluminium Alloy		Aluminium, silver anodized	Anodized aluminium alloy	Anodized aluminium alloy
Weight of one Module	31.4kg		32.1kg	31.4kg	31.4kg
No of Solar Cells in each module	144				
Efficiency of module	21.10%		22.80%	21.10%	21.10%
Maximum Power (Pmax)	545W		590W	545W	545W
Voltage @ Pmax	41.83 V		43.45 V	41.83 V	41.83 V
Current @ Pmax	13.03 A		13.58 A	13.03 A	13.03 A
Open circuit voltage (Voc)	49.68 V		51.70 V	49.68 V	49.68 V
Short circuit current (Isc)	13.91 A		14.45 A	13.91 A	13.91 A
Maximum system open Circuit Voltage	1391.04 V		1344.2 V	1391.04 V	1391.04 V
PV Array					
Nos. of Strings	189	164	189	132	66
Modules in a string	28 each	28 each	26 each	28 each	28 each
Inverters					

Capacity of each unit	350KW				
Manufacture	GW350K-UT				
Input Operating Voltage Range	480-1500 V				
Number of Inverters	7	6	7	5	3
Efficiency of inverter	99.01%				
Max. Allowable Input voltage	1500 V DC				
No. of MPPTs per inverter	15				
Max. Current Per MPPT	30 A				
Max. Power Point Tracking Range	480 ~ 1500				
Output electrical system	800V, 3L / PE				
Rated Output Voltage	800V				
Power Factor (adjustable)	~1 (Adjustable from 0.8 leading to 0.8 lagging)				
Power control	MPP tracker				
Rated Frequency	50/60 Hz				
Environmental Enclosures	Relative Humidity	0 ~ 100%			
	Operating Elevation (m)	5000 (>4000 Derating)			
	Operating temperature (°C)	-35 ~ +60			
Grid Operating protection	A	Anti-islanding Protection			
	B	AC Overcurrent/Short circuit/Over Voltage Protection			
	C	PV Reverse Polarity Protection			

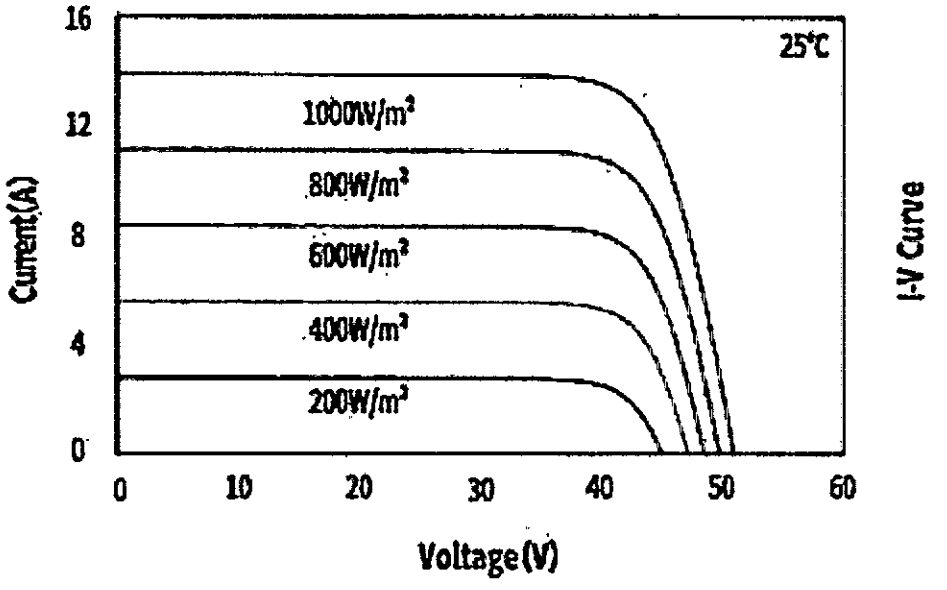
	D	**PV String Current Monitoring**				
	E	**PV Insulation Resistance Detection**				
	F	**Internal Humidity**				
	G	**Residual Current Monitoring**				
	H	**DC Switch**				
	I	**AC & DC Type II Surge Protection**				
	J	**Power Supply at Night**				
Monitoring & Communication System						
System Data	Continuous online logging with data logging software to portal	GoodWe Compatible Weather Station				
		GoodWE Ezlogger				
		Internet/Ethernet and RS485				
Transformers						
Rating	**3200KVA**	**3200KVA**	**3200KVA**	**3200KVA**	**3200 KVA**	
Type of transformer	Oil Immersed, YNd11					
Purpose of transformer	Step-up (0.8 / 11kV)					
Output Voltage	11 KV					

