

YDE SA
(SMC-PRIVATE)
LIMITED

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

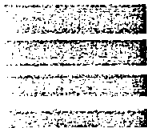
APPLICATION FOR SEEKING GENERATION LICENSE

ON BEHALF OF

YDE SA SMC PRIVATE LIMITED

Dated: 05-07-2022

Applicant	Consultants
YDE SA SMC Private Limited 1 st Floor 140-CCA Phase V DHA, Lahore, Pakistan Phone: +92 423 2020137 www.yellowdoorenergy.com/pakistan	AMA Green Energy Pvt. Ltd. Office # 908, Floor # 9, Eden Heights, Jail Road, Lahore, Pakistan Phone: +924265712078 Email: info@amaenergyservices.com



YDE SA
(SMC-PRIVATE)
LIMITED

To,
THE REGISTRAR
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA Tower Attaturk Avenue (East)
Sector G-5/1, Islamabad
Pakistan

SUBJECT: APPLICATION FOR A GENERATION LICENSE

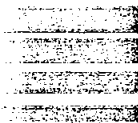
I, Umer Farooq, Company Secretary, being the duly authorized representative of YDE SA (SMC-Private) Limited, hereby apply to the National Electric Power Regulatory Authority for the grant of a generation license to YDE SA (SMC-Private) Limited pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

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 and Modification 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.

A Pay Order in the sum of Rupees 339,782/- (Three Hundred Thirty-Nine Thousand Seven Hundred and Eighty-Two only), being the nonrefundable license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 2021, is also attached herewith.

Date: 05-07-2022

Umer Farooq
Company Secretary
YDE SA (SMC-Private) Limited



YDE SA
(SMC-PRIVATE)
LIMITED

**CHECKLIST FOR EXAMINATION OF APPLICATION FOR THE GRANT OF
GENERATION LICENSE**

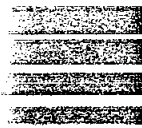
Serial No.	Information/Documents required under NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021	Information/Documents Submitted
1.	Application for Generation License along with Affidavit authorization from Single Member and Power of Attorney. Regulation 3 (1)	Attached as Annex I
2.	Application Fee. Regulation 3(1)	Yes
3.	Application in Triplicate. Regulation 3 (3)	Yes
4.	Certificate of Incorporation. Regulation 3(4)(c)(i)(A)	Attached as Annex II
5.	Memorandum and Articles of Association. Regulation 3(4)(c)(i)(B)	Attached as Annex III
6.	Evidence of cash balance held in reserves and bank certificates pursuant to Regulation 3(4)(d)(i)	Account maintenance certificate of the Applicant is attached as Annex IV .
7.	Latest Audited Financial Statements of the Application pursuant to Regulation 3(4)(d)(iii)	Latest audited financial statement of the period of Jan-2021 to Dec-2021 is attached as Annex-V
8.	Annual Reports of the Company pursuant to Regulation 3(4)(c)(i)(C)	Reports of transitional period of 21-Sep-2020 to Dec-2020 are attached as Annex-VI and latest period Jan-2021 to Dec-2021 as attached as Annex-V.
9.	Last filed Annual Return. Regulation 3(4)(c)(ii)	YDE SA SMC-Private Limited is incorporated on 21 September 2020. Mr. Umer Farooq is the Sole Director of the Company. Under Section 130 of Companies Act, 2017 a Single Member Company Annual Return is due after one year of its incorporation. Transitional phase returns are attached as Annex-VII .
10.	The authorized, issued, subscribed and paid-up share capital of the Applicant pursuant to Regulation 3(4)(c)(iii)	The authorized Capital of the Company is Rs. 64,000,000/-(Sixty-Four Million Rupees Only) divided into 640,000(Six Hundred and Forty Thousand) Ordinary Shares of Rs. 100 (One Hundred rupees only). Each. The Company is single member company, and 100 shares has been Subscribed.
11.	The shareholding pattern of the Applicant including list of shareholders pursuant to Regulation	The Company is the single member company limited by shares only.

**YDE SA
(SMC-PRIVATE)
LIMITED**

	3(4)(c)(iv)	
12.	Details of charges and encumbrances attached to Applicant's assets pursuant to Regulation 3(4)(d)(ii)	The Applicant Company does not have any charges or encumbrances attached to Applicant's assets.
13.	A prospectus pursuant to Regulation 3(4)(b)	Attached as Annex VIII
14.	Expression of interest to provide credit or financing along with sources and details thereof as required pursuant to Regulation 3(4)(d)(iv)	<p>As mentioned in the Application, the Applicant would fund the project through 70:30 debt: equity. The equity shall be poured in as shareholder loan from YDEL. Further, with regards to debt it is informed that the Applicant is in advanced stages of obtaining debt from local banks.</p> <p>However, since the Applicant does not intend to sell electricity to the grid or seek a tariff from the Regulator, it is requested that this condition may please be waived off.</p>
15.	Documents describing net worth and equity and debt ratios of the Applicant pursuant to Regulation 3(4)(d)(v)	This information is available in the financials, which are appended as Annex-V
16.	Detailed profile and CVs of senior management pursuant to Regulation 3(4)(d)(vi)	Attached as Annex IX
17.	Employment records of engineering and technical staff of the Applicant pursuant to Regulation 3(4)(d)(vii)	Attached as part of Annex IX .
18.	Profile of Sub-contractors, if any, along with expression of interest of such sub-contractors as required pursuant to Regulation 3 (4)(d)(viii)	Profile of Hisel Power (Private) Limited is attached as Annex X . The Applicant is in the process of finalizing an EPC Agreement with the said contractor.
19.	Verifiable references with reference to experience of the Applicant and its sub-contractors as required pursuant to Regulation 3(4)(d)(ix)	Attached as Annex XI .
20.	Environmental Impact Assessment Study pursuant to Regulation 3(4)(a) Schedule-III clause A(e)(2)	Attached as Annex XII .
21.	Information relating to water source at site for maintenance. (Regulation 3(4)(a), Schedule-III Clause A(a)(4).(iii))	<p>Unlike conventional thermal power generation plants, solar power plants do not require extensive use of water since cooling and auxiliary consumption is not required.</p> <p>The only water requirement would be the fortnightly cleaning of panels which is done through modern equipment that conserves water. For this purpose, the normal utility water available at the site would be used.</p>
22.	Information relating to infrastructure	The roof mounted PV facility will be

**YDE SA
(SMC-PRIVATE)
LIMITED**

	(roads, rail, staff colony, amenities) pursuant to Regulation 3(4)(a) Schedule-III clause A(e)(3)(iv)	constructed on the rooftop of Colony Textiles building and therefore, no new infrastructural development is part of the scope of this project.
23.	Information relating to Project commencement and completion schedule (with milestones). (Regulation 3(4)(a), Schedule-III Clause A(e)(3)(v))	Attached as Annex XIII .
24.	Information relating to Safety and Emergency plans pursuant to Regulation 3(4)(a) Schedule-III clause A(e)(3)(vii)	Health and Safety Plan of the Applicant is attached as Annex XIV .
25.	Information relating to plant characteristics (generation voltage, frequency etc.) pursuant to Regulation 3(4)(a) clause A(e)(3)(vii)	Technical details of the plant are part of the technical schedules attached as Annex XV of this generation license application.
26.	Feasibility study of the project as required pursuant to Regulation 3(4)f	Attached as Annex XVI .
27.	Affidavit stating whether the Applicant has been granted any other license under the Act pursuant to Regulation 3(4)(g)	Attached as Annex XVII .
28.	A duly authorized statement stating whether the applicant has been refused grant of license under the Act and if so, the particulars of the refused application including date of making the application and the decision on the application Pursuant to Regulation 3(4)(h)	Attached as Annex XVIII .
29.	Bank Guarantee Equivalent to Applicable Annual License Fee for two years pursuant to Regulation 3(8)	The Applicant is ready to furnish Bank Guarantee pursuant to the said regulation. However, the Authority has not yet provided any format of this guarantee. The Applicant pledges to provide the Authority with the Bank Guarantee as soon as a format is provided by the Regulator.
30.	Technical and financial proposals in reasonable details pursuant to Regulation 3(4)(e)	Attached as Annex XV .
31.	Information relating to control, metering instrumentation and protections pursuant to Regulation 3(4)(a) Schedule-III clause A(e)(3)(viii)	Attached as Technical Schedule i.e. Annex XV (Schedule-I) .
32.	Information relating to technology size of the plant number of units etc. pursuant to Regulation 3(4)(a)	Attached as Technical Schedule i.e. Annex XV (Schedule-I) .

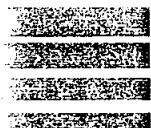


YDE SA
(SMC-PRIVATE)
LIMITED

	Schedule-III clause A(e)(3)(ii)	
33.	Interconnection study pursuant to Regulation 3(4)(a) Schedule-III clause A(e)(I).	Attached as Technical Schedule i.e. Annex XV (Schedule-I).
34.	Information relating to location (location maps, site maps, land etc.) pursuant to Regulation 3(4)(a), Schedule-III clause A(e)(3)(i)	Attached as Technical Schedule i.e. Annex XV (Schedule-I)
35.	Information relating to Degradation Factors. (Regulation 3(4)(a), Schedule-III Clause A(e)(3).(x))	Attached as Technical Schedule i.e. Annex XV (Schedule-II)
36.	Information relating to Estimated Capacity Factor at site. (Regulation 3(4)(a), Schedule-III Clause A(e)(3).(ix))	Attached as Technical Schedule i.e. Annex XV (Schedule-II)

ANNEX I

**Application for Generation License along with
Affidavit, Authorization from Single Member,
Application fee and Power of Attorney**



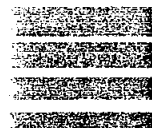
**YDE SA
(SMC-PRIVATE)
LIMITED**

Application for the Grant of Generation License

1. Background

- a. YDE SA (SMC Private) Limited was incorporated on September 21, 2020 under Section-32 of the Companies Ordinance, 1984, with corporate universal identification No. 0158302. The business office of the company is at 1st Floor of building 140-CCA, Phase V DHA Lahore, Pakistan.
- b. The Company is a special purpose vehicle of Yellow Door Energy IRP (Private) Limited. Yellow Door Energy IRP is owned by a UAE based firm Yellow Door Energy Limited (YDEL) which implies that YDEL is the ultimate owner of YDE SA. YDEL which was founded in 2015 in the UAE and Jordan, with the aim of providing sustainable energy solutions for commercial and industrial businesses. Today, the company has over 120 megawatts of solar projects in the Middle East and South Asia. Among its customers are premier businesses such as Nestlé, Unilever, Carrefour/Majid Al Futtaim, and Landmark Group.
- c. Yellow Door Energy IRP (Private) Limited aims to alleviate Pakistan's energy problems by introducing innovative distributed solar and energy management solutions. The Pakistan and the global Yellow Door Energy teams are committed to achieve excellence in every aspect of solar design, construction, and operation & maintenance.
- d. The list of the senior management, key technical and professional staff of the Applicant Company is provided as under:-

Name	Designation	Qualification
Umer Farooq	Country Director	M.Sc Financial Management (University of London) B.Sc Computer Science Engineering (UCP, Lahore)

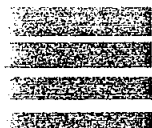


**YDE SA
(SMC-PRIVATE)
LIMITED**

Ameer Hamza	Senior Project Manager	MBA (LSE Lahore) B.Sc Electrical Engineering (FAST-NU Lahore)
Sikander Ishtiaq	Finance Manager	ACCA (UK), M.COM (Accounting & Finance)
Muneeb Rasheed	Project Engineer	B.Sc Electrical Engineering (UET Lahore)
Mujahid Hussain	Project Engineer	B.Sc Electrical Engineering (UET Lahore)
Shafqat Rasool	HSE Specialist	B.Sc Chemical Engineering (COMSATS Islamabad)
Ali Raza	O&M Coordinator	B.Sc Electrical Engineering (COMSATS Abbotabad)

2. Project Rationale

- a. Colony Textile Mills Limited (“CTM”) is among the pioneers in the production of yarns and fabrics in Pakistan. CTM was established as a textile manufacturing unit on January 12, 2011 and acquired “Colony Mills Limited” and Colony Industries (Pvt) Limited in 2014. Colony Textile Mills Limited was the principal company established as a textile manufacturing unit in 1946 which was later merged with and into Colony Mills Limited in 2006.
- b. CTM’s largest production facility is in Ismailabad, Multan having its electricity requirements being met primarily by a 30 MW captive power plant containing 10 x Jenbacher Gas Generators of 3 MW each. A 132kV grid connection with an assigned sanctioned load of 22 MVA from the local DISCO (MEPCO) is available as a backup in case of unstable gas supply.
- c. Owing to the large unused rooftop and the eagerness that the leadership has to adopt new technologies, CTM entered a PPA agreement with YDE SA for a 5MW DC (4MW AC) Solar Power Plant to be erected on the rooftop of Colony Textiles.
- d. The project shall utilize 9270 LONGI LR4-72HPH 540W solar panels and is projected to produce 7708 MWh per year. The solar plant shall feature a custom designed mounting



YDE SA
(SMC-PRIVATE)
LIMITED

structure along with relevant auxiliaries. The system will offset approximately 4625 metric tons of carbon dioxide annually.

- e. For the aforementioned purpose, the Applicant and Colony Textile Mills Limited have entered into a 20-year Power Purchase Agreement on BOOT (Build Own Operate and Transfer) arrangement. After thorough deliberation and negotiations, the parties signed the Power Purchase Agreement, under which YDE SA will design, install and operate a solar power plant of 5 MW DC (4 MW AC) and sell the electricity generated to CTM at an agreed rate.

3. Environmental Benefit

- a. Almost all conventional methods of energy generation have varying degrees of adverse environmental impact. These methods have far reaching detrimental effects on the climate, air, water, land and wildlife of the adjacent vicinities. However, Solar PV energy technology provides significant environmental advantages in comparison to the conventional energy sources while contributing to the sustainable development of human activities. Besides slowing down the depletion of natural resources, the main environmental advantage is zero air emissions, waste production and eventual reduction in emissions of greenhouse gases (CO_x, NO_x) and toxic gases (SO_x).
- b. Solar power plants have zero fuel requirement and hence limit the depletion of natural resources, fossil fuels. Unlike conventional thermal power plants, no water consumption is required for cooling purposes. A very optimized quantity of water is occasionally used for plant maintenance / cleaning. As stated earlier, the proposed system of 5 MW DC (4 MW AC) will offset approximately 4625 metric tons of carbon dioxide annually.

4. Prayer



YDE SA
(SMC-PRIVATE)
LIMITED

- a. YDE SA has performed an in-depth technical and financial analysis for 5 MW DC (4 MW AC) roof-mounted solar power plant at CTM's plant. Findings from these analyses suggest that the proposed site is suitable for installation of PV based power plant with substantial benefits for the environment and promotion of distributed grid in Pakistan.
- b. Technical details of the site along with feasibility report have been attached as Annex XV (Schedule I and Schedule II) of this application.
- c. As considerable amount of effort and attention to minute details have been put into PV designing and Yellow Door Energy has a diverse experience of solar sector at a global level, YDE SA is confident that if it is allowed to construct this plant, it will be able to achieve the required results without any problem.

In view of above it is requested that the application of YDE SA may very kindly be processed and placed before the Authority for admission.

YDE SA further requests the honorable Authority to kindly grant the Generation License for 5 MW DC (4 MW AC) roof-mounted solar power plant at Colony Textile, Lahore. In case any further document / information is required then it is requested that same may kindly be communicated to us.

