

documents, Commission vide daily Order dated 24.07.2020, 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.
 - (a) Present 'contract demand' of CIAL with KSEB Ltd.
 - (b) Year wise details of the Solar PV plants installed and connected to the Grid.
 - (c) Details of the pending applications for connectivity with KSEB Ltd with documentary evidence, and communications if any received from KSEB Ltd in this regard.
 - (d) Details of the substations and other evacuation facilities constructed, and presently maintained by CIAL.
 - (e) 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.
 - (f) 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.
 - (g) 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 LILO arrangements for the connectivity of the 40 MWp Solar plant with the State Grid.
 - (h) Details of the SCADA visibility and communications provided by CIAL, with documentary evidence on whether these are in functional and commutation with SLDC of Kerala.
 - (i) 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 of the Solar plants with Grid.
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.
 - (ii) Details of the SCADA visibility installed by CIAL, and the documentary evidence on the statement that, SCADA visibility installed by CIAL is not functional.
 - (iii) Written comments on the petition filed by CIAL.
 - (iv) Any other relevant details"
- (3) Both parties shall share their comments on either side and may submit additional comments, if any, by return.
- (4) Commission propose to schedule final hearing on the subject petition on 13.08.2020 at 11.00 AM.

3. 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 12.08.2020 submitted its comments. The summary of the submissions by the petitioner CIAL and the Respondent KSEB Ltd 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 was agreed to by SLDC also. However, KSEB Ltd maintained that 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 due to 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.”

KSEB Ltd proposal is to replace the existing tap arrangement at CIAL with LILO. 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 to be considered as another transmission line. Further, CIAL stated that it had complied with all safety requirements and submitted a copy of report of KSEB Ltd relay team.

4. 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 balance registration fee of 20% can be refunded after complying 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 issue of regularisation of connectivity of the remaining part of the solar plant, for which according to KSEB Ltd, LILO arrangement, is necessary as per the CEA Regulation. CIAL expressed their concern that the essential redundancy to airport will be affected with the proposed LILO arrangement, since at present CIAL is availing 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 the regularization of solar connectivity getting delayed indefinitely. As per the opinion of KSEB Ltd, there cannot be much issues in materializing the proposed rearrangement. KSEB Ltd also added that they have been continuously intimating CIAL about the requirement of LILO arrangement.
 - (4) After detailed deliberations, the Commission vide 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.
5. M/s CIAL vide letter dated 21.08.2020 submitted the copy of energisation sanction approvals obtained from the Kerala State Electrical Inspectorate for their solar plants. Further, CIAL vide letter dated 01.12.2020 submitted the following.
- (1) Even after having multiple meetings along with the representative of CEI, even after examining the site on 20.11.2020, could not give a conclusive opinion on the matter. But during the meeting KSEB Ltd repeatedly trying to enforce LILO option citing the clause of the CEA Regulation.
 - (2) KSEB Ltd is of the opinion that, all the conversion expenses as well as the disturbances in the operations of the flight services 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.
6. In compliance of the direction of the Commission, KSEB Ltd vide letter dated 22.02.2021 submitted the following.
- (1) Four meeting were conducted with the officials of CIAL and Chief Electrical Inspector on 26-08-2020, 28-09-2020, 22-10-2020 and 09-12-2020. During the first meeting, the representative of the Chief Electrical Inspector did not attend the meeting.
 - (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 Cl.44(6) of CEA regulation 2010 at CIAL.

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

KSEB Ltd 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 hybrids arrangement may be opted to ensure compliance of standard construction practices if any space constraints are observed during LILLOing.

7. 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) 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 Chalakudy-Athani line. By providing supply through LILO arrangement will increase the redundancy of supply to CIAL.

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.

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.

8. Based on the deliberations during the hearing, the Commission hereby directs 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 LLO arrangements including the shutdown plan of the existing tap lines without interrupting the power supply to the CIAL.

Sd/-
Adv. A J Wilson
Member (Law)

Sd/-
Preman Dinaraj
Chairman

Approved for issue

C R Satheeshchandran
Secretary (i/c)