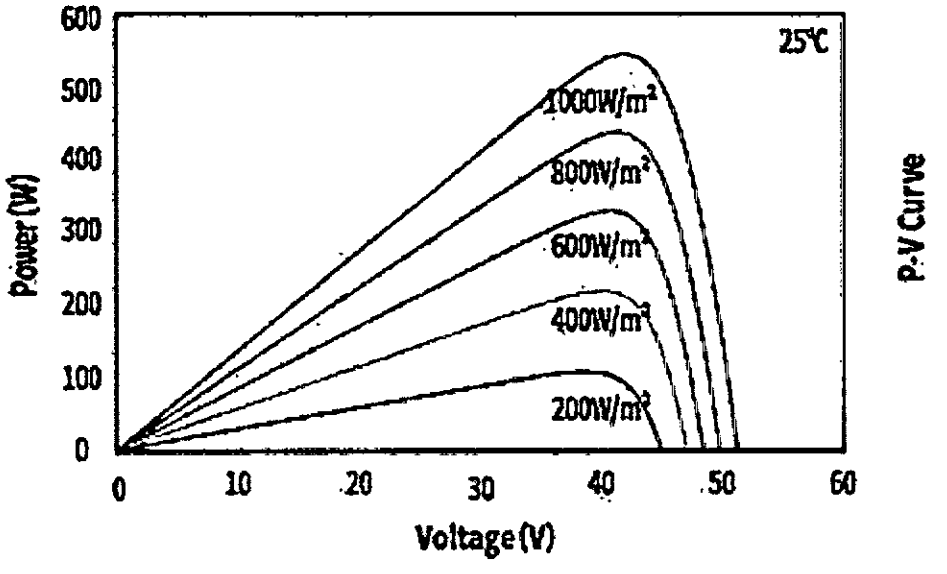
D. Other Details

(i).	Expected COD of the generation facility Solar Power Plant/ Solar Farm	20 Dec,2024
(ii).	Expected useful Life of the generation facility Solar Power Plant/ Solar Farm from the COD	25 years

