



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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Registrar

No. NEPRA/R/LAG-497/31516-17

July 13, 2021

Mr. Umar Farooq

Director

YDE SA (SMC-Private) Limited

1st Floor, 140-CCA, Sector-C

DHA, Phase-V, Lahore

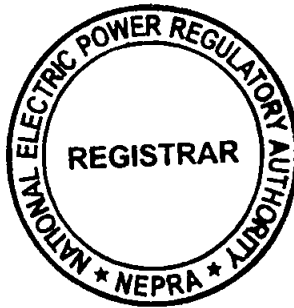
**Subject: Grant of Generation Licence No. SGC/157/2021
Licence Application No. LAG-497
YDE SA (SMC-Private) Limited (YDE)**


Reference: Your letter No. nil dated 25-11-2020

Enclosed please find herewith Determination of the Authority in the matter of application of YDE SA (SMC-Private) Limited (YDE) for the grant of generation licence along with Generation Licence No. SGC/157/2021 annexed to this determination granted by the National Electric Power Regulatory Authority (NEPRA) to YDE for its 366.52 KWp solar based generation located at Treet Corporation Limited, Lahore in the province of Punjab, pursuant to Section 14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (NEPRA Amended Act).

2. Please quote above mentioned Generation Licence No. for future correspondence.

Enclosure: As Above




13 07 21
(Syed Safer Hussain)

Copy to:

1. Secretary, Power Division, Ministry of Energy, 'A' Block, Pak Secretariat, Islamabad
2. Secretary, Ministry of Science & Technology, Government of Pakistan, Evacuee Trust Building, G-5, Islamabad
3. Managing Director, NTDC, 414 WAPDA House, Lahore
4. Chief Executive Officer, CPPA(G), 73 East, A.K. Fazl-ul-Haq Road, Blue Area, Islamabad
5. Chief Executive Officer, Alternative Energy Development Board (AEDB), 2nd Floor, OPF Building, G-5/2, Islamabad
6. Chief Executive Officer, Lahore Electric Supply Company (LESCO), 22-A, Queens Road, Lahore
7. Director General, Environmental Protection Department, Government of the Punjab, National Hockey Stadium, Ferozpur Road, Lahore

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Application of YDE SA (SMC-Private) Limited for
the Grant of Generation Licence

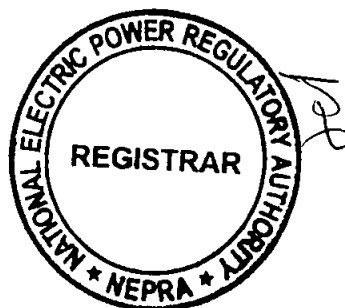
July 13, 2021
Case No. LAG-497

(A). Filing of Application

(i). YDE SA (SMC-Private) Limited (YDE) submitted an application on December 01, 2020 for the grant of generation licence in terms of Section-14B of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act") read with the relevant provisions of the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the "Licensing Regulations").

(ii). The Registrar examined the submitted application and found that application was deficient in terms of the Licensing Regulations. Accordingly, the Registrar directed YDE for submitting the missing information/documents as required under the said regulations. YDE completed the submission of missing information/documentation by December 28, 2020. The Registrar submitted the matter before the Authority to decide the admission of the application or otherwise. The Authority considered the matter and found the form and content of the application in substantial compliance with Regulation-3 of the Licensing Regulations.

(iii). Accordingly, the Authority admitted the application on January 27, 2021 for consideration of the grant of the generation licence as stipulated in Regulation-7 of the Licensing Regulations. The Authority approved an advertisement to invite comments of general public, interested and affected persons in the matter as stipulated in Regulation-8 of the Licensing Regulations. Accordingly,



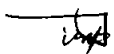
notices were published in one (01) Urdu and one (01) English newspapers on January 29, 2021.

(iv). In addition to the above, the Authority also approved a list of stakeholders for seeking their comments for its assistance in the matter in terms of Regulation-9(2) of the Licensing Regulations. Accordingly, letters were sent to different stakeholders as per the approved list on February 01, 2021, soliciting their comments for assistance of the Authority.

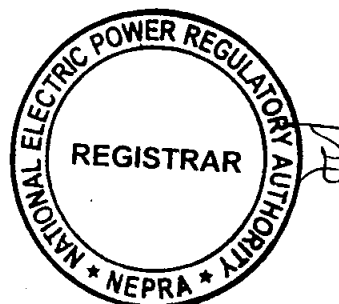
(B). Comments of Stakeholders

(i). In reply to the above, the Authority received comments from one (01) stakeholder i.e. Central Power Purchasing Agency (Guarantee) Limited (CPPAGL). The salient points of the comments offered by the said stakeholder are summarized in the following paragraphs:

- (a). CPPAGL submitted that YDE is planning to set up a Photo Voltaic (PV) cell based generation facility of 366.52 kW_P for supplying/selling to Treet Blade Manufacturing facility of Treet Corporation Limited (TCL) located in Lahore in the province of Punjab. In light of the provisions of the NEPRA Licensing (Generation) Rules, 2000 (the "Generation Rules"), the Authority is required to scrutinize all applications for the generation licence on "Least Cost Option Criteria (LCOC)" including but not limited to (a). the short-term and the long-term forecasts for additional capacity requirements; (b). the tariffs resulting or likely to result from the construction or operation of the proposed generation facility; and (c). the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole. As per the existing tariff structure for the end consumer, the major portion of fixed charge (capacity payment, Use of System Charges-UoSC, Market Operation Fee-MOF and



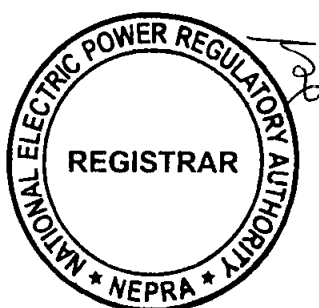




Distribution Margin-DM) is being recovered through sale of energy to end consumers (i.e. Volumetric Charges). As a result, the more the number of units being sold, the less will be the per unit rate for the fixed capacity charges and vice versa.

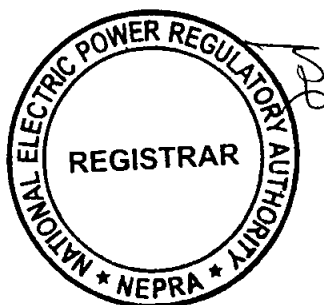
(b). Accordingly, CPPAGL suggested that: (i). the quantum of Distributed Generation (DG) may be ascertained keeping in view the demand projections and energy charge being avoided by distributed generators; (ii). uniform tariff may be introduced for net metering/self-consumption through the introduction of a new tariff category; (iii). a separate category for net metering may be introduced in the central planning mechanism; (iv). under the current tariff structure, large consumers pay higher tariff to cross-subsidize the small consumers. Cross-subsidization is a policy/regulatory decision and is applicable to all consumers irrespective of purchasing electricity from DISCO(s) or having bilateral contract with generators and such big consumers cannot be discriminated on the basis that if the consumers opt for self-generation, it can avoid cross-subsidy. If this practice is continued, this in turn will become an undue incentive for the remaining regulated Bulk Power Consumers (BPC(s)) to leave DISCO(s). Therefore, cross-subsidy charges should accordingly be charged to all the BPC(s) irrespective if they are DISCO(s) consumers or doing bilateral trade.

(c). CPPAGL further added that long term contracts with take-or-pay capacity regime are already committed resulting in capacity adequacy for the next few years. It is apprised that DISCO(s) are charged capacity charges (as fixed cost) which is independent of their end-consumer sales. However, DISCO(s) charges almost all of their Energy and Capacity Charges through a volumetric rate structure (i.e. per kWh basis) to the



end consumers. Therefore, the regulator may provide for recovery of stranded costs arising on account of opt access/off-grid operation in the consumer-end tariff. The demand/supply planning cycle starting from demand projection to the approval of Indicative Generation Capacity Expansion Plan (IGCEP) may be adjusted to account for: (a). advance notices by the BPC(s) to exit the DISCO(s) and intimation to the planner to incorporate its planned generation capacity in the generation planning exercise as firm commitment; (b). recognition by the DISCO(s) in demand forecasting that the demand of this BPC will only be utilized for wires planning and not for sales; and (c). rationalization of timing of exit and return to the grid by the BPC. These changes are also very important for determining not only the period of stranded costs but also reducing further firm commitments for the pool to the extent of advance notices given by BPC(s) opting bilateral trade. If the stranded costs issue is not accounted for, then tariffs of different classes of remaining DISCO consumers will tremendously increase in case of reduction at different levels of sales.

