

**KERALA STATE ELECTRICITY REGULATORY COMMISSION**  
**THIRUVANANTHAPURAM**

**Present: Shri. Preman Dinaraj, Chairman**  
**Adv. A.J Wilson, Member (Law)**

**OP No 29/2020**

First Hearing on : 04.11.2020  
Second hearing on : 02.12.2020  
Third hearing on : 06.01.2020

In the matter of : Petition filed by HINDALCO on “clarifications filed under Section 86 of the Electricity Act, 2003 that the Petitioner’s newly installed 2 MW solar power plant at Kalamassery is a separate unit and do not interfere with the existing 1 MW plant

Petitioner : M/s Hindalco Industries Limited  
Ahura Centre, 1<sup>st</sup> Floor, B Wing,  
Mahakali Cave Road, Andheri (East),  
Mumbai

Petitioner represented by : Mr. Sajan Poovayya, Senior Advocate  
Mr. Ashish Prasad, Advocate  
Mr. Raksha Agarwal

Respondents : 1. Kerala State Electricity Board Ltd.,  
2. ANERT  
3. Electrical Inspectorate  
4. State Load Dispatch Centre (SLDC)

KSEB Ltd represented by : Mr. V.K. Joseph, Chief Engineer (REES)  
Smt. Latha S.V, Asst : Executive Engineer

SLDC represented By : Mr. K P Pradeep, Chief Engineer  
Mr. S R Anand, DY. Chief Engineer

ANERT represented by : Mr. Valsaraj, Director  
Mr. Pramod, Scientist  
Mr. Premkumar, Scientist

Electrical Inspectorate represented by : Mr. Tojo Jacob, Electrical Inspector

**Daily Order dated 12.01.2021**

1. M/s. Hindalco Industries Ltd (the petitioner), on 23.09.2020, filed a petition before the Commission with the following prayers:

- (a) Pass an Order / direction/ clarification interalia, that the petitioners newly installed 2 MW solar power plant at Kalamassery is a separate unit and do not interfere with the existing 1 MW plant.
  - (b) Allow banking facility exclusively for the 2 MW solar power plant.
  - (c) Pass on the other Order / direction as it deems fit and appropriate in the facts and circumstances.
2. The Commission admitted the petition as OP 29/2020 and hearing conducted through video conference on 04.11.2020. Based on the deliberations during the hearing, the Commission vide daily order dated 11.11.2020 directed the Petitioner M/s HINDALCO and the respondent KSEB Ltd as follows:
  - (i) The petitioner may take steps to implead SLDC, ANERT and Electrical Inspector as respondents to the petition.
  - (ii) M/s Hindalco may submit a detailed report on the proposed interlocking facility, and also the procedure proposed for accounting of energy generated from both the 1 MW and 2 MW plants separately, energy availed from KSEB Ltd, energy import through open access etc.
  - (iii) Alternatively, installation of separate net meters for each of the solar units with physical separation of the lines may also be explored and a detailed report submitted
3. In compliance of the direction of the Commission, the petitioner vide the affidavit dated 27.11.2020, submitted the following.
  - (1) A report on the interlocking facility and proposal of accounting of energy.
  - (2) A study report on the effectiveness of PLC based interlock system provided for 1 MW solar plant of HINDALCO Industries by Dr. K. N. Pavithran (Prof. Rtd) and Sri. P.C Rajan Babu (Chief Electrical Inspector Rtd)
4. The second hearing on the petition was conducted on 02.12.2020 through video conference. Based on the deliberations during the second hearing, the Commission hereby directed the petitioner and respondent to comply the following.
  - (1) The petitioner shall implead SLDC, ANERT and Electrical Inspectorate as respondents to the petition for the next hearing of the petition.
  - (2) KSEB Ltd shall, on or before 24<sup>th</sup> December 2020, submit detailed comments on the report submitted by the petitioner dated 27.11.2020, with a copy to the petitioner.
  - (3) The petitioner M/s HINDALCO shall submit additional details, if any, latest by 30.12.2020.

5. M/s Hindalco Ltd submitted an Interlocutory Application (IA No 13/20) dated 14/12/2020 to implead SLDC, ANERT and Electrical inspectorate as respondents to the petition.
6. The petitioner M/s Hindalco Ltd, on 05.01.2021, submitted a copy of the joint virtual meeting held on 30.12.2020 between the petitioner M/s HINDALCO, Electrical Inspectorate, SLDC and ANERT, and its summary is given below:
  - (i) SLDC stated that, it has no difference of opinion on the metering & SCADA visibility provided by Hindalco. Further, comments on interlocking system and banking shall be communicated to the Regulatory Commission after detailed analysis of the scheme
  - (ii) ANERT opined that, generally Renewable Energy generation shall not be curtailed and hence other options without curtailment of 1 MW solar plant will have been looked into.
  - (iii) Electrical Inspector, on behalf of Chief Electrical Inspector to Government of Kerala stated that, Chief Electrical Inspector has issued scheme approvals and energisation order for the solar plants after proper scrutiny of the scheme, on -site inspection and field testing of all safety features. Further, the interlocking facility using PLC installed by M/s Hindalco Industries Limited to limit the export of power from the 1MWp Solar Power Plant in tariff related matters does not attract any of the relevant provisions of Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations 2010. It is learned that, there is no deviation from the electric schematic diagram/ power & safety related installations approved by Electrical Inspectorate. As such, safety issues are not involved in the low voltage PLC controlled system with interlocking facility for limiting the solar generation from 1MWp Solar Power Plant to grid.
  - (iv) Dr. K N Pavithran, Professor (Retd.) – CET, has stated that, he physically inspected and tested the interlocking system at Hindalco's Solar Plant, the design, engineering and installation of the above system is reliable, failsafe and capable of ensuring no export of energy from 1 MW Solar Power Plant.
7. Third hearing on the petition was conducted on 06.01.2021 through video conference. The summary of deliberations is given below:
  - (1) Sri. Sajan Poovayya, Senior Advocate, representing the petitioner submitted that, as instructed by the Commission, they had impleaded SLDC, ANERT and Electrical Inspector as respondents to the petition. Further, a joint virtual meeting was held between the respondents on

30.12.2020 and a copy of the minutes of the meeting was submitted before the Commission vide the affidavit dated 04.01.2021.