V-I Curve of Solar Cell of Generation Facility/Solar Power Plant/Solar Farm

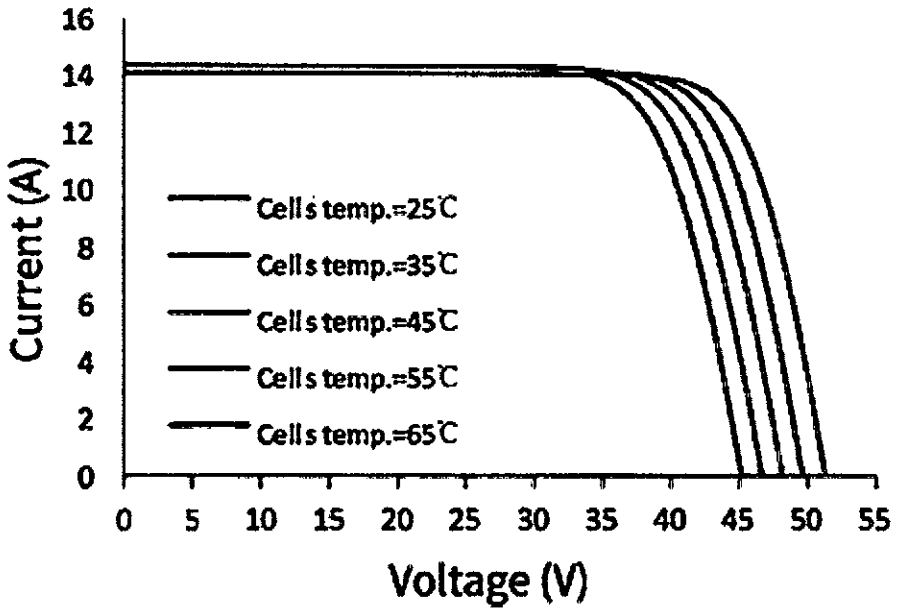
DAS Solar- DAS-DH144PA

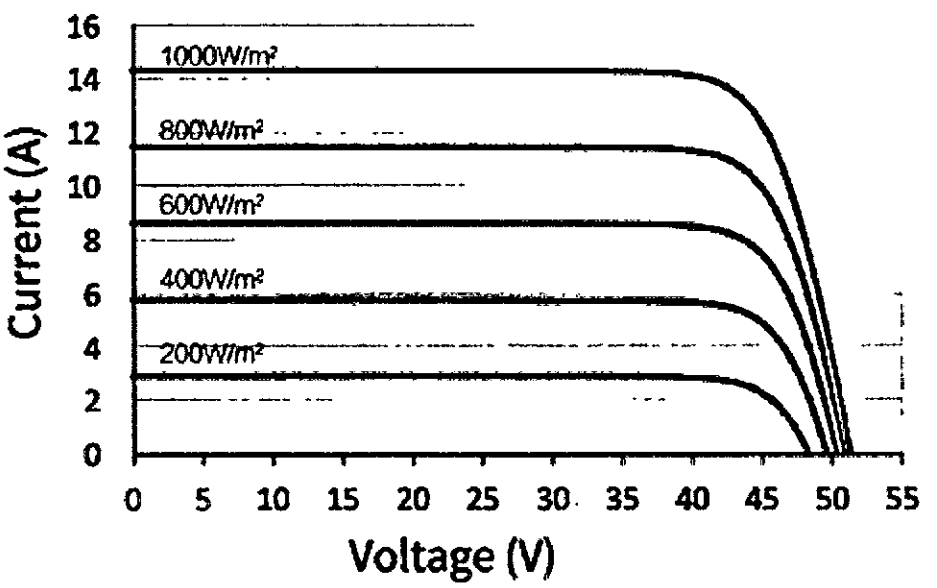


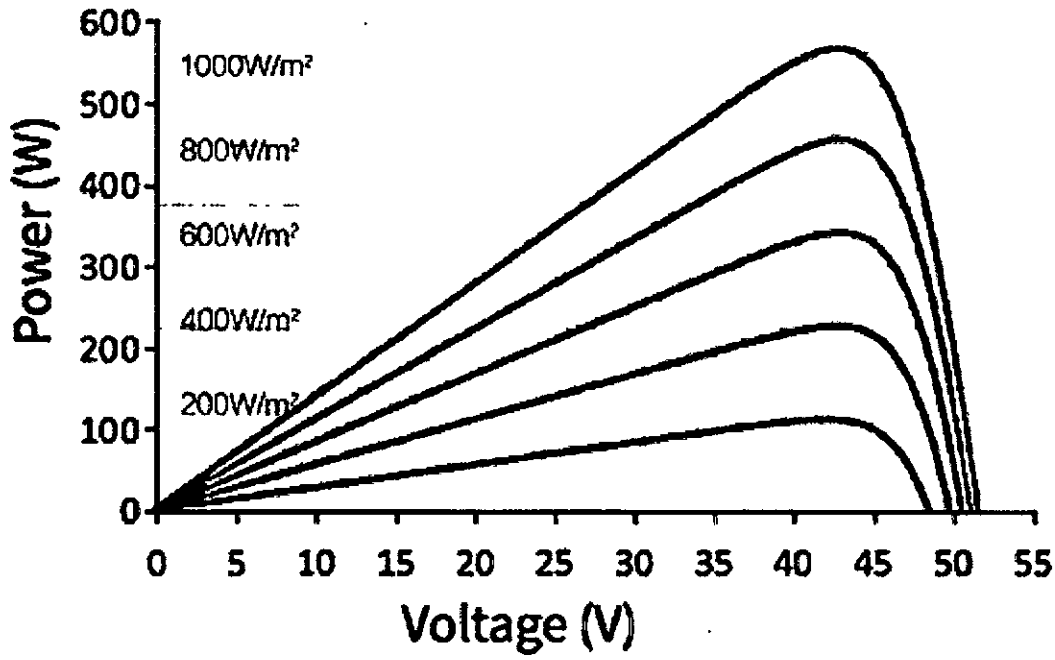


V-I Curve of Solar Cell of Generation Facility/Solar Power Plant/Solar Farm

CHSM72N(DG)/F-BH
Bifacial Series-N5






600
500
400
300
200
100
0
Power (W)
1000W/m²
800W/m²
600W/m²
400W/m²
200W/m²
0
5
10
15
20
25
30
35
40
45
50
55
Voltage (V)

Information Regarding Bulk Power Consumer(s)/BPC(s) i.e. MES Hyderabad, Malir, Sakrand, Zhob to be Supplied by the Licensee i.e. NPW Solar (Private) Limited

(i)	No. of Consumers		Three(3)
(ii)	Location of consumers (distance and/or identity of premises)		Site(i): MES Malir Cantonment Site(i): MES Hyderabad Cantonment Site(ii): MES Sakrand Site(iii): MES Zhob
(iii)	Contracted Capacity and Load Factor for consumer		11.3MWp
(iv)	Specify Whether		
	(a)	The consumer is an Associate undertaking of the NPW Solar (Private) Limited -If yes, specify percentage ownership of equity;	MES Malir, Hyderabad, Sakrand, Zhob does not have direct association with NPW Solar (Private) Limited.
	(b)	There is common directorships:	Currently, there are no common directors of MES Malir, Hyderabad, Sakrand, Zhob and NPW Solar (Private) Limited.
	(C)	Either can exercise influence or control over the other	No
(v)	(a)	Between each consumer and NPW Solar (Private) Limited	NPW Solar (Private) Limited will construct and operate solar plant and provide electricity for Malir, Hyderabad, Sakrand and Zhob consumption.
	(b)	Consumer and LESCO/MEPCO/PESCO	No Relationship

Information Regarding Bulk Power Consumer(s)/BPC(s) i.e. MES Hyderabad, Malir, Sakrand, Zhob to be Supplied by the Licensee i.e. NPW Solar (Private) Limited

Sr.NO	Description	MES Duct Pump Malir	MES Hyderabad	MES Main Pump Malir	MES Sakrand	MES Zhob
(i)	No. of Feeders	One (1) (i) MES-1	One (1) (i) 11KV MES	One (1) (i) MES-2	One (1) (i) 11KV MES	One (1) (i) Zhob Cantt Feeder
(ii)	Length of EachFeeder (Meter)	600 mtr	650 mtr	480 mtr	200 mtr	2325 mtr
(iii)	In respect of all the Feeders, describe the property (streets, farms, Agri land, etc.) through, under or over which they pass right up to the premises of customer, whether they cross-over.	11 kV feeders supplying power to MES Duct Pump substation is located on private property owned by the Military Engineering Services Malir Cantonment itself, without crossing of any public or third party private property etc.	11 kV feeders supplying power to MES Hyderabad substation is located on private property owned by the Military Engineering Services Hyderabad itself, without crossing of any public or third party private property etc.	11 kV feeders supplying power to MES Main Pump substation is located on private property owned by the Military Engineering Services Malir Cantonment itself, without crossing of any public or third party private property etc.	11 kV feeders supplying power to MES Sakrand substation is located on private property owned by the Military Engineering Services Sakrand itself, without crossing of any public or third party private property etc.	11 kV feeders supplying power to MES Zhob substation is located on private property owned by the Military Engineering Services Zhob itself, without crossing of any public or third party private property etc.
(iv)	Whether owned by NPW Solar Pvt. Ltd., Consumer or LESCO /MEPCO/PESCO- (deal with each Feeder Separately)	NA	NA	NA	NA	NA
(v)	a If owned by LESCO/MEPCO/ PESCO, particulars of contractual arrangement	NA	NA	NA	NA	NA

