

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present : Shri T K Jose, Chairman
Adv. A.J Wilson, Member
Shri B Pradeep, Member

OP No 18/2020

In the matter of : Petition seeking final order on Petition No. 03/2017 and requesting appropriate decision on the balance 20% of the registration fee of Rs 1.20 crores paid by the CIAL to KSEB Ltd for getting grid connectivity for its 12 MWp Solar PV Plant

Petitioner : M/s Cochin International Airport Ltd (CIAL).

Respondent : Kerala State Electricity Board Ltd

Order dated 17.01.2024

1. M/s. Cochin International Airport Limited (hereinafter referred to as the petitioner or CIAL), on 26.05.2020, filed a petition before the Commission with the following prayers:

“(1) *Issue a final order on the petition No. 03/2017, taking appropriate decision on the balance 20% of the registration fee collected for the 12MWp solar plant.*

(2) *Permit the petitioner to present the case in person and submit other details / information as may be necessary before the Commission to enable to take a final decision on the matter.”*

2. Summary of the petition filed by M/s CIAL is given below.

(i) On 15-03-2017, CIAL filed a Petition No. 03/2017 before Kerala State Electricity Regulatory Commission (hereinafter referred to as the Commission), with the prayer to issue appropriate instructions to Kerala State Electricity Board Ltd (hereinafter referred to as K S E B Ltd. or the respondent) to:-

(a) *Refund the registration fee of Rs. 1.3 crore along with interest to the petitioner, paid for getting grid connectivity for 1MWp and 12MWp solar power plants.*

- (b) *Execute a banking agreement with the petitioner vide Section 15(2) of the KSERC (Renewable Energy) Regulations, 2015, for 1MWp and 12MWp solar plants owned by the petitioner and connected to KSEBL grid.*
- (ii) Commission vide the interim order dated 27-04-2017, had issued following directions to M/s CIAL and KSEB Ltd for compliance.
- (1) The 1MWp and 12MWp solar plants installed by CIAL are connected to the grid of KSEB Limited, though these plants are not directly connected to the transmission grid of KSEB Limited.
 - (2) KSEBL shall refund to CIAL, 80% of the registration fee of Rs. 1.3 crores paid for getting grid connectivity for 1MWp and 12MWp solar power plants.
 - (3) KSEBL to pay an interest of 12% to CIAL, if the above refund is not made on or before 31-05-2017. CIAL shall pay to KSEB Ltd. an amount of Rs. 50,000/-for the 12MWp solar plant, as connectivity fee. The claims of KSEB Ltd., for application fee of Rs. 2000/- for long term access and for banking agreement execution fee, are declined.
 - (4) CIAL and KSEBL shall enter into a formal connectivity agreement with necessary and sufficient conditions relating to the safety standards and operation of the grid on or before 31-05-2017. A copy of the agreement shall be submitted before the Commission for formal approval.
 - (5) In view of the Kerala Solar Policy, 2013, the solar energy injected from the 1MWp and 12 MWp solar plants installed by CIAL is completely exempted from the payment of open access charges, wheeling charges and transmission losses if any, for availing banking facility as per the provisions of the Renewable Energy Regulations, 2015.
 - (6) CIAL is eligible to use the solar energy generated by it and injected into the system of KSEB Ltd. under regulation 26 of the KSERC (Renewable Energy) Regulations, 2015. CIAL and KSEB Ltd. may discuss and decide the terms and conditions for the use of solar energy as per the said regulation and shall, on or before 31.05.2017, enter into a formal agreement, for availing the facility as per the provisions of the Renewable Energy Regulations, 2015. A copy of the agreement shall be submitted before the Commission for formal approval.
 - (7) CIAL shall,
 - (i) install on or before 31-12-2017, the reactive power compensation devices in consultation with KSEBL.

- (ii) compensate KSEBL for the reactive power drawn from the grid of KSEBL at the rate of Rs. 0.25 per kVARh till the reactive power compensation devices are installed.
 - (iii) provide on or before 31-12-2017, the necessary facility for SCADA visibility at SLDC Kalamassery, for the solar plants installed by them.
 - (iv) provide on or before 31-12-2017, the necessary protection device as per the relevant statute and regulations.
 - (v) CIAL may, on compliance of the above directions, approach the Commission for the decision on the balance 20% of the registration fee collected for the 12MWp solar plant installed by them.
3. Commission admitted the petition as OP 18/2020 and heard the matter on 17-07-2020, through video conference. Sri. ACK Nair and Sri Satheesh Kumar Pai, presented the petition on behalf of the petitioner M/s CIAL. Sri. K. G.P Nampoothiri and Smt Latha S V presented the comments of KSEB Ltd. The summary of the deliberations on the petition during the hearing is given below.
- (1) M/s CIAL submitted that, they had complied with all the directions as per the interim order of the Commission dated 27.04.2017. Hence they are eligible to get back the balance 20% of the registration fee collected by KSEB Ltd for the 12 MWp Solar plant installed by them. On a clarification raised by the Commission, M/s CIAL submitted that, as of now, they commissioned and connected about 38.4 MW solar PV with the KSEB grid. Out of which connectivity agreement and banking agreement was signed with KSEB Ltd for 29.029 MWp. CIAL already applied for entering connectivity agreement for balance capacity.
 - (2) KSEB Ltd submitted that, M/s CIAL has not complied all the requirements as per the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations , 2010 (hereinafter referred as CEA Safety Regulations) and Kerala State Electricity Regulatory Commission (Connectivity and Intra – state Open Access) Regulations, 2013 for connecting the balance capacity with the State Grid. As per the CEA Safety Regulations, LILO arrangements has to be provided by the generators for connecting about 40 MW capacity installed with grid. KSEB Ltd also submitted that, as per the Regulations 44(6) of the CEA Safety Regulations, 2010, there shall not be any tapping for lines above 66 kV.