(ii). The Authority considered the above comments of CPPAGL and in view of the observations raised considered appropriate seeking perspective of YDE. On the observations of CPPAGL, it was submitted that the reference to the Rule 3 (5) of the Generation Rules is misplaced by CPPAGL as the same is only relevant for the grid connected power projects whereby the Authority is required to consider LCOC while granting a generation licence. Without prejudice to the foregoing, it submitted that even otherwise Renewable/Solar energy is actually the most efficient and cheap source of electricity and its implication on the grid tariff (which is mix of expensive and less efficient electricity) should not be a reason to discourage adoption of cleaner and more efficient technologies by the honorable Authority. Further YDE submitted that the comments submitted by CPPAGL are in nature of a



policy matter and highlights certain power sector issues and do not specifically object to the grant of generation licence to YDE.

(iii). With regards to quantum of power added and its relation to IGCEP, YDE submitted that its project is PV based, being installed at the TCL, and the requirement for seeking licence has arisen due to the fact that YDE shall supply the power generated through Solar Power Plant to TCL. Furthermore, it submitted that the supply to TCL will be made upon mutually agreed terms and conditions and as such rate agreed between YDE and the consumer will have no effect on the grid related business or consumers. As regards to uniform tariff and new tariff category in the Schedule of Tariff, YDE submitted that NEPRA may kindly consider the comment on merit as it do not relate to application filed by YDE. Moreover, under Article-18 of the Constitution of Pakistan any person/corporation has the freedom of trade and therefore can generate power for self-consumption or to supply or sell electricity to any of the BPC after meeting all the requirements under NEPRA laws. Lastly, tariff for provision or supply of electricity shall be mutually decided between YDE and TCL which will not in any way effect the public sector entities being a private arrangement.

(iv). Regarding the payment of the cross-subsidy by the consumer who opts for self-generation, YDE submitted that such an assertion is unfounded and cannot be made basis for recovery of cross-subsidy from the consumer who opt for self-generation. Besides, cross-subsidy is also not relevant as same has been omitted through amended NEPRA Act. The BPC(s) pays a rate or tariff determined by NEPRA and as per the policy decision. Such rate is higher than the lifeline consumers and it is paid for the welfare or betterment of the poor class of the community. However, the objection regarding the cross-subsidy is not relevant as TCL is consumer and has connection from the DISCO and TCL has no intention to disconnect the electricity connection from relevant DISCO. With regards to long term contracts with take-or-pay capacity regime, YDE submitted that it relates to the policy of the government considering the expansion requirements of the electricity sector. The fixed cost or the capacity charge payment is a *sine qua non* of the



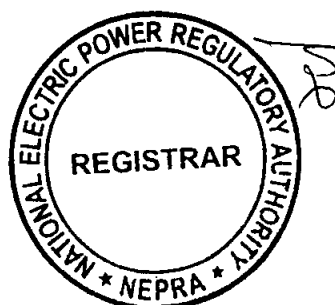
agreement entered by the IPPs with the Government. However, this comment is irrelevant in the case of YDE as YDE intends to sell electricity to the TCL on mutually agreed rates which will have no impact on the tariff of grid connected power plants. Furthermore, NEPRA has always been allowing private sale to the BPC(s) considering the fact that it ensures the security and availability of electricity to BPC(s).

(v). In addition to above, it is relevant to mention that the assertion of CPPAGL regarding payment of the stranded cost has already been rejected by the Authority through its Wheeling Determination dated January 11, 2021. YDE further added that the advance notice to be given by the BPC is not relevant at this stage. YDE shall undertake all the arrangement regarding sale of the power from YDE to TCL subject to all regulatory and legal approvals by the relevant authorities including NEPRA. Furthermore, as regard to the wheeling of electricity in case the BPC is located on a public property, YDE submitted that it intended to install the generation facility at the rooftop of TCL located at PECO road, Lahore. Lastly, it submitted that rationalization of timing of exit of the BPC from the grid is also an irrelevant comment from CPPAGL at this stage. Moreover, as regards to the assertion of CPPAGL that electricity cost shall increase in case the arrangement is allowed by NEPRA, it submitted that such assertion is pre-mature in case of YDE as not only the NEPRA has already rejected the stranded cost, but also this assertion is also unconstitutional, illegal and an attempt to impose unnecessary burden on the PBC or consumers of electric power in general.

(vi). The Authority considered the above submissions of YDE and considered it appropriate to proceed further in the matter of the application of YDE for the consideration of the grant of generation licence as stipulated in the Licensing Regulations and the Generation Rules.

(C). Evaluations/Findings

(i). The Authority examined the submissions of YDE including the information provided with its application for the grant of generation licence, the

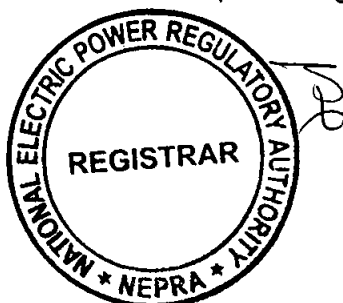


comments of the stakeholder, rejoinder submitted by YDE, the relevant rules & regulations in the matter.

(ii). The Authority has observed that the applicant i.e. YDE is an entity incorporated under Section 16 of the Companies Act, 2017 (XIX of 2017), having Corporate Universal Identification No. 0158302 dated September 21, 2020. It is a private limited company with the principal line of business to generate and sell electricity and to carry on all or any ancillary businesses relating to generation, production, sale, storage, supply and distribution of electricity and to provide such services as are associated with or required for the said business activities and completion installation of projects of generation and sale of electricity. Further, the Memorandum of Association (MoM) also envisages to perform all other acts which are necessary or incidental to the business of electricity generation, installation, storage, transmission, distribution, supply and sale subject to permission of concerned authorities. Also the MoM envisages to establish, construct, install, equip, operate, use, manage and maintain electricity generation power plants of all types and capacities subject to permission of the relevant authorities.

(iii). As explained above, in its application under consideration YDE plans setting up PV based roof top facility of 366.52 kW_P at TCL located at PECO Road, Lahore in the province of Punjab. In consideration of the said, it is pertinent to mention that YDE plans supplying to the aforementioned entity as BPC through cable located on private property owned by the BPC. According to the submitted information, the total cost of the project will be about USD 0.225 million. The capital structure of the project would primarily constitute of a shareholder loan, which would be extended by Yellow Door Energy IRP (Private) Limited (YDE IRP) to YDE SA (SMC-Private). YDE IRP has 100% shareholding of YDE SA (SMC-Private) and is offering a zero-interest bearing loan for the purpose of financing the project.

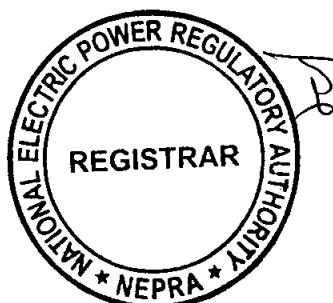
(iv). The sponsor carried out a feasibility study of the project including *inter alia*, solar power plant equipment details, PV-sitting details, power production estimates based on solar irradiation data of the project sites, soil tests reports, technical details pertaining to selected photovoltaic (PV) cells and other allied



equipment to be used in the solar power plant, electrical studies, environmental study and project financing etc. The review of the feasibility study reveals that for the proposed location to achieve the capacity of 366.52 kW_p the company will be installing 833 PV cells each of 440 Watt. In consideration of the said, it is clarified that the company plans installing PV cells from Tier-I manufacturers including, LONGi, Jinko Solar, JA Solar or Renesola. It is pertinent to mention that the company has confirmed that deal for purchase of PV Cells of LONGi LR4-72HPH-440M has been locked with LONGi Solar where the manufacturer has assured an average capacity factor of 20.80%.

