



**Registrar**

# **National Electric Power Regulatory Authority**

## **Islamic Republic of Pakistan**

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad  
Ph: +92-51-9206500, Fax: +92-51-2600026  
Web: www.nepa.org.pk, E-mail: registrar@nepa.org.pk

No. NEPRA/R/DL/LAG-509/4928-33

April 11, 2022

**Mr. Zain ul Abideen**  
Head of Business  
Zero Carbon Power (Pvt) Limited  
87-Block, B1 M.M. Alam Road  
Gulberg-III, Lahore

**Subject: Grant of Generation Licence No. SGC/163/2022**  
**Licence Application No. LAG-509**  
**Zero Carbon Power (Private) Limited (ZCPPL)**

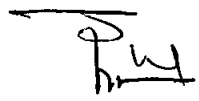
**Reference:** ZCPPL's application vide letter dated September 03, 2021

Enclosed please find herewith Generation Licence No. SGC/163/2022 granted by National Electric Power Regulatory Authority (NEPRA) to Zero Carbon Power (Private) Limited (ZCPPL) for its 1.82 MWp PV based Generation Facility located at Bulleh Shah Packaging (Private) Limited 7-KM Kot Radha Kishan Road Off 4 KM Kasur-Raiwind Road District Kasur, in the province of Punjab, pursuant to Section 14(B) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, as amended or replaced from time to time. Further, the determination of the Authority in the subject matter is also attached.

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

**Enclosure: Generation Licence**  
**(SGC/163/2022)**



  
11 04 22  
(Syed Safeer Hussain)

**Copy to:**

1. Secretary, Ministry of Energy (Power Division), A-Block, Pak Secretariat, Islamabad.
2. Managing Director, NTDC, 414-WAPDA House, Lahore.
3. Chief Executive Officer, Central Power Purchasing Agency Guarantee Ltd, 73 East, A.K. Fazl-ul-Haq Rd, Blue Area, Islamabad
4. Chief Executive Officer, Lahore Electric Supply Company Limited (LESCO), 22-A, Queen Road, Lahore.
5. Director General, Environment Protection Department, Government of Punjab, National Hockey Stadium, Ferozpur Road, Lahore.

**National Electric Power Regulatory Authority**  
**(NEPRA)**

**Determination of the Authority**  
**in the Matter of Application of Zero Carbon Power (Private)**  
**Limited for the Grant of Generation Licence**

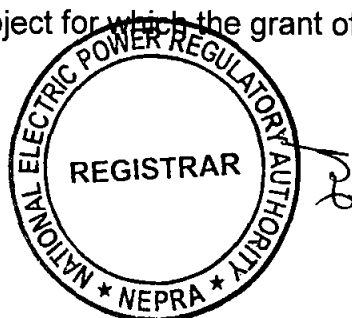
**April 11, 2022**  
**Case No. LAG-509**

**(A). Filing of Application**

(i). Zero Carbon Power (Private) Limited (ZCPPL) submitted an application on September 15, 2021 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, Modification, Extension and Cancellation) Procedure Regulations, 2021 (the "Licensing Regulations").

(ii). The Registrar examined the submitted application and found that the application was deficient in terms of essential documents/information as specified in the Licensing Regulations. Accordingly, the Registrar directed ZCPPL to submit the missing documents/information as required under the said regulations. ZCPPL completed the submission of missing information/documents by October 21, 2021. The Registrar submitted the matter before the Authority to decide the processing of the application or otherwise. The Authority considered the matter on November 29, 2022 and decided to register the application as stipulated in Regulation-6 of the Licensing Regulations. Accordingly, the Registrar allotted a registration number to the application and forwarded the application to the Licensing Department for processing.

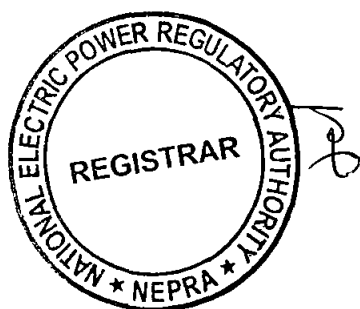
(iii). In consideration to the above, the Registrar published a brief of the particulars of the project for which the grant of licence has been sought and



an invitation to the general public to submit comments in the matter. In consideration of the said, notice was published on December 14, 2021 in one (01) English and one (01) Urdu newspapers, inviting comments of general public, interested and affected persons in the matter as stipulated in Regulation-7 of the Licensing Regulations. In addition to the said, the Registrar also sent letters to different stakeholders on December 14, 2021, soliciting their comments for assistance of the Authority.

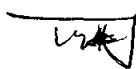

**(B). Comments of Stakeholders**

(i). In reply to the above, the Authority received comments from two (02) stakeholders including Central Power Purchasing Agency (Guarantee) Limited (CPPAGL) and Lahore Electric Supply Company Limited (LESCO). The salient points of the comments offered by stakeholders are summarized below:



(a). CPPAGL submitted that ZCPPL is planning to set up a photovoltaic (PV) cell based generation facility of 1.82 MWp for supplying/selling to Bulleh Shah Packaging (Private) Limited (BSPPL) as its Bulk Power Consumer (BPC). As per 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 the per unit rate for the fixed capacity charges and vice versa. In view of the foregoing, it is considered appropriate that further comments in this matter may be obtained from the relevant Distribution Company i.e. LESCO, because BSPPL is currently its consumer; and

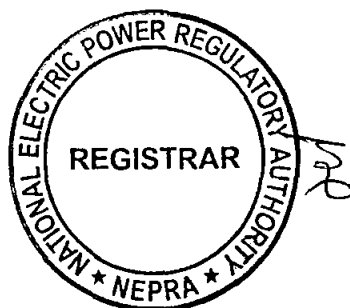
(b). LESCO remarked that ZCPPL plans to supply to BSPPL which is its consumer with a sanctioned load of 20.00 MW

under tariff of B-4. If BSPPL plans to get electric power supply from ZCPPL, it must give LESCO a notice of one (01) year before the stoppage as stipulated under Section-22(2) of NEPRA Act. Further, ZCPPL cannot lawfully be involved in sale of electricity/power within the service territory of LESCO. If the ZCPPL is allowed the arrangement, the consumption of BSPPL from the grid/LESCO will drop considerably, resulting in loss of business to the utility. In this regard, it is clarified that LESCO is already on the list of Privatization and due to said, no action can be taken that can result (a). Sale or transfer of licenses, permits etc.; or (b). Closing of any line of business. It is pertinent to mention that BSPPL the proposed BPC of ZCPPL has its own generation facility of 40.00 MW having a generation licence No. SGC/151/2020, dated November 12, 2020. It is neither permissible under the utility practices nor any law that a BPC can have three separate electric power connections/sources from three separate, distinct and independent companies/sources at the same time therefore, this BPC cannot be allowed to have three independent connections simultaneously from LESCO and ZCPPL etc. CPPAGL on such arrangements had raised certain legal, technical and financial implications vide its letters No. CPPA-G/CEO/NEPRA/6086-91 dated September 14, 2018 and No. CPPA-G/CTO/DGM(Renewable)/ Zero Carbon/23861-65 dated November 24, 2020 and the same may also be considered as integral part of the comments LESCO before issuance of said generation licence.