KSEB Ltd further submitted that, SCADA visibility is not completely functional and all feeders are not included. The protection devices, especially the distance protection relays also not functioning properly since the LILO arrangement is not in place.
 - (3) In reply to the arguments of KSEB Ltd, CIAL submitted the following;
 - (i) CIAL as an international airport, has to observe and comply the Civil Aviation protocols.

- (ii) CIAL commissioned a separate substation for solar plant. CIAL constructed the substation and allied works after getting permission from Chief Engineer (Transmission- North) of KSEB Ltd.
 - (iii) All the feeders of CIAL are under SCADA and is communicating with the SLDC. CIAL already installed adequate reactive power compensation. Further the distance relay also installed and commissioned.
4. Based on the deliberations during the hearing and other documents, the Commission vide the daily Order dated 24.07.2020 has directed the petitioner M/s CIAL and the respondent KSEB Ltd to submit the clarifications on the following, latest by 03.08.2020.

- (1) CIAL shall submit the following details.
- (i) Present 'contract demand' of CIAL with KSEB Ltd.
 - (ii) Year wise details of the Solar PV plants installed and connected to the Grid.
 - (iii) Details of the pending applications for connectivity with KSEB Ltd with documentary evidence, and communications if any received from KSEB Ltd in this regard.
 - (iv) Details of the substations and other evacuation facilities constructed, and presently maintained by CIAL.
 - (v) Details of the permission and approvals obtained from Chief Engineer (Transmission- North) and other offices of KSEB Ltd for constructing the separate substations for the Solar Plants installed by CIAL.
 - (vi) Documentary evidence to show that, CIAL comply with the Regulations notified by CEA and KSERC (including CEA Safety Regulations and KSERC (Intra State Open Access & Connectivity) Regulations, 2013 while installing the Solar plants and the substations.
 - (vii) Copy of the guidelines issued by 'International Civil Aviation Organization (ICAO)' regarding maintaining redundancy in power supply and other measures to be followed for availing power supply. How, the ICAO guidelines affects in providing LIFO arrangements for the connectivity of the 40 MWp Solar plant with the State Grid.
 - (viii) Details of the SCADA visibility and communications provided by CIAL, with documentary evidence on whether these are functional and in communication with SLDC of Kerala.
 - (ix) Any other relevant details.

- (2) KSEB Ltd shall submit the following details,

- (i) Details of the pending applications submitted by CIAL with KSEB Ltd for connecting the Solar plants with Grid.
- (ii) KSEB Ltd may submit the reasons for delay, if any, in granting connectivity, and also submit the copies of the communications with CIAL in this regard.
- (iii) Details of the SCADA visibility installed by CIAL, and the documentary evidence on the statement that, SCADA visibility installed by CIAL is not functional.
- (iv) Written comments on the petition filed by CIAL.
- (v) Any other relevant details.

5. M/s CIAL submitted the details vide letter dated 30.07.2020 and has shared the same with KSEB Ltd. The respondent KSEB Ltd, vide letter dated 12.8.2020 submitted its comments. The summary of the submissions by the petitioner CIAL and the respondent KSEBL are as follows;

- (i) CIAL is having 9 MVA contract demand with KSEB Ltd. The total installed capacity of solar plant at CIAL is 38.419 MWp. The pending applications for connectivity of solar plant with KSEB Ltd are application dated 18-03-2019 for 7.478MWp and that dated 30-09-2019 for 1.929MWp of solar plant.
- (ii) CIAL is having two substations, out of which one is constructed for evacuation of solar generation. The connectivity to CIAL is taken through two independent 110kV feeders, tapped from Kalamassery – Carborandum and Chalakkudy- Angalmaly, 110kV lines.
- (iii) In the case of data visibility through SCADA, CIAL submitted that they are properly communicating with SLDC, which is agreed to by SLDC also. According to KSEB Ltd, the SCADA visibility of CIAL is intermittent.
- (iv) KSEB Ltd and CIAL entered into connectivity and banking agreement for 29.029MWp against the installed capacity of 38.419MWp. The connectivity and banking agreement for the balance 9.39 MWp is yet to be executed. This is in view of the dispute in transmission arrangement required for connecting the plant. CIAL submitted that the solar substation was constructed during 2019 and that too with the approval of Chief Engineer (Transmission – North). CIAL further submitted that it had complied with all the CEA Regulation also.
- (v) KSEB Ltd, further submitted as follows:
“ For enabling proper functioning of distance relay, the existing tap arrangement at CIAL need to be replaced with LILO(Line IN Line Out) configuration. Moreover as per CEA (Measures relating to Safety and Electric supply) Regulations, 2020, (Regulation 44(6)) there shall be no tapping of another transmission line from the main line for 66KV and above class of lines. CIAL was requested to change the existing