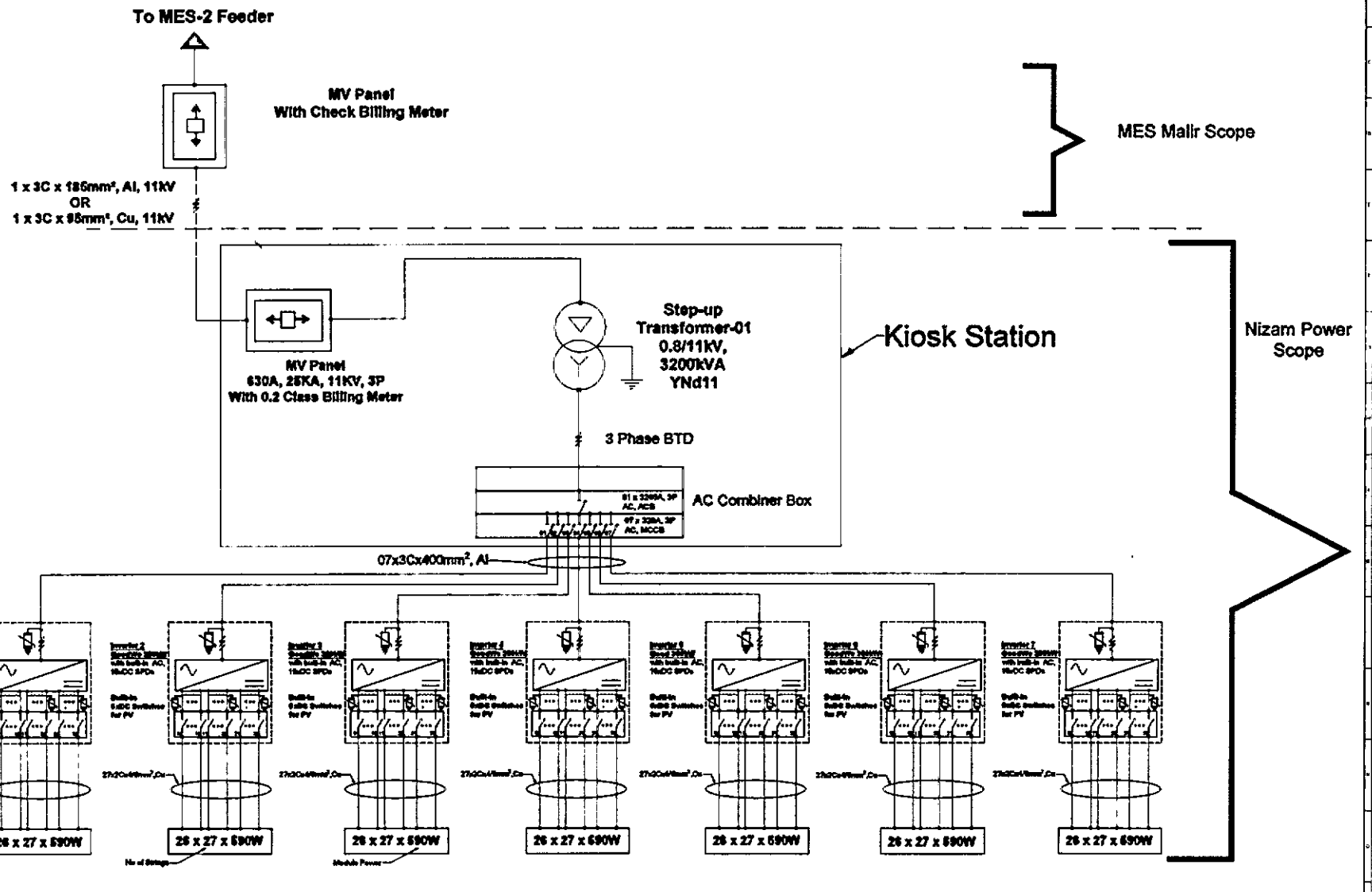
	b Operation and maintenance responsibility for each feeder	MES	MES	MES	MES	MES
(vi)	Whether connection with network of LESCO/MEPCO/PESCO exists (whether active or not)- If yes, provide details of connection arrangements (both technical and contractual)	NA	NA	NA	NA	NA
(vi)	Any other network information deemed relevant for disclosure to or consideration of theAuthority.	NA	NA	NA	NA	NA

Schematic Diagram
for Supply of Power to the BPC from the Generation Facility/Solar Power Plant /Solar Farm of the Licensee

Single Line Diagram

Main Pump Malir

DC Cable
AC Cable



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-0924-MES2450KW-GM
Total Number of Inverters	07	Nominal Module Power	580Wp	PV per MPPT	15.34/30.68kW	DWG. No.	NEL-0924-MES2450KW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	4914	Site & Location of the Project	Malir,Karachi Pakistan	Designed by	M.Mazhar
Number of MPPTs per Inv.	15	Number of Modules per String	26			Checked by	Uzair Hashmi
Total MPPTs	105	Total Number of Strings	189	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	27	Revision No.	Advanced Copy	Date	09-09-2024

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 2899.26kWp PV Grid Tied Project at Main Pump , Malir.