Yours sincerely,

Umer Farooq
Company Secretary
YDE SA (SMC-Private) Limited

E-STAMP



E-Stamp ID : PB-LHR-E115FBAE93049D97
Stamp Type : Low Denomination
Amount : Rs 100/-

Description : AFFIDAVIT - 4
Applicant : YDE SA SMC Pvt Ltd[10000-0000000-C]
Representative From : YDE SA SMC Pvt Ltd
Address : LAHORE
Issue Date : 18-May-2022 3:43:56 PM
Delisted On/Validity : 25-May-2022
Amount in Words : One Hundred Rupees Only
Reason : Generation Licence in favour of NEPRA
Vendor Information : Salman Haider | PB-LHR-708 | Defence



نوٹ: یہ فرانزیشن تاریخ اجرا سے سات دنوں تک کے لیے قابل استعمال ہے۔

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

"Applications for seeking Generation License"

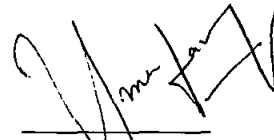
ON BEHALF OF

YDE SA (SMC-Private) Limited.

AFFIDAVIT

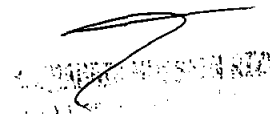
I, Mr. Umer Farooq, holding CNIC No. 35201-8420461-5, Company Secretary of **YDE SA (SMC-PRIVATE) LIMITED** hereby solemnly affirm and declare that the contents of the accompanying Application for Generation Licence (the "License") is true and correct to the best of my knowledge and belief and the nothing material has been concealed there from.

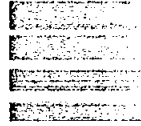
I also affirm that all further documentation and information to be provided by me in connection with the accompanying application for Generation License will also be true to the best of my knowledge and belief.


DEPONENT

Umer Farooq
Company Secretary
YDE SA (SMC-Private) Limited
Date: 05-07-2022

ATTESTED





YDE SA
(SMC-PRIVATE)
LIMITED

POWER OF ATTORNEY

We, **YDE SA SMC-Private Limited**, (the "Company"), hereby appoint and constitute **M/s AMA Green Energy Private Limited** to appear and act for us as our consultant and advocate in connection with the Licensee Application (the "**Application**") filed in respect of seeking Generation License under NEPRA laws with the National Electric Power Regulatory Authority (NEPRA).

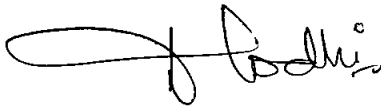
I/We also authorize the said consultant or any one of them to do all acts and things necessary for the processing, completion and finalization of the Petition with NEPRA.

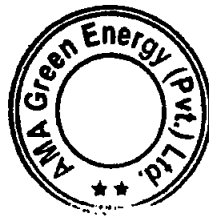
For and on behalf of
YDE SA SMC-Private Limited



COMPANY SECRETARY

ACCEPTED





AMA Green Energy
Office # 908, Floor 9, Eden Heights, Jail Road,
Lahore, Pakistan



YDE SA
(SMC-PRIVATE)
LIMITED

**RESOLUTION OF THE BOARD OF DIRECTORS
DATED 15th December, 2021:**

The notice of convening the meeting of the Board of YDE SA (SMC-Private) Limited (the "Company") was validly communicated. Necessary quorum was present.

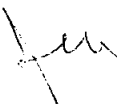
Meeting was held on 15th December, 2021 at 1st Floor, 140-CCA, Phase V, DHA, Lahore through video conferencing to appoint the officials who can sign the contracts, letters, forms, power purchase agreements, engineering & procurement contracts and other ancillary documents/agreements on behalf of the Company.

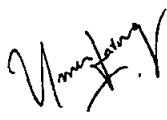
THE DIRECTORS UNANIMOUSLY RESOLVED AS FOLLOWS:

1. That Mr. Rory James McCarthy bearing Passport No. LL873005, Mr. John Jeremy Crane bearing Passport No. AG629178 and Mr. Umer Farooq, son of Muhammad Farooq Sohail, bearing CNIC No. 35201-8420461-5 are hereby authorized to individually sign contracts, letters, forms, power purchase agreements, engineering & procurement contracts and other ancillary documents/agreements of a value having value under USD 10,000/- on behalf of the Company.
2. Further resolved that any contract, letter form, power purchase agreement, engineering & procurement contracts and other ancillary documents/agreements having value above USD 10,000/- must be jointly signed by any two persons out of the above mentioned three authorized persons.
3. Further resolved that all the previous contracts, letters, forms, power purchase agreements, engineering & procurement contracts and other ancillary documents/agreement, signed by either of the above mentioned three authorized persons on behalf of the Company are hereby endorsed, ratified and accepted by the Board of Directors.
4. Further resolved that a copy of the above resolution duly certified as true by designated directors/ Company Secretary of the Company be furnished to such parties as may be required from time to time in connection with the above matter.

This is to certify that the resolution contained herein above has been duly recorded in the minutes of the meeting and the Resolution of the Meeting of the Board of Directors is valid and in effect on the date specified hereinabove.

For and on behalf the Company

1. 
Name: Jeremy Crane
Designation: Director

2. 
Name: Umer Farooq
Designation: Company Secretary

ANNEX II

Certification of Incorporation

A081673



SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE
LAHORE

CERTIFICATE OF INCORPORATION

[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Corporate Universal Identification No. 0158302

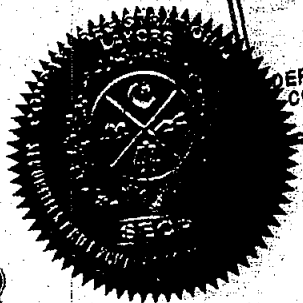


I hereby certify that YDE SA (SMC-PRIVATE) LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

Given under my hand at Lahore this Twenty First day of September, Two Thousand and Twenty.

Incorporation fee Rs. 26650/-

CERTIFIED TO BE TRUE COPY



(Syed Zameer Haider)
DEPUTY REGISTRAR OF COMPANIES
COMPANY REGISTRATION OFFICE
LAHORE

No. ARL/INC 4623

Dated: 21-9-2020

THE COMPANIES ACT, 2017 (XIX of 2017)
(Company Limited by Shares)
ARTICLE OF ASSOCIATION
OF



YDE SA (SMC-PRIVATE) LIMITED

1. The Regulations as set out in part II of Table A of First Schedule of the Companies Act, 2017 shall apply to the regulations of **YDE SA (SMC-PRIVATE) LIMITED**

SINGLE MEMBER COMPANY

2. The company is a single member company and as such being a private company limited by shares
- (a) It shall not invite the public to subscribe for any shares of the company;
 - (b) The company shall not register any share(s) in the name of two or more persons to hold one or more shares jointly; and
 - (c) Number of the members of the company shall be limited to one.

SHARES

3. The liability of the member is limited.
4. Share certificate shall be issued under the seal of the Company and shall be signed by the member director or the non-member director, as the case may be.

DIRECTOR

5. The company shall always have the sole member or in case it is not a natural person its nominee, as a director but it may have such number of other director(s) who fulfil the conditions as specified in section 153 of the Act. Umer Farooq shall be the first director of the Company.



I, whose name and address is subscribed below, am desirous of forming a company in pursuance of this article of association and agree to take the number of shares in the capital of the company as set opposite my name:

Name and surname (present & former) in full (in Block Letters)	NIC No. (in case of foreigner, Passport No)	Father / Husband Name in full	Nationality (ies) with any former Nationality	Occupation	Usual residential address in full or the registered/principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)	Signatures
Yellow Door Energy IRP (Private) Limited through Yellow Door Energy IRP (Private) Limited through	0153007	Not applicable	Pakistan	Company	1st Floor 140 CCA Phase V DHA Lahore Cantt LAHORE Punjab Pakistan 54792	100	

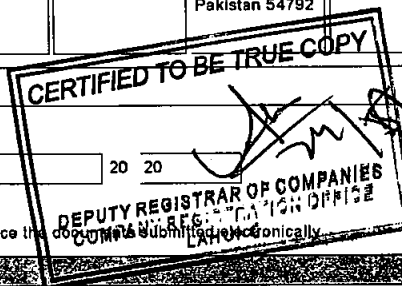
Total number of shares taken (in figures and words) 100 (One Hundred)

Dated: the 18 day of Sep 20 20

Witness to above signatures: witness not required since the document is submitted electronically.

Signature:

Address:



THE COMPANIES ACT, 2017 (XIX of 2017)

(COMPANY LIMITED BY SHARES)
MEMORANDUM OF ASSOCIATION
OF

YDE SA (SMC-PRIVATE) LIMITED



1. The name of the Company is YDE SA (SMC-PRIVATE) LIMITED
 2. The Registered Office of the Company will be situated in the Province of Punjab
 3. (i) The principal line of business of the company shall be to carry on businesses of solar energy system, its manufacturing through poly silicon and chemical technology, processing, casting, cell manufacturing, module manufacturing and installation thereof and also to install, run, own and manage biomass/waste-to-energy power plant, waste heat power plant, combined cycle power plant and to produce wind, biomass, wave and tidal energy and to deal in all other forms of energy and products or services associated therewith and of promoting the conservation and efficient use of energy and to perform all other acts which are necessary or incidental to the business of electricity generation, transmission, distribution and supply, subject to permission of relevant authorities.
 - (ii) Except for the businesses mentioned in sub-clause (iii) hereunder, the company shall engage in all the lawful businesses and shall be authorized to take all necessary steps and actions in connection therewith and ancillary thereto.
 - (iii) Notwithstanding anything contained in the foregoing sub-clauses of this clause nothing contained herein shall be construed as empowering the Company to undertake or indulge, directly or indirectly in the business of a Banking Company, Non-banking Finance Company (Mutual Fund, Leasing, Investment Company, Investment Advisor, Real Estate Investment Trust management company, Housing Finance Company, Venture Capital Company, Discounting Services, Microfinance or Microcredit business), Insurance Business, Modaraba management company, Stock Brokerage business, forex, real estate business, managing agency, business of providing the services of security guards or any other business restricted under any law for the time being in force or as may be specified by the Commission.
 - (iv) It is hereby undertaken that the company shall not:
 - (a) engage in any of the business mentioned in sub-clause (iii) above or any unlawful operation;
 - (b) launch multi-level marketing (MLM), Pyramid and Ponzi Schemes, or other related activities/businesses or any lottery business;
 - (c) engage in any of the permissible business unless the requisite approval, permission, consent or licence is obtained from competent authority as may be required under any law for the time being in force.
4. The liability of the member is limited.
5. The authorized capital of the company is Rs. 64,000,000 (Sixty Four Million Rupees Only) divided into 640,000 (Six Hundred Forty Thousand) Ordinary shares of Rs.100 (One Hundred Rupees Only) each.

PROSPECTUS

Brief Introduction of the Applicant:

M/s YDE SA (SMC Private) Limited was incorporated on September 21, 2020 under Section-16 of the Companies Act, 2017, with corporate universal identification No. 0158302. The business office of the company is at 1st Floor of building 140-CCA, Phase V DHA Lahore, Pakistan.

The Company is a special purpose vehicle of Yellow Door Energy IRP (Private) Limited. Yellow Door Energy IRP is owned by a UAE based firm Yellow Door Energy Limited (YDEL) which implies that YDEL is the ultimate owner of YDE SA. YDEL was founded in 2015 in the UAE and Jordan, with the aim of providing sustainable energy solutions for commercial and industrial businesses. Today, the company has over 120 megawatts of solar projects in the Middle East and South Asia. Among its customers are premier businesses such as Nestlé, Unilever, Carrefour/Majid Al Futtaim, and Roofmark Group.

Yellow Door Energy IRP (Private) Limited aims to alleviate Pakistan's energy problems by introducing innovative distributed solar and energy management solutions. The Pakistan and the global Yellow Door Energy teams are committed to achieve excellence in every aspect of solar design, construction, and operation & maintenance.

The salient features of the facility or the system in respect of which the licence is sought:

- a. Colony Textile Mills Limited ("CTM") is among the pioneers in the production of yarns and fabrics in Pakistan. CTM was established as a textile manufacturing unit on January 12, 2011 and acquired "Colony Mills Limited" and Colony Industries (Pvt) Limited in

2014. Colony Textile Mills Limited was the principal company established as a textile manufacturing unit in 1946 which was later merged with and into Colony Mills Limited in 2006.

- b. CTM's largest production facility is in Ismailabad, Multan having its electricity requirements being met primarily by a 30 MW captive power plant containing 10 x Jenbacher Gas Generators of 3 MW each. A 132kV grid connection with an assigned sanctioned load of 22 MVA from the local DISCO (MEPCO) is available as a backup in case of unstable gas supply.
- c. Owing to the large unused rooftop and the eagerness that the leadership has to adopt new technologies, CTM entered a PPA agreement with YDE SA for a 5MW DC (4MW AC) Solar Power Plant to be erected on the rooftop of Colony Textiles.
- d. The project shall utilize 9270 LONGI LR4-72HPH (Or equivalent) 540W solar panels and is projected to produce 7708 MWh per year. The solar plant shall feature a custom designed mounting structure along with relevant auxiliaries. The system will offset approximately 4625 metric tons of carbon dioxide annually.
- e. For the aforementioned purpose, the Applicant and Colony Textile Mills Limited have entered into a 20-year Power Purchase Agreement on BOOT (Build Own Operate and Transfer) arrangement. After thorough deliberation and negotiations, the parties signed the Power Purchase Agreement, under which YDE SA will design, install and operate a solar power plant of 5 MW DC (4 MW AC) and sell the electricity generated to CTM at an agreed rate.

The proposed investment:

The capital cost shall include the cost borne by the Applicant Company on feasibility studies, planning, designing, material, construction and installation of the Generation Facility. The cost of roof modifications (if any) will be incurred by the Customer i.e. CTM

and security during construction and operation will also be the responsibility of the Customer.

Regarding the project cost it is submitted that the approx. USD 3,250,000 project would be financed through a commercial loan facility having a debt-to-equity ratio of 70:30. For this purpose the Applicant is in advanced stages of negotiations with guarantors and lenders.

