National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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No. NEPRA/R/LAG-513/14842-49 July 29, 2022

Mr. Maaz Mashkoor
Director
Burj DG (Private) Limited
16- Abdullah Haroon Road
3rd Floor, Faysal Bank Building, Karachi

Subject: **Grant of Generation Licence No. SGC/168/2022**
Licence Application No. LAG-513
Burj DG (Private) Limited (BDGPL)

Reference: Your letter No. nil dated 28.12.2021

Enclosed please find herewith Determination of the Authority in the matter of application of Burj DG (Private) Limited (BDGPL) for the grant of generation licence along with Generation Licence No. SGC/168/2022 annexed to this determination granted by the National Electric Power Regulatory Authority (NEPRA) to BDGPL for its 251.0 kWp solar based generation located at Pearl Continental Limited, Rawalpindi, District Rawalpindi, in the province of Punjab, pursuant to Section-14(B) 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

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(Syed Safeer 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 West, A.K. Fazl-ul-Haq Rd, Blue Area, Islamabad
5. Chief Executive Officer, Alternative Energy Development Board (AEDB), 2nd Floor, OPF Building, G-5/2, Islamabad
6. Chief Executive Officer, Islamabad Electric Supply Company Ltd, IESCO Head Office Street 40, Sector G-7/4, Islamabad
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 Burj DG (Private) Limited for the Grant of Generation Licence

July 29, 2022
Case No. LAG-513

(A). Filing of Application

(i). Burj DG (Private) Limited (BDGPL) submitted an application on January 07, 2022 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 (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 (the "Licensing Regulations").

(ii). The Registrar examined the submitted application and found that BDGPL has complied with the requirement of the required documents and information as stipulated in Regulation-6(2) of the Licensing Regulations. Accordingly, the Registrar allocated Registration No. LAG-513 to the application of BDGPL and published in two daily newspapers [i.e. in one (01) Urdu and one (01) English newspapers] on February 17, 2022, containing a brief summary of the particulars of the project for which licence has been sought, inviting the general public to submit their comments in the matter as stipulated in Regulation-7 of the Licensing Regulations.

(iii). In addition to the above, the Registrar sent letters on February 17, 2022 to different stakeholders including but not limited to Govt. Ministries, their attached departments and different representative organizations, soliciting/seeking their views and comments for the assistance of the Authority in the matter, in terms of Regulation-8(2) of the Licensing Regulations.

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(B). Comments of Stakeholders

(i). In reply to the above, the Authority received comments from three (03) stakeholders including Central Power Purchasing Agency (Guarantee) Limited (CPPAGL), Punjab Power Development Board Energy Department Govt. of Punjab (PPBD) and Islamabad Electric Supply Company Limited (IESCO). The salient points of the comments offered by stakeholders are summarized below: -

(a). CPPAGL submitted that BDGPL is planning to set up a Photo Voltaic (PV) cell/module(s) based generation facility of 251.00 kW_P for supplying/selling to Pearl Continental Hotel, Rawalpindi (PC-Rawalpindi), district Rawalpindi, in the province of Punjab. According to the existing tariff structure for the end consumer, the major portion of fixed charge (Capacity, UoSC, MOF, 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. In the view of the foregoing, it is requested that further comments in this matter may be obtained from relevant Distribution Company i.e. IESCO because PC-Rawalpindi is a consumer of the said utility;

(b). PPDB stated that BDGPL intends to set up a small solar PV plant having a capacity of 251.00 kW_P at PC-Rawalpindi. The total cost of the project will be around U.S. $ 155, 620 translating into U.S. $ 0.62/Watt with 100% equity. It has also been mentioned that the indicated efficiency of the solar panels will be around 16.55% resulting in an energy yield of 247.00 MWh with a useful life of the project estimated to be twenty five (25) years. BDGPL intends selling to PC-Rawalpindi under a Power Purchase Agreement (PPA) as its

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sole consumer. The Authority may process the application of BDGPL for the grant of generation licence as per the provisions of the NEPRA Act, relevant rules, regulations and other applicable documents; and

(c). IESCO remarked that BDGPL cannot lawfully sell power under Section-22 of NEPRA Act to its Bulk Power Consumer (BPC). It is pertinent to mention that PC-Rawalpindi being a consumer of IESCO is bound under Subsection-2 of Section-22 of NEPRA Act to give one-year prior notice to it for switching to another Power Generation Company. There is nothing mentioned about complete or partial stoppage in Section-22 (2) of the NEPRA Act and actually it is the word stoppage. Therefore, whether the BPC intends to stop purchase of power partially or completely, it is required to submit one year advance notice before any such eventuality. The sanctioned load of PC-Rawalpindi is 1185 kW which means that BDGPL will only contribute some portion of the total electricity demand of the said consumer and IESCO will supply the rest of the electric power to it. Moreover, the supply from BDGPL will not be constant as it will be depending on the light of sun therefore, keeping both these factors, IESCO will be bound to keep network and gird system on standby to meet the unexpected demand of the PC-Rawalpindi. Resultantly, this will result in O&M cost of IESCO either to remain the same or escalate whereas the sales/revenue of IESCO will drop significantly. It is neither permissible under the utility practices nor any law that a BPC can have two separate electric power connections from two separate/distinct and independent companies/sources at the same time, therefore PC-Rawalpindi cannot be allowed to