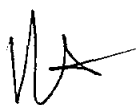
[Signature]

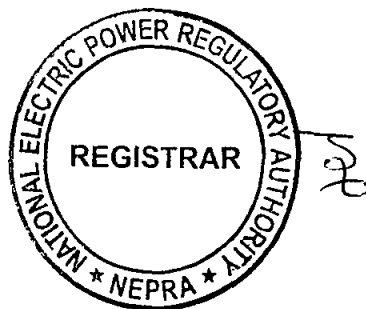
[Signature]



(ii). The Authority considered the above comments and in view of the observations of CPPAGL and LESCO, considered it appropriate to seek the perspective of ZCPPL on the same. On the observations of CPPAGL, it was submitted that the purpose of installing this project is that the proposed BPC/BSPPL can avail the benefits of lower cost of generation which will only be a very minor part of its consumption considering the fact that it is drawing a load to the tune of 20.00 MW from LESCO. Therefore, the reduction in consumption will be very insignificant and will not result in appreciable quantum of reduction from the grid.

(iii). Regarding, the comments of LESCO it was explained that ZCPPL has entered into an agreement for setting up a PV based solar generation facility of 1.82 MW<sub>P</sub> at the premises of BSPPL, for supplying to it the generated energy as a BPC. It is a matter of record that BSPPL is not only an existing consumer of LESCO but also has installed a biomass based generation facility for meeting with its electric power requirements. In this regard, it is pertinent to mention that the proposed PV based generation facility will supplement the requirements of BSPPL from the grid and there is no plan to disconnect the supply from the utility therefore, the requirement of giving notice as envisaged under Section-22 of NEPRA Act does not arise. The contention of LESCO that arrangement of supply to BPC is not lawful is not correct as the same is in line with the provisions of Section-22 of the NEPRA Act. In this regard, it is true that IHC in its judgment dated July 08, 2021 in WP No. 1592 of 2020 has held that during the term of the existing Distribution Licence for the DISCO(s), a generation company cannot supply to a BPC. In this regard, it is pertinent to mention that current exclusivity of LESCO is up to March 31, 2022 and beyond that no such right can be granted as according to the amendments made in the NEPRA Act in the year 2018. The company hereby undertakes that the supply to the BPC will be made strictly in light of the interpretation of the IHC without any exception. About the loss/decrease in sale, it is clarified that the proposed generation facility will have a capacity factor of around 16.00% therefore, there will not be any significant



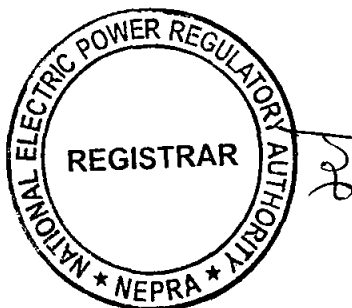
impact on the sale of LESCO and that the same can be compensated by electrifying other vast areas without power supply and supplying to some new consumers for which there is a huge backlog and consumers are waiting for the same. In view of the said, the proposal of ZCPPL will in fact allow LESCO to expand its consumer base and there will be ultimately increase in sale therefore, the provisions of the Privatization Act are not attracted at all. The observation of LESCO that BSPPL has already two sources of supply i.e. one from grid and other biomass based generation facility therefore, the third connection from ZCPPL cannot be allowed is not tenable as there is no prohibition in law. About the queries of CPPAG referred to by LESCO in its letter, the same relate to various issues of the power sector and the Authority had already given its determination and has allowed arrangement the once in the current case therefore, it is submitted that application for the grant of Generation Licence may be processed and the licence may be granted.

(iv). The Authority considered the above submissions and considered it appropriate to proceed further in the matter of the application of ZCPPL for the consideration of the grant of the 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 ZCPPL including the information provided with its application for the grant of generation licence, the comments of the stakeholders, rejoinder submitted by the company/applicant/ZCPPL, the relevant rules & regulations in the matter.

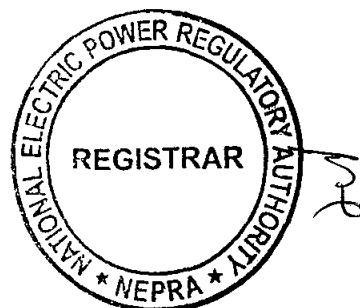
(ii). The Authority has observed that the applicant i.e. ZCPPL is an entity incorporated under Section-16 of the Companies Act, 2017 (XIX of 2017), having Corporate Universal Identification No. 0157971 dated September 16, 2020. It is a private limited company with the principal line of business to generate 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 the concerned authorities. Also the MoA envisages to establish, construct, install, equip, operate, use, manage and maintain electricity generation plants of all types and capacities subject to permission of the relevant authorities.

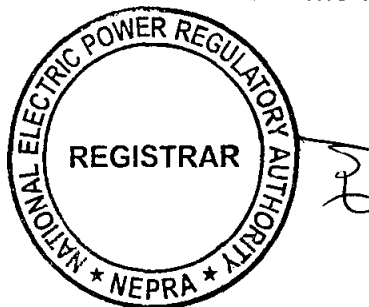
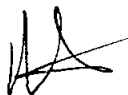
(iii). The Authority has noted that the applicant company i.e. ZCPPL is a group company of the Punjab Group (PG) which is a leading business house of the country involved in diversified lines of business including a network of Educational Institutes (Schools, Colleges and universities), Construction industry, Real Estate, Information Technology, Media and Broadcasting and Hospital and Health Care and Renewable Energy. In this regard, ZCPPL is involved in providing solution for residential and other consumers by setting up generation facilities at the door step of these consumers/BPC(s) using PV cells/panels. In view of the said, the Authority considers ZCPPL/PG has the required financial and technical capabilities to implement the project.

(iv). The Authority has observed that ZCPPL through its current application is pursuing a generation licence to set up a PV based generation facility of 1.82 MW<sub>p</sub> to be located at BSPPL in district Kasur, province of Punjab. In consideration of the said, it is pertinent to mention that ZCPPL plans supplying to the aforementioned entity/BSPPL 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 Pak Rs. 164.10 million which will be financed through a combination of debt (80% of the total cost) and equity (20% of the total cost). In this regard, all the lead banks have expressed their interest to finance the debt portion of the project.



(v). The sponsors of the project 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/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 1.82 MW<sub>p</sub> the company will be installing 3405 PV cells/panel each of 535 Watt. In consideration of the said, it is clarified that the company plans to install PV cells/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 Cells of JA SOLAR JAM72s30-535 W has been locked with JA Solar where the manufacturer has assured an average capacity factor of 16.00% at the proposed site.

(vi). The Authority has considered the submissions of ZCPPL and has observed that the supply from the proposed generation facility will be supplied to a BPC in the name of NIPL as explained in the preceding paragraphs. 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 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



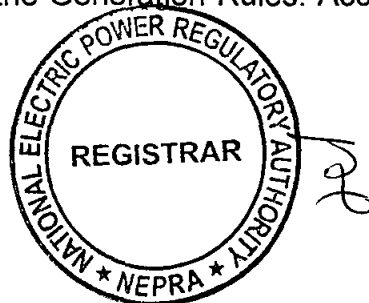


allowing even less than 1.00 MW to be treated as BPC therefore, the load of the above mentioned entity explained in the preceding Paras can be considered as BPC.