(v). As explained above, the supply from proposed generation facility will be supplied to a BPC in the name of TCL. According to the system study of the project, the dispersal to the BPC will be made at 220/400 Volt through cables located/placed on the roof top/private property owned by the respective BPC not involving any public or third party. In this regard, it is pertinent to mention BPC is defined term as stipulated in Section 2 (ii) of the NEPRA Act. According to the said, a BPC is a consumer which purchases or receives electric power, at one premises, in an amount of one megawatt or more or in such other amount and voltage level and with such other characteristics as the Authority may specify and the Authority may specify different amounts and voltage levels and with such other characteristics for different areas. In terms of Section 2 (xxva) of the NEPRA Act, for the purpose of specified means specified by regulations made by the Authority under the NEPRA Act. It is pertinent to mention that the relevant regulations in this regard are still under formation and in the absence of the same the Authority has been allowing even amount of less than 1.00 MW to be treated as BPC therefore, the load of the above mentioned entity explained in the preceding Paras may be considered as BPC.

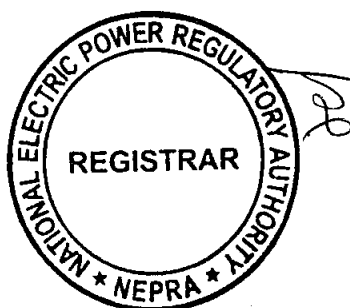
(vi). Further to the above, Section 2(v) of the NEPRA Act defines the term "Distribution" wherein the ownership, operation, management and control of distribution facilities located on private property and used solely to move or deliver electric power to the person owning, operating, managing and controlling



those facilities or to tenants thereof is not included in the definition of "distribution". As explained above, the facilities to be used for delivery of electric power to above BPC are located on private property (without involving any public property or any third party) will be owned, operated, managed and controlled by the BPC therefore, the supply of electric power to TCL by YDE does not constitute a distribution activity under the Act, and a distribution licence will not be required by the company.

(vii). Further, the Authority has also considered the submissions of YDE that necessary due diligence has been completed and there will be no environmental impact of the proposed arrangement as PV cells will be utilizing only the existing infrastructure of roof top of buildings. Further, being the proposed sizing of the project, there is no requirement to have Initial Environmental Examination (IEE). YDE has confirmed that it will comply with the concerned environmental standards. In view of the said, YDE is being made obligatory to comply with the relevant environmental standards for which a separate article has been proposed to be included in the proposed generation licence.

(viii). The grant of a generation licence is governed by the provisions of Rule-3 of the Generation Rules. It is pertinent to mention that YDE has provided the details of the proposed generation facility about (a). location; (b). size; (c). technology; (d). interconnection arrangement; (e). technical limits; (f). technical functional specification and (g). other specific/relevant details as stipulated in Rule-3 (1) of the Generation Rules. According to the Rule-3(5) of the Generation Rules, the Authority may refuse to issue a generation licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the proposed generation facility/solar power plant/ solar farm proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the LCOC. In this regard, the Rule-3(5) of the Generation Rules stipulates the conditions pertaining to LCOC which includes (a). sustainable development or optimum utilization of the RE or non-RE resources proposed for generation of electric power; (b). the availability of indigenous fuel and other resources; (c). the comparative costs

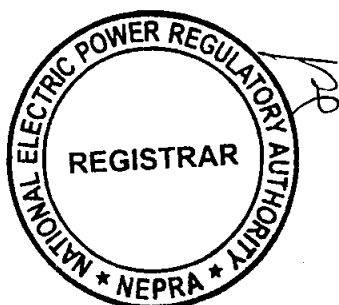


of the construction, operation and maintenance of the proposed generation facility/solar power plant/ solar farm against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection facilities; (e). the constraints on the transmission system likely to result from the proposed generation facility/generation facility/solar power plant/solar farm and the costs of the transmission system expansion required to remove such constraints; (f). the short-term and the long-term forecasts for additional capacity requirements; (g). the tariff resulting or likely to result from the construction or operation of the proposed generation facility/solar power plant/solar farm; and (h). the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole.

(ix). In consideration of the above, the Authority is of the view that the proposed project will result in optimum utilization of the RE which was earlier untapped, resulting in pollution free electric power. It is pertinent to mention that solar is an indigenous source and such resources should have a preference for the energy security. As explained in the preceding paragraphs, the company will be supplying to a BPC directly which only involve laying a few meters length of feeder which concludes that the project will not face any constraints in transmission of power. Further, being located in the same vicinity of the BPC, the project will not result in cost and right-of-way issue for the provision of interconnection facilities. In view of the said, it is considered that the project of YDE fulfills the eligibility criteria for the grant of generation licence as stipulated in the NEPRA Act, rules and regulations and other applicable documents.

(D). Grant of Licence

(i). The Authority considers that sustainable and affordable energy/electricity is a key prerequisite for socio-economic development of any country. In fact, the economic growth of any country is directly linked with the availability of safe, secure, reliable and cheaper supply of energy/electricity. In view of the said, the Authority is of the considered opinion that for sustainable

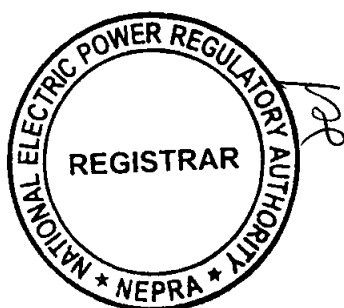


development, all indigenous power generation resources especially RE must be developed on priority basis.

(ii). The Authority observes that the existing energy mix of the country is heavily skewed towards the thermal power plants, mainly operating on imported fossil fuels. The continuous import of fossil fuels not only creates pressure on the precious foreign exchange reserves of the country but is also an environmental concern. Therefore, in order to achieve sustainable development, it is imperative that indigenous RE resources are given priority for power generation and their development is encouraged. The Authority is really encouraged to observe that with each passing day, the cost of RE technologies is showing downward trend making the same affordable for commercial use. The Authority is also encouraged to observe that the Govt. of Pakistan is planning to enhance the share of RE from its current level of 5% of the Installed capacity to 30% of the total installed capacity by 2030. Furthermore, a number of initiatives are also being undertaken in the private sector in this regard.

(iii). The Authority has observed that in the current case, YDE has approached for the grant of a generation licence for setting up a generation facilities with a cumulative installed capacity of 366.52 kW_p for supplying to a BPC which is also an existing consumer of its respective DISCO. The Authority considers that the above proposal of YDE is in line with the provisions of the NEPRA Act, relevant rules and regulations framed thereunder and vision of the Govt. of Pakistan to enhance the contribution of RE in generation of electric power. The project will not only help YDE in diversifying its portfolio but will also enhance the energy security of the BPC. Further, the project will also help in reducing the carbon emission by generating clean electricity, thus improving the environment.

(iv). As explained above, YDE has provided the details of location, technology, size, net capacity/energy yield, interconnection arrangements, technical details and other related information for the proposed PV based generation facility/solar power plant/ Roof Top Solar. In this regard, the Authority has observed that sponsors of the project have acquired/available with them the required land for

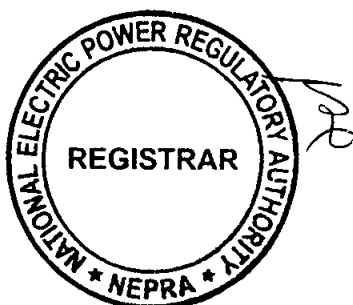


setting up the distinct PV based generation facilities. The said details are being incorporated in the generation licence.

(v). The Authority has observed that proposed generation facility of YDE will be used for supplying to TCL as a BPC. According to Section-2(ii) of the NEPRA Act, a consumer which purchases or receives electric power at one premises, in an amount of one megawatt or more or in such amount and voltage level and with such characteristics as the Authority may determine/specify is treated as BPC. It is pertinent to mention that the relevant regulation in this regard are still under formation and in the absence of the same the Authority has been allowing even amount of less than 1.00 MW to be treated as BPC therefore, the Authority allows TCL to be BPC of YDE.