The social and environmental impact of the proposed facility:

- a. Almost all conventional methods of energy generation have varying degrees of adverse environmental impact. These methods have far reached detrimental effects on the climate, air, water, land and wildlife of the adjacent vicinities. However, Solar PV energy technology provides significant environmental advantages in comparison to the conventional energy sources while contributing to the sustainable development of human activities. Besides slowing down the depletion of natural resources, the main environmental advantage is zero air emissions, waste production and eventual reduction in emissions of greenhouse gases (CO_x, NO_x) and toxic gases (SO_x).
- b. Solar power plants have zero fuel requirement and hence limit the depletion of natural resources, fossil fuels. Unlike conventional thermal power plants, no water consumption is required for cooling purposes. A very optimized quantity of water is occasionally used for plant maintenance / cleaning. As stated earlier, the proposed system of 5MW DC (4 MW AC) will offset approximately 326 metric tons of carbon dioxide annually.
- c. The Applicant has carried out environment assessment of the site for installation of solar PV Plant. We humbly submit our findings as under:

Environment Parameters	Level of Impact	Reasons	Mitigation Measures
Air Impact	Low	Solar Energy is Carbon Free	(No Emissions)
Water	Low	Solar Plant will require a very low quantity of water for cleaning purpose only	Ground water will be made available for cleaning of Modules at site.
Roof	Low	The installation space is an utilized rooftop with no vegetation whatsoever. No chemicals etc. will be used during construction or operation that could badly affect the roof.	Close monitoring during construction and operation to ensure least impact on roof.
Ecosystem	Low	No ecologically sensitive area lies with in premises	Installation area being a rooftop has no vegetation cover.
Socio Eco System	Low	Total area identified for said project is in possession of the Customer and no acquisition is needed.	Not Applicable

ANNEX XII

Environmental and Social Soundness Assessment

ESSA (Environmental and Social Soundness Assessment)

1. Introduction:

Extensive fossil fuel consumption in almost all human activities has led to some undesirable phenomena such as atmospheric and environmental pollution, which have not been experienced before in known human history. Consequently, global warming, greenhouse effect, climate change, ozone layer depletion, and acid rain terminologies started to appear in the literature frequently. Since 1970, it has been understood scientifically by experiments and researches that these phenomena are closely related to fossil fuel use because they emit greenhouse gases such as carbon dioxide (CO₂) and methane (CH₄), which hinder the long-wave terrestrial radiation escape into space, and, consequently, the earth troposphere becomes warmer. In order to avoid further impacts of these phenomena, the two concentrative alternatives are either to improve the fossil fuel quality with reductions in their harmful emissions into the atmosphere or, more significantly, to replace fossil fuel usage as much as possible with environmentally friendly, clean, and renewable energy sources. Among these sources, solar energy comes at the top of the list due to its abundance and more even distribution in nature than any other renewable energy type, such as wind, geothermal, hydro, wave, and tidal energies. Solar energy technologies are essential components of a sustainable energy future. Energy from fossil fuels may be inexpensive and assurances may have been given of the plentiful supplies of petroleum and other fossil fuels, but these fuels are finite in nature and a major source of greenhouse gas emissions.

2. Objective:

Pakistan is located in the Sunny Belt and can take advantage of its ideal situation for utilization of solar energy. The country's potential for solar generation is beyond doubt as it has high solar irradiation and enough space for installation of generation system those are ideal for PV and other solar energy applications. Villages and other areas which are away from grid or distribution system of utilities can also benefit from solar power generation which will also save the extra cost of laying the system and the losses. Every day, for example, the country receives an average of about 19 Mega Joules per square meter of solar energy Pakistan being in the Sun Belt is ideally located to take advantage of solar energy technologies. This energy source is widely distributed and abundantly available in the country. The mean global irradiation falling on horizontal surface is about 200-250 watt per sq.m in a

day. This amounts to about 2500- 3000 sun shine hours and 1.9 - 2.3 MWh per sq. meter in a year. It has an average daily global isolation of 19 to 20 MJ/sq. meter per day with annual mean sunshine duration of 8 to 8.5 hours (6-7hrs in cold and 10-12 hrs. in hot season) and these values are among the highest in the world. For daily global radiation up to 23MJ/m², 24 (80%) consecutive days are available in this area for solar energy. Such conditions are ideal for solar thermal applications.

Pakistan receives about 15.5x10¹⁴ kWh of solar irradiance each year with most regions receiving approximately 8 to 10 sunlight hours per day. The installed capacity of solar photovoltaic power is estimated to be 1600 GW per year, providing approximately 3.5 PWh of electricity (a figure approximately 41 times that of current power generation in the country). To summarize, the sun shines for 250-300 days per years in Pakistan with average sunshine hours of 8- 10 per day. This gives huge amount of energy to be used for electricity generation by solar photovoltaic and solar thermal power plants.

3. Environment Assessment:

The CTM solar project will be executed on within the premises of Purchaser, and the Applicant has carried out a detailed environment assessment of the site in preparation of the Solar PV Plant.

The assessment of the Project has been considered for both positive and negative effects. The proposed photovoltaic Power Project has been located as per international guidelines. Adoption of green power generation with no emission and effluent discharge with have least impact on the ambient environment and on the host community.

The importance of the sustainable development concept has increased in the whole world. As a result, some new regulations enforce that all development projects should be compatible with the environmental criterions. An environmental impact assessment should be carried out to make sure that projects are compatible with the environmental criterions. Environmental Impact Assessment (EIA) can be defined as a process of environmental management, planning, and decision-making with a purpose of keeping and improving the quality of the environment.

The main goal is to develop environmentally friendly industrialization. With this kind of environmentally friendly industrialization, "sustainable development" can be a possibility in the future by keeping the usage/protection balance between economic development and the environmental protection.

Every energy generation and transmission method affects the environment. Conventional generating options can damage air, climate, water, land & wildlife, landscape as well as raise the levels of harmful radiation. PV technology is substantially safer offering a solution to many environmental and social problems associated with fossil and nuclear fuels. Solar PV energy technology provides obvious environmental advantages in comparison to the conventional energy sources thus contributing to the sustainable development of human activities. Not counting the depletion of the exhausted natural resources, their main advantage is related to the reduced CO₂ emissions and normally absence of any air emissions or waste products during their operations.

The use of solar power has additional positive implications such as:

- Reduction of the emissions of the greenhouse gases (mainly CO₂, NO_x) and prevention of toxic gas emissions (SO₂, particulates)
- Reduction of the required transmission lines of the electricity grids.

4. Zone Classification:

Detection of rainfall trend is subject to limitations: there is no clear altitudinal trend of rainfall. Therefore, for analysis, a dataset spreads over a period of 30 years (1976-2005) covering the whole country i.e. 30 stations from extreme north to south and east to west have been selected. The stations included in this study were selected on the basis of their latitudinal position, elevation from sea level, length of record, completeness and reliability of data so that a synoptic view of the entire country could be obtained. Further the selected stations have been divided into five different microclimatic zones. These zones were named A, B, C, D and E as shown in Figure 1, along with their latitudinal extent.

Zone A

Zone A comprises those stations having cold climate and high mountains, situated in the north of Pakistan. These stations are Chitral, Gilgit, Muzaffarabad, Said-u-Sharif, Skardu, Astor, Dir, Chilas Parachinar and Kakul. These are mostly hill stations located between 34°N to 38°N in the Himalaya, Hindukash and Koh-e-Sufaid mountain ranges.

Zone B

This zone has mild cold climate and Sub Mountains, located between 31N to 34 N. The stations are Sialkot, D.I.Khan, Islamabad, Peshawar, Cherat and Lahore.

Zone C

Climate is cold in winters and hot in summers. Most of them are mountainous stations with high elevations from mean sea level and cover an area between 27 N to 32N and 64 E to 70 E. Stations included in this zone are Quetta, Zhob, Kalat and Khuzdar.

Zone D

This is the hottest and dry zone of the country where highest maximum temperatures are recorded in stations of Sibbi and Jacobabad. The area is almost plain with some area included in Thar Desert. Stations included are Sibbi, Jacobabad, Bahawalpure, Khanpur, Multan and Rohri.

Zone E

Zone E is a big zone having many stations and coastal cities, near to Arabian Sea. The coastal Part comprises only a small part of this region and climate above coastal parts in Balochistan as well as in Sindh province is mostly arid to hyper arid. The selected stations from this zone are Hyderabad, Karachi, Nawabshah and Jewani.

5. Project Environmental Impacts & Mitigation Measures:

This Section discusses the potential environmental impacts, assesses the significance, recommends mitigation measure to minimize the adverse effect and identifies the residual impacts associated with the proposed activities of the project during the construction and operation phase of the proposed project at the proposed site and of secondary actions like potable, raw water and waste water lines. Solar energy is a lot cleaner when compared with conventional energy sources. Solar energy systems have many significant advantages, like being cheaper and not producing any pollutants during operation, and being almost an infinite energy source when compared with fossil fuels. Nevertheless, solar energy systems have some certain negative impacts on the environment just like any other energy system. Some of these impacts will be summarized in this section.

Identification of Potential Impacts:

- a) Discharge of Pollutants
- b) Visual Impacts
- c) Impact on Natural Resources
- d) Air Pollution
- e) Noise Intrusion
- f) Impact on Air
- g) Impact on Ground Water/ Surface Water
- h) Impact on Solid Waste
- i) Impact on Soil
- j) Impact on Natural Resources

Discharge of Pollutants: Solar cells do not emit any pollutants during their operations. But solar cell modules contain some toxic substances, and there is a potential risk of releasing these chemicals to the environment during a fire. Necessary precautions will be taken for emergency situations like fire.

Visual Impacts: There will be some visual impacts depending on the type of the scheme and the surroundings of the solar cells. Especially for applications on the buildings, solar cells can be used as a cladding material that could be integrated into

the building during the construction phase. Solar cell applications after the construction phase of the buildings might cause negative visual impacts. However, through proper planning the Applicant will minimize this impact.

Impacts on Natural Resources: Despite being a benign energy system during operation, solar cells have some negative impacts on the environment during their production phase like many other systems. The energy needed for the production of solar energy systems is still produced in conventional methods today. Some toxic chemical substances used during the production phase are produced as a by-product. However, the solar panels to be utilized for this project have been manufactured in China therefore, there is no direct impact on the designated vicinity.

Air Pollution: Solar cells do not emit any substances to the air during operation. But there could be some emissions during manufacturing and transport. The emissions associated with the transport of the modules are insignificant when compared with the emissions associated with the manufacture. Transport emissions are 0.1-1% of the manufacturing emissions.

Noise Intrusion: Solar cells do not make a noise during operation. But during the construction phase, there will be a little noise as usual in other construction activities. However, since the solar panels to be utilized for this project have been manufactured in China, this is not a risk for the designated vicinity.

Impact on Air: There would be no hazardous emissions at site as well as during construction phase except Motor, Vehicle and Crane. Moreover, there are no objectionable odors as well as alternation of air temperature.

Impact on Ground Water/ Surface Water: There would be no use of water during design phase except curing of civil pads during construction, which have no negative impact on environment.

Impact on Solid Waste: It may only Create litter and trash waste which is recyclable and may be cleared from site after construction.

Impact on Soil: No impacts as all installed systems are roof top.

Impact on Natural Resources: There won't be any increase in the rate of usage of any natural resource like any minerals, additional fuel other than vehicles. But there would be increase in the amount of usage of Paper for mapping, enlisting items etc. However, paper may be recycled by throwing it in ordinary dustbin, further maximum usage of electronic system e.g. emails will be done.

6. Environment Assessment:

- a. Almost all conventional methods of energy generation have varying degrees of adverse environmental impact. These methods have far reaching detrimental effects on the climate, air, water, land and wildlife of the adjacent vicinities. However, Solar PV energy technology provides significant environmental advantages in comparison to the conventional energy sources while contributing to the sustainable development of human activities. Besides slowing down the depletion of natural resources, the main environmental advantage is zero air emissions, waste production and eventual reduction in emissions of greenhouse gases (CO_x, NO_x) and toxic gases (SO_x).
- b. Solar power plants have zero fuel requirement and hence limit the depletion of natural resources, fossil fuels. Unlike conventional thermal power plants, no water consumption is required for cooling purposes. A very optimized quantity of water is occasionally used for plant maintenance / cleaning. As stated earlier, the proposed system of 5 MW DC (4 kW AC) will offset approximately 4625 metric tons of carbon dioxide annually.
- c. The Applicant has carried out environment assessment of the site for installation of solar PV Plant. We humbly submit our findings as under:

Environment Parameters	Level of Impact	Reasons	Mitigation Measures
Air Impact	Low	Solar Energy is Carbon Free	(No Emissions)
Water	Low	Solar Plant will require a very low quantity of water for cleaning purpose only	Ground water will be made available for cleaning of Modules at site.
Roof	Low	The installation	Close monitoring during construction and

		space is an utilized rooftop with no vegetation whatsoever. No chemicals etc. will be used during construction or operation that could badly affect the roof.	operation to ensure least impact on roof.
Ecosystem	Low	No ecologically sensitive area lies with in premises	Installation area being a rooftop has no vegetation cover.
Socio Eco System	Low	Total area identified for said project is in possession of the Customer and no acquisition is needed.	Not Applicable

7. Safety plans, emergency plans

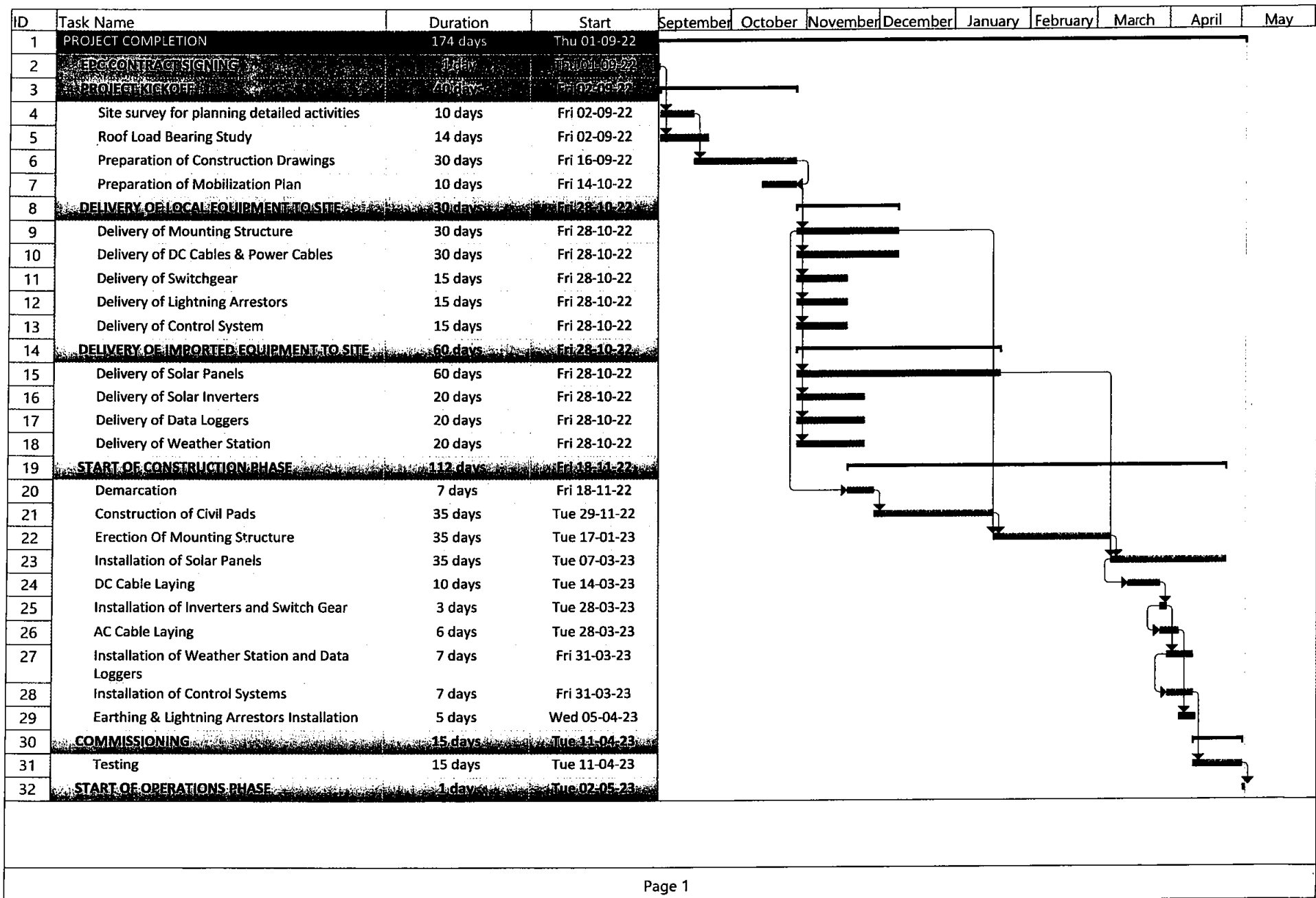
- The qualified and authorized electricians will be allowed to undertake servicing or maintenance tasks.
- The authorized personnel will wear appropriate equipment, including a safety harness to restrain from falling off the roof, sturdy shoes that will have thick rubber soles to provide electrical insulation and good grip and appropriate clothing for personal protection, including a hat, sunglasses, gloves and long pants and sleeves.
- Lock out and tag out procedures will be used before commencement of maintenance tasks.
- On-going operation and maintenance concerns for solar power systems will be addressed properly. These systems are exposed to outdoor weather conditions that enhance the aging process, and the infrastructure needs to be

in place for the on-going maintenance of these systems to assure their safe operation.