(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) will be owned, operated, managed and controlled by the BPC therefore, the supply of electric power to BSPPL by ZCPPL does not constitute a distribution activity under the NEPRA Act, and a distribution licence will not be required by the company.

(viii). Further, the Authority has also considered the submissions of ZCPPL 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 buildings and ZCPPL has confirmed that it will comply with the concerned environmental standards. In view of the said, the Authority considers that ZCPPL 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 ZCPPL 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/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 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 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 ZCPPL 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(s) directly which only involve laying small feeder(s), this concludes that the project will not face any constraints in transmission of electric power. Further, being located in the same vicinity as that of the BPC, the project will not result



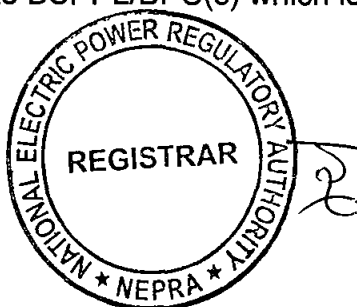
in cost and right-of-way issues for the provision of interconnection facilities. In view of the said, the Authority considers that the project of ZCPPL fulfills the eligibility criteria for the grant of generation licence as stipulated in the NEPRA Act, rules and regulations and other applicable documents.

**(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 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, ZCPPL has approached for the grant of a generation licence for setting up a PV based generation facility with a cumulative Installed Capacity of approximately 1.82MW<sub>P</sub> for supplying to BSPPL/BPC(s) which is also an existing consumer of

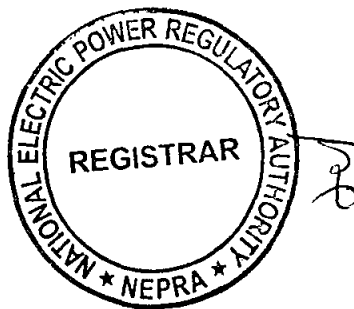

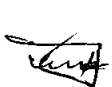


the local utility i.e. DISCO/LESCO. The Authority considers that the above proposal of ZCPPL is in line with the provisions of the NEPRA Act, relevant rules and regulations framed thereunder and vision of the Govt. of Pakistan to enhance the contribution of RE in generation mix of electric power. The project will not only help ZCPPL in diversifying its portfolio but will also enhance the energy security of the BSPPL/BPC. Further, the project will also help in reducing the carbon emission by generating clean electricity, thus improving the environment.

(iv). As explained above, ZCPPL 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 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 proposed generation facility of ZCPPL 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 regulation 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/BSPPL as explained in the preceding Paras to be BPC of ZCPPL.

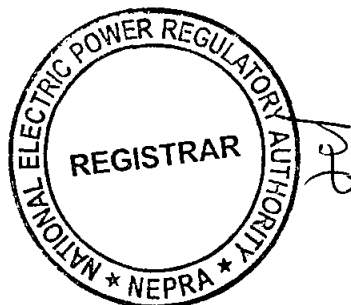
(vi). Regarding supply to the BPC, the Authority observes that the BPC and the proposed generation facilities of ZCPPL are located within the same premises and the BPC will be supplied through underground cable/feeder of 220/440 volt. Pursuant to proviso to Section-21 of the NEPRA Act, the Authority



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 ZCPPL 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 ZCPPL does not constitute a distribution activity under the NEPRA Act, and ZCPPL 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 generating facility. According to the information provided by ZCPPL, the Commercial Operation Date (COD) of the proposed generation facility/solar power plant/roof top solar will be September 30, 2022 and it will have a useful life of around twenty five (25) years from its COD. In this regard, ZCPPL 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 ZCPPL about the useful life of the generation facility/solar power plant/roof top solar and the subsequent request of ZCPPL to fix the term of the generation licence is consistent with international benchmarks; therefore, the Authority fixes the term of generation licence to twenty five (25) years from COD of the project subject to Section-14B of the NEPRA Act.

**(viii).** Regarding compliance with the environmental standards, ZCPPL 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

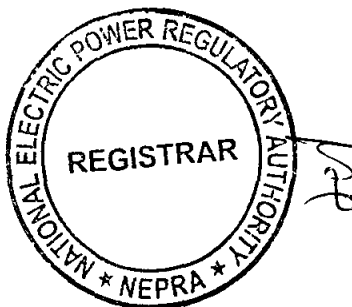


terms and conditions making it obligatory for ZCPPL to comply with relevant environmental standards at all times.

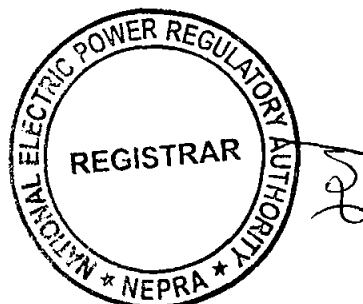
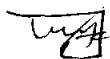
(ix). Regarding the rates, charges and terms and conditions of tariff between ZCPPL and its BPC, it is reiterated that under Section-7(3)(a) of the NEPRA Act, determining tariff, rate and charges etc. is the sole prerogative of the Authority. However, the Authority observes that the tariff agreed between ZCPPL and its BPC, does not affect any other consumer or third party. Therefore for the purpose of tariff, the Authority considers it appropriate directing ZCPPL and its BPC to agree on a bilateral agreement and accordingly ZCPPL 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 and LESCO have raised various concerns on the proposal of ZCPPL of supplying the proposed BPC/BSPPL including (a). ZCPPL cannot lawfully sell electricity/power within its service territory due to the Exclusivity granted to it; (b). requirement of one (01) year notice by AISPL if it plans to switch to ZCPPL as stipulated under Section-22(2) of NEPRA Act; (c). the consumption of BSPPL from the grid/LESCO will drop considerably resulting in loss of business to the utility; (d). LESCO is already on the list of privatization and due to said, no action can be taken that can result (i). Sale or transfer of licenses, permits etc.; or (ii). Closing of any line of business; (e). a BPC cannot have two separate electric power connections/sources; and (f). observations of CPPAGL raised in similar cases.