double tap line to Line in Line out configuration as per Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 vide letter dated 12-7-2019 and subsequently on 28-4-2020 and 16-6-2020.”

CIAL submitted that Regulation 44(6) of CEA (Measures relating to safety and Electric Supply) Regulations, 2010 specifies that “there shall not be tapping from another transmission line from the main line for 66kV and above class of lines”. However, CIAL prayed that the 110kV line to CIAL is only a service connection and may not be considered as another transmission line. Further, CIAL stated that it had complied with all safety requirements and submitted copy of report of KSEBL relay team.

6. Commission conducted second hearing on the petition on 13.08.2020. The summary of the deliberations during the second hearing is given below.

(1) KSEB Ltd submitted that, the Commission may take appropriate decision on the balance registration fee only after M/s CIAL complied with all the directions issued by the Commission vide Order dated 27.4.2017 in OP 3/2017. KSEB Ltd further clarified that the total capacity is already connected and the energy is being injected into the grid and accounted for. Further, KSEB Ltd reiterated their stand that SCADA visibility is not fully operational and intermittent disconnection of data occurs.

CIAL clarified that during construction and commissioning of the solar substation, SCADA visibility was disrupted, but now it is under smooth operation.

(2) CIAL submitted that, it will provide all the necessary documents on the energisation approval obtained from the Electrical Inspector to the Commission. The Commission directed CIAL to provide additional communication, if any, from KSEB Ltd, on the construction of the additional substation for the solar plant, carried out during the year 2019.

(3) From the above discussion, Commission observed that, the major issue remaining to be sorted out is the connectivity of the remaining part of the solar plant, to which according to KSEB Ltd, LILO arrangement, is necessary as per the CEA Regulation. CIAL expressed their concern that the redundancy to airport will be affected with the proposed LILO arrangement, since at present CIAL avail supply from two independent tap feeders at 110kV. Further, two LILO arrangements as proposed by KSEB Ltd requires construction of additional transmission line. Construction of towers and drawing transmission line will not be practical in that area since it will involve land acquisition and may lead to long-term litigations resulting in regularization of solar connectivity getting delayed indefinitely.

However, KSEBL submitted that, there cannot be much issues in materializing the proposed rearrangement. KSEB Ltd also added that KSEB Ltd has been continuously intimating CIAL about the requirement of LILO arrangement.

- (4) After detailed deliberations, the Commission vide the order dated 14.08.2020 issued the following directions to CIAL and KSEB Ltd.
 - (i) Chief Electrical Inspector, CIAL along with its consultant and KSEB Ltd Transmission wing may hold a meeting on the connectivity of the solar plant and arrive at a workable solution. KSEB Ltd should initiate action on this without delay.
 - (ii) M/s CIAL and KSEB Ltd shall submit the final opinion latest by 27-08-2020 along with the minutes of the meeting.
 - (iii) CIAL may, in the mean time, submit all relevant documents with copy to KSEB Ltd.
 - (iv) Copy of this order is to be served to Chief Electrical Inspector for compliance.
7. M/s CIAL vide letter dated 21.08.2020 submitted the copy of energization sanction approvals obtained from the Kerala State Electrical Inspectorate for their solar plants.
8. Further, CIAL vide the letter dated 01.12.2020 submitted the following.
 - (1) Even after having multiple meetings along with the representative of Chief Electrical Inspector after examining the site on 20.11.2020, they could not give a conclusive opinion on the matter. But during the meeting KSEBL repeatedly trying to enforce LILO option citing the clause of the CEA Regulation.
 - (2) KSEBL is of the opinion that, all the conversion expenses as well as the disturbances in the operations of flight services at CIAL due to the modifications has to be met by CIAL.
 - (3) CIAL had spent Rs 20.00crore for the construction of the additional substation at CIAL as an alternate to LILO. Any further spending on the modifications of the substation shall require CIAL Board approval. Hence CIAL requested to schedule the next hearing in March 2021.
9. In compliance of the direction of the Commission, KSEBL vide letter 22.02.2021 submitted the following.
 - (1) Four meetings were conducted by Chief Engineer, Transmission North, KSEBL with the officials of CIAL including their consultant and Chief Electrical Inspector on 26-08-2020, 22-10-2020, 25-11-2020 and 09-12-2020.