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have two independent connections simultaneously from IESCO and BDGPL. As per the existing tariff structure for the end consumer, the major portion of fixed charge (Capacity, UoSC, MOF) 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. It is emphasized that the utilities/DISCO(s) are required to reserve the quota for such hybrid consumers irrespective of their utilization, hence the rate of fixed charges may be increased with corresponding decrease in variable charges to recover the fair portion of electricity cost from the said consumers through fixed charges on sanctioned load or actual MDI, whichever is higher, so that the regulated consumers, GoP and DISCO(s) may be protected up to some extent. Under current tariff structure, IESCO is recovering stranded cost from its consumers at the rate built in the company tariff, however in the instant case how IESCO will recover the same. Therefore, IESCO requests the Authority to devise a mechanism for recovery of its legitimate cost, i.e. stranded cost. The honorable Islamabad High Court (IHC) in its judgment dated July 08, 2021 in the matter of W.P. No. 1592 of 2020 (IESCO vs NEPRA, etc.) had decided that during the term of the existing distribution licences, the DISCO(s) will have their exclusivity as per the original NEPRA Act and any other generation company cannot provide electric power to any BPC. In view of the said, IESCO opposes the issuance of generation licence to BDGPL.

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(ii). The Authority considered the above comments of the stakeholders and in view of the observations raised, considered it appropriate to seek perspective of BDGPL on the same. On the observations of CPPAGL, it was submitted that against a connected load of 1185 kW from the utility, BDGPL has planned to construct, install and operate a generation facility of 251.00 kW_P at the premises of PC-Rawalpindi for the supplying PV solar based electric power which will only be about 3.50% of the units supplied by IESCO. Therefore, there will not be any significant drop in the units of electric power IESCO is supplying to PC-Rawalpindi however, it will have a very positive impact for PC-Rawalpindi as it will now be obtaining environment friendly electric power for its facilities.

(iii). Regarding, the comments of IESCO it was clarified that under Section-22 of the NEPRA Act, a BPC can have electric power from a licensee including a generation company. Further, one-year advance notice is required if the BPC plans to stop purchasing from the utility however, in the current case PC-Rawalpindi/BPC will continue to purchase from IESCO despite having another source from BDGPL. In this regard, it is pertinent to mention that there is no prohibition in the law that a BPC cannot have electric power from the utility and a generation company at the same time. In view of the fact it is clear that PC-Rawalpindi will continue to be a consumer of IESCO and will continue to pay the cross subsidy it is paying now. BDGPL or PC-Rawalpindi has no objection if the Authority decides to introduce a new tariff for hybrid type of consumers so that utilities/DISCO(s) are able to recover their legitimate cost. It is expected that the Authority will introduce the said change through proper public consultation so that views of all the stakeholders are duly considered. It is highlighted that the judgment of the IHC was applicable till the validity of the original term of the Distribution Licence of IESCO which has already expired on November 01, 2021 and the Authority in its determination dated October 27, 2021 has decided that after the expiry of the original term, IESCO will not have an exclusivity pertaining to distribution and supply. In view of the above, BDGPL is of the considered view

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that the objections that IESCO have raised are without any legal basis and must be rejected and the application for the grant of licence be processed.

(iv). The Authority considered the above submissions and considered it appropriate to proceed further in the matter of the application of BDGPL for the consideration of the grant of generation licence as stipulated in the NEPRA Licensing (Generation) Rules 2000 (the "Generation Rules") and Licensing Regulations.

(C). Evaluations/Findings

(i). The Authority examined the submissions of BDGPL including the information provided with its application for the grant of generation licence, comments of the stakeholders, rejoinder submitted by the company/applicant/BDGPL and the relevant rules & regulations in the matter.

(ii). The Authority has observed that the applicant i.e. BDGPL is an entity incorporated under Section-16 of the Companies Act, 2017 (XIX of 2017), having Corporate Universal Identification No. 0157069 dated September 03, 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 (MoA) 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 MoA envisages to establish, construct, install, equip, operate, use, manage and maintain electricity generation facilities/power plants of all types and capacities subject to permission of the relevant authorities.

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(iii). The Authority has noted that the applicant company i.e. BDGPL is a group company of the Burj Capital (BC) which is a leading Renewable Energy Company of the country involved in the clean energy business and has already set up a 50.00 MW wind farm at Jhimpir in the province of Sindh. Further, a number of other projects of wind and solar are in different stages of implementation. Further, the sponsors of the group are planning to diversify their portfolio by investing in the segment of distributed generation whereby it is planned to set up generation facilities at the door step of the consumers/BPC(s) using PV cells. In view of the said, the Authority considers that BDGPL/BC has the required financial and technical capabilities to implement the project.

(iv). The Authority has observed that BDGPL through its current application is pursuing a generation licence for setting up a PV based generation facility of 251.00 kW_P to be located at PC-Rawalpindi, district Rawalpindi in the province of Punjab. In consideration of the said, it is pertinent to mention that BDGPL plans to supply to the aforementioned entity/PC-Rawalpindi as BPC through cable(s) located on private property owned by the BPC. According to the submitted information, the total cost of the project will be about U.S. $. 0.156 million which will be financed through 100% equity of the sponsors.

(v). The sponsors of the project carried out a feasibility study of the project including *inter alia*, solar power plant equipment details, PV-siting details, power production estimates based on solar irradiation data of the project sites, soil tests reports, technical details pertaining to selected PV panels 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 251.00 kW_P the company will be installing 469 PV panels each of 535 Watt. In consideration of the said, it is clarified that the company plans to install PV panels from Tier-I manufactures including Jinko Solar, JA Solar, Renesola or LONGI. It is pertinent to mention that the company has confirmed that deal for purchase of PV

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panels/modules of JKM535M-7TL4-V has been locked with Jinko Solar where the manufacturer has assured an average capacity factor of 16.65% for the proposed location.