(xi). In consideration to the above, the Authority has observed that ZCPPL has submitted rejoinders to the above 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



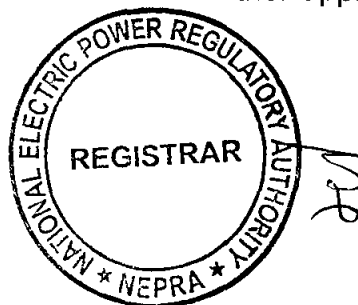
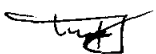
the matter of application for the grant of generation licence of ZCPPL. Regarding the observation of LESCO that it has exclusivity under its licence and due to the said, ZCPPL cannot lawfully sell to BSPPL due to its exclusivity, it is clarified that under its existing distribution licence LESCO has the same which will expire March 31, 2022 and after that the utility cannot claim any exclusivity considering the fact that legislature through the amendments in the NEPRA Act of 2018 took away as the same. Further to the said, the Authority will like to elaborate that under Section-21 of the NEPRA Act, a generation company is allowed supplying to BPC under the provisions the said provisions. In consideration of the said, the ZCPPL has confirmed that its project will achieve COD after the expiry of the exclusive right of LESCO therefore, there is no violation of the rights of LESCO under its existing Distribution Licence. About the observations of LESCO that the BPC is required to serve it a notice before switching to a generation company under Section-22(2) of NEPRA Act, the Authority hereby clarifies that the said requirement of serving notice is applicable only once a consumer completely switches to another distribution company whereas, in the current case the consumer/BSPPL has confirmed that it will continue to maintain its supply from LESCO therefore, the question of notice period does not arise. About 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 LESCO carries significance however, at the same time it is worth considering that ZCPPL will only be meeting only be supplying a very small fraction (of around 5.00%) of the sanctioned load of BSPPL which can be attributed to its natural growth meaning thereby there will not be any adverse impact on the bases line consumption pattern of BSPPL from the utility. Regarding the observations of LESCO that as per best utility practices, BSPPL should not be allowed to have triple connections, the Authority considers there is no prohibition for such an arrangement and the Authority has been allowing the same and accordingly allows BSPPL to have the connection from ZCPPL while maintaining connection from LESCO. However, the Authority directs ZCPPL and BSPPL to install



suitable system for safety and protection of its facilities to avoid any unwanted situation. About the comments of CPPAGL and LESCO that the arrangement will result in less consumption from the grid/utility thus resulting in less contribution towards cross-subsidization, as explained in the preceding paragraphs that despite contracting from the generation company, BSPPL will retain the connection from the utility and will have the bases line consumption thus not affecting the various charges it is paying to LESCO. Further, 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 ZCPPL has completed all the regulatory requirements as explained in the preceding paragraph and qualify for the same. In view of the said, the Authority considers that the observations of CPPAGL and LESCO stand addressed and settled.

(xii). Further to the above, the Authority has observed that the honourable Islamabad High Court in its judgement dated July 08, 2021 in the matter of W.P. No. 1592 of 2020 (Islamabad Electric Supply Company Limited VS National Electric Power Regulatory Authority, etc.) had decided that during 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 this regard, the Authority has observed that the current distribution licence of LESCO has already expired on March 31, 2022. Further, LESCO has already submitted a request for renewal of its Distribution Licence which is in advance stage of processing and is expected to be decided in terms of the relevant provisions of the NEPRA Act as amended in the year 2018.

(xiii). In consideration of the above, the Authority hereby approves the grant of generation licence to ZCPPL 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

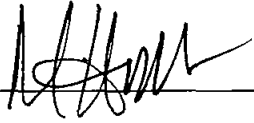




to the said, the Authority directs ZCPPL to apply for a Supplier Licence under Section-23E of the NEPRA Act, once the necessary/required rules and regulations on the subject are notified and if there is a requirement for such a licence.

**Authority:**


Engr. Maqsood Anwar Khan  
(Member)



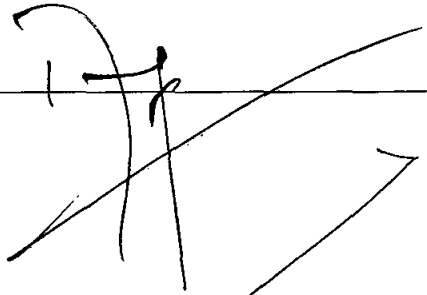
Engr. Rehmatullah Baloch  
(Member)

Retired

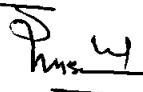
Engr. Rafique Ahmed Shaikh  
(Member)



Engr. Tauseef H. Farooqi  
(Chairman)





  
11 04 22

**National Electric Power Regulatory Authority  
(NEPRA)**

**Islamabad – Pakistan**

**GENERATION LICENCE**

**No. SGC/163/2022**

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:

**Zero Carbon Power (Private) Limited**

Incorporated under Section-16 of  
the Companies Act, 2017 (XIX of 2017) having Corporate Universal  
Identification No. 0157971, dated September 16, 2020

**for its PV based Generation Facility located at**  
**Bulleh Shah Packaging (Private) Limited 7-KM Kot Radha Kishan**  
**Road Off 4 KM Kasur-Raiwind Road District Kasur in the**  
**Province of Punjab**

(Installed Capacity:  $\approx$  1.82 MW<sub>P</sub>)

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

Given under my hand on 11<sup>th</sup> day of April Two Thousand & Twenty-Two and expires on 29<sup>th</sup> day of September Two Thousand & Forty-Seven

  
11-04-22  
**Registrar**



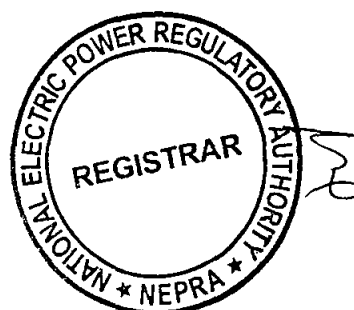
**Article-1**  
**Definitions**

**1.1 In this Licence**

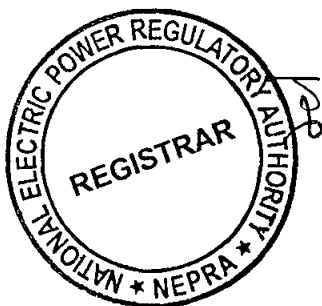
- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, as amended or replaced from time to time;
- (b). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations 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, 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;

*[Handwritten mark]*

*[Handwritten signature]*



- (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;

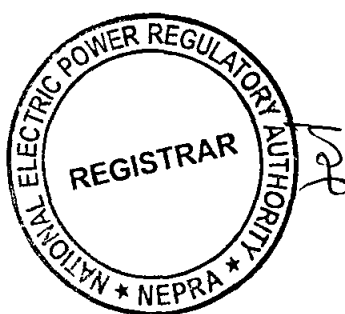


- (m). "Grid Code" means the grid code prepared and revised from time to time by NTDC with necessary approval of the Authority;
- (n). "Licence" means this licence granted to the Licensee for its generation facility/Roof Top Solar;
- (o). "Licensee" means **Zero Carbon Power (Private) Limited** or its successors or permitted assigns;
- (p). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 as amended or replaced from time to time;
- (q). "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;
- (r). "Power Purchaser" means the BPC which will be purchasing electric power from the Licensee, pursuant to a EPA for procurement of electric power;
- (s). "Roof Top Solar" means a cluster of photovoltaic cells installed on the roof top of a building or any other suitable place in the same location used for production of electric power";
- (t). "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.

Tuf

AA



**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**

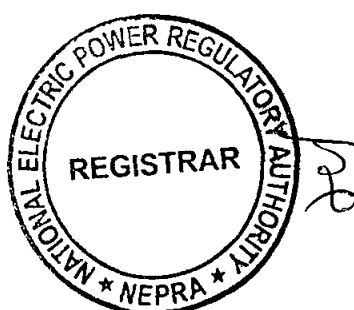
**3.1** The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facility/Solar Power Plant or Roof Top Solar of the Licensee are set out in Schedule-I of this Licence.