(vi). Regarding supply to the BPC, the Authority observes that the BPC and the proposed generation facility of YDE are located within the same premises and the BPC will be supplied through underground cable/feeder of 220/440 volt. Pursuant to proviso to Section-21 of the NEPRA Act, the Authority is empowered to allow a generation company to sell electric power to a BPC located in the service territory of a distribution company. In view of the said, the Authority allows YDE to sell electricity to BPC. Further, under Section-2(v) of the NEPRA Act, ownership, operation, management and control of distribution facilities located on private property and used solely to move or deliver electric power to the person owning, operating, managing and controlling those facilities or to tenants thereof has not been included in the definition of "distribution". Based on the said considerations that the proposed BPC is located within the same premises and no public areas are involved, the supply of power to BPC by YDE does not constitute a distribution activity under the NEPRA Act, and YDE will not require a distribution licence for supplying to the BPC.

(vii). The term of a generation licence under Rule-5(1) of the Generation Rules is required to match with the maximum expected useful life of the units comprised in a generation facility. According to the information provided by YDE, the Commercial Operation Date (COD) of the proposed generation facility/solar

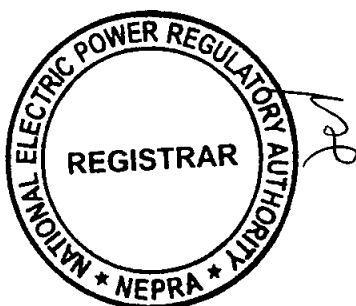


power plant/ Roof Top Solar will be September 30, 2021 and it will have a useful life of around twenty five (25) years from its COD. In this regard, YDE has requested that the term of the proposed generation licence may be fixed as per the said useful life of generation facility/solar power plant/ Roof Top Solar. The Authority considers that said submission of YDE about the useful life of the generation facility/solar power plant/ Roof Top Solar and the subsequent request of YDE to fix the term of the generation licence is consistent with international benchmarks; therefore, the Authority fixes the term of the generation licence to twenty five (25) years from COD of the project subject to Section-14 B of the NEPRA Act.

(viii). Regarding compliance with the environmental standards, YDE has confirmed that it will comply with the required standards during the term of the generation licence. In view of the importance of the issue, the Authority has decided to include a separate article in the generation licence along with other terms and conditions making it obligatory for YDE to comply with relevant environmental standards at all times.

(ix). Regarding the rates, charges and terms and conditions of tariff between YDE and its BPC, it is reiterated that under Section-7(3)(a) of the NEPRA Act, determining tariff, rate and charges etc. is the sole prerogative of the Authority. However, the Authority observes that tariff between YDE and its BPC, does not affect any other consumer or third party. Therefore for the purpose of tariff, the Authority considers it appropriate directing YDE and its BPC to agree on a bilateral agreement and accordingly YDE will be allowed to charge the agreed tariff subsequent to the grant of the generation licence.

(x). The Authority has duly considered the comments of different stakeholders as explained above. In this regard, the Authority has observed that CPPAGL has raised various concerns including (a). compliance of provisions of the Generation Rules; (b). determination of quantum of DG in light of the demand projections; (c). introduction of a separate/new category of tariff for distributed generators connected consumers maintaining connection from the utility; (d). induction/ inclusion of distribution generation in central planning through suitable



mechanism of Registration etc.; (d). payment of Cross Subsidy Charges by large consumers to subsidize small consumers; and (e). treatment/ recovery of the stranded cost likely to result due to shifting of BPC from the utility for which long term contracts have already been executed.

(xi). In consideration to the above, the Authority has observed that YDE has submitted rejoinder to the above observations of the stakeholder as explained in the preceding paragraphs which the Authority considers pragmatic. However, the Authority considers it appropriate to give its findings on the above mentioned observations and address the same in the current determination in the matter of application for the grant of generation licence of YDE. Regarding the 'Compliance of provisions of the Generation Rules', the Authority is cognizant of its responsibilities as stipulated under the NEPRA Act and the relevant and regulations and invariably examine any application submitted to it for the grant of generation licence. In the particular case of YDE the Authority has considered the submission and has given its findings in the preceding paragraph as explained at Para-C above, confirming the compliance of the criteria of the Generation Rules. About the determination of quantum of DG in light of the demand projections and Induction/inclusion of DG in central planning, the Authority considers that CPPAGL has made similar types of observations in the matter of applications of Solis Energy Limited, Atlas Energy Limited, Shams Power (Pvt.) Limited and Zero Carbon (Pvt.) Limited, Burj DG (Pvt.) Limited etc., and the Authority had addressed the same in its determination for the said cases. In the particular case of YDE the Authority reiterates its earlier findings in the matter and directs CPPAGL and NTDC to work closely with DISCO(s) to rationalize the demand forecast to be incorporated in the proposed IGCEP. About the observations relating to (a).the separate/new category of tariff for consumer having connection from the utility as well as from the generation company/DG; (b). payment of Cross Subsidy Charges by large consumers; and (c). treatment/recovery of the stranded cost, the Authority considers that such matters are beyond the scope of current application of YDE for the generation licence considering the fact that it is sectorial issue and needs more deliberations and input of the stakeholders to decide the same and the same will be

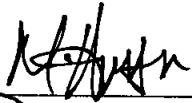


applicable across the board including in the current case. In view of the said, the observations of CPPAGL stands addressed and settled.

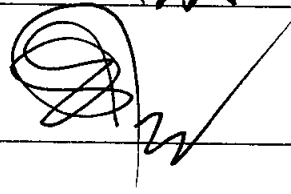
(xii). In consideration of the above, the Authority hereby approves the grant of generation licence to YDE on the terms and conditions set out in the generation licence annexed to this determination. The grant of generation licence will be subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed thereunder and other applicable documents.

Authority:

Engr. Maqsood Anwar Khan
(Member)



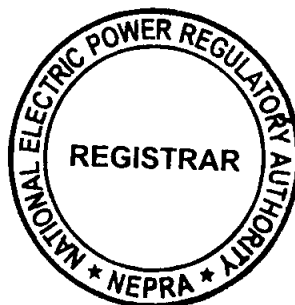
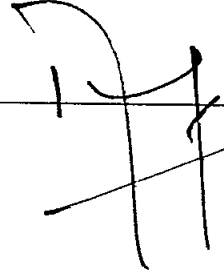
Rehmatullah Baloch
(Member)

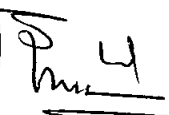


Rafique Ahmed Shaikh
(Member/Vice Chairman)

(Did not Attend-Away)

Engr. Tauseef H. Farooqi
(Chairman)




130721

**National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan**

GENERATION LICENCE

No. SGC/157/2021

In exercise of the powers conferred upon under Section 14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, as amended or replaced from time to time, the Authority hereby grants a Generation Licence to:

YDE SA (SMC-Private) Limited

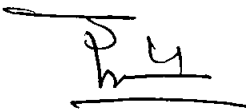
Incorporated Under Section-16 of the Companies Act, 2017 (XIX of 2017) Having Corporate Universal Identification No. 0158302, dated September 21, 2020

**for its Generation Facility/Solar Farm/Solar Power Plant/
Roof-Top Solar Located at Treet Corporation Limited, Lahore,
in the Province of Punjab**

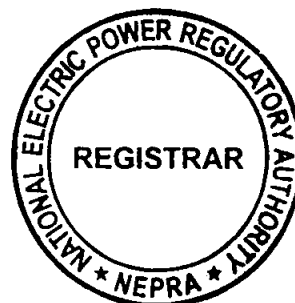
(Total Installed Capacity: ≈366.52 kW_p Gross)

to engage in generation business subject to and in accordance with the Articles of this Licence.

Given under my hand this on 13th day of July Two Thousand & Twenty One and expires on 29th day of September Two Thousand & Forty-Six.