- Properly grounded or double insulated power tools will be used for maintenance tasks.
- Tools will be maintained in good condition.
- Working on electrical equipment and circuits will be carried out in de-energized state.
- Proper pathways will be available for operation, maintenance and firefighting.
- Fire protection and suppression will be placed at site.

ANNEX XIII

Project Commencement and Completion Schedule



ANNEX XIV

Health and Safety Plan



**YDE SA
(SMC-PRIVATE)
LIMITED**

HEALTH & SAFETY

CONTENTS:

1. Introduction to Health, Safety and Environment Statement
2. Review of the Health, Safety and Environment Statement
3. Communication of the Health, Safety and Environment Statement to Employees
4. Health, Safety and Environment Training
5. Planning, Measuring, Auditing and Reviewing Safety Performance
6. Resources
7. Management Organization for Implementation of the Health & Safety Statement
8. Health, Safety and Environment Responsibilities
9. Rules covering Health, Safety and Environment at Work
10. Fire Arrangements
11. Accident and Injury Reporting Procedures and Records
12. First Aid Arrangements
13. Waste Management
14. Traffic Management
15. Existing Utilities
16. Emergency Procedure
17. Dangerous Occurrence Reporting Procedure
18. Arrangements for Carrying Risk Management

INTRODUCTION

These procedures outline the Owners requirements for the management of Health and Safety from Site mobilization to construction and completion of construction.

The Principal Contractor for this Contract shall be Hisel Power who shall be appointed on award of the Contract.

The Principal Contractor and Sub-contractors of all tiers are ultimately responsible for ensuring the safety of their staff, contractors, agents, visitors and the general public by implementing these requirements or any applicable regional legislation.

The Health and Safety requirements include all aspects of the Works, such as design, manufacture, transportation, construction, commissioning and testing.

The Owner shall verify the safety and health competence of the following key appointments:

- The Principal Contractor as an entity
- The Contractor's design team and or contracted designers, including temporary works designers.
- The Contractor's Project Manager, Site Manager and Commissioning Manager
- The Principal Contractor's contact person, if different to the above
- The Principal Contractor's Safety Manager, Environmental Manager etc.
- The Principal Contractor's Safety advisors
- The main Sub-contractors as an entity

Yellow Door focal point and the Principal Contractor will assess risks to environment and social performance, safety and health and implement all actions shown to be necessary.

Should any of the Principal Contractor activities endanger the health of any employee and /or the environment, such activities will be monitored and where necessary, arrangements for health surveillance made.

Other people may be affected by projects activities e.g. visitors, neighbors, contractors etc., and the Principal Contractor management accepts the responsibility to provide appropriate levels of safety for them.

Yellow Door and Principal Contractor commitment to this policy will assist to develop a positive environment, health and safety culture throughout all areas and activities.

All Sub Contractors will be required to comply with all current Health, Safety and Environment legislation.

1. INTRODUCTION TO THE ENVIRONMENT & SOCIAL, HEALTH & SAFETY STATEMENT

Yellow Door recognizes its responsibility to monitor the contractor to secure the safety, health and welfare of employees. This Safety Statement specifies the arrangements made for this to be carried out, including available resources, the names of responsible persons, the co-operation required from employees, consultation procedures and available information.

2. REVIEW OF THE ENVIRONMENT & SOCIAL, HEALTH & SAFETY STATEMENT

The E&S focal point will review this Policy annually.

3. COMMUNICATION OF THE ENVIRONMENT & SOCIAL, HEALTH & SAFETY STATEMENT TO CONTRACTOR'S EMPLOYEES

It is important that this Statement is read and acknowledged by all the principal contractor employees. It will be presented at induction to new employees and made available at all times thereafter.

4. HEALTH AND SAFETY TRAINING

All the Principal Contractor employees need to know about:

- ✦ The principal contractor Health and Safety Plan.
- ✦ The structure and system for delivering this Plan.
- ✦ The risks in their work activities that apply to them.

All the Principal Contractor employees will receive induction training. Such training will cover-Fire Procedures, Warning Systems, actions to be taken on receiving warning, locations of exits/escape routes, evacuation and Assembly Procedures, First Aid/Injury Reporting Procedures, names of First Aiders/Appointed Persons, issue of protective clothing/ equipment, and its use, compulsory protection areas, thorough instruction applicable to their particular duties at work etc.

Training needs will be reviewed by the Principal Contractor as a result of job changes, promotion, new activities or new technology, following an accident/incident and as a result of performance appraisal. Records of training will be kept for all the Principal Contractor employees.

5. PLANNING, MEASURING, AUDITING AND REVIEWING SAFETY PERFORMANCE

a) Planning

Yellow Door's aim is to monitor the Principal Contractor through the E&S focal point to minimize the risks created by work activities. the Principal Contractor will use Risk Assessment methods to decide priorities and set objectives for hazard elimination and risk control. Wherever possible, risks will be eliminated or

minimized by the use of physical control measures. Where this is not possible, systems of work and personal protective equipment will be used to control risks. Performance Standards will be established and performance measured against these.

b) Measuring Performance

The success of action taken to control risks will be assessed by thorough investigation of any accidents, ill health or incidents with the potential to cause harm or loss. the Principal Contractor will aim to identify the underlying causes and take corrective action to prevent recurrence. E&S focal point will monitor the EHS performance of the contractor.

c) Auditing and Reviewing Performance

Environment, Health & Safety arrangements will be monthly audited, and monthly reviews of performance will be carried out by E&S focal point and the Principal Contractor

management with the objective of continual improvement of policies, systems and procedures.

6. RESOURCES

It is recognized that Environment, Health and Safety is a management function equal to any other and sufficient resources will be provided to carry it out. The organization and responsibilities are detailed in the following sections 8. and 9.

7. MANAGEMENT ORGANISATION FOR IMPLEMENTATION OF ENVIRONMENT, HEALTH & SAFETY STATEMENT

The principal contractor responsible for the organization and implementation of the Health and Safety Statement and Yellow Door will monitor the EHS implementation through E&S focal point.

8. HSE Responsibilities of the contractor

The contractor shall:

- a) Comply with all applicable safety regulations
- b) The contractor shall develop, present and implement a complete health and safety plan (HASP) which must be approved by the client representative and the E&S focal point.
- c) To take reasonable care for the Health and Safety of themselves and of other persons who may be affected by their acts or omissions at work.
- d) To co-operate with Management to enable the employer to carry out his legal duties or any requirements as may be imposed.
- e) Not to intentionally or recklessly interfere with, or misuse, any item provided in the interests of Health, Safety and Welfare.

- f) To use machines, equipment, dangerous substances, transport equipment, means of production or safety device provided by the employer, in accordance with the training and instructions received.
- g) To inform the employer or any other employee with specific Health and Safety responsibilities for fellow employees:
 - ✦ Of any work situation where it is considered that the training and instruction received by themselves or a fellow employee, could represent a serious and imminent danger to their Health and Safety, and;
 - ✦ Of any matter where it is considered that the training and instruction received by themselves or a fellow employee, could present a failure in the employers' protection arrangements for their Health and Safety, even where no immediate danger exists.
- h) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause xx [Employer 's Taking Over],

9. RULES COVERING HEALTH AND SAFETY AT WORK

This section of the Health and Safety Statement specifies the safety rules in operation, which employees must adhere to. These rules are prepared in accordance with legal requirements and acknowledged safe working practices. In addition to the legal duty imposed upon employees to comply with these rules, failure to observe them will be considered to be a breach of the Principal's Contractor Contract of Employment and will result in disciplinary action being taken.

It should also be borne in mind that a breach of Health and Safety Legislation by an employee is a criminal offence and an Enforcing Officer could take action against an individual.

A) Working Practices

1. Employees must not operate any item of plant or equipment unless they have been trained and authorized to do so.
2. Employees must make full and proper use of all equipment guarding.
3. Employees must report to management immediately any fault, damage, defect or malfunction in any item of plant, equipment or tool.
4. Employees must not clean any moving item of plant or equipment.
5. Employees must not leave any item of plant or equipment in motion whilst unattended unless authorized to do so.
6. Employees must not make any repairs or carry out maintenance work of any description unless authorized to do so.
7. Employees must use all substances, chemicals, liquids etc. in accordance with instructions.
8. Employees must observe all pedestrian and vehicle controls in force on the premises.

B) Hazard Warning Signs and Notices

Employees must comply with all hazard and warning signs and notices displayed on the premises.

C) Working Conditions and Environment

1. Employees must make proper use of all equipment and facilities provided to control working conditions.
2. Employees must keep stairways, passageways and work areas clear and in a clean and tidy condition.
3. Employees must dispose of all rubbish, scrap and waste within the working area, using the facilities provided.
4. Employees must use the correct methods when removing any articles of waste for disposal.
5. Employees must clear up spillages or liquids within the work area.
6. Employees must not pollute watercourses, sewers or drains with chemicals, or substances.

D) Protective Clothing and Equipment

1. Employees must use all items of protective clothing and equipment provided as instructed.
2. Employees must report any damage, loss, fault or unsuitability of protective clothing or equipment to their supervisor.

E) Fire Precautions

1. Employees must comply with all laid down Emergency Procedures.
2. Employees must not obstruct any Fire Escape Route, fire equipment or fire doors.
3. Employees must report any use of firefighting equipment to their supervisor.

F) Contractor Company Transport

1. Employees with company vehicles must carry out daily check of their vehicles, paying particular attention to tires, oil, radiator water and windscreen wash in accordance with the manufacturer's manual.
2. Employees must not drive or operate any vehicles for which they do not hold the appropriate driving license or permit.
3. Employees must not carry unauthorized passengers or unauthorized loads.
4. Employees must not use vehicles for unauthorized purposes.
5. Employees must not overload vehicles above the stated capacity.
6. Employees must not drive or operate vehicles whilst suffering from a medical condition or illness that may affect their driving or operating ability.

G) Accidents

1. Employees must seek medical treatment for any injury they may receive, no matter how slight it may seem to be. Upon returning from treatment they must report the incident to their Line Manager.
2. Employees must report all accidents and dangerous occurrences to management as soon as it is practicable.
3. Employees must notify management of any incident in which damage is caused to property.

H) Health

1. Employees must report to management any medical condition, which could affect the safety of themselves or others.
2. Employees must co-operate with the management on the implementation of the Medical and Occupational Health Provisions.

I) Rules Covering Gross Misconduct

An employee will be liable to disciplinary actions if he/she is found to have acted in any of the following ways:

1. A serious or willful breach of safety rules.
2. Unauthorized removal or interference with any guard or protective device.
3. Unauthorized operation of any item of plant or equipment.
4. Unauthorized removal of any item of First Aid equipment.
5. Willful damage to, misuse of, or interference with any item provided in the interests of Health and Safety or welfare at work.
6. Unauthorized removal or defacing of any label, sign or warning device.
7. Misuse of chemicals, inflammable, hazardous or toxic substances.
8. Horseplay or practical jokes, which could cause accidents.
9. Making false statements or in any way deliberately interfering with evidence following an accident or dangerous occurrence.
10. Misuse of any item of equipment, utensil, fitting/fixture, vehicle, or electrical equipment.

10. FIRE ARRANGEMENTS

This section outlines the arrangements and responsibilities for evacuation in the event of fire.

- ✦ All the principal contractor employees must receive instruction and training in the procedures to be followed in the event of a fire.
- ✦ As part of the fire arrangements, a person has been nominated who is responsible for Fire Safety planning/fire precautions, Evacuation Drills, fire appliance checks, Fire Alarm tests and record keeping.
- ✦ Fire Evacuation Drills will be arranged by the nominated person twice per year.

A) Fire Procedures

Upon discovering, hearing or being notified of a fire,

THE SENIOR PERSON PRESENT WILL:

1. Telephone the Emergency Services by dialing:

112

2. When the Operator answers, ask for the FIRE SERVICE and state clearly the telephone number of the premises from which you are calling:

112

3. When connected to the Fire Service, state slowly and distinctly:

**"THIS IS (The principal contractor name), WE
HAVE A FIRE".**



Do not replace the receiver until this information has been correctly acknowledged.

4. Evacuate the building by the nearest available exit and proceed to the assembly point.
5. Initiate a roll call for employees and visitors.
6. Liaise with the Senior Fire Officer, giving information concerning:
 - a) location of fire
 - b) missing employees/visitors
 - c) location of dangerous chemicals/substances
 - d) location of services isolating points.
7. Liaise with the Fire Officer before re-entering the building.
8. Ensure that all discharged fire extinguishers are replaced.

B) Fire Notice

When notified of a fire, all employees should leave the building by the nearest available exit and assemble outside in front of the office building.

A roll call will be held, to ensure all persons are accounted for, and no one is left in the building. Do not delay leaving the building by collecting personal belongings.

VISITORS

Please assemble at the location identified above where a roll call of visitors will be held - it is important that you do not leave the area before notifying the Senior Person present. Do not delay leaving the building by collecting personal belongings.

SENIOR PERSON PRESENT

- a) Ensure that the FIRE SERVICE has been summoned.
- b) Initiate a roll call for employees and visitors.
- c) Inform the fire service of the suspected or actual location of the fire, any missing persons, any dangerous substances present and service isolation points, e.g. gas mains/valves, electricity, etc.
- d) Do not re-enter the building until told that is safe to do so by the Fire Officer.
- e) Ensure that all discharged fire extinguishers are replaced.
- f) Keep a record of the incident.

11. ACCIDENT AND INJURY REPORTING PROCEDURE AND RECORDS

All injuries no matter how minor should be treated and a record made in the Accident Book:

1. The injured person reports for First Aid Treatment.

2. The responsible person will decide what actions are necessary (if any), carrying out an investigation and recording details on the form if appropriate.
3. The responsible person will notify the Authorities immediately if the injury results in absence from work of more than 3 days.

12. FIRST AID ARRANGEMENTS

A trained First-Aider or appointed person by the principal contractor, First Aid equipment and records are provided. Displayed throughout the premises are notices, which detail the following:

LOCATION OF FIRST AID KIT

In Office and on site.

LOCATION OF RECORD OF ACCIDENT/TREATMENT RECORD BOOKS

In Office.

13. WASTE MANAGEMENT

The Contractor shall produce a Site Waste Management Plan that must identify the client, the principal contractor; and the person who drafted it.

It must describe the construction work proposed, including:

- the location of the site; and
- the estimated cost of the project.

It must record any decision taken before the site waste management plan was drafted on the nature of the project, its design, construction method or materials employed in order to minimize the quantity of waste produced on site.