**3.2** The net capacity/Net Delivered Energy of the generation facility/Solar Power Plant or 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 or 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 or 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.



**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**

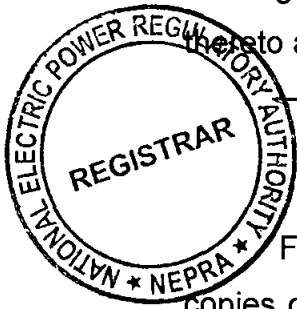
The Licensee is allowed to charge the Power Purchaser/BPC a mutually agreed tariff.

**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

A handwritten signature.

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 or 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.

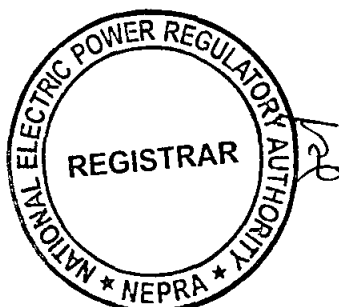
**10.2** The Licensee shall provide a certificate on a bi-annual basis, confirming that the operation of its generation facility/Solar Power Plant or Roof Top Solar is in conformity with required environmental standards as prescribed by the relevant competent authority as amended or replaced from time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



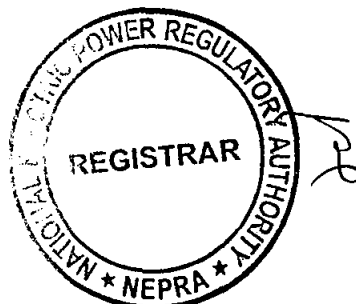


**Article-13**  
**Compliance with Applicable Law**

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.

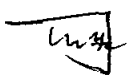
**Article-14**  
**Corporate Social Responsibility**

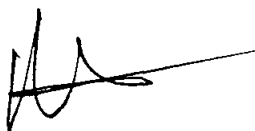
The Licensee shall provide the descriptive as well as monetary disclosure of its activities pertaining to corporate social responsibility (CSR) on an annual basis.

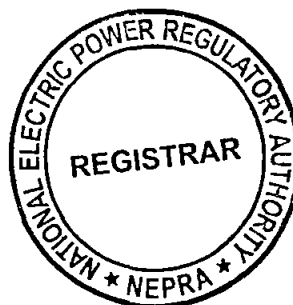


## **SCHEDULE-I**

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.