13 07 21

Registrar



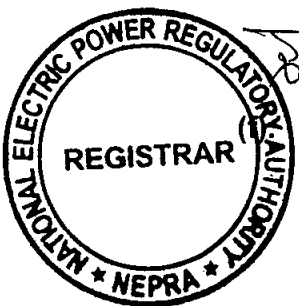




Article-1
Definitions

1.1 In this licence

- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended or replaced from time to time;
- (b). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the Grid Code, the applicable Distribution Code, if any, or the documents or instruments made by the Licensee pursuant to its generation licence, in each case of a binding nature applicable to the Licensee or, where applicable, to its affiliates and to which the Licensee or any of its affiliates may be subject;
- (c). "Applicable Law" means all the Applicable Documents;
- (d). "Authority" means the National Electric Power Regulatory Authority constituted under Section-3 of the Act;
- (e). "Bulk Power Consumer (BPC)" means a consumer which purchases or receives electric power, at one premises, in an amount of one (01) megawatt or more or in such other amount and voltage level and with such other characteristics as the Authority may specify and the Authority may specify different amounts and voltage levels and with such other characteristics for different areas;
- (f). "Bus Bar" means a system of conductors in the generation facility/Solar Power Plant/Solar Farm of the Licensee on which the electric power from all the Photo Voltaic Cells is collected for supplying to the Power Purchaser;
- (g). "Carbon Credits" mean the amount of Carbon Dioxide (CO₂) and other greenhouse gases not produced as a result of generation of electric energy by the generation facility/Solar Power Plant/Solar Farm and other



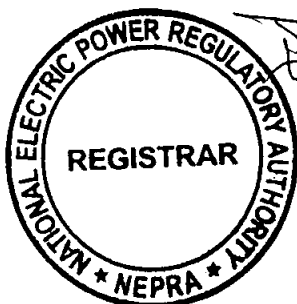
environmental air quality credits and related emissions reduction credits or benefits (economic or otherwise) related to the generation of electric energy by the generation facility/Solar Power Plant/Solar Farm, which are available or can be obtained in relation to the generation facility/Solar Power Plant/Solar Farm after the COD;

- (h). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Solar Power Plant/Solar Farm of the Licensee is commissioned;
- (i). "Commissioning" means the undertaking of the Commissioning Tests of the generation facility/Solar Power Plant/Solar Farm as stipulated in the EPA;
- (j). "Distribution Code" means the distribution code prepared by the concerned XW-DISCO and approved by the Authority, as it may be revised from time to time with necessary approval of the Authority;
- (k). "Energy Purchase Agreement (EPA)" means the energy purchase agreement, entered or to be entered into by and between the Power Purchaser and the Licensee, for the purchase and sale of electric energy generated by the generation facility/Solar Power Plant/Solar Farm, as may be amended by the parties thereto from time to time;
- (l). "Generation Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 as amended or replaced from time to time;
- (m). "Grid Code" means the grid code prepared and revised from time to time by NTDC with necessary approval of the Authority;
- (n). "IEC" means "the International Electrotechnical Commission or its successors or permitted assigns;
- (o). "IEEE" means the Institute of Electrical and Electronics Engineers or its successors or permitted assigns;



- (p). "Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;
- (q). "LESCO" means Lahore Electric Supply Company Limited or its successors or permitted assigns;
- (r). "Licence" means this licence granted to the Licensee for its generation facility/Solar Power Plant/Solar Farm;
- (s). "Licensee" means **YDE SA (SMC-Private) Limited** or its successors or permitted assigns;
- (t). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;
- (u). "Net Delivered Energy" means the net electric energy expressed in kWh generated by the generation facility/Solar Power Plant/Solar Farm of the Licensee at its outgoing Bus Bar and delivered to the Power Purchaser;
- (v). "Power Purchaser" means an entity which will be purchasing electric power from the Licensee;
- (w). "SCADA System" means the supervisory control and data acquisition system for gathering of data in real time from remote locations to control equipment and conditions;
- (x). "Solar Power Plant/Solar Farm" means a cluster of photovoltaic cells in the same location used for production of electric power;

1.2 The words and expressions used but not defined herein bear the meaning given thereto in the Act or Generation Rules and Licensing Regulations issued under the Act.



Article-2
Applicability of Law

This licence is issued subject to the provisions of the Applicable Law, as amended from time to time.

Article-3
Generation Facilities

3.1 The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facility/Solar Power Plant/Solar Farm of the Licensee are set out in Schedule-I of this licence.

3.2 The net capacity/Net Delivered Energy of the generation facility/Solar Power Plant/Solar Farm of the Licensee is set out in Schedule-II of this licence. The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility/Solar Power Plant/Solar Farm before its COD.

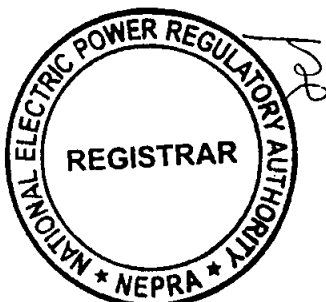
Article-4
Term of Licence

4.1 This licence shall become effective from the date of its issuance and will have a term of twenty-five (25) years from the COD of the generation facility/Solar Power Plant/Solar Farm of the Licensee subject to Section 14-B of the Act.

4.2 Unless suspended or revoked earlier, the Licensee may apply for renewal of this Licence ninety (90) days prior to the expiry of the above term, as stipulated in the Licensing Regulations.

Article-5
Licence fee

The Licensee shall pay to the Authority the licence fee as stipulated in the National Electric Power Regulatory Authority (Fees) Rules, 2002 as amended or replaced from time to time.



Article-6
Tariff

The Licensee is allowed to charge the Power Purchaser/BPC a mutually agreed tariff.

Article-7
Competitive Trading Arrangement

7.1 The Licensee shall participate in such manner as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement. The Licensee shall in good faith work towards implementation and operation of the aforesaid Competitive Trading Arrangement in the manner and time period specified by the Authority. Provided that any such participation shall be subject to any contract entered into between the Licensee and another party with the approval of the Authority.

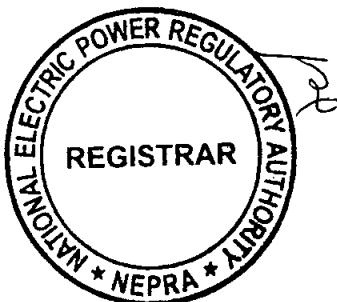
7.2 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.

Article-8
Maintenance of Records

For the purpose of sub-rule(1) of Rule-19 of the Generation Rules, copies of records and data shall be retained in standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

Article-9
Compliance with Performance Standards

The Licensee shall comply with the relevant provisions of the National Electric Power Regulatory Authority Performance Standards (Generation) Rules 2009 as amended or replaced from time to time.



Article-10
Compliance with Environmental & Safety Standards

10.1 The generation facility/Solar Power Plant/Solar Farm of the Licensee shall comply with the environmental and safety standards as may be prescribed by the relevant competent authority from time to time.

10.2 The Licensee shall provide a certificate on a bi-annual basis, confirming that the operation of its generation facility/Solar Power Plant/Solar Farm is in conformity with required environmental standards as prescribed by the relevant competent authority as amended or replaced from time to time.

Article-11
Power off take Point and Voltage

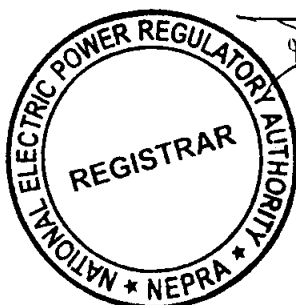
The Licensee shall deliver the electric energy to the Power Purchaser at the outgoing Bus Bar of its generation facility/Solar Power Plant/Solar Farm. The Licensee shall be responsible for the up-gradation (step up) of generation voltage up to the required dispersal voltage level.

Article-12
Provision of Information

In accordance with provisions of Section-44 of the Act, the Licensee shall be obligated to provide the required information in any form as desired by the Authority without any exception.

Article-13
Compliance with Applicable Law

The Licensee shall comply with the provisions of the Applicable Law, guidelines, directions and prohibitory orders of the Authority as issued from time to time.