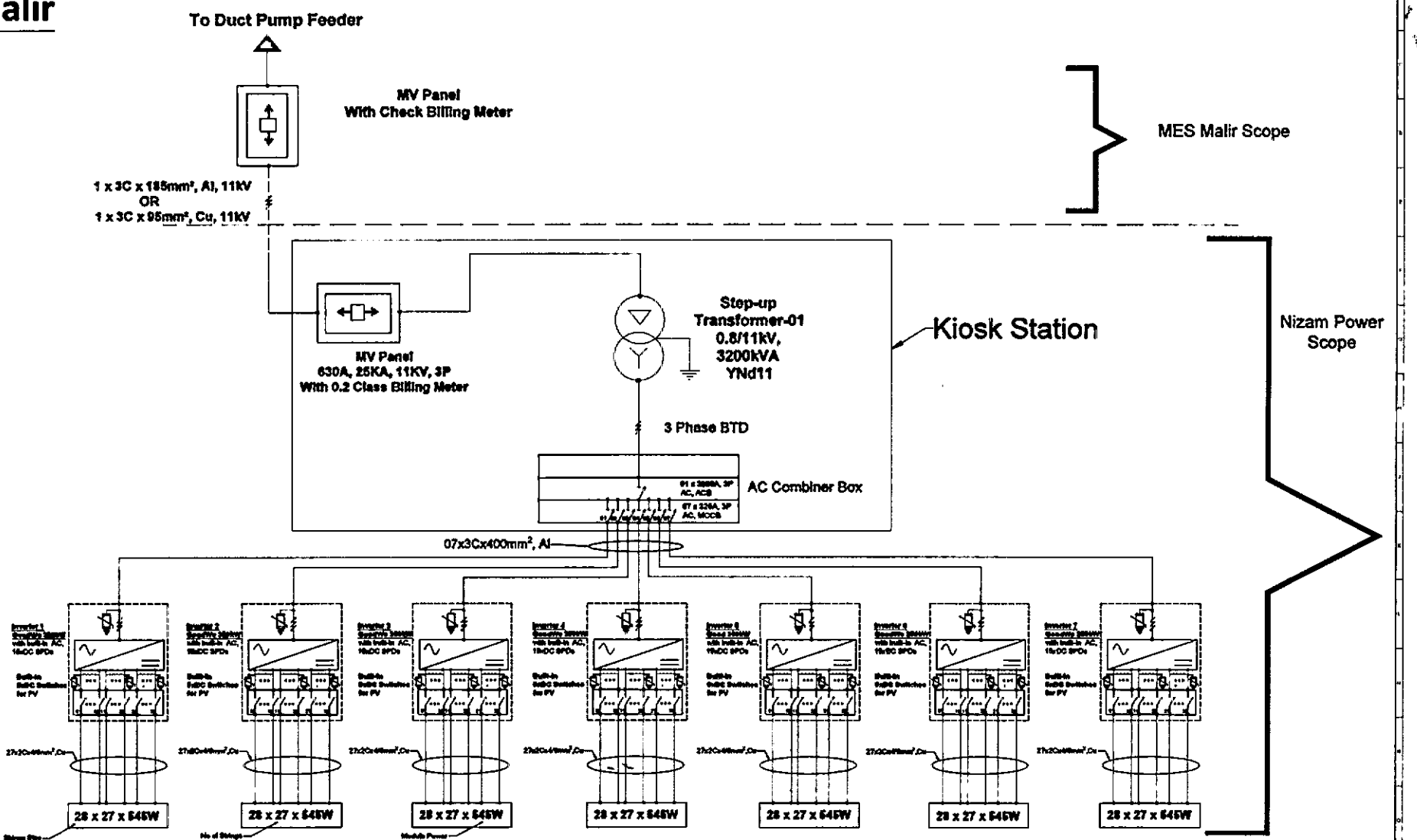
Client: MES.

Title: Single Line Diagram

Single Line Diagram

Duct Pump Malir

DC Cable
AC Cable



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-0924-MES2450KW-GM
Total Number of Inverters	07	Nominal Module Power	545Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-0924-MES2450KW-SLD
Power of Inverter	350KW @40°C	Total Number of Modules	5292	Site & Location of the Project	Malir, Karachi Pakistan	Designed by	M.Mazhar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Uzair Hashmi
Total MPPTs	105	Total Number of Strings	189	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	27	Revision No.	Advanced Copy	Date	12-09-2024

Contractor: Nizam Energy (Pvt.) Ltd.

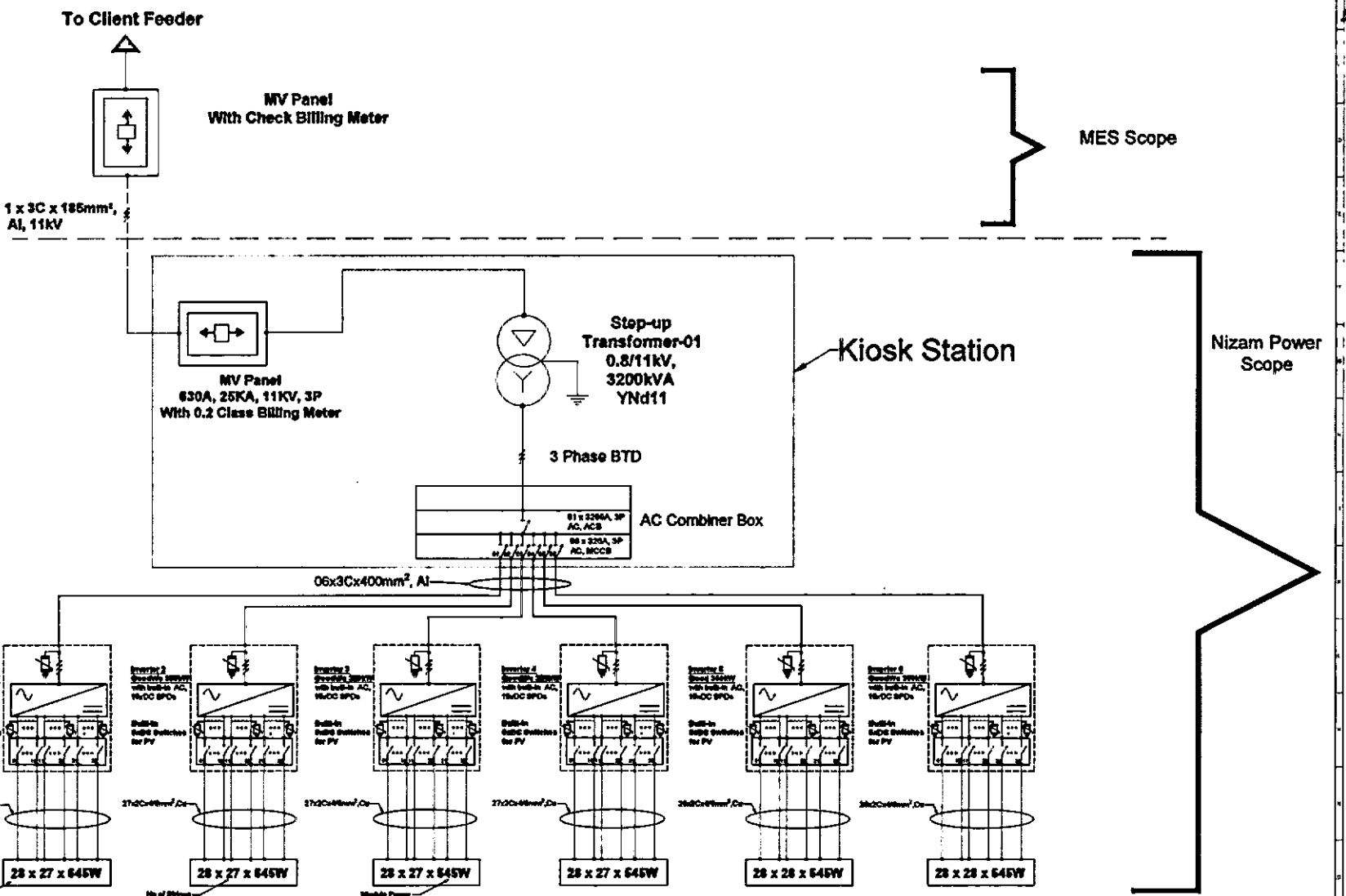
Project: 2884.14kWp PV Grid Tied Project at Duct Pump, Malir.