(vi). The Authority has considered the submissions of BDGPL and has observed that the supply from the proposed generation facility will be supplied to a BPC in the name of PC-Rawalpindi as explained in the preceding paragraphs. According to the system study of the project, the dispersal to the BPC will be made at 220/440 Volt through cables located/placed on the roof top/private property owned by the BPC not involving any public or third party. In this regard, it is pertinent to mention that BPC is a 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 less than 1.00 MW to be treated as BPC therefore, the load of the above mentioned entity explained in the preceding Paras can be considered as BPC.

(vii). 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) and will be owned, operated, managed and controlled by the BPC therefore, the supply of electric power to PC-

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Rawalpindi by BDGPL does not constitute a distribution activity under the NEPRA Act, therefore, the company/BDGPL will not require a distribution licence.

(viii). Further, the Authority has also considered the submissions of BDGPL that necessary due diligence has been completed and there will be no environmental impact of the proposed arrangement as PV cells/Panels will be utilizing only the existing infrastructure of roof top of the buildings. BDGPL has confirmed that it will comply with the concerned environmental standards. In view of the said, the Authority considers that BDGPL is made obligatory to comply with the relevant environmental standards for which a separate article will be included in the proposed generation licence.

(ix). The grant of generation licence is governed by the provisions of Rule-3 of the Generation Rules. The Authority has observed that BDGPL 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 (2) 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/roof top solar proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the Least Cost Option Criteria (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 Renewable Energy (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/roof top solar against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection

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facilities; (e). the constraints on the transmission system likely to result from the proposed generation facility/solar power plant/roof top solar 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/roof top solar; 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.

(x). In view of the above, the Authority considers that the proposal of BDGPL for installing PV based generation facility will result in optimum utilization of the RE which is currently untapped, resulting in pollution free electric power. It is pertinent to mention that solar is an indigenous resource and such resources should be given preference for the energy security. As explained in the preceding paragraphs above, the company will be supplying electric power to BPC directly which only involve laying small feeder(s), concluding that the project will not face any constraints in transmission of electric 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, the Authority considers that the project of BDGPL fulfills the eligibility criteria for the grant of the 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.

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(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 resources especially RE, 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 a 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, BDGPL has approached for the grant of a generation licence for setting up a PV based generation facility with a cumulative installed capacity of 251.00 kW_P for supplying to PC-Rawalpindi/BPC which is also an existing consumer of the local utility i.e. DISCO/IESCO. The Authority considers that the above proposal of BDGPL 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 BDGPL in diversifying its portfolio but will also enhance the energy security of the PC-Rawalpindi/BPC. Further, the project will also help in reducing the carbon emissions by generating clean electricity, thus improving the environment.

(iv). As explained above, BDGPL 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

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required premises/space 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 the proposed generation facility of BDGPL will be used for supplying to 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 regulations in this regard are still under formulation 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 the above mentioned entity/PC-Rawalpindi as explained in the preceding Paras to be BPC of BDGPL.

(vi). Regarding supply to the BPC, the Authority observes that the BPC and the proposed generation facilities of BDGPL 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 the BDGPL 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 or third party properties are involved, the supply of power to BPC by BDGPL does not constitute a distribution activity under the NEPRA Act, and BDGPL will not require a distribution licence for supplying to the BPC.

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(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 generating facility. According to the information provided by BDGPL, the Commercial Operation Date (COD) of the proposed generation facility/solar power plant/roof top solar will be July 31, 2022 and it will have a useful life of around twenty five (25) years from its COD. In this regard, BDGPL 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 BDGPL about the useful life of the generation facility/solar power plant/roof top solar and the subsequent request of BDGPL 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.

(viii). Regarding compliance with the environmental standards, BDGPL 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 BDGPL to comply with relevant environmental standards at all times.

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

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(x). The Authority has duly considered the comments of different stakeholders as explained above. In this regard, the Authority has observed that CPPAGL and IESCO have raised various concerns on the proposal of company BDGPL of supplying the proposed BPC/PC-Rawalpindi including (a). BDGPL cannot sell electric power to BPC; (b). requirement of a notice for BPC before switching; (d). maintaining network/grid system and the O&M cost; (c). allowing dual connections from IESCO and BDGPL; (d). impact on the existing tariff structure; (e). issue of stranded cost; and (f). exclusivity and decision of the court.

(xi). In consideration to the above, the Authority has observed that BDGPL has submitted rejoinders to the observations of the stakeholders as explained in the preceding paragraphs which the Authority considers tenable. 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 BDGPL. About the observations of IESCO that BDGPL cannot sell electric power to BPC, it is clarified that in terms of the provisions of Section-21 of the NEPRA Act, a generation company can make sales of electric power to BPC(s). Further, in terms Section-22 of the NEPRA Act, the Authority may permit sale of electric power to BPC(s) located in service territory of the holder of a licence therefore, the observation of IESCO is not accordance with the provisions of the NEPRA Act and is not plausible. Regarding the requirement of a notice for BPC before switching, the same is envisaged under Section-22 of the NEPRA Act however, BDGPL has confirmed that the BPC will continue to obtain electric power and does not have any intention to discontinue the same therefore, the provisions of notice will not be applicable in the current case. With regard to the issue of the maintaining network/grid system and the O&M cost, the Authority has observed that the BPC will continue to have a connection from IESCO despite getting supply from BDGPL therefore, the objection does not merit any further consideration. About the observation of IESCO that the BPC cannot have dual connections, the Authority considers there is no prohibition in law for such an