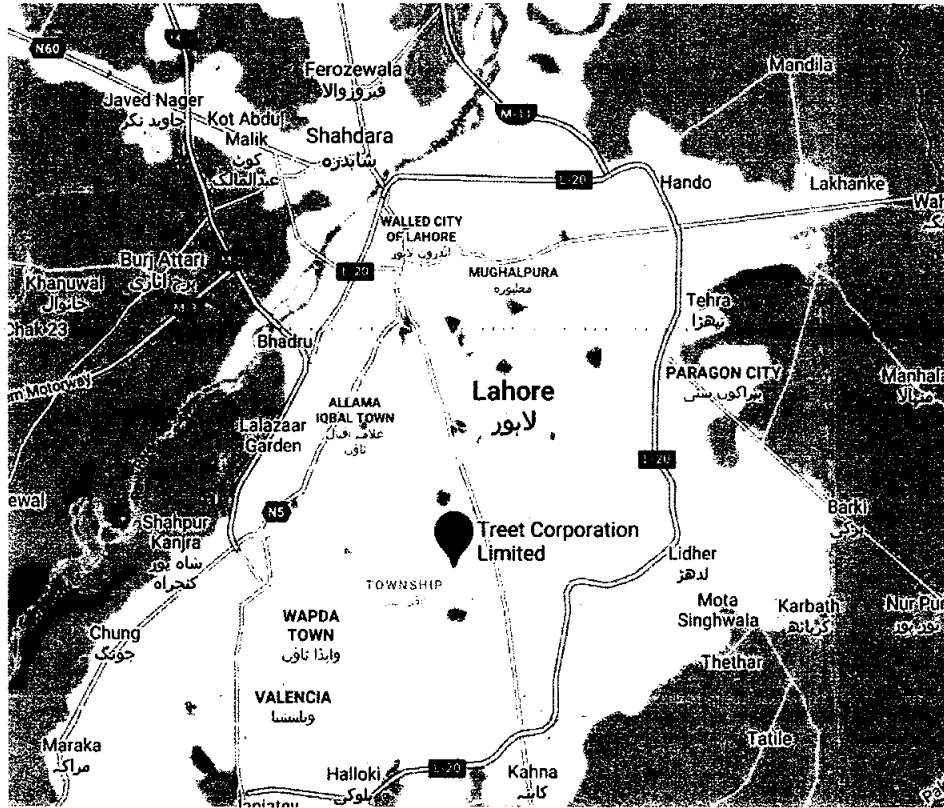


SCHEDULE-I

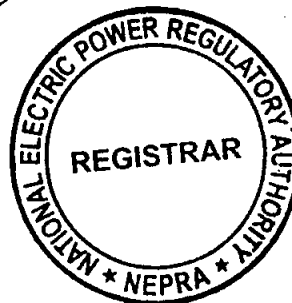
The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.



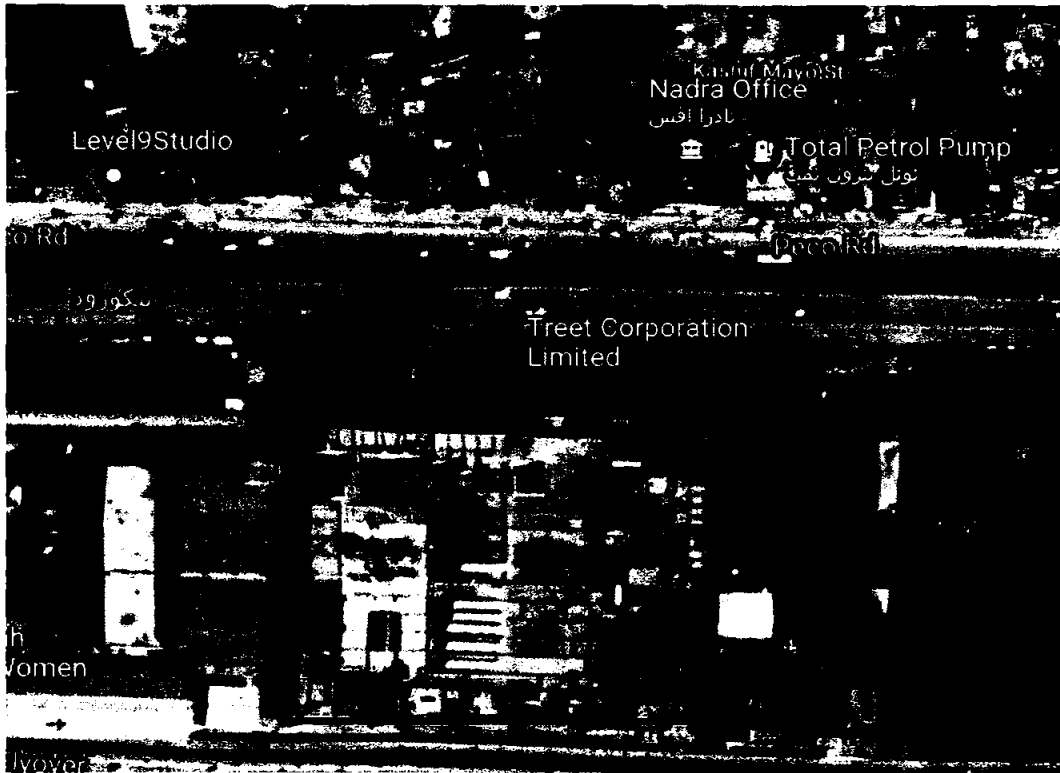
**Location of the
Generation Facility/ Solar Power Plant/ Roof Top Solar
of the Licensee**



Treet Corporation Limited



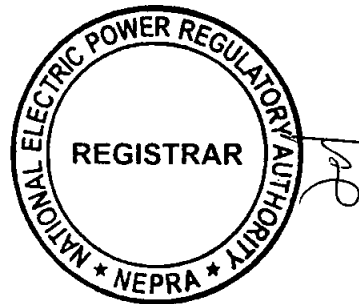
**Land Coordinates of the
 Generation Facility/ Solar Power Plant/ Roof Top Solar
 of the Licensee**



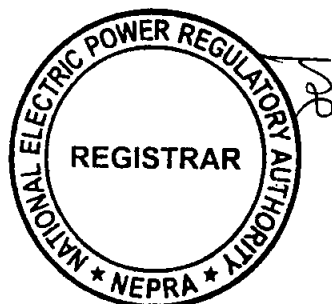
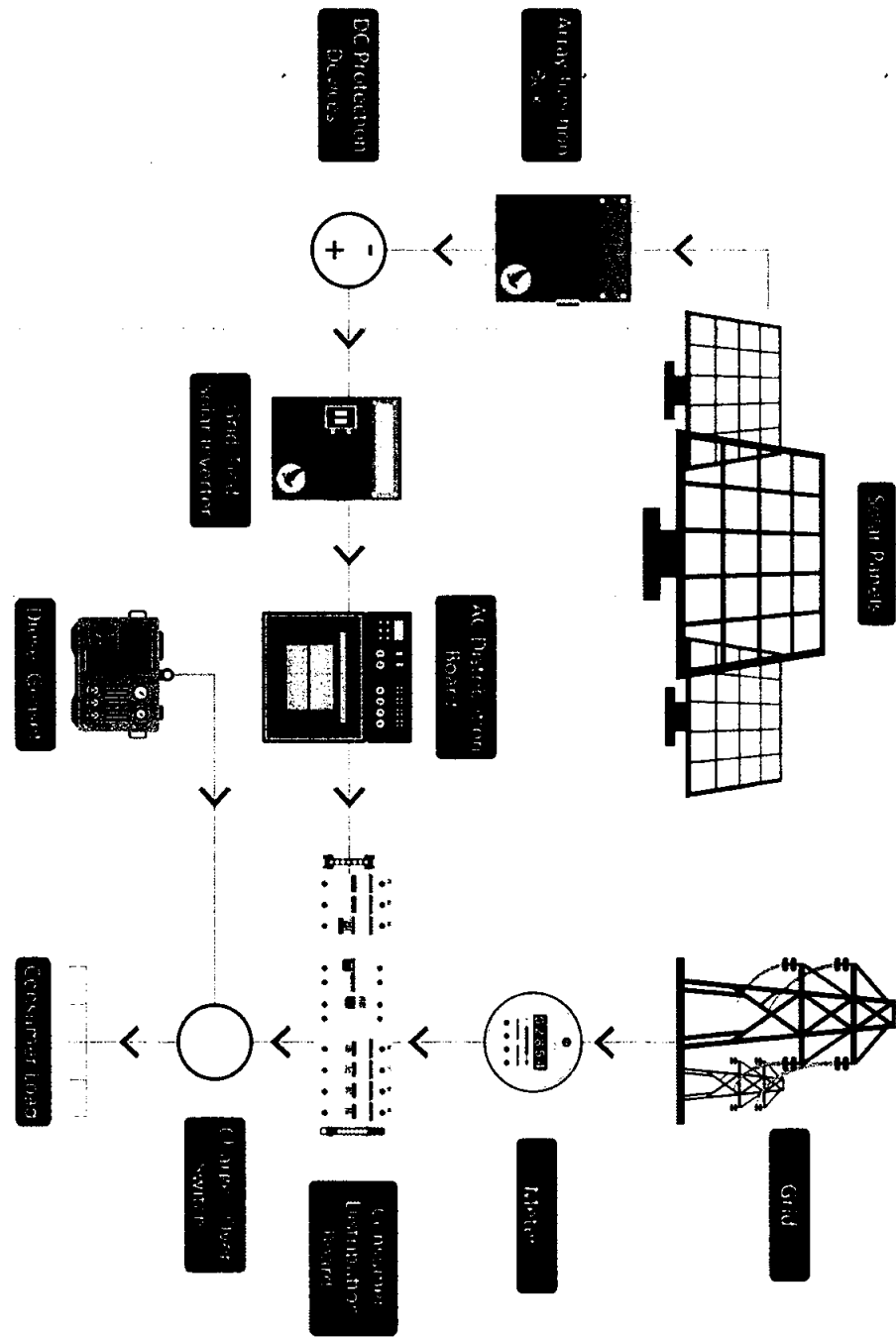
<u>Serial Number</u>	<u>Location</u>	<u>Site Coordinates</u>	
1.	Treet Corporation Limited	Latitude	31°27'26.51"N
		Longitude	74°19'51.34"E