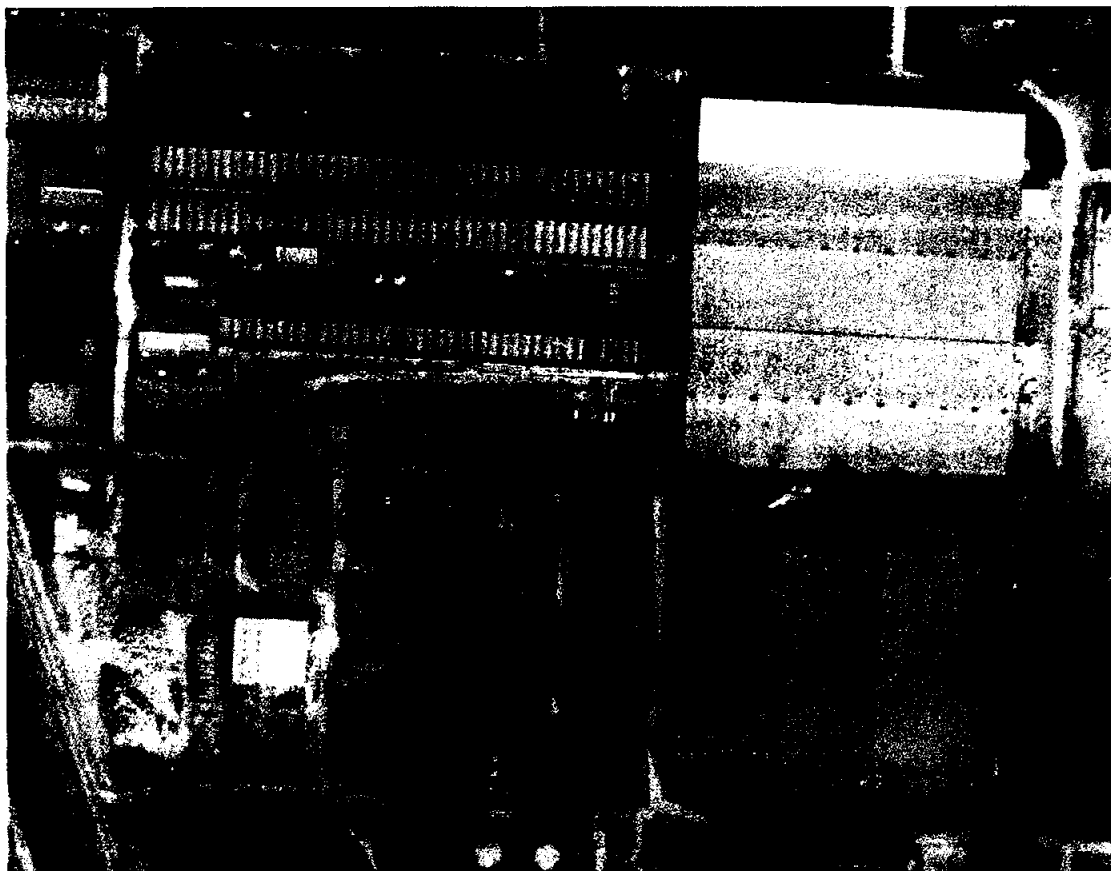




**Location of the  
Generation Facility/Solar Power Plant/Roof Top Solar  
of the Licensee**

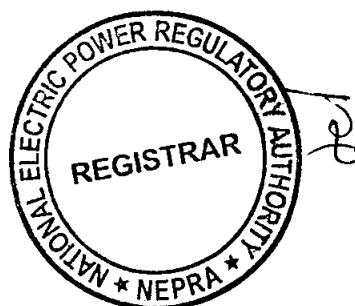


**Land Coordinates of the  
 Generation Facility/Solar Power Plant/Roof Top Solar  
 of the Licensee**

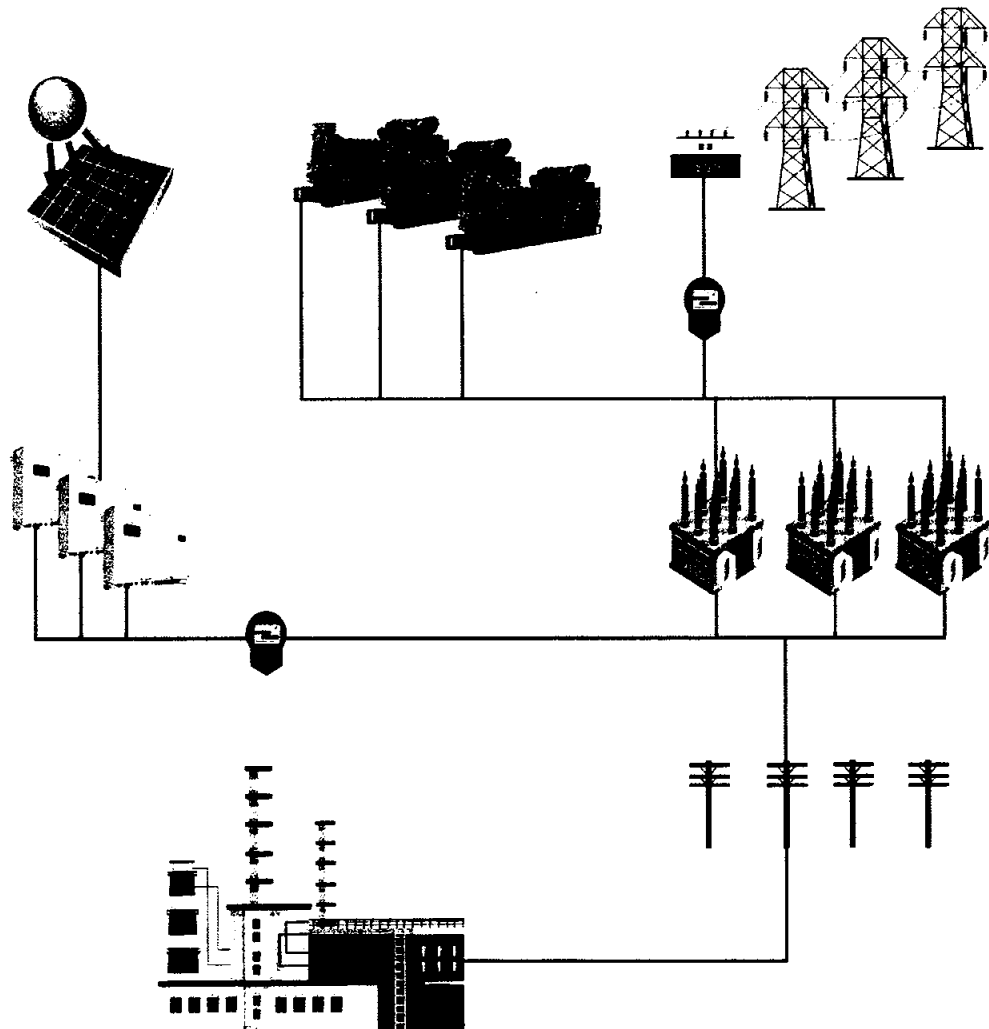


<u>Sr. No.</u>	<u>Location</u>	<u>Site Coordinates</u>	
1.	Bulleh Shah Packaging (Private) Limited	Latitude	31°08'01.4"N
		Longitude	74°21'20.9"E

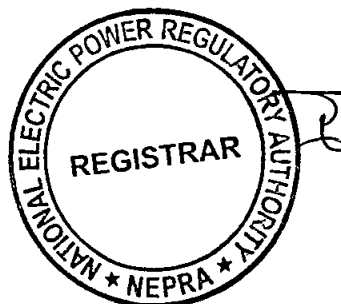
*[Handwritten signature]*



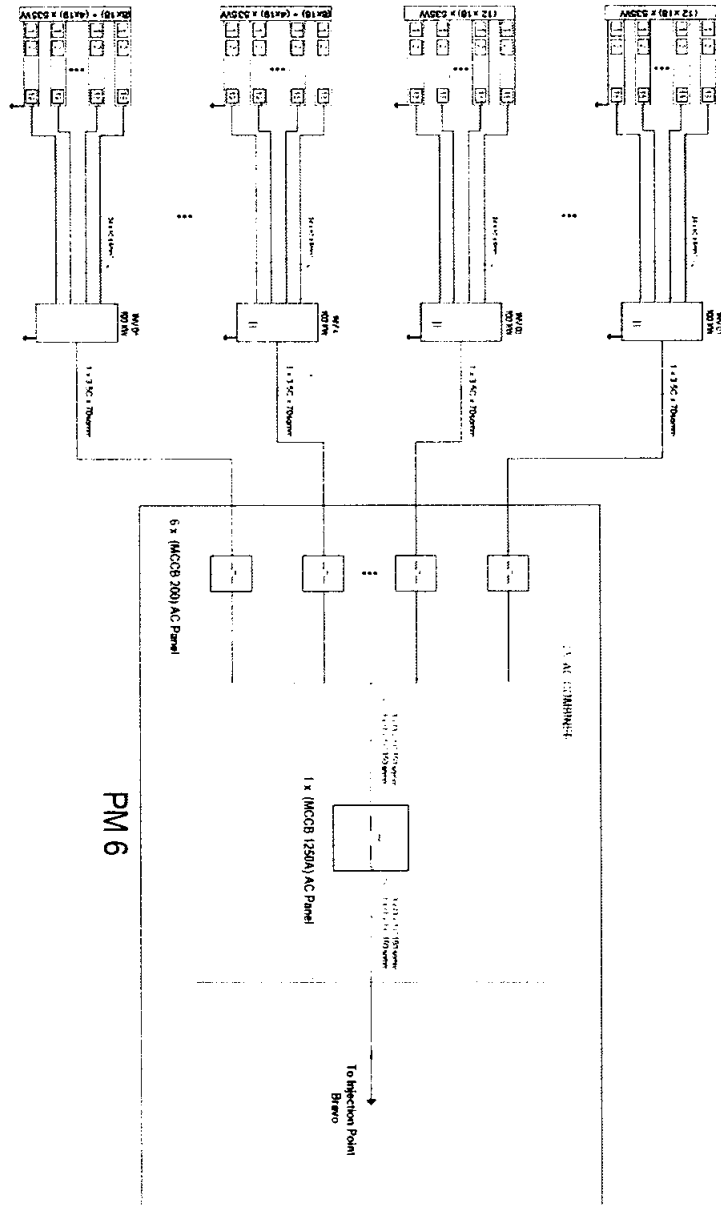
**Process Flow Diagram of the  
Generation Facility/Solar Plant/Roof Top Solar of the  
Licensee**