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arrangement and the same has already been allowed previously and is allowed in the present case also however, the Authority directs BDGPL and the BPC to install suitable system for safety and protection of its facilities to avoid any unwanted situation. Regarding the impact on the tariff of allowing the arrangement for BPC(s) to have supply from generation companies, the Authority considers that due to the current structure of tariff the observation of CPPAGL and IESCO carries significance however, at the same time it is worth considering that BDGPL will only be meeting a very small fraction (of around 3.50%) of the sanctioned load of BPC which can be attributed to its natural growth meaning thereby there will not be any adverse impact on the base line consumption pattern of PC-Rawalpindi from the utility. Further, the Authority in its determination dated May 31, 2022 for the tariff for DISCO(s) has decided that for such BPC(s) having connection from DISCO as well as some generation company, to change the mechanism for levying of monthly fixed charges and the same shall now be charged, based on 50% of the sanctioned load or actual MDI for the month, whichever is higher thus compensating DISCO(s) from the potential loss of revenue, if any. About the comments of IESCO that the arrangement will result in stranded cost less consumption from the grid/utility thus resulting in less contribution towards cross-subsidization, the Authority has observed that despite contracting with BDGPL, the BPC/PC-Rawalpindi will still continue to purchase from IESCO though there may be slight impact on the units consumed. Despite being compensated through the increased fixed charges, the Authority considers that issues of such costs are beyond the scope of the matter under consideration which pertains to the grant of a generation licence for which BDGPL has completed all the regulatory requirements as explained in the preceding paragraph and qualify for the same. With regard to the exclusivity and decision of the court, the Authority hereby confirms that the decision of the IHC was applicable during the term of the original Distribution Licence of IESCO which has already lapsed on November 01, 2021 therefore, the same is no more applicable. Further, the Authority in its determination dated October 27, 2021 has allowed interim extension to IESCO on non-exclusive basis. In view of the above, the

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Authority considers that the observations of CPPAGL and IESCO stand addressed and settled.

(xii). In consideration of the above, the Authority hereby approves the grant of generation licence to BDGPL 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. Further to the said, the Authority directs BDGPL to apply for a Supplier Licence under Section-23E of the NEPRA Act, as stipulated in the relevant regulations.

Authority:

Engr. Maqsood Anwar Khan
(Member)

Engr. Rafique Ahmed Shaikh
(Member)

Engr. Tauseef H. Farooqi
(Chairman)

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National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE
No. SGC/168/2022

In exercise of the powers conferred upon the National Electric Power Regulatory Authority (NEPRA) under Section-14(B) 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:

BURJ DG (PRIVATE) LIMITED

Incorporated Under Section-16 of the
Companies Act, 2017 (XIX of 2017) Having Corporate Universal Identification
No. 0157069, dated September 03, 2020

for its PV based Generation Facility/Roof Top Solar/
Solar Power Plant located at Pearl Continental Hotel Rawalpindi,
district Rawalpindi in the province of Punjab

(Total Installed Capacity: ≈ 251.00KW$_P$ Gross)

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

Given under my hand on 29th day of July Two Thousand & Twenty Two and expires on 30th day of July Two Thousand & Forty-Seven

Registrar 29.07.22

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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, the Commercial 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;

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(f). "Bus Bar" means a system of conductors in the generation facility/Solar Power Plant/Roof Top Solar of the Licensee on

which the electric power from all the photovoltaic cells is collected for supplying to the Power Purchaser;

(g). "Commercial Code" means the commercial code prepared under the National Electric Power Regulatory Authority (Market Operator, Registration, Standards and Procedure) Rules, 2015 as amended or replaced from time to time;

(h). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Solar Power Plant/Roof Top Solar of the Licensee is Commissioned;

(i). "Commissioned" means the successful completion of commissioning of the generation facility/Solar Power Plant/Roof Top Solar for continuous operation and despatch to the Power Purchaser;

(j). "Distribution Code" means the distribution code prepared by the concerned XW-DISCO and approved by the Authority, as 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/ Roof Top Solar, 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;

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(n). "Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;

(o). "Licence" means this licence granted to the Licensee for its generation facility/ Solar Power Plant/Roof Top Solar;

(p). "Licensee" means **Burj DG (Private) Limited** or its successors or permitted assigns;

(q). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;

(r). "Net Delivered Energy" means the net electric energy expressed in kWh that is generated by the generation facility/Solar Power Plant/Roof Top Solar of the Licensee at its outgoing Bus Bar and delivered to the Power Purchaser;

(s). "Power Purchaser" means the BPC which will be purchasing electric power from the Licensee, pursuant to a EPA for procurement of electric power;

(t). "Roof Top Solar" means a cluster of photovoltaic cells/panels installed on the roof top of a building or any other suitable place in the same location used for production of electric power";

(u). "XW-DISCO" means an Ex-WAPDA distribution company engaged in the distribution of electric power".

1.2 The words and expressions used but not defined herein bear the meaning given thereto in the Act or rules and regulations issued under the Act.

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Article-2
Applicability of Law

This Licence is issued subject to the provisions of the Applicable Law, as amended or replaced 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/Roof Top Solar 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/Roof Top Solar 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/Roof Top Solar before it is Commissioned.

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/Roof Top Solar, subject to the provisions of 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 Generation Rules read with the Licensing Regulations.

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Article-5
Licence fee

The Licensee shall pay to the Authority the Licence fee as stipulated in the National Electric Power Regulatory Authority (Fees) Regulations, 2021 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.

7.2 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.

7.3 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

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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/Roof Top Solar of the Licensee shall comply with the environmental and safety standards as may be prescribed by the relevant competent authority as amended or replaced 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/Roof Top Solar 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 power to the Power Purchaser at the outgoing Bus Bar of its generation facility/Solar Power Plant/Roof Top Solar. 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.