Client: MES.

Title: Single Line Diagram

Single Line Diagram

Hyderabad Cantt



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-1024-MES2100kW-GM
Total Number of Inverters	06	Nominal Module Power	645Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-1024-MES2100kW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	4592	Site & Location of the Project	Hyderabad Pakistan	Designed by	M.Mazhar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Uzair Hashmi
Total MPPTs	90	Total Number of Strings	164	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	27/28	Revision No.	Advanced Copy	Date	30-10-2024

Contractor: Nizam Energy (Pvt.) Ltd.

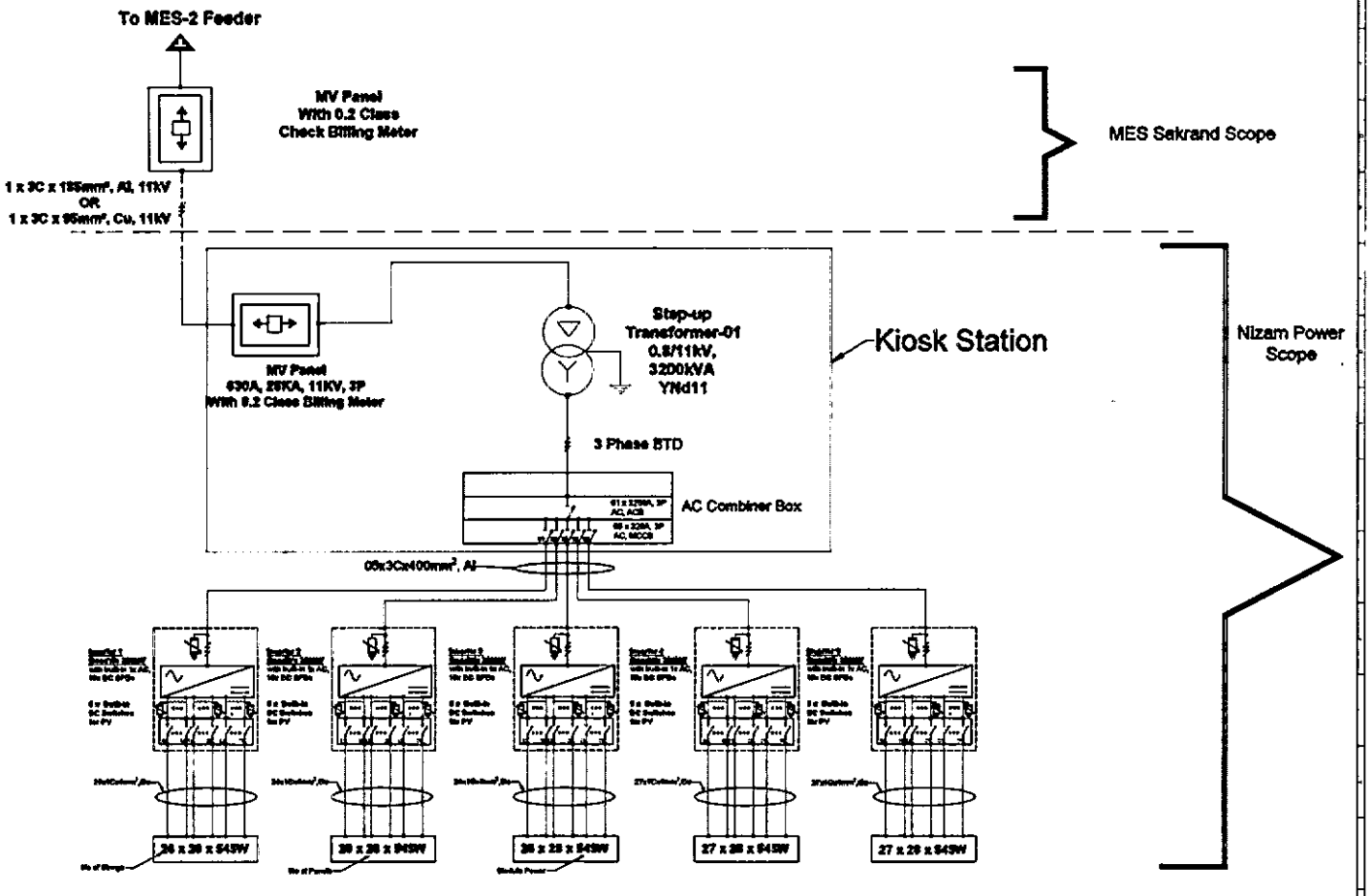
Project: 2.5MWp PV Grid Tied Project at Hyderabad Cantt.