It must

- describe each waste type expected to be produced in the course of the project;
- estimate the quantity of each different waste type expected to be produced; and
- identify the waste management action proposed for each different waste type, including reusing, recycling, recovery and disposal.

14. TRAFFIC MANAGEMENT

Traffic management related accidents represent a significant risk to personnel engaged in construction activities, as, poor traffic management controls have been identified as being one of the main causes of accidents. As traffic management is an essential element of this Contract, a comprehensive traffic management plan will be required prior to works commencing, including Site mobilization.

The Contractor shall be responsible for the design, implementation, maintenance and demobilization of all traffic safety management arrangements within the Site and any areas outside of the Site which are directly

affected by the work Site. The Contractor shall also be responsible for all associated consultations and for obtaining the necessary approvals for the traffic management scheme.

It is the Contractor's responsibility to ensure that the traffic management plan is acceptable to the local authority and any impacted third parties

15. EXISTING UTILITIES

The term 'utility' means all underground services such as electricity, gas, water, storm water drain, foul sewer and telecommunication services. Buried utilities can be widespread and the Contractor shall assume that they are present unless and until proven otherwise, even when there are no records available.

The exact location and depth of utilities must be verified using appropriate methods, prior to ground penetration by any means at any location.

The location and depth of known existing utilities may be shown on utility record drawings but are not limited to these drawings. Copies of record drawings in the Owner's possession are available from the Owner for inspection. It should be noted that, the locations shown on the drawings may not be accurate and will always require on Site verification.

Prior to commencing works on Site, it shall be the responsibility of the Contractor to satisfy himself that all known underground utilities on Site have been located, identified and recorded.

The Contractor will provide the Owner with details of any additional utilities not shown on the record drawings, and of actual locations of utilities if different to that shown. Once received by the Owner, these drawings will be made available on request to others, as part of the 'Existing Utilities' drawings.

16. EMERGENCY PROCEDURE

1. In the event of requiring the Emergency Services dial 112.
2. When the Exchange Operator answers, ask for the appropriate service.
3. When connected to the required service, state slowly and distinctly:
"THIS IS (The principal contractor name)"
4. Give details of the incident.
5. Give details of the address
6. Do not replace the receiver until this information has been correctly acknowledged.

17. DANGEROUS OCCURRENCE REPORTING PROCEDURE

Report any dangerous occurrence to the principal contractor HSE Advisor on site.

18. ARRANGEMENTS FOR CARRYING OUT RISK ASSESSMENT

The contractor will carry out a formal risk assessment and record the following:

1. Any significant sources of harm (hazards) to Health and Safety identified during the assessment.
2. Any existing control measures currently in place and their level of effectiveness in controlling those risks (with reference and access to work manuals or other documentation if appropriate).
3. The persons who may be affected by the risks identified, in particular any personnel who may be especially at risk.
4. The decisions taken as a result of the assessment.

A competent team will carry out the risk assessment.

When a hazard is identified and the risk assessed, the necessary arrangements will be decided and put into effect to protect safety and health, including removal of the hazard, control measures, safeguards or the provision of protective equipment.

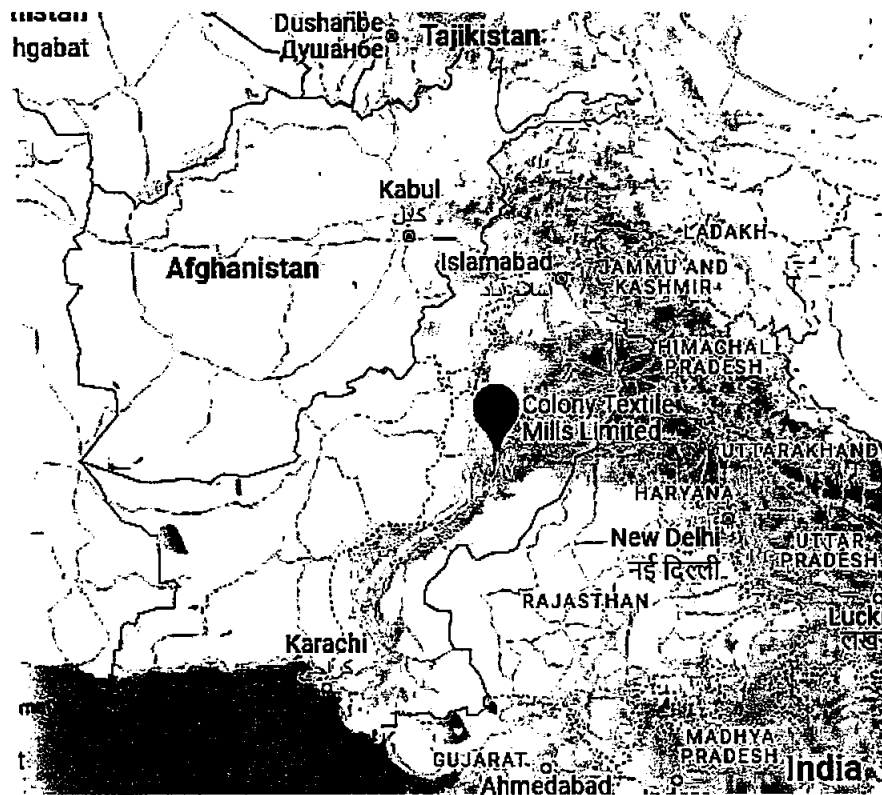
ANNEX XV

Technical Schedule

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.**

**Location of the
Generation Facility/ Solar Power Plant/ Roof Mount Solar
of the Licensee**



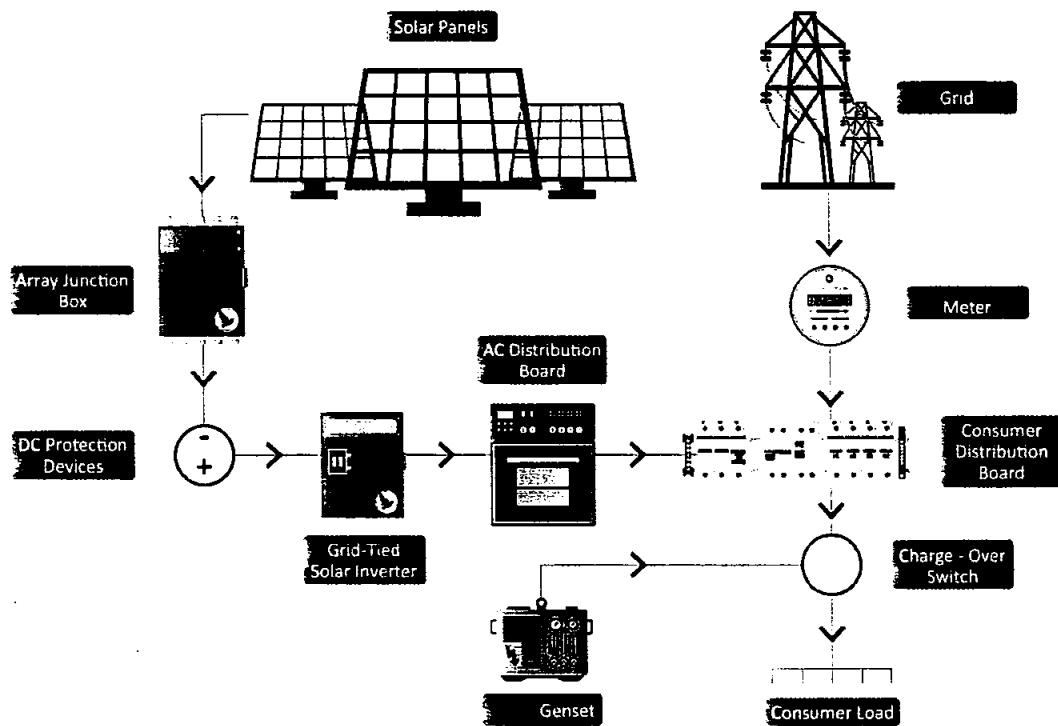
COLONY TEXTILES MILL LIMITED

**Land Coordinates of the
Generation Facility/ Solar Power Plant/ Roof Mount Solar
of the Licensee**

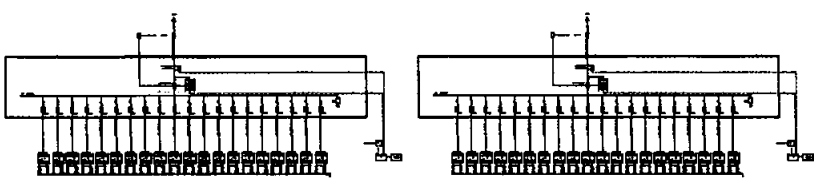


Latitude	Longitude
30°08'12.7"N	71°22'23.8"E

Process Flow Diagram
Generation Facility/ Solar Power Plant/ Roof Mount Solar
of the Licensee



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

<p>SINGLE LINE DIAGRAM Scale: N.T.S.</p> 	<table border="1"> <tr> <td colspan="2">SITE LOCATION</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td colspan="2">GENERAL NOTES</td> </tr> <tr> <td colspan="2">1. The diagram is for the purpose of showing the general arrangement of the plant.</td> </tr> <tr> <td colspan="2">2. The diagram is not to be used for the purpose of showing the detailed arrangement of the plant.</td> </tr> <tr> <td colspan="2">3. The diagram is not to be used for the purpose of showing the detailed arrangement of the plant.</td> </tr> <tr> <td colspan="2">LEGEND</td> </tr> <tr> <td></td> <td>Inverter</td> </tr> <tr> <td></td> <td>Solar Panel</td> </tr> <tr> <td></td> <td>Busbar</td> </tr> <tr> <td></td> <td>Transformer</td> </tr> <tr> <td></td> <td>Meter</td> </tr> <tr> <td colspan="2">ARRAY INFORMATION</td> </tr> <tr> <td>Array Name</td> <td>Array 1</td> </tr> <tr> <td>Array Size</td> <td>20 Panels</td> </tr> <tr> <td>Array Voltage</td> <td>1000V</td> </tr> <tr> <td>Array Current</td> <td>10A</td> </tr> <tr> <td>Array Power</td> <td>20kW</td> </tr> <tr> <td>Array Efficiency</td> <td>15%</td> </tr> <tr> <td>Array Losses</td> <td>5%</td> </tr> <tr> <td>Array Output</td> <td>19kW</td> </tr> <tr> <td>Array Status</td> <td>Online</td> </tr> <tr> <td>Array Date</td> <td>2023-10-27</td> </tr> <tr> <td>Array Time</td> <td>10:00:00</td> </tr> <tr> <td>Array User</td> <td>Admin</td> </tr> <tr> <td>Array Password</td> <td>12345678</td> </tr> <tr> <td>Array IP Address</td> <td>192.168.1.1</td> </tr> <tr> <td>Array MAC Address</td> <td>00:00:00:00:00:00</td> </tr> <tr> <td>Array Firmware</td> <td>1.0.0</td> </tr> <tr> <td>Array Version</td> <td>1.0.0</td> </tr> <tr> <td>Array License</td> <td>12345678</td> </tr> <tr> <td>Array Serial</td> <td>12345678</td> </tr> <tr> <td>Array Model</td> <td>12345678</td> </tr> <tr> <td>Array Manufacturer</td> <td>12345678</td> </tr> <tr> <td>Array Country</td> <td>12345678</td> </tr> <tr> <td>Array City</td> <td>12345678</td> </tr> <tr> <td>Array State</td> <td>12345678</td> </tr> <tr> <td>Array Zip</td> <td>12345678</td> </tr> <tr> <td>Array Email</td> <td>12345678</td> </tr> <tr> <td>Array Phone</td> <td>12345678</td> </tr> <tr> <td>Array Fax</td> <td>12345678</td> </tr> <tr> <td>Array Website</td> <td>12345678</td> </tr> <tr> <td>Array Notes</td> <td>12345678</td> </tr> <tr> <td colspan="2">PROJECT</td> </tr> <tr> <td colspan="2">Colony Textiles</td> </tr> <tr> <td colspan="2">Solar PV Planting Installation</td> </tr> <tr> <td colspan="2">Multan, Punjab, Pakistan</td> </tr> <tr> <td colspan="2">CLIENT</td> </tr> <tr> <td colspan="2">Colony Textiles</td> </tr> <tr> <td colspan="2">DESIGNER</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">DATE</td> </tr> <tr> <td colspan="2">2023-10-27</td> </tr> <tr> <td colspan="2">TIME</td> </tr> <tr> <td colspan="2">10:00:00</td> </tr> <tr> <td colspan="2">USER</td> </tr> <tr> <td colspan="2">Admin</td> </tr> <tr> <td colspan="2">PASSWORD</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">IP ADDRESS</td> </tr> <tr> <td colspan="2">192.168.1.1</td> </tr> <tr> <td colspan="2">MAC ADDRESS</td> </tr> <tr> <td colspan="2">00:00:00:00:00:00</td> </tr> <tr> <td colspan="2">FIRMWARE</td> </tr> <tr> <td colspan="2">1.0.0</td> </tr> <tr> <td colspan="2">VERSION</td> </tr> <tr> <td colspan="2">1.0.0</td> </tr> <tr> <td colspan="2">LICENSE</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">SERIAL</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">MODEL</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">MANUFACTURER</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">COUNTRY</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">CITY</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">STATE</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">ZIP</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">EMAIL</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">PHONE</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">FAX</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">WEBSITE</td> </tr> <tr> <td colspan="2">12345678</td> </tr> <tr> <td colspan="2">NOTES</td> </tr> <tr> <td colspan="2">12345678</td> </tr> </table>	SITE LOCATION				GENERAL NOTES		1. The diagram is for the purpose of showing the general arrangement of the plant.		2. The diagram is not to be used for the purpose of showing the detailed arrangement of the plant.		3. The diagram is not to be used for the purpose of showing the detailed arrangement of the plant.		LEGEND			Inverter		Solar Panel		Busbar		Transformer		Meter	ARRAY INFORMATION		Array Name	Array 1	Array Size	20 Panels	Array Voltage	1000V	Array Current	10A	Array Power	20kW	Array Efficiency	15%	Array Losses	5%	Array Output	19kW	Array Status	Online	Array Date	2023-10-27	Array Time	10:00:00	Array User	Admin	Array Password	12345678	Array IP Address	192.168.1.1	Array MAC Address	00:00:00:00:00:00	Array Firmware	1.0.0	Array Version	1.0.0	Array License	12345678	Array Serial	12345678	Array Model	12345678	Array Manufacturer	12345678	Array Country	12345678	Array City	12345678	Array State	12345678	Array Zip	12345678	Array Email	12345678	Array Phone	12345678	Array Fax	12345678	Array Website	12345678	Array Notes	12345678	PROJECT		Colony Textiles		Solar PV Planting Installation		Multan, Punjab, Pakistan		CLIENT		Colony Textiles		DESIGNER		12345678		DATE		2023-10-27		TIME		10:00:00		USER		Admin		PASSWORD		12345678		IP ADDRESS		192.168.1.1		MAC ADDRESS		00:00:00:00:00:00		FIRMWARE		1.0.0		VERSION		1.0.0		LICENSE		12345678		SERIAL		12345678		MODEL		12345678		MANUFACTURER		12345678		COUNTRY		12345678		CITY		12345678		STATE		12345678		ZIP		12345678		EMAIL		12345678		PHONE		12345678		FAX		12345678		WEBSITE		12345678		NOTES		12345678	
SITE LOCATION																																																																																																																																																																																											
GENERAL NOTES																																																																																																																																																																																											
1. The diagram is for the purpose of showing the general arrangement of the plant.																																																																																																																																																																																											
2. The diagram is not to be used for the purpose of showing the detailed arrangement of the plant.																																																																																																																																																																																											
3. The diagram is not to be used for the purpose of showing the detailed arrangement of the plant.																																																																																																																																																																																											
LEGEND																																																																																																																																																																																											
	Inverter																																																																																																																																																																																										
	Solar Panel																																																																																																																																																																																										
	Busbar																																																																																																																																																																																										
	Transformer																																																																																																																																																																																										
	Meter																																																																																																																																																																																										
ARRAY INFORMATION																																																																																																																																																																																											
Array Name	Array 1																																																																																																																																																																																										
Array Size	20 Panels																																																																																																																																																																																										
Array Voltage	1000V																																																																																																																																																																																										
Array Current	10A																																																																																																																																																																																										
Array Power	20kW																																																																																																																																																																																										
Array Efficiency	15%																																																																																																																																																																																										
Array Losses	5%																																																																																																																																																																																										
Array Output	19kW																																																																																																																																																																																										
Array Status	Online																																																																																																																																																																																										
Array Date	2023-10-27																																																																																																																																																																																										
Array Time	10:00:00																																																																																																																																																																																										
Array User	Admin																																																																																																																																																																																										
Array Password	12345678																																																																																																																																																																																										
Array IP Address	192.168.1.1																																																																																																																																																																																										
Array MAC Address	00:00:00:00:00:00																																																																																																																																																																																										
Array Firmware	1.0.0																																																																																																																																																																																										
Array Version	1.0.0																																																																																																																																																																																										
Array License	12345678																																																																																																																																																																																										
Array Serial	12345678																																																																																																																																																																																										
Array Model	12345678																																																																																																																																																																																										
Array Manufacturer	12345678																																																																																																																																																																																										
Array Country	12345678																																																																																																																																																																																										
Array City	12345678																																																																																																																																																																																										
Array State	12345678																																																																																																																																																																																										
Array Zip	12345678																																																																																																																																																																																										
Array Email	12345678																																																																																																																																																																																										
Array Phone	12345678																																																																																																																																																																																										
Array Fax	12345678																																																																																																																																																																																										
Array Website	12345678																																																																																																																																																																																										
Array Notes	12345678																																																																																																																																																																																										
PROJECT																																																																																																																																																																																											
Colony Textiles																																																																																																																																																																																											
Solar PV Planting Installation																																																																																																																																																																																											
Multan, Punjab, Pakistan																																																																																																																																																																																											
CLIENT																																																																																																																																																																																											
Colony Textiles																																																																																																																																																																																											
DESIGNER																																																																																																																																																																																											
12345678																																																																																																																																																																																											
DATE																																																																																																																																																																																											
2023-10-27																																																																																																																																																																																											
TIME																																																																																																																																																																																											
10:00:00																																																																																																																																																																																											
USER																																																																																																																																																																																											
Admin																																																																																																																																																																																											
PASSWORD																																																																																																																																																																																											
12345678																																																																																																																																																																																											
IP ADDRESS																																																																																																																																																																																											
192.168.1.1																																																																																																																																																																																											
MAC ADDRESS																																																																																																																																																																																											
00:00:00:00:00:00																																																																																																																																																																																											
FIRMWARE																																																																																																																																																																																											
1.0.0																																																																																																																																																																																											
VERSION																																																																																																																																																																																											
1.0.0																																																																																																																																																																																											
LICENSE																																																																																																																																																																																											
12345678																																																																																																																																																																																											
SERIAL																																																																																																																																																																																											
12345678																																																																																																																																																																																											
MODEL																																																																																																																																																																																											
12345678																																																																																																																																																																																											
MANUFACTURER																																																																																																																																																																																											
12345678																																																																																																																																																																																											
COUNTRY																																																																																																																																																																																											
12345678																																																																																																																																																																																											
CITY																																																																																																																																																																																											
12345678																																																																																																																																																																																											
STATE																																																																																																																																																																																											
12345678																																																																																																																																																																																											
ZIP																																																																																																																																																																																											
12345678																																																																																																																																																																																											
EMAIL																																																																																																																																																																																											
12345678																																																																																																																																																																																											
PHONE																																																																																																																																																																																											
12345678																																																																																																																																																																																											
FAX																																																																																																																																																																																											
12345678																																																																																																																																																																																											
WEBSITE																																																																																																																																																																																											
12345678																																																																																																																																																																																											
NOTES																																																																																																																																																																																											
12345678																																																																																																																																																																																											