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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.

Article-14
Corporate Social Responsibility

The Licensee shall provide the descriptive as well as monetary disclosure of its activities pertaining to corporate social responsibility (CSR) on an annual basis.

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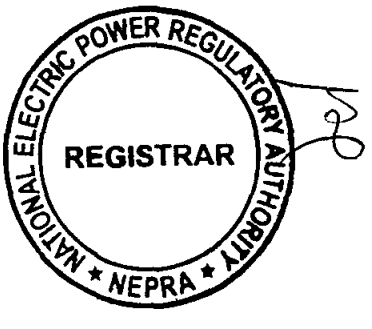
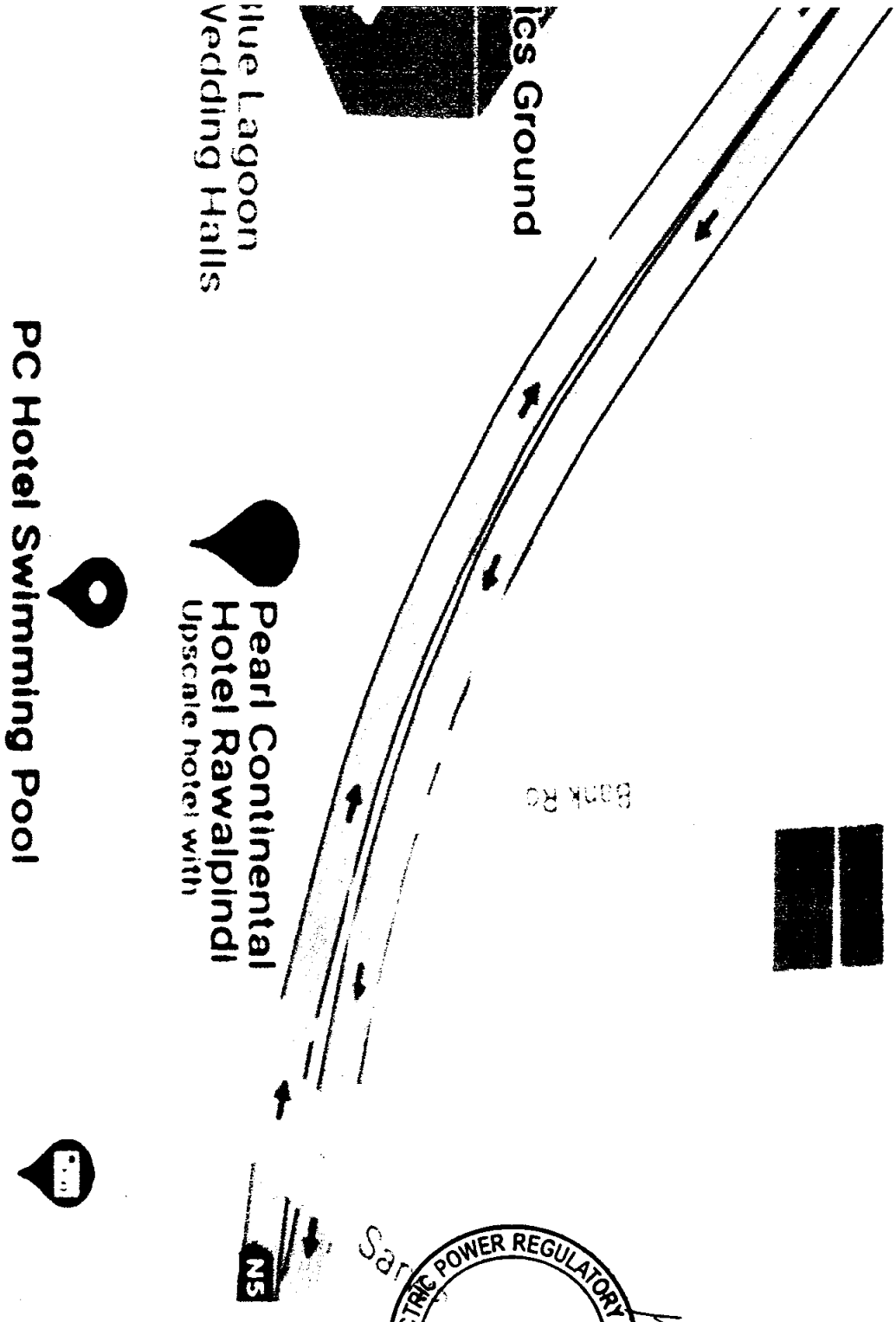
SCHEDULE-I

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



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

Sr. No.	Location	Site Coordinates	
01	Pearl Continental Hotel, Rawalpindi	Latitude	33° 35' 19.5" N
		Longitude	73° 03' 23.7" E