Client: MES.

Title: Single Line Diagram

Single Line Diagram

MES Sakrand



Inverter	GoodWe GW300K-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	01/02	Project No.	NEL-0524-MES2014kW-GM
Total Number of Inverters	08	Nominal Module Power	545Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-0524-MES2014kW-SLD
Power of Inverter	330kW @45°C	Total Number of Modules	3696	Site & Location of the Project	MES Sakrand	Designed by	Zeeshan Akhter
Number of MPPTs per Inv.	13	Number of Modules per String	28			Checked by	Irfan Yousuf
Total MPPTs	75	Total Number of Strings	132	Stage	Preliminary DWG	Verified by	Irfan Yousuf
Max Current per MPPT	30A	Strings per Inverter	26/27	Revision No.	Advanced Copy	Date	06-11-2024

Contractor: Nizam Energy (Pvt.) Ltd.

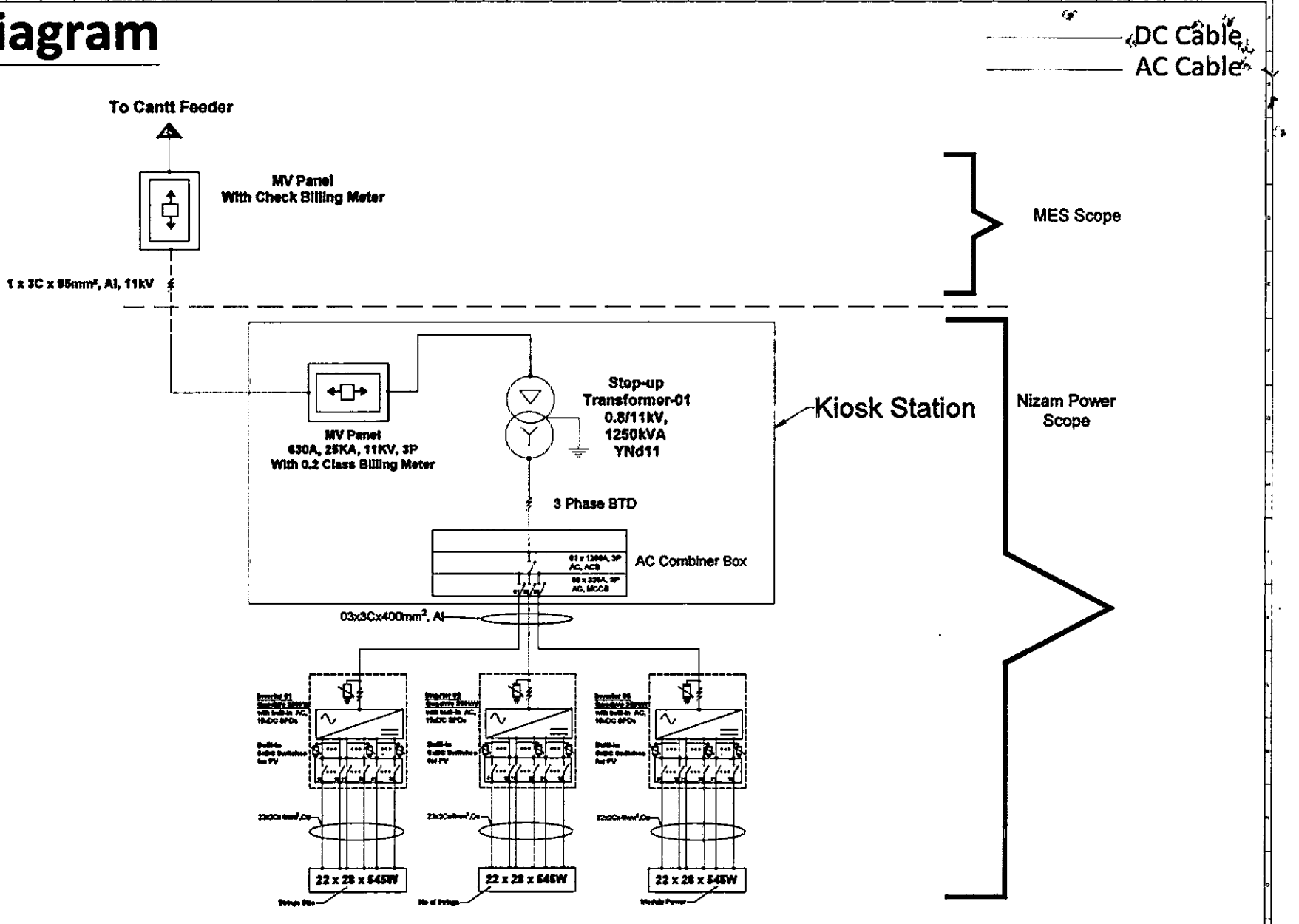
Project: 2014kWp PV Grid Tied Project at MES Sakrand.

Client: MES.

Title: Single Line Diagram

Single Line Diagram

MES Zhob



Inverter	GoodWe 350k-UT	Module Type	Bifacial Mono Crystalline	Number of Strings per MPPT	03/02	Project No.	NEL-1224-MES1007.16kW-GM
Total Number of Inverters	03	Nominal Module Power	545Wp	PV per MPPT	15.26/30.52kW	DWG. No.	NEL-1224-MES1007.16kW-SLD
Power of Inverter	350kW @40°C	Total Number of Modules	1848	Site & Location of the Project	MES Zhob	Designed by	M.Mezhar
Number of MPPTs per Inv.	15	Number of Modules per String	28			Checked by	Hafiz Saad
Total MPPTs	45	Total Number of Strings	66	Stage	Preliminary DWG	Verified by	Uzair Hashmi
Max Current per MPPT	30A	Strings per Inverter	22	Revision No.	Advanced Copy	Date	04-12-2024

Contractor: Nizam Energy (Pvt.) Ltd.