- (2) During the final meeting held on 09.12.2020, Chief Electrical Inspector concluded that some more clarification may be sought from the CEA before finalising the applicability of CI.44(6) of CEA regulation 2010 at CIAL.

Subsequently, KSEBL vide letters dated 28.12.2020, 23.01.2021 and 02.02.2021 sought clarifications from Chief Electrical Inspector, if any received from CEA. However, no reply was received till date. Hence it is recommended that, KSEBL may proceed with CEA Regulations for effecting the supply to M/s CIAL replacing the existing tap arrangement.

KSEBL therefore requested that, the Commission may issue necessary orders directing CIAL to initiate actions of changing the existing tap arrangement from the Main Transmission line between Grid stations Chalakkudy and Kalamassery to LILO as per the prevailing safety standards in compliance with Regulation 44(6) of CEA safety Regulation, 2010. Technical solutions such as GIS or hybrid arrangement may be opted to ensure compliance of standard construction practices if any space constraints are observed during LILOing.

10. Third hearing on the petition was conducted on 24.03.2021 through video conference. Sri. A C K Nair presented the matter on behalf of M/s CIAL. Sri. Sunil Joy, Chief Engineer (Transmission- North) and Smt Latha S.V, AEE, TRAC, presented the matter on behalf of KSEB Ltd. The summary of the deliberations during the hearing is given below.

- (i) KSEBL submitted that, CIAL started as a consumer of KSEB Ltd and at present CIAL is having 9 MVA contract demand with KSEB Ltd. But, from 2014 onwards, CIAL has been establishing Solar plant at their premises for meeting their own consumption. As of now, CIAL has installed 38.419 MWp at their premises. As such, at present, during day time, CIAL is a generator with an installed capacity of about 40MW, but for the other part of the day, CIAL is a consumer with a contract demand of 9MVA. Hence CIAL is a prosumer.

Though the CIAL installed 38.419 MW Solar Plant at their premise, however connectivity of 9.39MWp is yet to be regularised.

At present, CIAL is availing supply from KSEB Ltd through two tap lines Kalamassery- Carbourandum line and Chalakkudy-Athani line. By providing supply through LILO arrangement the redundancy of supply to CIAL will increase.

Regulation 44 (6) CEA safety Regulations, 2010 specifies that there shall not be any tapping of another transmission line from the main line for 66kV and above class of lines.

KSEB Ltd further submitted that, CIAL has been connecting its Solar plants to the grid without getting feasibility of connecting the Solar Plants as per the provisions of the Open Access Regulations, 2013, KSERC (Renewable Energy) Regulations, 2015 and KSERC (Renewable Energy & Net Metering) Regulations, 2020, and subsequently seeking ratifications of their actions.

- (ii) CIAL clarified that, they constructed the 110KV substation to connect the Solar plants based on the advice and with the concurrence of KSEB Ltd. Further, construction of the LILO arrangements may require outage of the existing tap lines and require complete shutdown of the existing tap lines for months and will result in complete close down of the airport for 3 - 4 months. As an international airport, CIAL cannot close down the airport and it is against the ICAO guidelines.
- (iii) KSEB Ltd clarified that, complete closedown of the airport is not required for the construction of the LILO arrangements. At any time, they shall provide supply through one of the existing tap lines during the construction of the LILO arrangements.

However, this argument of KSEB Ltd is countered by CIAL stating that in the existing tap line arrangement it will not be possible to shut down one line while keeping the other energized. This will definitely hamper the operations of the airport.

CIAL further clarified that, as and when the Solar Capacity was added to the system, the same was intimated to KSEB Ltd. CIAL is ready to submit copies of all the correspondence with KSEB Ltd in this regard.

11. Based on the deliberations during the hearing, the Commission had directed the petitioner CIAL and the Respondent KSEB Ltd to comply the following, latest by 15.04.2021.

- (i) CIAL shall submit all the correspondence with KSEB Ltd regarding the installation of Solar plants, including the details of applications submitted to KSEB Ltd to get feasibility certificate for connecting each unit of Solar Plant since the year 2014, feasibility certificate issued by KSEB Ltd in each case, date of applications for connectivity and date of approval of connectivity by KSEB Ltd/ date of denial of connectivity applications and all other relevant details.
- (ii) KSEB Ltd also shall submit the following.
 - (a) All the correspondence with CIAL regarding the installations of the Solar Plants by CIAL including the details of applications received for feasibility certificate for installation of each Solar Plants connected to the system since the year 2014 and the details of the action taken in this regard, applications received for connectivity of Solar plants, approval granted for connectivity and other correspondence with CIAL.