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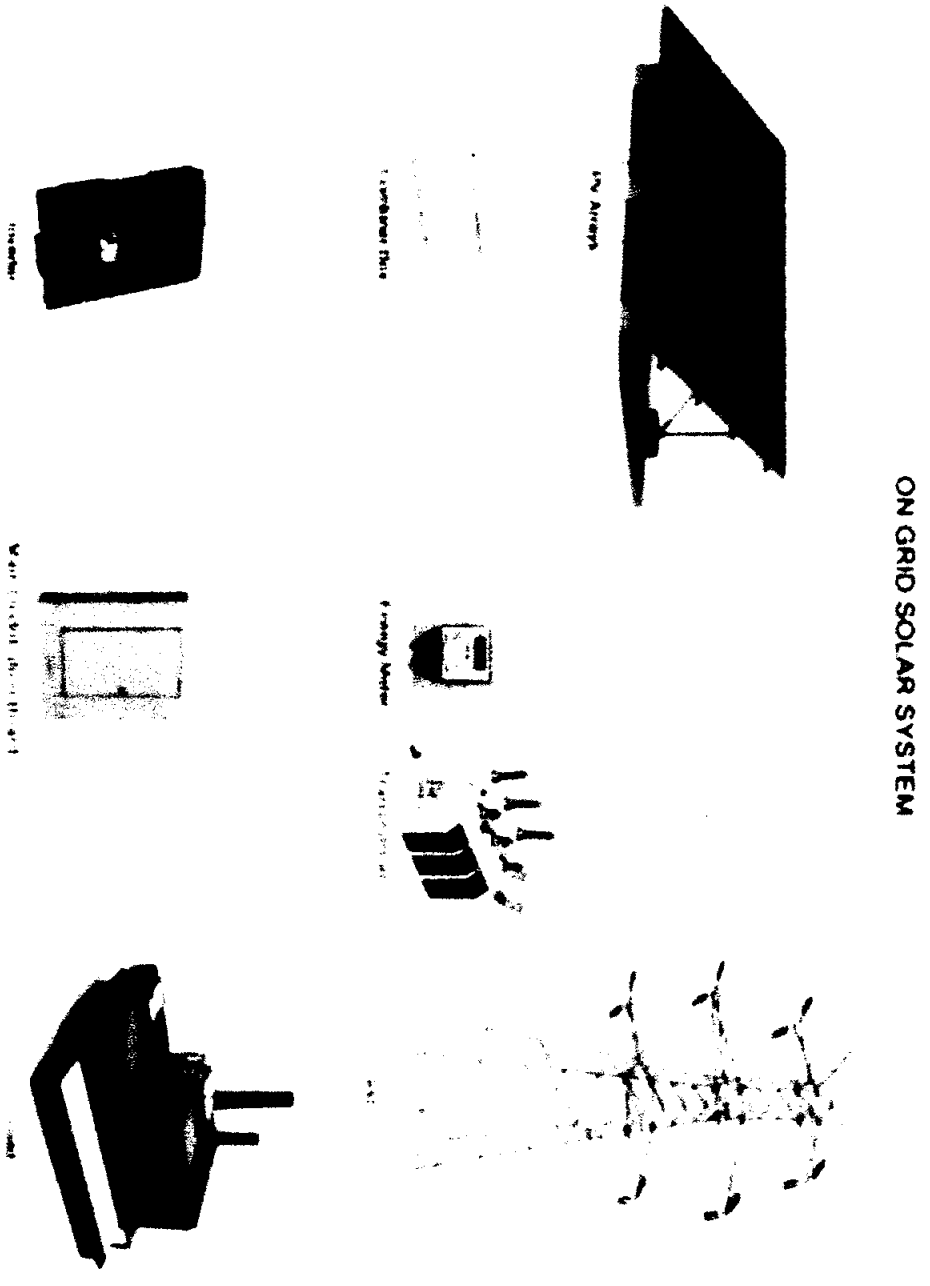
Process Flow Diagram
Generation Facility/ Solar Power Plant/ Roof Top Solar of the Licensee



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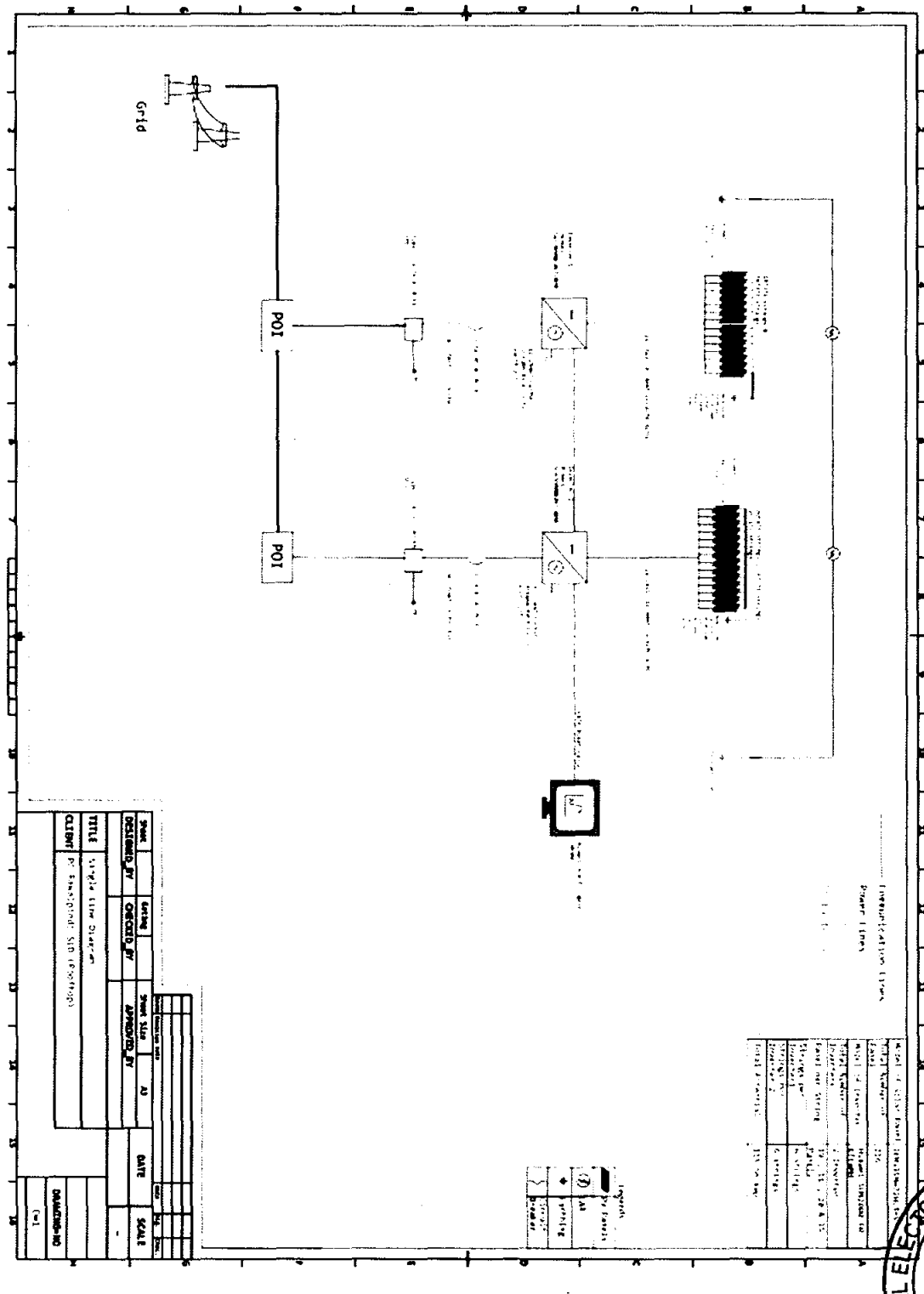
Single Line Diagram
Generation Facility/ Solar Power Plant/ Roof Top Solar of the Licensee