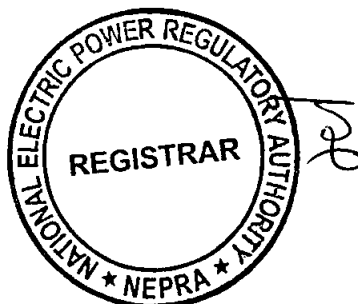
 



# **Single Line Diagram** **of the Generation Facility/Solar Power Plant/Solar Farm of the** **Licensee**



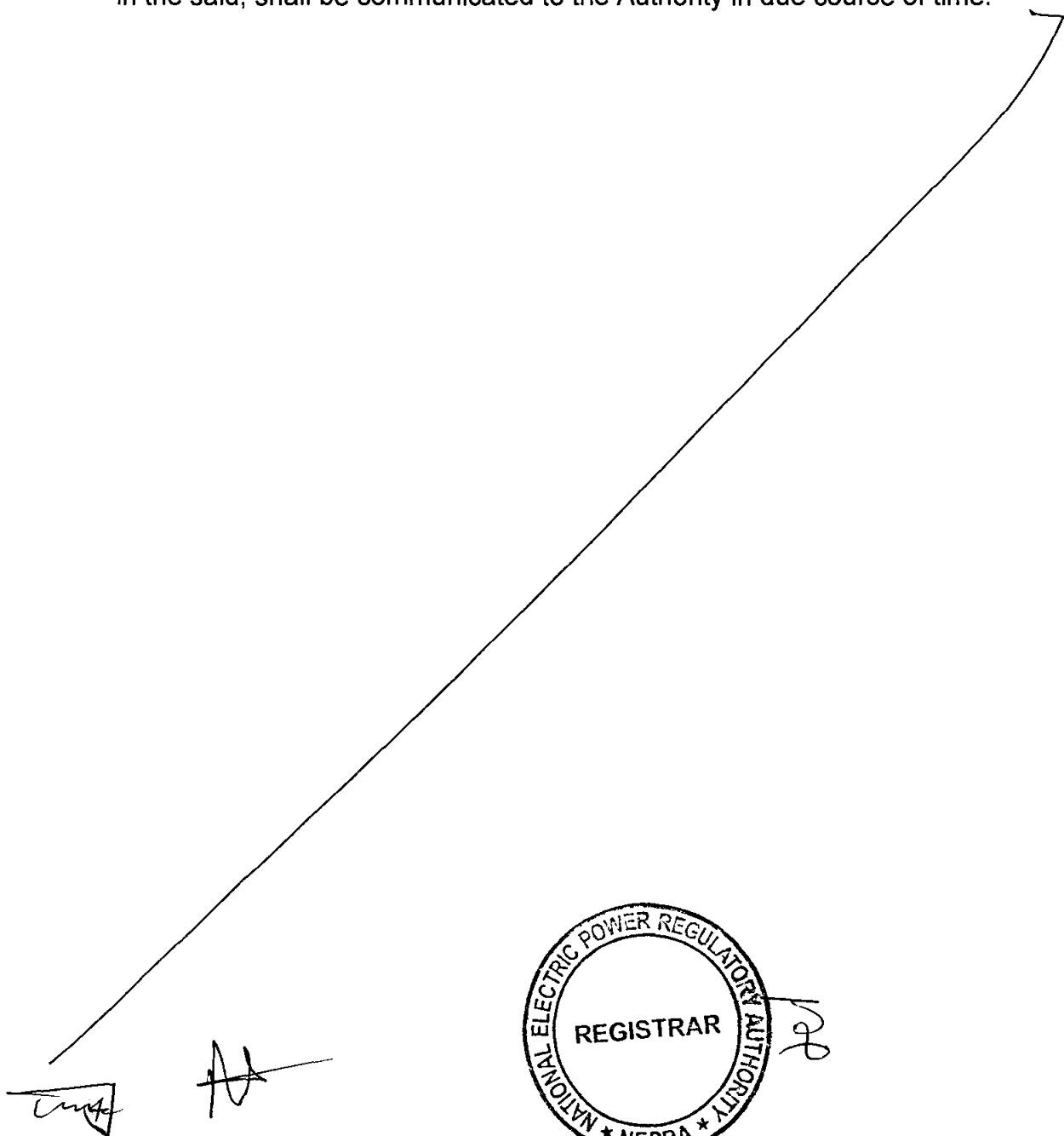
*[Handwritten signature]*

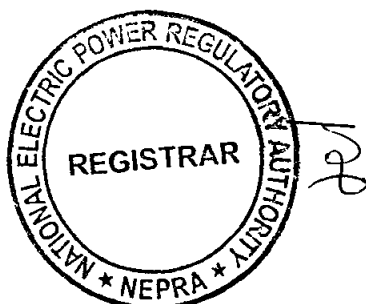


**Interconnection Arrangement/Transmission Facilities for  
Dispersal of Power from the Generation Facility/Solar Power  
Plant/Solar Farm/Roof Top Solar of the Licensee**

The electric power generated from the generation facility of the Zero Carbon Power (Private) Limited-ZCPPL/Licensee will be delivered/supplied to Bulleh Shah Packaging (Private) Limited/BSPPL as a Bulk Power Consumer (BPC).

(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.





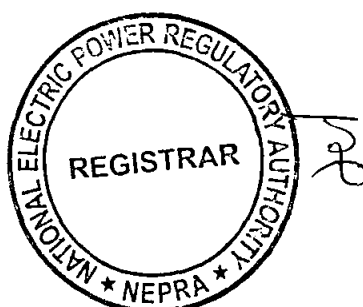
**Details of**  
**Generation Facility/Solar Power Plant/**  
**Solar Farm**

**(A). General Information**

(i).	Name of the Company/Licensee	Zero Carbon Power Private Limited
(ii).	Registered/ Business office of the Company/Licensee	63 E-1, Gulberg III, Lahore
(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	Walton Road, Gulshan Colony, Lahore in the province of Punjab

**(B). Solar Power Generation Technology & Capacity**

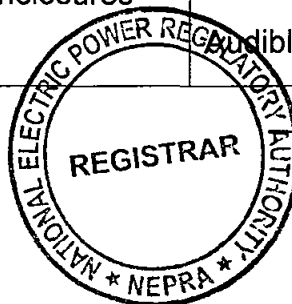
(i).	Type of Technology	Photovoltaic (PV) Cell	
(ii).	System Type	On-Grid	
(iii).	Installed Capacity of the generation facility Solar Power Plant/ Solar Farm (MW/KW)	1.82 MW <sub>p</sub>	
(iv).	No. of Panel/Modules	3402 x 535 Watt	
(v).	PV Array	Nos. of Strings	188
		Modules in a string	18 & 19
(vi).	Invertor(s)	Quantity	16
		Make	Huawsei
		Capacity of each unit	100 kW





**(C). Technical Details of Equipment**

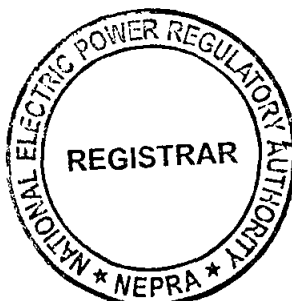
(a).	<b>Solar Panels – PV Modules</b>		
(i).	Type of Module	JA SOLAR JAM72S30 - 535W	
(ii).	Type of Cell	Mono crystalline	
(iii).	Dimension of each Module	2279 $\pm$ 2 mm x 1134 $\pm$ 2 mm x 35 $\pm$ 1 mm	
(iv).	Total Module Area	2.586 m <sup>2</sup>	
(v).	Frame of Panel	Anodized aluminium alloy	
(vi).	Weight of one Module	28.6 kg	
(vii).	No of Solar Cells in each module	144 (6×24)	
(viii).	Efficiency of module	20.7%	
(ix).	Maximum Power (P <sub>max</sub> )	535 W <sub>P</sub>	
(x).	Voltage @ P <sub>max</sub>	41.47 V	
(xi).	Current @ P <sub>max</sub>	12.9 A	
(xii).	Open circuit voltage (V <sub>oc</sub> )	49.45 V	
(xiii).	Short circuit current (I <sub>sc</sub> )	13.79 A	
(xiv).	Maximum system open Circuit Voltage	1100 VDC (IEC)	
(b).	<b>Inverters (SUN2000-100KTL-M1 kW)</b>		
(i).	Input Operating Voltage Range	0 V to 1100 V	
(ii).	Efficiency of inverter	98.8% @480 V; 98.6% @380 V / 400 V	
(iii).	Max. Allowable Input voltage	1100V	
(iv).	Max. Current	26 A	
(v).	Max. Power Point Tracking Range	200 V to 1000 V	
(vi).	Output electrical system	3 Phase AC	
(vii).	Rated Output Voltage	380 V / 400 V / 480 V @40°C	
(viii).	Power Factor (adjustable)	0.8 LG...0.8 LD	
(ix).	Power control	MPP tracker	
(x).	Rated Frequency	50 Hz	
(xi).	Environmental Enclosures	Relative Humidity	0-100%
		Audible Noise	50 DB @ 1m