- (b) KSEB Ltd also submit the copy of the approval granted for the construction of the 110kV substation for connecting the Solar Plants with the system.
 - (c) A detailed report on the proposed procedure for the construction of the LILO arrangements including the shutdown plan of the existing tap lines without interrupting the power supply to the CIAL.
12. In compliance of the directions of the Commission, the petitioner M/s CIAL has submitted the details vide its letter dated 07.04.2021 and KSEBL has submitted the details on 22.04.2021.
13. Evidently, even after various discussions between the petitioner M/s CIAL and the respondent KSEBL, they could not reach a consensus on the LILO conversion issues at CIAL. Hence, the Commission had deputed the Consultant (Engineering) to visit the premises of the CIAL along with the officials of KSEBL and CIAL to settle the matter amicably with the consent of the Commission. After visiting the site on 13.08.2021, the Consultant (Engineering) had submitted his report before the Commission on 31.08.2021 and suggested the following options.
- (i) Construct the LILO bay with 4 Nos isolators, 2 Nos breakers and the bus bar below the existing line at the CIAL premises through pre fabricated structures & system with minimum outage and not affecting the safety clearances.
 - (ii) Construct a new 110 kV switching station, for the LILO bay with 4 Nos isolators, 2 Nos breakers and the bus bar, below the existing line from the tap off point to the consumer end (11 locations, 1.8 km). This will require acquisition of (approx. 20 x 30 m) land below the tap lines to CIAL;
 - (iii) Explore the possibility of utilizing the 110 kV busbar of CIAL as the LILO bus and reconfigure the safety and operating system of the existing Hybrid switchgear. The metering system is to be revised to match the new arrangement. This possibility need to be explored only after due consultation with ABB (hybrid switchgear manufacturer), CIAL and KSEBL, regarding the rearrangement of safety interlocks, operational issues etc. and compromising on the physical point of separation between the supplier and the consumer.
 - (iv) KSEBL shall once again study the pros and cons of the existing arrangement and decide whether the existing system can be continued (not LILO), compromising on Regulation 44(6) of CEA Regulations 2010, in view of the practical difficulties involved in carrying out the above three options.

14. M/s CIAL vide its letter dated 11.09.2023 had submitted the following before the Commission.

- (1) The LILO conversion issue at CIAL has been resolved and it had remitted Rs 3,21,59,776/- to KSEBL for construction of feeder bays for LILO arrangement under deposit scheme. The LILO work is progressing steadily from KSEBL side.
- (2) Out of the total solar capacity of 38.87MWp, KSEBL had duly refunded 80% of the registration fee of 29.029MWp solar plants installed by them. However, 80% of the registration fee of the 9.835MWp solar plants, the last two plants installed, is yet to be refunded by KSEBL. This amounts to Rs 78,68,384/-.
- (3) The banking agreement with KSEBL for the last two solar plants of 9.835MWp is yet to be signed.
- (4) Hence CIAL had prayed before the Commission to;
 - (i) Direct KSEBL to sign Banking Agreement with CIAL for the last two solar plants of 9.835MWp capacity.
 - (ii) Direct KSEBL to refund 80% of the registration fee paid, which comes to Rs 78,68,384/- for the last two solar plants of capacity 9.835MWp.
 - (iii) Issue a final order on the petition No. OP 18/2020 by taking an appropriate decision on the balance 20% of the registration fee paid by CIAL.

15. KSEBL vide its letter dated 14.09.2023 had submitted the following regarding the conversion of LILO and related issues.

- (1) After several meetings with CIAL, it was agreed to construct two numbers of 110kV feeder bays below the existing line at CIAL premises. In principle sanction of the proposal was accorded on 30.09.2022.
- (2) KSEBL has raised the demand of Rs 3,21,59,776/- on 20.12.2022 for the LILO conversion work and M/s CIAL remitted the same on 05.01.2023 after deducting 2% towards TDS. KSEBL has given assurance to CIAL that, the entire work will be done with minimum interruptions.
- (3) The LILO works are presently in progress. Since the consensus on LILO arrangement is reached, connectivity agreement for 9.835 MWp solar plant was executed on 20.07.2023. KSEBL also has been taking

steps to refund the 80% of the registration fee for 9.835MWP Solar Plant.

Analysis and Decision of the Commission

16. The Commission having examined in detail the present petition filed by the petitioner M/s CIAL, the deliberations during the hearings, the counter arguments and clarifications submitted by KSEBL, the provisions of the Electricity Act, 2003, KSERC (Renewable Energy & Net Metering) Regulations, 2020 and its amendments, other Rules and Regulations in force, has decided as follows;
17. M/s Cochin International Airport Limited (CIAL) is an EHT consumer of the incumbent licensee KSEBL. CIAL has a contract demand of 9 MVA with the licensee KSEBL.
18. As part of its green energy initiatives, M/s CIAL is establishing Solar power at their premises from the year 2014 onwards for meeting their own consumption. As of now, CIAL has installed 38.866 MWp at their premises though the contract demand of CIAL is only 9MVA. As such, during day time, the CIAL is a captive generator with excess generation over their consumption within the contract demand of 9 MVA. The excess energy during day time is injected into the KSEBL for banking for the consumption during the non-solar hours. Thus the CIAL is getting back the surplus solar energy injected into the KSEBL grid during the day time. Thus KSEBL is providing banking facilities for absorbing the surplus solar generation during day time and giving back the same during non solar hours.
19. Thus, CIAL is a prosumer having RE installation more than 1 MW at their premises. CIAL is also permitted to install RE capacity more than the contract demand. Since the RE installation of the CIAL (38.419MW) is much higher than the contract demand (9MVA), the CIAL requires the support of the KSEBL grid for sustaining their green energy initiatives. This is facilitated by various Regulations notified by the Commission from time to time. The relevant Regulations notified by the Commission are discussed below.
 - (1) The Commission vide the notification dated 10.06.2014 has notified the KSERC (Grid Interactive Distributed Solar Energy Systems) Regulations, 2014, (herein after referred to Grid Interactive Solar Regulations, 2014) for facilitating the installations of the solar capacity up to 1MW under net metering facility and its amendment was notified on 15.03.2016.