Link

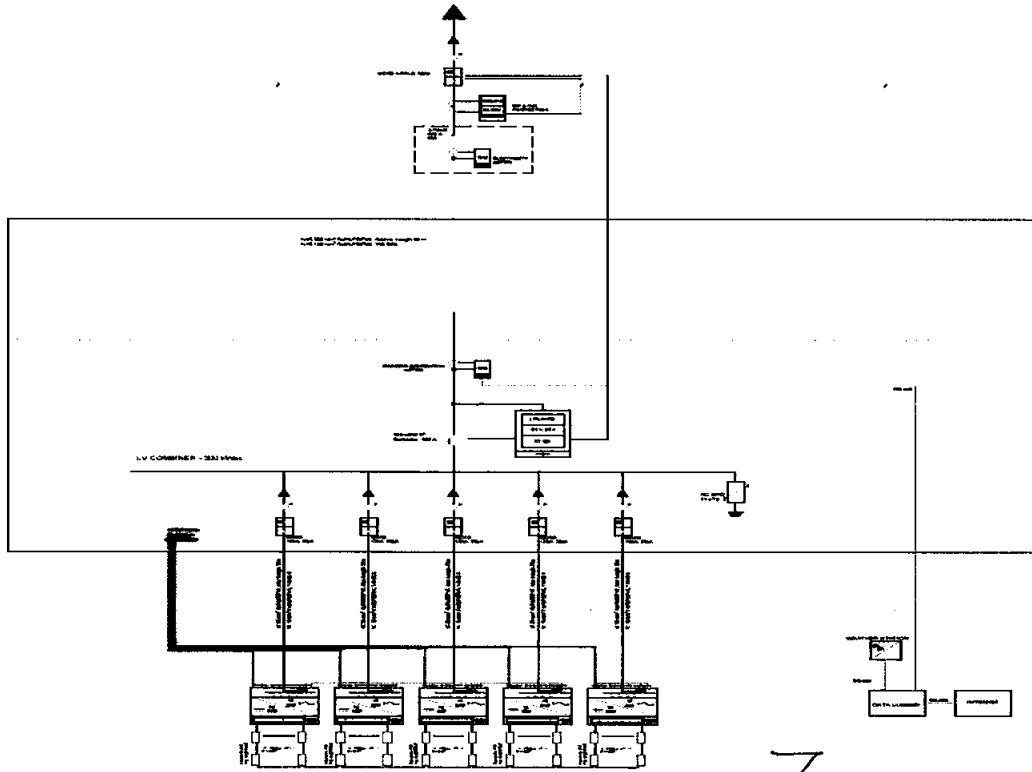
WA



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



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



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

The electric power generated from the proposed generation facility/Solar Power Plant/Roof Top Solar of the YDE SA (SMC-Private) Limited (YDE)/Licensee will be delivered/supplied to a Bulk Power Consumer (BPC) in the name of Treet Corporation Limited (TCL) located at PECO Road, Lahore, in the province of Punjab.

(2). The details pertaining to BPC, their respective supply arrangements and other relating information are provided in the subsequent description of this schedule. Any changes in the said, shall be communicated to the Authority in due course of time.



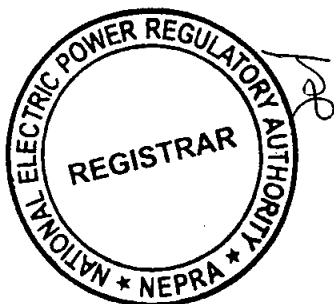
Details of
Generation Facility/Solar Power Plant/
Roof Top Solar

(A). General Information

(i).	Name of the Company/Licensee	YDE SA (SMC-Private) Limited
(ii).	Registered/ Business office of the Company/Licensee	1st Floor 140-CCA, Sector C, Phase 5 D.H.A, Lahore, in the province of Punjab
(iii).	Type of the generation facility/Solar Power Plant/Roof Top Solar	Photovoltaic (PV) Cell
(iv).	Location of the generation facility Solar Power Plant/ Roof Top Solar	Treet Corporation Limited (TCL), PECO Road, Lahore, in the province of Punjab.

(B). Solar Power Generation Technology & Capacity

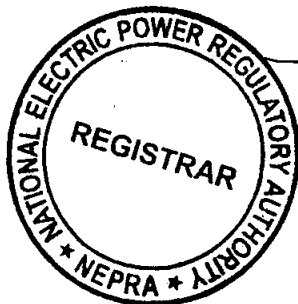
(i).	Type of Technology	Photovoltaic (PV) Cell	
(ii).	System Type	On-Grid	
(iii).	Installed Capacity of the generation facility Solar Power Plant/ Roof Top Solar	366.52 kW _p	
(iv).	No. of Panel/Modules	833 x 440 Watt	
(v).	PV Array	Nos. of Strings	49
		Modules in a string	16,17
(vi).	Invertor(s)	Quantity	05
		Make	Huawei



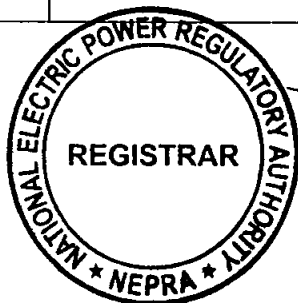
	Capacity of each unit	60 kW
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(C). Technical Details of Equipment

(a).	<u>Solar Panels – PV Modules</u>	
(i).	Type of Module	LONGi LR4-72HPH-440M
(ii).	Type of Cell	Mono crystalline
(iii).	Dimension of each Module	1979x996x40mm
(iv).	Total Module Area	1.971 m ²
(v).	Frame of Panel	Anodized aluminium alloy
(vi).	Weight of one Module	22.3 kg
(vii).	No of Solar Cells in each module	72
(viii).	Efficiency of module	19.8%
(ix).	Maximum Power (P _{max})	440 W _P
(x).	Voltage @ P _{max}	40.21 V
(xi).	Current @ P _{max}	9.70 A
(xii).	Open circuit voltage (V _{oc})	49.35V
(xiii).	Short circuit current (I _{sc})	10.22A
(xiv).	Maximum system open Circuit Voltage	1000VDC (IEC)
(b).	<u>Inverters</u>	