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

- 1) *The power generated from the Generation Facility/Power Plant of YDE SA, installed at Roof Mount of Colony Textiles Mill Limited, will be dispersed for in-house utilization.*
- 2) *The proposed Interconnection Arrangement for dispersal of electric power for the Generation Facility/Solar Power Plant will be as under: -*
 - a. *400V single circuit line on the bus bar of the LV panel of CTM/Consumer*
- 3) *Any change in the above Interconnection Arrangement duly agreed by YDE SA and Colony Textiles shall be communicated in the Authority in due course of time.*

Details of
Generation Facility/Solar Power Plant/
Roof Mount Solar

(A). General Information

(i).	Name of the Company/Licensee	YDE SA (SMC/PVT.) LTD.
(ii).	Registered/ Business office of the Company/Licensee	1st Floor 140-CCA, Sector C Phase 5 D.H.A, Lahore, Punjab
(iii).	Type of the generation facility/Solar Power Plant/Roof Mount Solar	Photovoltaic (PV) Cell
(iv).	Location(s) of the generation facility Solar Power Plant/ Roof Mount Solar	Colony Textile Mills Limited Ismailabad, Multan

(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/ Roof Mount Solar	5 MW _P	
(iv).	No. of Panel/Modules	9270 x 540 Watt	
(v).	PV Array	Nos. of Strings	515
		Modules in a string	18
(vi).	Invertor(s)	Quantity	40
		Make	Huawei
		Capacity of each unit	100 kW

(C). Technical Details of Equipment

(a).	<u>Solar Panels – PV Modules</u>	
(i).	Type of Module	LONGI LR4-72HPH-540M or Equivalent
(ii).	Type of Cell	Mono crystalline
(iii).	Dimension of each Module	2256 mm x 1133 mm x 35 mm
(iv).	Total Module Area	2,556 m ²
(v).	Frame of Panel	Anodized aluminium alloy
(vi).	Weight of one Module	27.2 kg
(vii).	No of Solar Cells in each module	144 (Half Cut Cells)
(viii).	Efficiency of module	21.1%
(ix).	Maximum Power (P_{max})	540 W _P
(x).	Voltage @ P_{max}	41.65 V
(xi).	Current @ P_{max}	12.97 A
(xii).	Open circuit voltage (V_{oc})	49.50 V
(xiii).	Short circuit current (I_{sc})	13.85 A
(xiv).	Maximum system open Circuit Voltage	1500VDC (IEC)
(b).	<u>Inverters</u>	
(i).	Capacity of Inverter	100 kW

(ii).	Type of Inverter	HUAWEI SUN2000-100KTL-M0 or Equivalent	
(iii).	Input Operating Voltage Range	200 V – 1000 V DC	
(iv).	Efficiency of inverter	98.8 %	
(v).	Max. Input voltage	1100 V	
(vi).	Max. Short Circuit Current per MPPT	DC 40 A	
(viii).	Output electrical system	3 Phase AC	
(ix).	Rated Output Voltage	380 to 480	
(x).	Power Factor (adjustable)	0.8 Lagging-0.8 Leading	
(xi).	Power control	MPP tracker	
(xii).	Rated Frequency	50 Hz	
(xiii).	Environmental Enclosures	Relative Humidity	0-100% non-condensing
		Audible Noise	50 DB @ 1m
		Operating Elevation	4000 m
		Operating temperature	-25 to +60°C
(xiv).	Grid Operating protection	A	DC circuit breaker
		B	AC circuit breaker
		C	DC overload protection (Type 2)
		D	Overheat protection

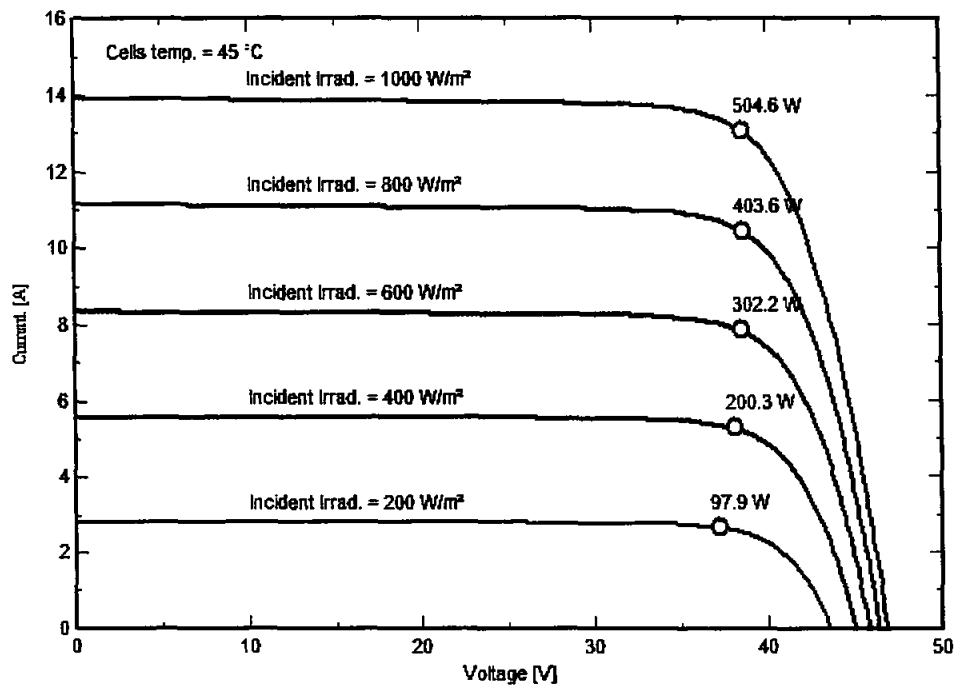
		<i>E</i>	<i>Grid monitoring</i>
		<i>F</i>	<i>Insulation monitoring</i>
		<i>G</i>	<i>Ground fault monitoring</i>
(c).	<u>Data Collecting System</u>		
<i>(i).</i>	<i>System Data</i>	<i>Meteo Control WS600-UMB Irradiation, Temperature, Wind Speed. Humidity, Air Pressure,</i>	

(D). Other Details

<i>Expected COD of the generation facility Solar Power Plant/ Roof Mount Solar</i>	<i>April 11, 2023</i>
<i>Expected useful Life of the generation facility Solar Power Plant/ Roof Mount Solar from the COD</i>	<i>25 years</i>

V-I Curve
Generation Facility/Solar Power Plant/Roof Mount Solar
of the Licensee

PV module: Longi Solar, LR5-72HPH-540M



Information
Regarding Consumer i.e. Colony Textiles Limited (CTM) to be Supplied by the
Licensee i.e. YDE SA (SMC-PVT)

(i).	No. of Consumers	1 (One)
(ii).	Location of consumers (distance and/or identity of premises)	Colony Textile Mills Limited Ismailabad, Multan
(iii).	Contracted Capacity	5 MW _P DC
(iv).	Specify Whether	
	(a).	The consumer is an Associate undertaking of the Licensee -If yes, specify percentage ownership of equity; CTM does not have direct association with YDE SA (SMC-PVT).
	(b).	There are common directorships: No
	(c).	Either can exercise influence or control over the other. No
(v).	Specify nature of contractual Relationship	
	(a).	Between each consumer and the Licensee YDE SA (SMC – PVT) will construct and operate solar plant and provide electricity to CTM for its operations.
	(b).	Consumer and DISCO. Yes. Existing Consumer of MEPCO with Connected Load of 22 MW

(vi).	Any other network information deemed relevant for disclosure to or consideration of the Authority.	NA
-------	--	----

Information
Regarding Distribution Network for Supply of Electric Power Consumer in the name of CTM

(i).	No. of Feeders	01
(ii).	Length of Each Feeder (Meter)	125m
(iii).	Length of Each Feeder to each Consumer	125m
(iv).	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.	N/A
(v).	Whether owned by YDE SA, Consumer or DISCO-(deal with each Feeder Separately)	N/A.
	(a). If owned by DISCO, particulars of contractual arrangement	N/A.
	(b). Operation and maintenance responsibility for each feeder	CTM
(vi).	Whether connection with network of DISCO exists (whether active or not)- If yes, provide details of connection arrangements (both technical and contractual)	B4 consumer of MEPCO
(vii).	Any other network information deemed relevant for disclosure to or consideration of the Authority.	N/A.

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/ Roof Mount Solar	5 MW _P 4 MW AC
(2)	Average Sun Hour Availability/ Day (Irradiation on Inclined Surface)	5 to 5.25 Hours
(3)	No. of days per year	365
(4)	Annual generating capacity of Generation Facility/Solar Power Plant/ Roof Mount Solar (As Per Simulation)	8170 MWh
(5)	Total expected generation of the Generation Facility/Solar Power Plant/ Roof Mount Solar during the twenty five (25) years term of this licence	7708 MWh
(6)	Annual generation of Generation Facility/Solar Power Plant/ Roof Mount Solar based on 24 hours working	8170 MWh
(7)	Net Capacity Factor of Generation Facility/Solar Power Plant/ Roof Mount Solar	17.56% (WRT DC) 21.97% (WRT AC)

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 Energy Purchase Agreement (EPA) or the Applicable Document(s).

Additional information with regards to control, metering, instrumentation and operation & maintenance can be found attached as Annexure-XIX.

ANNEX XVI
Feasibility Study



**FEASIBILITY STUDY FOR SOLAR INSTALLATION AT
COLONY TEXTILE MILLS LIMITED**

YDE SA (SMC-PVT.) LTD.

Table of Contents

Executive Summary.....	3
Introduction	4
Technical Analysis	5
Site Conditions	5
Technology Review and Selection.....	5
Technology Selection	5
Other Details	8
Solar PV yield Estimation and Simulation	8
Working Conditions	8
Plant Characteristics	9
Design Parameters	9
Assessment of shading.....	9
Module cleaning strategy	9
Layout.....	9
Energy Yield Estimation	12

Executive Summary

The feasibility study examines the costs, practicality, and likely outcome of a solar photovoltaic (PV) installation for Colony Textiles Pvt Limited, Lahore

The main outcome of the feasibility report is given below:

Technical Site Analysis: The project site is suitable for a solar PV energy system. For the purpose of estimation of power generation potential, solar insolation is assumed to be “good” (1,860 kWh/m²/year). Panel azimuths (180⁰ degrees), panel tilt (20⁰degrees) and satisfactory roof condition and structure are also assumed.

Anticipated System Information: The project will accommodate a 5 MWp (DC) Solar PV system with a projected annual production of 7708 MWh/year. Use of LONGI LR4-72HPH PV Panel as a basis for design will result in an acceptable system weight density of 5-6 lb per sq ft. The system will offset approximately 4625 tons of carbon dioxide annually.

Financial Analysis:

The sponsor, Yellow Door Energy SA (SMC-Private) Limited (YDE SA), is expected to make a total investment of approximately USD 3,250,000/- to finance the construction of the Colony Textiles Project. The capital structure of the project would primarily constitute of 70:30 debt equity ratio wherein the Applicant is in advanced stages of arranging local debt and the equity would be injected as a shareholder loan, which would be extended by Yellow Door Energy IRP (Private) Limited (YDE IRP) to YDE SA.