The Kerala State Electricity Regulatory Commission (Grid Interactive Distributed Solar Energy Systems) Amendment Regulations, 2016 provides that, the distribution licensee shall refund to the eligible consumer 80% of the registration fee collected by it, if the eligible consumer has installed the solar energy system within the period of validity of the registration.

The Grid Interactive Solar Regulations, 2014 and its amendments also provide for banking facility of the solar energy generated from such installations.

However, the applicability of the said Regulations is limited to the Solar installations having capacity upto 1 MW within the same premises.

- (2) Subsequently, the Commission vide the notification dated 11.11.2015 had notified the KSERC (Renewable Energy) Regulations, 2015. However, this Regulation does not contain specific provisions relating to the procedure to be followed for connectivity, banking, availing open access, other charges payable etc. by the RE system having capacity above 1 MW installed by the eligible consumers (prosumers) at his premises.
- (3) The Commission, after detailed deliberations including prepublication and stake holder consultation has notified the KSERC (Renewable Energy and Net metering) Regulations, 2020 and its amendments on 15.07.2022 (herein after referred to as RE Regulations, 2020). The said Regulations deals with procedures for getting feasibility certificate, registration, connectivity agreement, the procedure for banking etc of all the RE systems including the following;
 - (i) Grid interactive RE system under Net metering facility. Under the net metering facility, the maximum capacity that can be installed by a prosumer is limited to 1MW capacity on the AC side of the inverter connected to the net meter of the distribution system.
 - (ii) Prosumers with RE system having capacity more than 1MW in the same premises.
 - (iii) Captive consumers with RE generation for their own use in other locations.
 - (iv) RE system installed by Independent Power Producers for sale to other interested parties by availing open access.

The RE Regulations, 2020 also facilitate banking facility for RE system installed by the prosumers and captive consumers upto the maximum period upto the settlement period specified in the RE Regulations, 2020.

20. The various provisions in the RE Regulations, 2020 for grant of feasibility certificate, getting registration, grant of connectivity etc is discussed below;
 - (1) Regulations 18 of the RE Regulations, 2020 specifies the procedure for grant of feasibility certificate to the RE system to be connected with the distribution system. Similarly, the Regulation 19 of the RE Regulations, 2020 specifies the procedure for grant of connectivity to the RE system with the KSEBL grid.

- (2) As per the Regulation 19(3) of the RE Regulations, 2020, every application for registration of the scheme for installation of the RE system shall be accompanied by a registration fee of Rs 1000/kW or part thereof.
- (3) As per the Regulation 19(3)(ii) of the RE Regulations, 2020, the registration granted is valid for a period of one year from the date of registration, which can be further extended for a further period of six months if the delay in installation of the RE system is due to the reasons beyond the control of the applicant.
- (4) If the eligible consumer does not avail the connectivity within the period of validity of the registration, the licensee is permitted to allot the capacity for connectivity to other eligible consumers based on the seniority of application of connectivity. In such cases the registration fee remitted shall not be refundable.
- (5) Further, as per the Regulation 19(3)(vii) of the RE Regulations, 2020, the distribution licensee has to refund to the eligible consumer eighty percent of the registration fee collected by it, if the eligible consumer has installed the RE system within the period of validity of the Registration.

The Regulation 18 and 19 of the RE Regulations, 2020 is extracted below for ready reference.

“18.Procedure for grant of feasibility certificate to the renewable energy system to be connected with the distribution system.

(1) *Any eligible consumer who proposes to install a renewable energy system in his premises shall apply in the form in Annexure-A to the local office of the distribution licensee, to issue feasibility certificate to connect the renewable energy system to the distribution system of the licensee along with the application fee as specified in the Schedule to these Regulations:*

(2) *The licensee shall acknowledge the receipt of the application form and register the applications immediately and shall process the application in the chronological order of its receipt.*

(3) *The distribution licensee shall maintain a separate Application Register for reference and records.*

(4) *On receipt of the application form for the feasibility certificate to connect the renewable energy system to the grid, the distribution licensee shall undertake technical feasibility within 15 days of the date of receipt of the application and intimate the applicant the feasibility or otherwise as the case may be.*

(5) *While intimating the feasibility for connecting the renewable energy system, the distribution licensee shall furnish to the applicant;*

(i) *the details of documents to be submitted by the applicant along with the scheme for installation of renewable energy system to the*

- distribution system;
- (ii) the technical specifications as well as other particulars of the grid-tied inverter/equipment and manually operated isolating switch to be installed by the applicant;
- (iii) the technical specifications and other particulars of the Renewable energy meter and Net meter.