- (2) Representatives of ANERT submitted that, on random analysis of the past energy data collected from the petitioner, it is observed that on 13<sup>th</sup> December, 2020, on three instances there is injection of solar generation while the load of the petitioner is zero. They further submitted that the schematic diagram of the installation was not made available to them.
- (3) SLDC submitted that, they had appraised the time block wise details of the energy transaction of the petitioner for a period of ten days from 01.12.2020 to 10.12.2020. During these period, in 178 time blocks the petitioner injected energy into the grid for banking of which 138 time block was during the day time. Further, out of the 138 time blocks during which the surplus energy was injected into the grid for banking, about 45% of the time blocks, the petitioner availed power through open access. The petitioner may not be allowed to bank the energy purchased resulting from the excess as a result of purchase through open access from the grid.
- (4) Sri. Tojo Jacob, the representative of the Electrical Inspectorate submitted that, their observation and comments are recorded in the minutes of the meeting held on 30.12.2020. He further submitted that, as per the petitioner Hindalco, the PLC system will drive the 1 MW plant to stop generation under three conditions, viz, (i) when demand is less than 1MW, (ii) at the instances of grid failure (iii) at the instance of communication failure. Anti-islanding is found to be working and hence safety is ensured. There is nothing more to add on this subject matter.
- (5) KSEB Ltd submitted the following during the hearing.
  - (i) The contract demand of the petitioner is 5 MVA only. The petitioner has been meeting their power requirement at the factory through three sources of power (a) supply from KSEB Ltd, (b) Self generation from the 1 MW & 2MW Solar plant owned by the petitioner, and (c) by availing power through open access.
  - (ii) In order to explain the probability of banking the power availed through open access in the pretext of the banking of the power generated from the Solar plants, KSEB Ltd explained in detail the following '5' scenarios.

**Case-1.**

When the entire demand of the petitioner (up to the contract demand of 5 MVA) is being met from (a) generation from their 1MW and 2MW solar plant and the balance from KSEBL. There is no possibility of gaming under this case.

**Case-2.**

When the petitioner met their entire demand from (a) self generation from solar plants (upto 3 MW) and (b) also avails power through Open Access and no supply from KSEB Ltd.

In this case, KSEB Ltd pointed out a scenario when the open access drawal is say 3 MW, and the Solar generation also 3 MW, as against the load of '5MVA'. Then the net meter shows a drawl of 2MW obtained through Open Access and also there is deemed injection of 1MW into the grid for banking. This injection is on account of availing excess power through Open Access than their load requirement. The power availed through open access is not qualified for banking as per RE Regulations.

Case-3, Case-4 and Case-5 are similar to Case-2, but with increase in quantum of OA power than their requirement after accounting the self generation from the Solar Plant, and also with no drawl of KSEBL supply.

The summary of the cases presented by KSEBL is given in the Table below.

Case No	Load in MW (contract demand)	Solar 3MW	OA drawal	KSEBL supply	Net meter reading	Deemed Injection on account of OA
1	5.0	3.0	0.0	2 (5-3)	2 MW drawal	
2	5.0	3.0	3.0	0	2 MW drawal (OA)	1.00MW
3	5.0	3.0	4.5	0	2 MW drawal (OA)	2.50 MW
4	5.0	3.0	5.0	0	2 MW drawal (OA)	3.00 MW
5	0.5	2.0 (1 MW switched off)	5.0	0	0 MW	6.50 W

- (iii) KSEBL submitted that, at present no intra state ABT mechanism is in place and no time block wise accounting is now followed.

So, the entire deemed injection on account of availing OA will be get banked on the pretext of injection from the Solar plants. KSEB Ltd further submitted that, under case-2, case-3 and case-4, deemed injection may include the generation from 1 MW Solar plant also. Banking of deemed generation causes financial loss to KSEBL, which is passed on to consumers of the State. The present RE Regulation also does not envisages banking of power availed through OA.

- (iv) Fool proof working of interlocking mechanism cannot be ensured by KSEBL as they are not owned and controlled by KSEBL.

8. Based on the deliberations during the hearing, the Commission hereby directs the petitioner and respondent to comply the following.

- (1) The respondent KSEB Ltd shall share their presentation with the petitioner and other respondents for their information and comments.
- (2) The petitioner HINDALCO shall submit detailed comments on the issues raised by KSEB Ltd, SLDC and ANERT during the hearing, on or before 12.01.2021.
- (3) All the respondents are also allowed offer their comments, latest by 12.01.2021 with a copy to the petitioner.
- (4) The petitioner HINDALCO is allowed time till 18.01.2021 to submit additional comments, if any, on the comments raised by the respondents after the hearing.

Fourth hearing on the petition is scheduled on 03.03.2021 through video conference

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

**Sd/-**  
**Preman Dinaraj**  
**Chairman**

Approved for issue

C R Satheeshchandran  
Secretary in charge