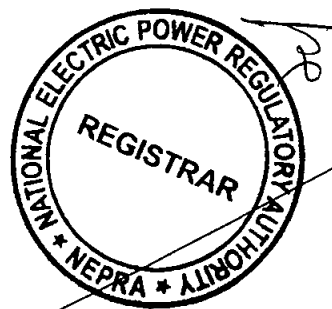
(i).	Type of Module	60 kW	
(ii).	Type of Cell	SUN2000-60KTL-M0	
(iii).	Input Operating Voltage Range	200 V to 1000 V	
(iv).	Efficiency of inverter	98.7 %	
(v).	Max. Allowable Input voltage	1100V	
(vi).	Max. Current	22 A	
(vii).	Max. Power Point Tracking Range	200 V to 1000 V	
(viii)	Output electrical 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



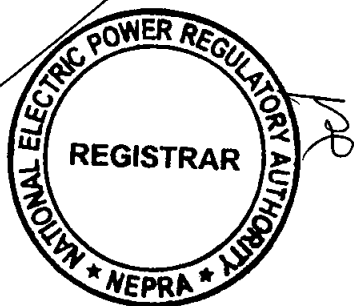
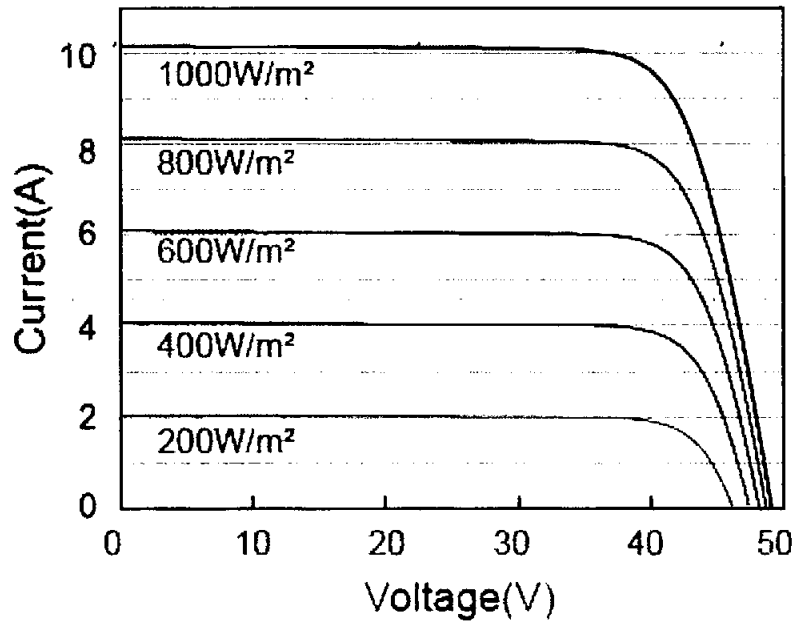
		C	DC overload protection (Type 2)
		D	Overheat protection
		E	Grid monitoring
		F	Insulation monitoring
		G	Ground fault monitoring
(c).	<u>Data Collecting System</u>		
(i).	System Data	Continuous online logging with data logging software to portal.	
(d).	<u>Unit Transformer</u>		
(i).	Not Applicable		

(D). Other Details

(i).	Expected COD of the generation facility Solar Power Plant/ Roof Top Solar	September 30, 2021
(ii).	Expected useful Life of the generation facility Solar Power Plant/ Roof Top Solar from the COD	25 years



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



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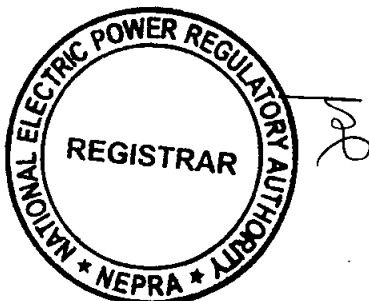
Information
Regarding Consumer i.e. TCL to be Supplied by the Licensee i.e. YDE

(i).	No. of Consumers	1 (One)	
(ii).	Location of consumers (distance and/or identity of premises)	Treet Corporation Limited, PECO Road, Lahore, in the province of Punjab	
(iii).	Contracted Capacity and Load Factor for consumer	366.52 kW _P / 10 - 15%	
(iv).	Specify Whether		
	(a).	The consumer is an Associate undertaking of the Licensee -If yes, specify percentage ownership of equity;	TCL does not have direct association with YDE
	(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 consumer and the Licensee	YDE will construct and operate solar plant and provide electricity to TCL for its operations.
	(b).	Consumer and DISCO.	Yes Existing Consumer of LESCO with Connected Load of 03.20 MW
(vi)	Any other network information deemed relevant for disclosure to or consideration of the Authority.	NA	



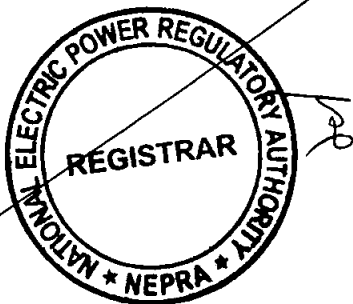
Information
Regarding Distribution Network for Supply of Electric Power Consumer in the
name of TCL

(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.	The 440 V feeder supplying power to TCL is located on public property owned by the TCL itself, without crossing of any public or third party private property etc.
(v).	Whether owned by YDE, 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	TCL
(vi).	Whether connection with network of DISCO exists (whether active or not)- If yes, provide details of connection arrangements (both technical and contractual)	B3(14)T consumer of LESCO
(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.

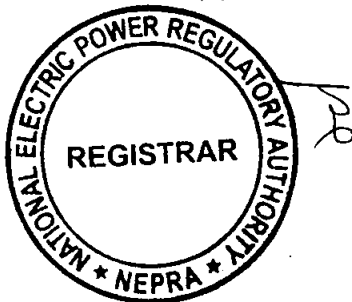


SCHEDULE-II

(1)	Total Installed Capacity of the Generation Facility/Solar Power Plant/ Roof Top Solar	366.52 kW _P
(2)	Average Sun Hour Availability/ Day (Irradiation on Inclined Surface)	5 to 5.5 Hours
(3)	No. of days per year	365
(4)	Annual generating capacity of Generation Facility/Solar Power Plant/ Roof Top Solar (As Per Simulation)	548.4 MWh
(5)	Total expected generation of the Generation Facility/Solar Power Plant/ Roof Top Solar during the twenty five (25) years term of this licence	13,632 MWh
(6)	Annual generation of Generation Facility/Solar Power Plant/ Roof Top Solar based on 24 hours working	1502 kWh
(7)	Net Capacity Factor of Generation Facility/Solar Power Plant/ Roof Top Solar	20.8%

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).



Authorization of
Authority to YDE SA (SMC-Private) Limited (YDE) for
Supplying to Bulk Power Consumer

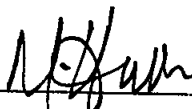

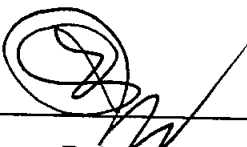
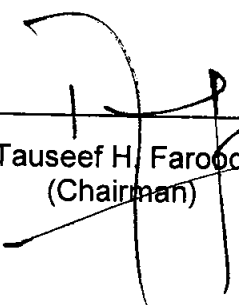
Incorporated under Section-16 of the
Companies Act, 2017 (XIX of 2017) Having Corporate
Universal Identification No. 0158302,
dated September 21, 2020

GENERATION LICENCE No. SGC/157/2021
For
Sale to Bulk Power Consumer

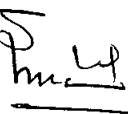
Pursuant to Section-22 of the Act and Rule-7 of the Generation
Rules, the Authority hereby authorizes the YDE (the Licensee) to engage in
Second-Tier Supply business, limited to the consumer as follows:

- (1). Treet Corporation Limited, PECO Road, Lahore, in
the province of Punjab.

Authority

 _____ Engr. Maqsood Anwar Khan (Member)	 _____ Engr. Rafique Ahmad Sheikh (Member)
 _____ Rehmatullah Baloch (Member)	 _____ Tauseef H. Farooqi (Chairman)




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Second Tier Supply
Authorization
for the Bulk Power Purchaser