19.Procedure for grant of connectivity to the renewable energy system.-

(1) The eligible consumer shall, within 30 days from the date of receipt of the intimation regarding feasibility and capacity of the RE system proposed to be connected to the distribution system, as specified in sub Regulations 18(4) and 18(5) above, submit a formal application in the format specified in Annexure-B for the registration of his scheme for installing the renewable energy system, along with the documents and technical specifications as stipulated in Regulation 18(5).

(2) The distribution licensee shall, within seven working days from the date of receipt of the application, scrutinize the documents and intimate the following:

- (i) The particulars of defects, if any, in the application along with the instructions to cure such defects.
- (ii) The fee for registration of the scheme for installation of the renewable energy system as specified in this Regulation.

(3) The distribution licensee shall, on receipt of the fee amount as per the sub Regulation (2) above and on curing the defects, if any, noticed in the application and the documents submitted under sub Regulation (1) above;

- (i) Register the scheme and assign a Registration number within seven days of receipt of completed application in all respect.
- (ii) The registration given under clause (i) above shall be valid for a period of one year from the date of registration, unless the validity period is extended by the distribution licensee under clause (iii) below.
- (iii) The distribution licensee may on application from an eligible consumer, for good and sufficient reasons beyond the control of the applicant, extend the validity of registration for a period not exceeding another six months, if no other application for connectivity is pending for want of the distribution transformer capacity or the feeder capacity, as the case may be.
- (iv) The distribution licensee may allot to other applicants, based on the date of their application seniority and in accordance with the provisions of these Regulations, such capacity for connectivity of renewable energy system, if the eligible consumer whose scheme has been registered does not avail the connectivity within the period of validity of registration.
Provided that, the registration fee remitted in such cases shall not be refundable.
- (v) The distribution licensee may, on receipt of a written request from the eligible consumer before the expiry of the validity of his registration, allow him to withdraw his application, on satisfaction of the condition that he is not able to install the renewable energy system within the period of validity of the registration, due to reasons beyond his control. In such a case the distribution licensee shall refund eighty percent of the registration fee to the applicant.
- (vi) The registration fee shall be forfeited, if the applicant fails, to install the renewable energy system within the period of validity of his registration or to withdraw the application as per clause (v) above.
- (vii) The distribution licensee shall refund to the eligible consumer**

eighty percent of the registration fee collected by it, if the eligible consumer has installed the renewable energy system within the period of validity of the registration.

(4) The applicant shall, within the period of validity of registration, procure the renewable energy system conforming to the technical specifications and get it installed by a licensed Electrical Contractor.

(5) The eligible consumer shall obtain from the Electrical Inspector having jurisdiction over the area, necessary sanction for commissioning the renewable energy system, in accordance with the provisions of the Central Electricity Authority (Technical Standards for Connectivity of Distributed Generation Resources) Regulations, 2013 and produce the sanction to the distribution licensee.

(6) The Electrical Inspector, shall undertake the inspection and safety checks, within 10 working days from the submission of the work completion report, and issue safety certificate.

(7) The distribution licensee shall, within seven days from the date of submission of approval of the Electrical Inspector, test the renewable energy system in accordance with the provisions of the Central Electricity Authority (Technical Standards for Connectivity of Distributed Generation Resources) Regulations, 2013.

(8) On successful completion of the test as specified in sub Regulation (7) above, the distribution licensee and the eligible consumer shall execute a connection agreement in the format containing the general and specific conditions, as approved by the Commission, in accordance with the provisions of the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013.

(9) The licensee shall, within seven days from the date of execution of the agreement as specified in Sub Regulation (8) above, connect the renewable energy system to the distribution system.”

As discussed above, the prosumers who successfully installed the RE system is eligible to get back 80% of the registration fee remitted, if the prosumer installed the RE system within the validity of the registration period.

21. However, as per the provisions of the RE Regulations, 2020, the licensee can keep 20% of the registration fee remitted by the prosumers with them , i.e., the licensee is permitted to retain registration fee @Rs 200/kW out of the registration fee remitted @Rs 1000/kW. Thus, the registration fee allowed to be retained by the licensee is Rs 2.00 lakh/MW. This amount retained by the licensee is for meeting the incidental expenses of the licensee in connection with the installation of the RE system by the prosumer during its life time, including the testing of the RE system, if necessary, during the subsequent period.
22. The Commission has examined the details of the solar PV installations of the CIAL including the registration fee collected, banking facilities etc as per the provisions of the various Regulations notified by the Commission for facilitating the installation of the Renewable Energy systems in the State. The details of the Solar plant installed by the CIAL, the registration fee paid to KSEBL, and refund of the 80% of the registration fee to the CIAL are given below.

