

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

**Present: Shri. Preman Dinaraj, Chairman**  
**Shri. A.J Wilson, Member**

**OP No 29/2020**

First Hearing on : 04.11.2020  
Second hearing on : 2.12.2020

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. Arpan Behl, Advocate  
Mr. Harikumar, Advocate  
V R Shankar, President & General Counsel,  
Hindalco

Respondents : Kerala State Electricity Board Ltd.,  
KSEB Ltd represented by : Sri. KGP Nampoothiri, EE, TRAC

**Daily Order dated 10.12.2020**

1. M/s. Hindalco Industries Ltd (hereinafter referred to as the petitioner or M/s Hindalco), 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 26/2020 and conducted first hearing on 04.11.2020 through video conference. Based on the deliberations during the hearing, the Commission vide Order dated 11.11.2020 directed the petitioner for immediate compliance.

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- (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)

However, the Commission's direction (1) above to implead SLDC, ANERT and Electrical Inspectorate was not complied with.

4. The second hearing on the petition was conducted on 2.12.2020 through video conference. The summary of the deliberations during the hearing is given below:

- (i) Shri. Sajan Poovayya, Senior Adocate, representing the petitioner submitted that the daily order dated 11.11.2020 contained two part, first part being impleading SLDC, Electrical Inspector and ANERT and second part to submit a detailed report on the interlocking facilities and on the procedure to be adopted to account the energy generated from the 1MW and 2 MW plants separately. The petitioner submitted that, impleading the SLDC, ANERT and Electrical Inspector can be done, if found necessary, after appraising the reports submitted by the petitioner and the reports of the independent experts engaged by the petitioner, by the Hon'ble Commission.

- (ii) The petitioner explained in detail the interlocking facilities provided by them. The petitioner as an EHT consumer, receives power at 110 kV and has two incoming lines tapped from the Kalamassery- Edayar 110 kV feeder. One of the feeder is loaded and other line is kept energised as standby. The 110kV power is stepped down to 11kV and distributed to all load centres of the factory. There are four 11kV feeders from the common 11 kV bus in the 110kV substation. One feeder is for capacitor bank and other three feeders cater to the loads at various load centres.

The solar power from the 1 MW and 2 MW plants is connected to the 11 kV bus. Special Energy Meters are installed for measuring the solar generation from 1 MW and 2 MW plants.

- (iii) The petitioner submitted that, 'the interlocking system provided by M/s Hindalco prevents the export of power from 1 MW solar plant', as brought out in the example below:

“ At an instant 1 MW plant generate 0.75MW and 2 MW plant generate 1.75 MW, the total solar generation is 2.50 MW. If the load requirement of the factory is 2 MW, then 0.5 MW will be exported to grid. If the load of the factory comes down to 0.5MW, which means that the demand is less than the generation from the 1MW plant, the interlocking mechanism will send a signal to the 1 MW plant and it will go to sleep mode. Whenever the factory demand reaches above 1MW, only then the generation from the 1MW starts again from the sleep mode. Thus, the interlocking mechanism ensures that, only if the factory demand is above 1MW, will the Solar Plant with 1MW capacity generate electricity.

If the communication from the 1 MW solar generation is lost, then also the inverter will go to the sleep mode. This ensures 100 % reliability of the interlocking facility.

Further, in the event of grid failure, the solar power generation from the 1MW plant goes to sleep mode and will be back only when grid is again established. This is the generally accepted protocol for any grid connected solar plant.

There is no physical separation of energy from the two plants, once both are in operation. Both the solar plants are connected to the grid and the interlocking ensures that the power from the 1MW plant will not go into the KSEBL grid. The request of the petitioner is to account energy generation from 1 MW plant on first charge basis among the two plants.

All the installations of the consumer including solar plants are approved by the Electrical Inspector’.

- (iv) The petitioner further submitted that, they had entrusted two eminent experts in the field Dr. K.N. Pavithran, Prof (Rtd) and Sri. Rajan Babu, Chief Electrical Inspector (Rtd), to study, inspect and test the Programmable Logic Controller (PLC) based interlocking system. Based on their study of the arrangement, they have certified that the PLC based interlocking system installed by the petitioner ensures that no export of energy from the existing 1MW solar plant. This arrangement is well engineered, effective and reliable and guarantees that no export of power takes place to the grid under any circumstances.
- (v) KSEB Ltd submitted that, they yet to receive the affidavit dated 27.11.2020 by the petitioner before the Commission. Hence, the respondent KSEB Ltd requested to allow further time to file its comments on the report submitted by the petitioner.

KSEB Ltd further submitted that, Electrical Inspectorate has to certify the safety aspects of the interlocking facilities provided by the petitioner.

- (vi) The Commission clarified during the hearing that, the directions to implead the SLDC, ANERT and Electrical Inspector is issued considering the specific roles and responsibilities and functions of these bodies. As per the provisions of the Electricity Act, 2003, the Electrical Inspectorate is the appropriate authority to certify the safety aspect of the installation and working of the interlocking facilities installed by the petitioner.
5. Subsequently, the petitioner M/s Hindalco, vide the e-mail dated 4<sup>th</sup> December 2020 submitted that, they are taking steps to implead SLDC, ANERT and Electrical Inspector as parties to the petitioner. The petitioner further requested the following.

*“ (i) Permit the Petitioner to convene a meeting of all the Respondents (including those directed to be impleaded) in order to hold discussions and explain the full factual spectrum. In the meeting the Petitioner will make its earnest endeavors to get their questions/ concerns addressed.*

*(ii) Thereafter, the Petitioner will place a copy of the minutes of such meeting for the Hon’ble Commission to consider on the next date of hearing i.e. 06.01.2021.*

The petitioner further requested that, in order to enable the meeting, a formal direction may be issued to the parties to hold a formal meeting before the next date of hearing.

The Commission hereby clarify that, if the petitioner desires to conduct a meeting with the respondents including those directed to implead to appraise the interlocking facilities and other aspects of the issues raised in the petition, the same may be conducted at their convenience. However, the petitioner shall implead the parties concerned as respondents to the petition as directed.

- 6.** Based on the deliberations during the hearing, the Commission hereby direct that,
- (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.

The next hearing will be conducted on **6.1.2021 at 11 AM** through video conference.

**Sd/-  
A J Wilson  
Member**

**Sd/-  
Preman Dinaraj  
Chairman**

Approved for issue

C R Satheeshchandran  
Secretary