Yellow Door Energy IRP is owned by a UAE based firm Yellow Door Energy Limited (YDEL) which implies that YDEL is the ultimate owner of YDE SA. YDEL was founded in 2015 in the UAE and Jordan, with the aim of providing sustainable energy solutions for commercial and industrial businesses. Today, the company has over 110 megawatts of solar projects in the Middle East and South Asia. Among its customers are premier businesses such as Nestlé, Unilever, Carrefour/Majid Al Futtaim, and Roofmark Group.

Introduction

The project site is the Colony Textiles' facility. The exact coordinates of the project sites are:

Latitude: 30°08'12.7"N

Longitude: 71°22'23.8"E

A bird's eye view of the project site is given in the figure below:



Technical Analysis

Site Conditions

The following tasks were carried out:

- Global Horizontal Irradiation, annual and inter annual variation was assessed.
- Near shading objects were considered for placement by PV modules.
- Area required for selected module technology was calculated. Keeping in view available area and minimum inter row shading, tilt angle and appropriate spacing was calculated from near shading objects.

Details of the finalized parameters are given under section 3.5.1

Technology Review and Selection

Technology Selection

(i).	Type of Technology	Photovoltaic (PV) Cell	
(ii).	System Type	On-Grid	
(iii).	Installed Capacity of the generation facility Solar Power Plant/ Roof Mount Solar	5 MW _p	
(iv).	No. of Panel/Modules	9270 x 540 Watt	
(v).	PV Array	Nos. of Strings	515
		Modules in a string	18
(vi).	Invertor(s)	Quantity	40
		Make	Huawei
		Capacity of each unit	100 kW

Technical Details of Equipment

(a).	<u>Solar Panels – PV Modules</u>	
(i).	Type of Module	LONGI LR4-72HPH-540M or equivalent
(ii).	Type of Cell	Mono crystalline
(iii).	Dimension of each Module	2256 mm x 1133 mm x 35 mm
(iv).	Total Module Area	2,556 m ²
(v).	Frame of Panel	Anodized aluminium alloy
(vi).	Weight of one Module	27.2 kg
(vii).	No of Solar Cells in each module	144 (Half Cut Cells)
(viii).	Efficiency of module	21.1%
(ix).	Maximum Power (P_{max})	540 W _P
(x).	Voltage @ P_{max}	41.65 V
(xi).	Current @ P_{max}	12.97 A
(xii).	Open circuit voltage (V_{oc})	49.50 V
(xiii).	Short circuit current (I_{sc})	13.85 A
(xiv).	Maximum system open Circuit Voltage	1500VDC (IEC)
(b).	<u>Inverters</u>	

(i).	Capacity of Inverter	100 kW	
(ii).	Type of Inverter	HUAWEI SUN2000-100KTL-M0 or equivalent	
(iii).	Input Operating Voltage Range	200 V – 1000 V DC	
(iv).	Efficiency of inverter	98.8 %	
(v).	Max. Input voltage	1100 V	
(vi).	Max. Short Circuit Current per MPPT	DC 40 A	
(viii).	Output electrical system	3 Phase AC	
(ix).	Rated Output Voltage	380 to 480	
(x).	Power Factor (adjustable)	0.8 Lagging-0.8 Leading	
(xi).	Power control	MPP tracker	
(xii).	Rated Frequency	50 Hz	
(xiii).	Environmental Enclosures	Relative Humidity	Environmental Enclosures
		Audible Noise	50 DB @ 1m
		Operating Elevation	4000 m
		Operating temperature	-25 to +60°C
(xiv).	Grid Operating protection	A	Grid Operating protection
		B	AC circuit breaker

		C	DC overload protection (Type 2)
		D	Overheat protection
		E	Grid monitoring
		F	Insulation monitoring
		G	Ground fault monitoring
(c).	<u>Data Collecting System</u>		
(i).	System Data	Meteo Control WS600-UMB Irradiation, Temperature, Wind Speed. Humidity, Air Pressure,	

Other Details

Expected COD of the generation facility Solar Power Plant/ Roof Mount Solar	April 11, 2023
Expected useful Life of the generation facility Solar Power Plant/ Roof Mount Solar from the COD	25 years

Solar PV yield Estimation and Simulation

The aim of yield estimation is to predict the average energy output of the site. PVSyst software is used for simulation and near shading analysis.

Working Conditions

The solar system will have automatic mechanism to ensure that PV power currently generated by the inverters always matches the current power consumption of the site load. A closed loop control

system of inverter AC output is implemented in reference energy flow at grid connection point which will reduce inverter AC output of the inverter if site load will be less than the solar production in case of Load Shedding.

Plant Characteristics

Generation Voltage: 230/400V three phase four wire system

Power Factor at rated power: 1.0

Frequency: 50 Hz

Generation Characteristics: Inverter has built-in features of controllable active power ramp following grid disturbance or normal connection, voltage regulation and frequency response. There are no additional control metering and instrumentations.

Design Parameters

The following tasks were carried out for PV Layout and shading:

Assessment of shading

- Outline layout of area suitable for PV development
- Designing row spacing to reduce inter row shading and associated shading losses
- Designing the layout to minimize cable runs and associated electrical losses
- Choosing a tilt angle, the optimizes the annual energy yield according to the latitude of the site and the annual distribution of solar resource

Module cleaning strategy

- Simulating the annual energy losses associated with various configurations of tilt angle, orientations and row spacing. The optimized configuration and simulation results are given in section "Energy Yield Prediction"
- PV Layouts of the site are given in 3D and 2D view in the following section

Layout

The detailed layout (2D) of the solar panels is given below: PV Layout may change depending upon site constraints before or during installation. PV Syst simulation is also performed as per following layout:

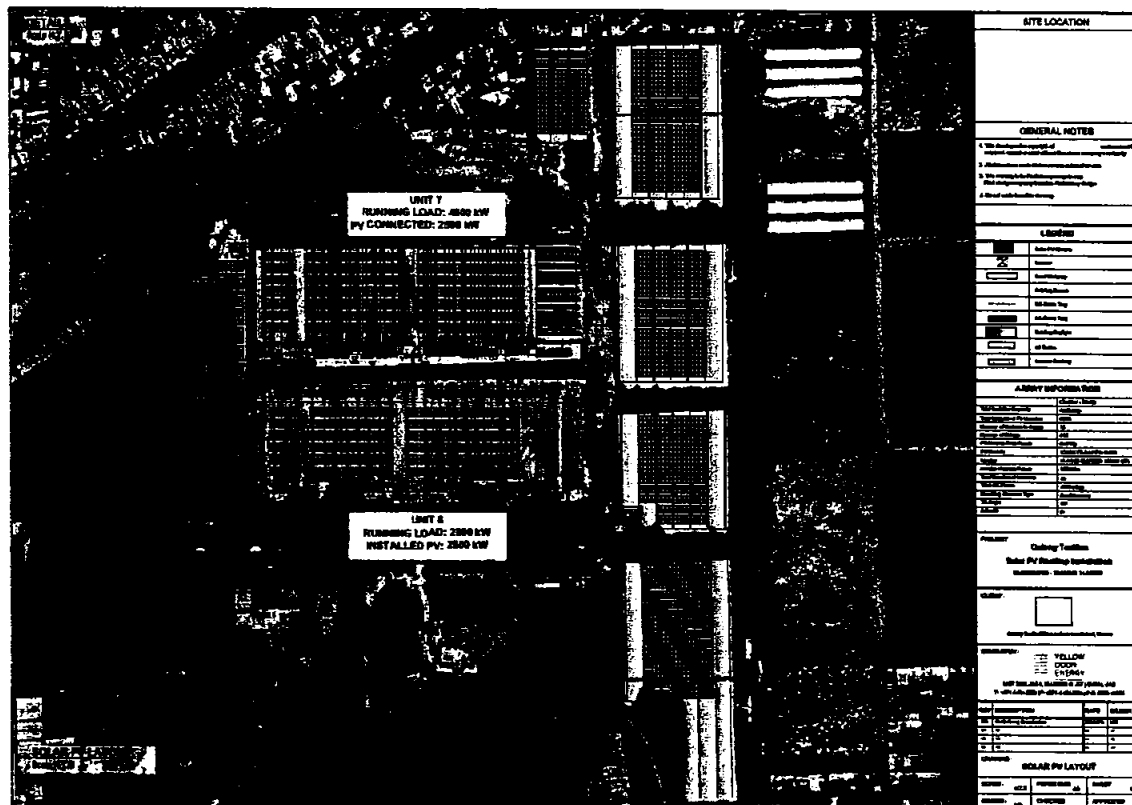


Figure 1: Layout – Colony

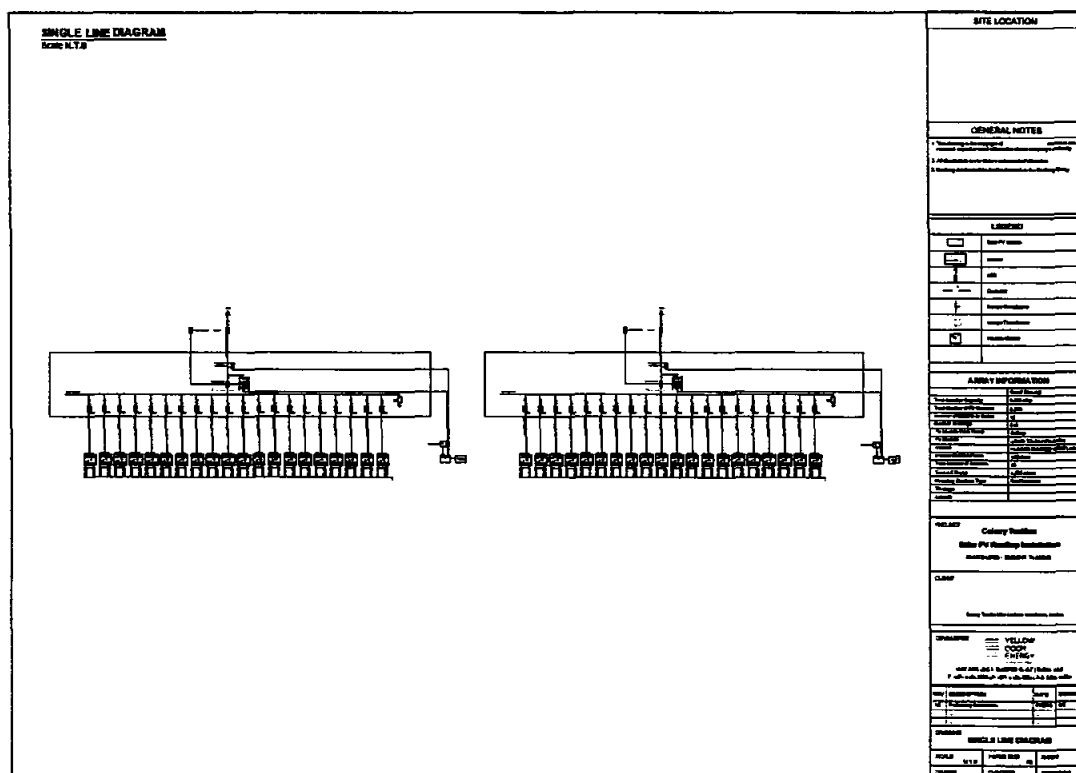
The electrical system comprises the following components:

- Array(s) of PV modules
- DC/AC cabling (module, string and main cable)
- DC connectors (plus and sockets)
- Disconnects/switches
- Protection devices e.g fuses, surge protective devices, breakers
- Energy Meters
- Earthing

The single line diagram is given below. The single line diagram includes the protection devices that will be used for safe and smooth operation of the system.

Protection DC Side: Built in inverter

Protection AC Side: MCBs, Main Breakers, SPDs and Grid Interface Relays.



Energy Yield Estimation

The energy yield prediction provides the basis for calculating project revenues. The aim is to predict the average annual energy output for the lifetime of the proposed power plant.

To estimate accurately the energy produced from PV power plant, information is needed on the solar resource and temperature conditions of the site. Also required are the layout and technical specifications of the plant components.

A number of solar energy yield prediction software package are available in the market. These packages use time step simulation to model the performance of a project over the course of a year. PVSyst software has been used for energy yield prediction for this site and its results are given below. Details of the simulation steps and the outcomes are attached as an Annexure to this Generation License Application.

Safe and Safety Emergency Plans

- Only qualified and authorized electricians will be allowed to undertake servicing or maintenance tasks.
- The authorized personnel will wear appropriate equipment, including a safety harness to restrain from falling, sturdy shoes that will have thick rubber sides to provide electrical insulation and good grip and appropriate clothing for personal protection, including a hat, sunglasses, gloves and long pants and sleeves.
- Lock nut and tag out procedures will be used before commencement of maintenance tasks.
- Ongoing operation and maintenance concerns for solar power systems will be addressed properly. These systems are exposed to outdoor weather conditions that enhance the aging process and the infrastructure needs to be in place for the ongoing maintenance of these systems to assure their safe operation
- Properly roofed or double insulated power tools will be used for maintenance tasks. Tools will be maintained in good condition.
- Working on electrical equipment and circuits will be carried out in de energized state.
- Proper pathways will be available for operation, maintenance and firefighting.
- Fire protection and suppression will be placed at site.
- Fire protection and suppression will be placed at site.

Training and Capacity Development

Trained and qualified personnel will be available at site 24/7 with proper safety and firefighting training. Training program will focus on but limited to Solar Resource Assessment, Site Survey, Technology, Engineering Design, Regulation, Policy, Metering and Billing and Project Management or Solar System. The following components will include in training and development program:

- Collection of resource data
- Variability and uncertainty of resource data
- Site evaluation
- Crystalline and Thin Film technology comparison
- Module mounting structure selection
- Inverter Selection
- Design of PV Array
- Shadow Analysis
- DC Cable Sizing
- DC Cable Layout
- Protection and Metering
- Installation and testing standards for solar PV plants
- Solar Module testing standards

- Detailed Project Report
- Detailed Project Report
- Operation and maintenance of solar system
- Safety and firefighting training

Environmental Aspects

Every energy generation and transmission method affect the environment. Conventional generating options can damage air, climate, water. Roof and wildlife roofover as well as raise the levels of harmful radiation. PV technology is substantially safer operating solution to many environmental and social problems associated with fossil and nuclear fuels; Solar PV energy technology provides obvious environment advantages in comparison to the conventional energy sources the contributing to the sustainable development of human activities. Not counting the depletion of the exhausted natural resources, their main advantage is related to the reduced CO₂ emissions and normally absence of any air emissions or waste products during their operation

The use of solar power has additional positive implications such as Reduction of the emissions of the greenhouse gases (mainly CO₂, NO_x) and prevention of toxic gas emissions (SO₂ particulates)

Socio Economic Aspects

In regard to the socio-economic viewpoint, the benefits of exploitation of solar PV system comprise of:

- Increase of the regional/national energy independency
- Provision of significant work opportunities
- Diversification and security of energy supply
- Support of the deregulation of energy markets

Conclusion

This feasibility study conducted to ascertain the technical feasibility and commercial viability of installation of 5 MWp roof-mount PV system at Colony Textiles, Lahore. Based on the outcomes of both the technical and financial analysis captured herein, the subject project is deemed to be viable.