Project: 1007.16kWp PV Grid Tied Project MES Zhob.

Client: MES.

Title: Single Line Diagram

NPW SOLAR (Pvt) Ltd

G-30/4 KDA Scheme No. 5,
Block-8, Clifton Karachi, Pakistan.
U.A.N.: +92-21-111-176-527,
Ph: +92-21-35360583-4,
+92-21-35304863-4.

APPLICATION FOR MODIFICATION IN GENERATION LICENSE NO. SGC142/2020 FOR 11.3MW SOLAR POWER PLANTS BY NPW SOLAR(PRIVATE) LIMITED.

ANNEXURE-5

MES ARMY Modified Newly Added Site (SCHEDULE-II)

NPW SOLAR
(Pvt) Ltd

G-30/4 KDA Scheme No. 5,
Block-8, Clifton Karachi, Pakistan.
U.A.N.: +92-21-111-176-527,
Ph: +92-21-35360583-4,
+92-21-35304863-4.

SCHEDULE-II

The Total Installed Gross ISO Capacity of the Generation Facility/Power Plant/Solar Plant (MW), Total Annual Full Load (Hours), Average Sun Availability, Total Gross Generation of the Generation Facility/Solar Farm (in kWh), Annual Energy Generation (25 years Equivalent Net Annual Production-AEP) KWh and Net Capacity Factor of the Generation Facility/Solar Farm of Licensee are given in this Schedule.

SCHEDULE-II

(1).	Total Installed Capacity of the Generation Facility/Solar Power Plant/Solar Farm	11.3 MWP
(2).	Average Sun Hour Availability/Day (Irradiation on Inclined Surface)	8 to 8.5 Hours
(3).	No. of days per year	365
(4).	Annual generating capacity of Generation Facility/Solar Power Plant/Solar Farm (As Per Simulation)	Site 01: MES Main Pump Malir 4,576 MWh Site 02: MES Duct Pump Malir 4,450 MWh Site 03: MES Hyderabad 3,760 MWh Site 04: MES Sakrand 2,918 MWh Site 05: MES Zhob 16,65.1 MWh Total: 17,369.1MWh
(5).	Total expected generation of the Generation Facility/Solar Power Plant/Solar Farm during the twenty- five (25) years term of this license	Site 01: MES Main Pump Malir 107,810.6 MWh Site 02: MES Duct Pump Malir 103,106.5 MWh Site 03: MES Hyderabad 87,119.2 MWh Site 04: MES Sakrand 68,748.1 MWh Site 05: MES Zhob 38,580.4 MWh Total: 405,394.8 MWh
(6).	Annual generation of Generation Facility/Solar Power Plant/Solar Farm based on 24 hours working	Site 01: MES Main Pump Malir 12.53 MWh/day Site 02: MES Duct Pump Malir 12.19 MWh/day Site 03: MES Hyderabad 10.30 MWh/day Site 04: MES Sakrand 7.99 MWh/day Site 05: MES Zhob 4.561 MWh Total: 47.571 MWh/day
(7).	Net Capacity Factor of Generation Facility/Solar Power Plant/Solar Farm	Site 01: MES Main Pump Malir 18.01% Site 02: MES Duct Pump Malir 17.61% Site 03: MES Hyderabad 17.15% Site 04: MES Sakrand 16.53% Site 05: MES Zhob 18.87% Average/Overall: 17.63%

Note:

All the above figures are indicative as provided by the Licensee. The Net Delivered Energy available to Power Purchaser for dispatch will be determined through procedures contained in the Power Purchase Agreement (PPA) or the Applicable Document(s).

PAYEES A/C ONLY

آمین
Islamic Banking

Cheque No. IB 00975550

ISSUING BRANCH: 013-AMEEN JODIA BAZAR KARACHI Stationery/Ref No: 75550

NOT OVER RS.***545,655.00*

UBL

CASHIER'S CHEQUE

Date D D M M Y Y Y Y

Pay to NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA) or Order

Rupees FIVE HUNDRED FORTY FIVE THOUSAND SIX HUNDRED FIFTY FIVE RUPEES ONLY

PKR ***545,655.00

PAYABLE AT ANY UBL BRANCH IN PAKISTAN
Valid for Six Months from the date of issue

PLEASE DO NOT WRITE BELOW THIS LINE

Signatory
PA/Attorney No.

Signatory
PA/Attorney No.

⑈00975550⑈086199⑆00000300322031600⑈000

B446890

Rupees 50 ۵۰ روپیہ

AFFIDAVIT

I, Usman Ahmed, CNIC No. 42201-5745466-1, Chief Executive Officer, NPW Solar (Private) Limited, hereby solemnly affirm and declare on oath that the contents of the accompanying application of Smart PV Solar (Private) Limited for the modification of its Generation License No. SGC/142/2020 dated 09th September 2020, including all attached documents-in-support are true and correct to the best of my knowledge and belief and that nothing has been concealed.

DEPONENT

Signature:

Name:

Date:

NPW SOLAR (PVT) LTD.

ATTESTED
TARIQ IQBAL MAHER
Advocate High Court
Oath Commissioner
ISLAMABAD

ATTESTED
TARIQ IQBAL MAHER
Advocate High Court
Notary Public
ISLAMABAD