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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 generation facility of the Burj DG (Private) Limited-BDGPL/Licensee will be delivered/supplied to Marriott Hotel, Islamabad located at Pearl Continental Hotel Rawalpindi (PC-Rawalpindi).

(2). The details pertaining to BPC, the 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	Burj DG Private Limited.
(ii).	Registered/ Business office of the Company/Licensee	16 Abdullah Haroon Road, 3rd Floor Faysal Bank Building, Karachi.
(iii).	Type of the generation facility/Solar Power Plant/Solar Farm	Photovoltaic (PV) Cell
(iv).	Location(s) of the generation facility Solar Power Plant/ Solar Farm	Pearl Continental Hotel Rawalpindi, tehsil and district Rawalpindi 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	≈ 251kWP			
(iv).	No. of Panel/Modules	469 x 535 Watt			
(v).	PV Array	Nos. of Strings			26
		Modules in a string			12-20
(vi).	Invertor(s)	Quantity	1	1	3
		Make	Huawei		
		Capacity of each unit	33KW	40 KW	60KW

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(C). Technical Details of Equipment

(a).	**Solar Panels – PV Modules**			
(i).	Type of Module	Jinko Solar JKM535M-7TL4-V		
(ii).	Type of Cell	Mono PERC half cell crystalline		
(iii).	Dimension of each Module	2274*1134*35 mm		
(iv).	Total Module Area	2.5787 m^2		
(v).	Frame of Panel	Anodized aluminium alloy		
(vi).	Weight of one Module	28.9 kg		
(vii).	No of Solar Cells in each module	144 (6×24)		
(viii).	Efficiency of module	20.75%		
(ix).	Maximum Power (P_{max})	535 W_P		
(x).	Voltage @ P_{max}	40.63 V		
(xi).	Current @ P_{max}	13.17A		
(xii).	Open circuit voltage (Voc)	49.34V		
(xiii).	Short circuit current (Isc)	13.79A		
(xiv).	Maximum system open Circuit Voltage	1000VDC (IEC)		
(b).	**Inverters**			
(i).	Type of Module	33 kW	36kW	60 kW
(ii).	Type of Cell	SUN2000-30KTL	SUN2000-40KTL	SUN2000-60KTL-M0
(iii).	Input Operating Voltage Range	200 V to 1000 V		
(iv).	Efficiency of inverter	98.70%		
(v).	Max. Allowable Input voltage	1100V		
(vi).	Max. Current	26A	26A	22A
(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		

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(xi).	Power control	MPP tracker			
(xii).	Rated Frequency	50 Hz			
(xiii).	Environmental Enclosures	Relative Humidity	0-100%		
		Audible Noise	<46 DB	<46 DB	50 DB
		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).	**Data Collecting System**				
(i).	System Data	Continuous online logging with data logging software to portal.			
(d).	**Unit Transformer**				
(i).	Not Applicable				

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(D). Other Details

(i).	Expected COD of the generation facility Solar Power Plant/Roof Top Solar	July 31, 2022
(ii).	Expected useful Life of the generation facility Solar Power Plant/ Roof Top Solar from the COD	25 years