		Operating Elevation	4000 m
		Operating temperature	-25 to +60°C
(xii).	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		

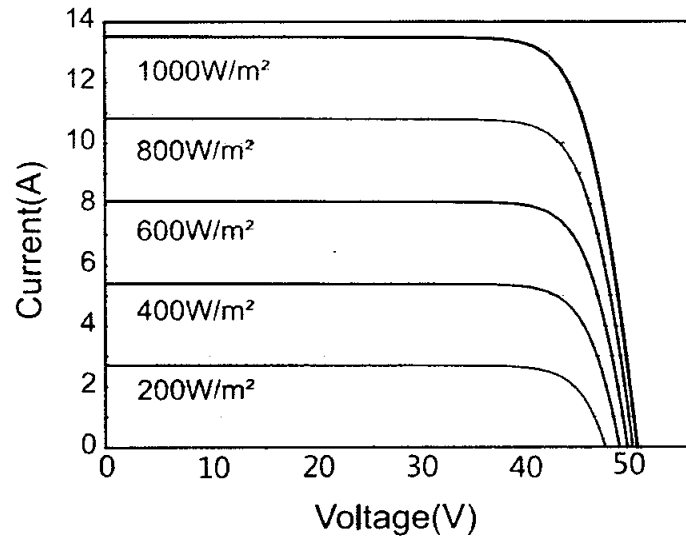
**(D). Other Details**

(i).	Expected COD of the generation facility Solar Power Plant/ Roof Top Solar	September 30, 2022
(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**

Current-Voltage Curve JAM72S30-535/MR





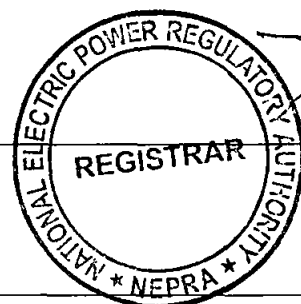
**Information**  
**Regarding Bulk Power Consumer(s)/BPC(s) to be**  
**Supplied by the Licensee**

(i).	No. of Consumers	One
(ii).	Location of consumers (distance and/or identity of premises)	Bulleh Shah Packaging (Private) Limited, 7-KM Kot Radha Kishan Road off 4 KM Kasur-Raiwind Road District Kasur in the Province of Punjab
(iii).	Contracted Capacity and Load Factor for consumer	1.82 MW <sub>p</sub> / 15 - 20%
(iv).	Specify Whether	
	(a).	The consumer is an Associate undertaking of the Licensee -If yes, specify percentage ownership of equity;
	(b).	There are common directorships:
	(c).	Either can exercise influence or control over the other.
(v).	Specify nature of contractual Relationship	
	(a).	Between each consumer and Licensee.
	(b).	Consumer and Distribution Company.
(vi)	Any other network information deemed relevant for disclosure to or consideration of the Authority.	Not Applicable



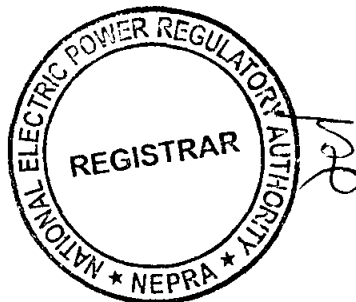
**Information**  
**Regarding Distribution Network for Supply of Electric**  
**Power to BPC**

(i).	No. of Feeders	One (01)
(ii).	Length of Each Feeder (Meter)	50-100 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
	(b).	Operation and maintenance responsibility for each feeder
(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
(vii).	Any other network information deemed relevant for disclosure to or consideration of the Authority.	NA



## **SCHEDULE-II**

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

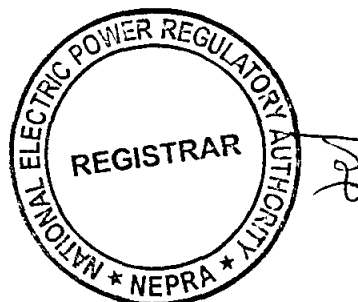


## **SCHEDULE-II**

(1).	Total Installed Capacity of the Generation Facility/Solar Power Plant/Solar Farm	1.82 MW <sub>P</sub>
(2).	Average Sun Hour Availability/Day (Irradiation on Inclined Surface)	5 to 6.0 Hours
(3).	No. of days per year	365
(4).	Annual generating capacity of Generation Facility/Solar Power Plant/Solar Farm (As Per Simulation)	2.5 GWh
(5).	Total (approximated) expected generation of the Generation Facility/Solar Power Plant/Solar Farm during the twenty five (25) years term of this licence	63.06 GWh
(6).	Annual generation of Generation Facility/Solar Power Plant/Solar Farm based on 24 hours working	7.025 MWh
(7).	Net Capacity Factor of Generation Facility/Solar Power Plant/Solar Farm	16.00 %

**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**  
**by National Electric Power Regulatory Authority (NEPRA) to**  
**Zero Carbon Power (Private) Limited**

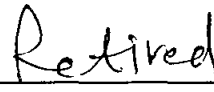
Incorporated under Section-16 of  
the Companies Act, 2017 (XIX of 2017) having Corporate Universal Identification  
No. 0157971, dated September 16, 2020


**NEPRA GENERATION LICENCE No. SGC/163/2022**  
**For Sale to Bulk Power Consumer(s)**

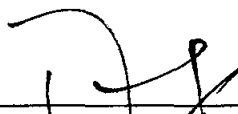
Pursuant to Section-22 of the Act and Rule-7 of the NEPRA Licensing (Generation) Rules-2000, the Authority hereby authorize Zero Carbon Power (Private) Limited-ZCPPL (the Licensee) to engage in second-tier supply business, limited to the following consumers:-

- (a). Bulleh Shah Packaging (Private) Limited, 7-KM Kot Radha Kishan Road off 4 KM Kasur-Raiwind Road, District Kasur in the Province of Punjab


  
Engr. Maqsood Anwar Khan  
(Member)

  
Engr. Rehmatullah Baloch  
(Member)

  
Engr. Rafique Ahmed Shaikh  
(Member)

  
Engr. Tauseef M. Farooqi  
Chairman



  
11 04 22