Sl No	Solar PV plant installed by CIAL	Plant capacity (MWp)	Registration fee paid to KSEBL (Rs)		Refund given by KSEBL (Rs)	Balance to be refunded to CIAL (Rs)	Remarks
			Amount (Rs)	Date of receipt			
1	1 MWp	1.000	10,00,000.00	28.10.2015	8,00,000.00	Nil	20% of the registration fee is allowed to retain by KSEBL
2	12 MWp	12.000	1,20,00,000.00	24.07.2015	96,00,000.00	Nil	
3	2.4 MWp	2.400	0.00	NA	0.00	Nil	
4	2.7 MWp	2.671	26,71,000.00	05.07.2017	21,36,800.00	Nil	
5	3 MWp	3.305	33,04,800.00	.06.03.2017	26,43,840.00	Nil	
6	2 MWp	1.823	18,22,500.00	23.11.2017 &	14,58,000.00	Nil	
7	6 MWp canal	5.832	58,32,000.00	10.04.2018	46,65,600.00	Nil	
8	2.6 MWp	2.622	26,22,180.00	2019-20	Nil	20,97,744.00	80% of the registration fee has to be refunded by KSEBL to CIAL
9	7.2 MWp	7.213	72,13,300.00		Nil	57,70,640.00	
	Total	38.866	3,64,65,780.00		2,13,04,240.00	78,68,384.00	

As detailed above, M/s CIAL has so far installed 38.866MWp of Solar PV plant at the premises of the airport for meeting the electricity requirement of the airport with a total contract demand of 9 MVA. Out of the total capacity of the solar PV system installed, M/s CIAL has remitted registration fee for the entire capacity except the 2.4MW plant installed in the year 2014-15. The reason for not collecting the registration fee for the 2.4MWp solar plant in 2014-15 is not known to the Commission.

The Commission also noted that, KSEBL has refunded the 80% registration fee of the solar plants installed by CIAL except the last two plants with a total capacity of 9.835 MWp. KSEBL has collected a total registration fee of Rs 98,35,480/- as registration fee of these two plants. Accordingly, KSEBL has to refund 80% of it, amounting to Rs 78,68,384/- to CIAL without further delay.

23. As already mentioned, the total Solar PV installed by CIAL is 38.866 MWp as against the contract demand of 9MVA with KSEBL. Entire electricity generated from the Solar plants cannot be consumed by the CIAL during the day time and the surplus energy after their consumption during day time has to be banked with KSEBL for the use of non-solar hours of the day and also for the consumption during cloudy and monsoon periods when the solar generation is comparatively less.

M/s CIAL cannot fully depend on the green power without the grid support of KSEBL. The RE Regulations, 2020 and its amendments provides for banking facilities to the prosumers and captive consumers with certain conditions and charges payable to the licensee. Hence, KSEBL shall provide banking facility to the CIAL as per the provisions of the KSERC (Renewable Energy & Net Metering) Regulations,2020 as amended from time to time for the entire Solar PV system installed by them.

24. KSEBL vide the letter dated 14.09.2023 had submitted before the Commission that, the connectivity agreement for the entire capacity including the newly added capacity of 9.835 MWp was signed on 20.07.2023.
25. The Commission after examining the entire issues in detail, has concluded that, the disputes between the CIAL and KSEBL regarding the connectivity, banking and refund of registration fee etc of the 38.866 MWp Solar plant installed by CIAL is resolved through mutual consensus and the petition can be disposed of, with the observation and directions as detailed in the preceding paragraphs.

Orders of the Commission

26. The Commission, after examining the petition filed by the petitioner M/s CIAL dated 26.05.2020, the deliberations of the subject matter during the hearings, the counter arguments of KSEBL, the provisions of the Electricity Act, 2003, KSERC (Renewable Energy & Net Metering) Regulations, 2020 and its amendments, other Rules and Regulations in force, hereby orders that;
- (1) KSEBL shall provide banking facility for the entire Solar PV plants installed by CIAL at its airport premises including the newly added plants of 9.835 MWp as per the provisions of the KSERC (Renewable Energy and Net Metering) Regulations, 2020 as amended from time to time.
 - (2) KSEBL shall refund 80% of the registration fee paid for the newly added solar PV plants of capacity 9.835MW, amounting to Rs 78,68,384/-.
 - (3) KSEBL is allowed to retain 20% of the registration fee collected by it from CIAL for meeting the incidental expenses of the licensee during the life of the Solar PV plants installed by the prosumers as explained in paragraph-21 of this Order.

The petition OP No. 18/2020 and disposed of. Ordered accordingly

**Sd/-
T K Jose
Chairman**

**Sd/-
Adv. A J Wilson
Member**

**Sd/-
B Pradeep
Member**

Approved for issue

**Sd/-
C R Satheesh Chandran
Secretary**