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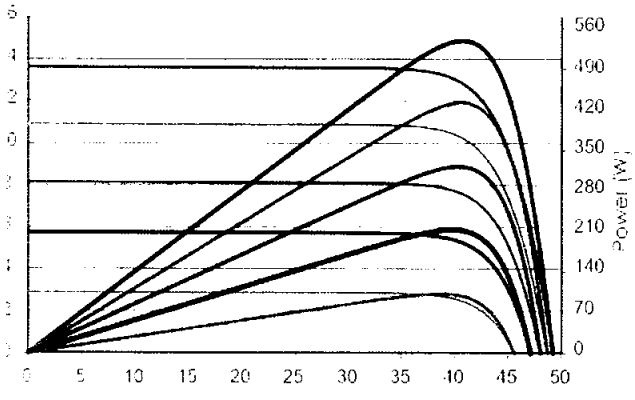
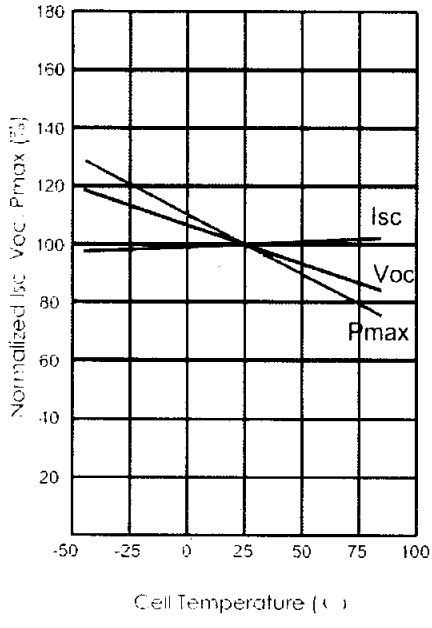
V-I Curve
Generation Facility/Solar Power Plant/Roof Top Solar of the Licensee

Electrical Performance & Temperature Dependence

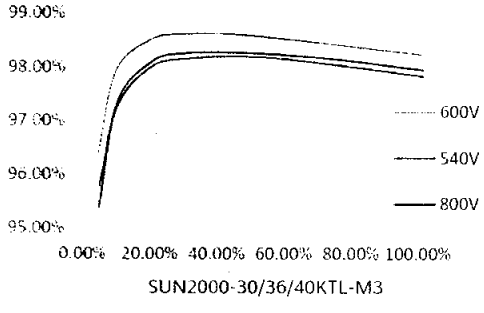
Current-Voltage & Power-Voltage Curves (540W)



Temperature Dependence of Isc,Voc,Pmax

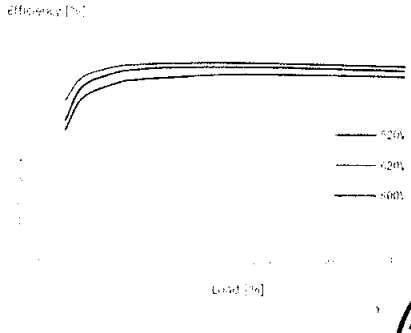


Efficiency Curve



SUN2000-30/40KTL-M0

Efficiency Curve



SUN2000-60KTL-M0

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Information
Regarding Bulk Power Consumer(s)/BPC(s) to be Supplied by the Licensee

(i).	No. of Consumers		One (01)
(ii).	Location of consumers (distance and/or identity of premises)		Pearl Continental Hotel Rawalpindi, The Mall Rawalpindi Cantt
(iii).	Contracted Capacity and Load Factor for consumer		251.00 kWp/ 10 - 15%
(iv).	Specify Whether		
	(a).	The consumer is an Associate undertaking of the Licensee -If yes, specify percentage ownership of equity;	No
	(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 Licensee.	Licensee will construct, own and operate the solar generation facilities and provide electricity to BPC.
	(b).	Consumer and Distribution Company.	Yes Existing Consumer of IESCO with Sanctioned Load of 1.185 MW with a tariff A-2c(06)T
(vi)	Any other network information deemed relevant for disclosure to or consideration of the Authority.		Not Applicable

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Information
Regarding Distribution Network for Supply of Electric Power to BPC

(i).	No. of Feeders		One (01)
(ii).	Length of Each Feeder (Meter)		50-80 meter
(iii).	Length of Each Feeder to each Consumer		-do-
(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 underground cable supplying to BPC from the generation facility will be located on private property owned by BPC
(v).	Whether owned by Licensee, Consumer or Distribution Company -(deal with each Feeder Separately)		
	(a).	If owned by Distribution Company, particulars of contractual arrangement	NA
	(b).	Operation and maintenance responsibility for each feeder	By BPC
(vi).	Whether connection with network of Distribution Company exists (whether active or not)- If yes, provide details of connection arrangements (both technical and contractual)		Yes- A-2c(06)T of IESCO
(vii).	Any other network information deemed relevant for disclosure to or consideration of the Authority.		NA

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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.

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SCHEDULE-II

(1).	Total Installed Capacity of the Generation Facility/Solar Power Plant/Solar Farm	≈ 251.00 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/Solar Farm (As Per Simulation)	366 MWh
(5).	Total (approximated) expected generation of the Generation Facility/Solar Power Plant/Solar Farm during the twenty five (25) years term of this licence	8570.812 MWh
(6).	Annual generation of Generation Facility/Solar Power Plant/Solar Farm based on 24 hours working	1597 MWh
(7).	Net Capacity Factor of Generation Facility/Solar Power Plant/Solar Farm	16.65%

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).

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Authorization
by National Electric Power Regulatory Authority (NEPRA) to Burj DG (Private) Limited

Incorporated under Section-16 of the Companies Act, 2017 (XIX of 2017) having Corporate Universal Identification No. 0157069, dated September 03, 2020

NEPRA GENERATION LICENCE No. SGC/168/2022
For Sale to Bulk Power Consumer(s)

Pursuant to Section-22 of the Act and Rule-7 of the NEPRA Licensing (Generation) Rules, 2000, the Authority hereby authorize Burj DG (Private) Limited-(BDGPL)/the Licensee to engage in second-tier supply business, limited to the following consumers:-

(a). Pearl Continental Hotel Rawalpindi, Mall Road, tehsil and district Rawalpindi In the province of Punjab.

Engr. Maqsood Anwar Khan
(Member)

Engr. Rafique Ahmed Shaikh
(Member)

Engr. Tauseef H. Farooqi
Chairman

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