Schedule 1– Part 1 - Maintenance and Operation Plan**1 Objective**

- 1.1 The objective of the technical management of the Project is to monitor its status, analysing incidents and production so that incidents that require Defects repair activities are rectified as soon as identified, and Preventative Maintenance is undertaken in accordance with the manufacturer's instructions and conditions.
- 1.2 The Operation and Maintenance Services apply to the whole of the Facility, up to and including the connection points between the Facility and the Grid Operator or the Offtaker's infrastructure.
- 1.3 The Operation and Maintenance Services include, but are not limited to undertaking suitable measures to reduce to a minimum the downtime of the Project arising from Operation disturbances, to optimize the operation of the Facility and to advise the Owner regarding technical matters during the operation of the Facility and the Grid Connection, and to prolong their useful life.
- 1.4 HiSel will ensure as far as possible the uninterrupted operation of the Project (with the exception of any interruption from the Grid Operator) and the optimum use of the Facility. Maintenance work will be performed in such a manner that the work has as minimal an impact as possible on the Guaranteed Energy Export and the Guaranteed Performance Ratio levels, Availability and the Specific Yield. Specifically, the Operation and Maintenance Services should not be undertaken unless absolutely necessary during periods of high irradiation.
- 1.5 For the avoidance of doubt, the Operation and Maintenance Services includes all Preventative Maintenance, remedying Defects and replacement of Spare Parts when carrying out the Operation and Maintenance Services.

2 Operation and Maintenance Services**2.1 Operation and Maintenance Services**

- 2.1.1 The Operation and Maintenance Services comprise the operation, HiSel's Insurances, monitoring, Preventative Maintenance and Defects repair activities and repair of the Facility and other related tasks as set out in the Contract, this Schedule 1 and this Exhibit.
- 2.1.2 For the purposes of the supply of the following Operation and Maintenance Services, notwithstanding the actions that may be taken by the Owner, HiSel is authorised by the Owner to be the technical representative to the Grid Operator, the relevant regulatory authorities and the equipment manufacturers.

2.2 Equipment Warranty Claims

HiSel shall manage any claims in relation to manufacturers' and other third party warranties relating to the Facility for the Warranty Period on behalf of the Owner.

2.3 Insurance Claims

Upon request by the Owner, HiSel shall provide assistance to the Owner in managing any insurance claim relating to the Project on behalf of the Owner.

2.4 Monitoring, Data Analysis and Shutdown

- (a) HiSel shall monitor the operation of the Facility, its power generation, its Performance Ratio, Availability Specific Yield, faults, warnings and error messages.
- (b) HiSel will ensure that any error messages issued by the Facility are received and evaluated promptly. When an error message is received, HiSel will first attempt to clear the fault by making use of any auto-reset facility or by shutting the relevant equipment down and restarting it.
- (c) HiSel will monitor and evaluate the Monitoring System every day to ensure that proper operation of the technical systems is confirmed. All data will be documented permanently and securely stored by HiSel in accordance with the reasonable instructions of the Owner and will be made available to the Owner upon request. Significant data will include but not limited to:
 - (i) energy output (kWh) at each of the Generation Meters
 - (ii) plant's Reporting Availability and Reporting Performance Ratio levels consistent with the definitions of Schedule 3, and compared against guaranteed values;
 - (iii) pyranometer measured irradiation data, weather conditions such as temperature, windspeed;
 - (iv) inverter and string faults identified and recorded;
 - (v) time for both identifying the fault and rectifying the fault in accordance with Response Times;
 - (vi) trends in faults;
 - (vii) all environmental and health and safety events.

- (d) Upon request from the Owner, HiSel shall provide any and all necessary equipment, including software and passwords for the Owner or any advisor appointed by the Owner, to access and copy all data in the Remote Control System and Monitoring System.

2.6 Preventative Maintenance

- 2.6.1 From the O&M Period Commencement Date, and on the anniversary of each year of the Provisional Acceptance Certificate Date, HiSel will prepare a Preventative Maintenance plan that must be approved by the Owner.
- 2.6.2 If an incident is diagnosed as connected to Preventative Maintenance in the previous year, or statistically forecast, HiSel will adjust the Preventative Maintenance programmes to avoid a repeat occurrence.
- 2.6.3 Preventative Maintenance activity will include but not be limited to the tasks undertaken at quarterly or other such defined intervals as set out in Part 2 of this Schedule. Where manufacturers requirements are for more frequent maintenance than quarterly, these requirements will take precedence.

2.7 Corrective Maintenance and Spare Parts

- 2.7.1 HiSel is responsible for remedying Defects (scheduled or unscheduled) and for the repairing of the Facility, which includes the procurement, transportation, and fitting of Component Parts as required, so as to ensure the Proper Functioning of the Facility allowing trouble free operation after the occurrence of a Defect.
- 2.7.2 HiSel will remedy Defects, damage or disruptions in relation to the Facility, Spare Parts and/or Spare Part replacements, including, but not limited to those that HiSel detects as a result of monitoring or inspections.
- 2.7.3 Upon receipt of an error message, HiSel will first attempt to clear the fault remotely. If a fault at the Facility (up to the Grid Connection) cannot be cleared remotely, HiSel shall attend to the fault within the Response Times.
- 2.7.4 In the case of disturbances or power outages outside the Grid Connection which have a negative impact on the trouble-free operation of the Facility, HiSel will strive to identify the cause of the disturbance as quickly as possible, liaise with the Grid Operator and the Owner to resolve the disturbance or power outage.
- 2.7.5 Within the framework of the repair of breakdowns, HiSel is also authorised to fit equivalent Spare Parts in accordance with the provisions of Clause 2.6. The replacement Spare Parts must be at least equivalent or better than the replaced parts from a technical point of view, and the efficiency and

quality must meet the essential interests of the Owner (wide energy output and high overall performance of the Facility).

2.8 Other services

HiSel will also carry out the technical management necessary to:

- (a) deal with accidents, incidents, maintenance works and planned outages related to the Grid Operator and the use of the manufacturers' warranties;
- (b) supply supporting technical data about incidents and diagnoses;
- (c) carrying out technical representation with third parties; and
- (d) analyse faults and undertake trend analysis

For the administrative and financial aspects of these processes, the Parties will act in a coordinated way with third parties, sharing contractual information (for example, insurance contracts, electricity supply contracts, manufacturers' warranties) and other relevant communications with third parties.

Schedule 1 – Part 2 – Preventative Maintenance Plan**1 Preventative Maintenance will include the following services**

- (a) Inspect the mechanical functionality of the Facility – including but not limited to inspecting the fastening/mounting elements, equipment connection and coupling cases, surveillance/monitoring systems, verifying that the threaded connections are tight, visual inspection of all parts of the equipment and checking the cabling.
- (b) Check for abnormal corrosion on parts of the Facility and service any parts with the potential for corrosion to remove long term risks.
- (c) The condition of the installations will be recorded in documents and possible damages will be photographed.
- (d) Supervision of the operation of the Facility.
- (e) Daily monitoring for potential incidents that could reduce or interrupt operations at the Facility.
- (f) Ordinary maintenance of the Facility in accordance with the Operation and Maintenance Manual, the applicable provisions of the Contract and the practice generally adopted for the ordinary maintenance of systems similar to the Facility.
- (g) Coordination of the Remote Control System and Monitoring System that allows for continuous monitoring of the functioning of the Facility and the continuous review of the data provided by such systems (compared with the data of the previous day) so that if the functioning of the Facility and/or such systems become impaired, HiSel can carry out the necessary adjustments in accordance to the terms set out in this Exhibit.
- (h) Carrying out two (2) inspections annually with a time period between one inspection and another of not less than 5 months and not more than 6 months, and delivering the reports within fourteen (14) days following completion of each inspection.
- (i) Carrying out minor repairs, cleaning and maintenance as set out in this Schedule 1.
- (j) Analysing and diagnosing incidents and faults and submitting to the Owner repair proposals to be implemented by HiSel.
- (k) Monitoring and recording faults or messages that do not require Defects repair activities.
- (l) Provision, supply and maintenance of consumable items and tools required for the purposes of the foregoing.

- (m) Thermal camera testing of panels, inverters and low, medium and high voltage electrical current connections and circuit breakers bi-annually
 - (i) During Preventative Maintenance inspections a thermal camera inspection of main circuit breakers AC and DC, inverters and an adequate sample of panels upon Owner Representative's agreement using a handheld thermal imager Fluke TIS 9HZ or equivalent must be undertaken.
 - (ii) Any connections should not be significantly hotter than the cables themselves at the time of testing (a hot-spot) and in any case not exceed 60 Centigrade.
 - (iii) Where repeated patterns of circuits are installed such as inverter circuit breakers, adjacent temperatures should demonstrate less than 10 Centigrade delta.
 - (iv) In the event that a hot-spot is identified, the affected part of the Facility will be shut down according to defined procedures and remain off-line until such time that the source of concern has been rectified. Where the inspection has been carried out by a third party that is not qualified to carry out repair due to Facility under warranty, the third party should inform the responsible warranty provider of the requirement for repair.
 - (v) The results of these inspections are to be recorded in the ensuing visit report together with incorporation of relevant thermal images.
 - (vi) Without prejudice to the Owner's rejection and/or termination rights under the Contract, in the event that the plant is operating below 20% the rated capacity, testing is unable to be carried out until the plant is operating above 80% rated capacity.

2 Maintenance of the Panels

2.1 Visual inspection of Panels

The Panel visual inspection is aimed at detecting possible faults, including:

- (a) possible glass breakage, normally caused by external actions, and rarely by thermal fatigue arising from assembly errors;
- (b) oxidation in the circuits and welding of the photovoltaic cells, normally due to the entrance of dampness into the panel because of a fault or breakage of the sealing layers;
- (c) change of colour to yellow or brown (known as yellowing and browning) of the sealant (EVA);

- (d) regarding the backsheet (Tedlar or equivalent), inflammations in this area could be a symptom of a hot point in the module; and
- (e) deformations in the junction boxes of the module due to overheating of the bypass diodes and/or high contact resistance because of bad tightness of an electrical terminal.
- (f) Check of watertight integrity of the junction boxes

2.2 Control of electrical connections and panel wiring

Periodically the following operations will be carried out:

- (a) check of the tightness and condition of the terminals with cables connected to the panels;
- (b) check of the watertight integrity of the terminal boxes or the condition of the protective hoods of the terminals, depending on the type of panel;
- (c) in the event that faults are detected in the watertight integrity, the affected parts will be replaced and the terminals cleaned. It is important to take care of the sealant of the terminal boxes using, depending on the case, new joints or a silicon sealant; and
- (d) undertake comparative measurement of the phase currents.

2.3 Cleaning

2.3.1 Upon Grid Connection, the PV modules cleaning will be taking place at minimum of twenty-four (24) times per calendar year and at minimum of one (1) time per month unless reasonably requested by the Owner or the Offtaker due to specific Site Conditions and in accordance to the rates. The cleaning procedure shall be in any event in accordance to the operation manual of the PV Modules manufacturer, following their guidelines and recommendations and ensuring the modules product and performance warranties' validity terms and conditions.

HiSel may avoid using:

- bare fingers or hands without gloves to touch or handle the glass surface of modules. Clean gloves are recommended to prevent fingerprints and other dirt from staying on the glass.
- metal tools such as blades, knives, steel wool and other abrasive materials.
- abrasive powders, abrasive cleaners, scrubber cleaners, polishers, sodium hydroxide, benzene, nitro-thinners, acid or alkali and other chemical substances.

- water with high mineral content as it may deposit on the glass surface when the water is dry. Most municipal water can meet the above two requirements.
- steam or corrosive chemicals to speed up the cleaning.
- broken lines or exposed wires to clean broken glass or modules, as it may cause electric shock.

Pressurized municipal water that fulfills the aforementioned criteria may be used, ensuring the maximum pressure complies with the modules manufacturer's recommendations.

Stepping, standing or sitting on the modules during cleaning is prohibited.

The modules cleaning should be done in the early morning, in the evening, at night or on rainy days. At the same time, when cleaning in the morning or evening, select the period when sunshine is not strong.

Automated sprinkle or robotic waterless systems may be considered upon Owner's approval and subject to specific Site Conditions. In the event of a non-manual cleaning method like the above, the specifications have to be reviewed and signed off by the Owner at the Final Design and all relevant warranties and spare parts to be in place.

2.3.2 HiSel will be monitoring and measuring the soiling losses all over the Facility. In the event that the actual losses in production due to soiling are not less or equal with the losses that have been factored then HiSel shall ensure the frequency and the quality of the cleaning procedure will be accordingly increased in order to maintain the soiling losses below the aforementioned levels.

3 Inverter Maintenance

HiSel undertakes to carry out maintenance work on the inverters in accordance with the following provisions:

- 3.1** Inverter maintenance does not differ greatly from the normal operations of electronic equipment. Breakdowns are rare and the simplicity of the equipment reduces maintenance to the following operations:
- (a) general visual observation of the condition and functioning of the inverter;
 - (b) checking wiring and the connections of the parts;
 - (c) dusting of the inverters and any associated combiner box;
 - (d) check and maintenance of fans and water or air cooling system;

- (e) verification that the location of the inverter is clean, dry and well ventilated and insulated;
- (f) checking that the inverter works properly and that unusual noises are not coming from inside it;
- (g) checking that where the inverter is placed maintains suitable temperatures so that this equipment can always work within a temperature range of from -10 to 65°C ;
- (h) checking the equipment protection and alarms; and
- (i) annual review, preferably before summer.

3.2 Periodic efficiency measurements

Efficiency measurements of AC/DC conversion shall be carried out, taken from the inverter's records.

3.3 Preventative Maintenance that will be carried out at minimum four (4) times each year, may also include measures to guarantee optimum conditions within the necessary technical scope. Preventative Maintenance will be undertaken where reasonably possible during periods where there is insufficient irradiation to operate the inverters but in no event less than (2) times per year:

- (a) cleaning of the inverter air filters;
- (b) control and then tightening of the screwed joints of all parts;
- (c) checking and execution of the functioning of ventilation and refrigeration under different temperatures;
- (d) visual inspection of the earth contacts, plates and control of the output level regarding electrical erosion and discolouration;
- (e) reading of the breakdown report; and
- (f) functioning test of the input power switch.

4 General

- (a) Cleaning and maintenance of the weather station: For the avoidance of doubt, HiSel shall clean the pyranometer monthly and each time the modules are cleaned.
- (b) Check of the mechanical functionality of the built-in components and interrupters (ground fault circuit interrupters and circuit breakers).

- (c) Check of the functionality of the meters.
- (d) Preventative Maintenance of inverters, control boards and transformers in accordance with manufacturers' instructions.
- (e) Inspection of the medium-voltage components, including earthing measurements.
- (f) Maintenance of the structure that will support the panels shall be by various means including visual inspection, searching for impacts, corrosion, condition of the protective paint and absence of water deposits.
- (g) The maintenance of the hedges and fences, grass cutting, weeds control and any other general grounds maintenance on a regular basis and as required in order to keep the Site and the leased area at all times in a clean, neat and tidy condition and levels consistent with good agricultural management (including but not limited) not to inhibit or prohibit performance of the plant or maintenance of the Site.
- (h) Calibration of the pyranometers/changing of filters on a regular basis, not being less than every 2 years or as per manufacturers' recommendations.
- (i) Vermin control within the Site.

The inspections and checks performed by HiSel are to be documented. If damage is found that has the potential to cause interruption to performance or any effect on longevity, HiSel will take (digital) photos to document them. HiSel will send the documentation to the Owner no later than two weeks after completing its visual inspection and functional check.