

BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION AT PANCHKULA

Case No. HERC/Petition No. 46 of 2025

(Remand back Petition No. 33 of 2023)

Date of Hearing : 19.11.2025

Date of Interim Order : 21.01.2026

In the matter of:

Judgement dated 23.04.2025 passed by Hon'ble APTEL in Appeal No. 302 of 2024 (Greenyana Solar Pvt. Ltd. vs. HPPC and Ors)

And

In the matter of

Petition under Section 62, 86(1)(b) and 86(1)(e) of the Electricity Act, 2003 read with the provisions of the HERC RE Regulations, 2021 for determining project specific tariff of the 10.72 MW Solar PV project at Sirsa, Haryana. (HERC/ Petition No. 33 of 2023).

Petitioner

M/s. Greenyana Solar Pvt. Ltd. (GSPL)

Respondents

1. Haryana Power Purchase Centre, Panchkula (HPPC)
2. Haryana Renewable Energy Development Agency (HAREDA)

Present on behalf of the Petitioner

1. Shri Janmali M, Advocate
2. Shri Pratyush Singh, Advocate

Present On behalf of the Respondents

1. Shri Shubham Arya, Advocate
2. Ms. Shirin Gupta, Advocate
3. Shri Gaurav Gupta, Xen, HPPC

Quorum

**Shri Nand Lal Sharma
Shri Mukesh Garg
Shri Shiv Kumar**

**Chairman
Member
Member**

ORDER

Brief Background of the case

1. The present proceedings have arisen, consequent to the judgement of the Hon'ble Appellate Tribunal for Electricity (APTEL) dated 23.04.2025, wherein the APTEL has observed as under:-

"7. Learned counsel for the Appellant has prayed that this Tribunal may pass an order similar to that passed in Amplus Judgment and accordingly remand the matter to the State Commission/HERC with a specific direction to ascertain only the DC capacity required for generation and supply of Contracted Capacity of 10.72 MW AC with AC CUF of 21% from GSPL's Project;

17. The Appellant has sought a Tariff of Rs 2.75/Kwh in the interregnum, however, we are conscious of the fact that this is the ceiling tariff which the Appellant would be

entitled to in the event all the contentions raised in the Appeal are allowed. Allowing such a tariff of Rs 2.75/Kwh at the Interim stage, would, in effect, amount to granting the final relief sought, without affording the State Commission an opportunity to reconsider the matter upon remand. Considering the contention of the Appellant that with AC: DC ratio as 1:1, a CUF of only about 17 % is achievable and as held above that adjustment for system unavailability (1.94%) and grid downtime (0.67%) is now not open for deliberation and accordingly if same is added back, prima-facie the resultant tariff shall be about Rs 2.50/Kwh. We also take note that in terms of Article 4.3 of the PPA dated 20.02.2023 signed by the Appellant and Respondent HHPC, all delivered energy is to be paid @ Rs 2.50/kwh in case project attains COD before determination of Tariff by the State Commission. Based on these consideration, a tariff of Rs 2.50/Kwh is allowed during the interim period, till the matter is decided by the State Commission upon remand, making it clear that it is open to the State Commission consequent on remand to determine the applicable Tariff, uninfluenced by the aforesaid prima facie findings.

18. In view of above deliberations, we set aside the Impugned Order to the limited extent and remand the matter to the State Commission to make prudence check on the required AC:DC ratio and corresponding capital cost of DC modules to achieve specified CUF, as well as to address the computational issue while working out the levelised tariff, in terms of Annexure A of the Impugned Order.”

2. Upon giving a preliminary hearing to the parties on 03.06.2025, the parties were allowed to complete their filings.
3. Petitioner’s reply dated 03.06.2025:-
 - 3.1. That Hon’ble APTEL vide its Judgment dated 23.04.2025 set aside the Tariff Order dated 29.01.2024 (to the extent challenged in the Appeal) and partly allowed the claims of GSPL. Consequently, the Hon’ble APTEL has remanded the matter to this Hon’ble Commission and inter-alia: -
 - (a) Noted that the HERC (Terms and Conditions for Determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations, 2021 (“HERC RE Regulations 2021”) do not specify the AC:DC ratio while specifying that the minimum CUF for Solar PV project should be 21%. [Para 14]
 - (c) Held that the ratio of AC:DC module, the associated capital cost and the resultant CUF are interlinked. Accordingly, the project specific tariff should reflect the actual costs incurred by the RE generator. [Para 16]
 - (c) Rejected HPPC contention that CUF of 21% can be achieved with AC: DC ratio of 1:1. [Para 14]

- (d) Allowed tariff of Rs 2.50/kWh during the interim period, till the matter is decided by this Hon'ble Commission upon remand; [Para 18] and
- (e) Directed this Hon'ble Commission to, in remand: - [Para 18]
 - (i) Carry out prudence check and determine the AC:DC ratio and the corresponding capital cost of DC modules required by GSPL to achieve the prescribed CUF of 21% under Regulation 48 of HERC RE Regulations 2021; and
 - (ii) Address any computational error while working out the levelized tariff in Annexure A of the Tariff Order dated 29.01.2024.

A. AC:DC ratio required to achieve CUF of 21%

3.2. That GSPL has installed 14.90 MWp DC capacity corresponding to the AC capacity of 10.72 MW and had accordingly sought approval of the Capital Cost corresponding to the DC Capacity of 14.90 MWp from this Hon'ble Commission. However, in the Tariff Order dated 29.01.2024, this Hon'ble Commission: -

- (a) Restricted the DC capacity to 10.72 MWp as against the installed DC Capacity of 14.90 MWp, by applying an AC:DC ratio of 1:1;
- (b) Allowed Capital Cost to Rs. 364.46 million (Rs. 36.446 Crores) corresponding to DC capacity to 10.72 MWp only; and
- (c) Allowed CUF of 21% (AC) in terms of Regulation 48 of HERC RE Regulations 2021.

3.3. That the Hon'ble APTEL vide judgment dated 25.10.2024 passed in Appeal Nos. 326 and 149 of 2021 titled Amplus Sun Solutions Pvt. Ltd. vs. HERC & Ors. & batch ("Amplus Judgment"), has inter-alia held that: -

- (a) Capital Cost shall be determined considering the DC modules corresponding to CUF of the project. [Para 30]
- (b) AC:DC ratio, associated capital cost and the resultant CUF are interlinked. Thus, this Hon'ble Commission had erred by disallowing the capital cost for the additional DC capacity (modules) of 25 MWp against the AC capacity of 50 MW, while at the same time, fixing higher CUF of 25.91% which can only be achieved with higher AC:DC ratio (i.e., additional DC capacity). [Para 37]

3.4. That basis the legal position settled in Amplus Judgment i.e., "capital cost shall be determined considering the DC modules corresponding to CUF of the project", the Hon'ble APTEL has allowed GSPL's claim and directed this Hon'ble Commission to determine the AC:DC ratio required by GSPL to achieve the CUF of 21% and consequently, allow the capital cost of additional DC modules.

3.5. That considering the AC:DC ratio of 1:1 as adopted by this Hon'ble Commission, GSPL's Project can only achieve CUF around 17.01%, which is lower than the CUF of 21% allowed to GSPL in terms of Regulation 48 of the HERC RE Regulations 2021.

- 3.6. That the approved CUF of 21% will require a minimum AC:DC ratio of 1:1.235, i.e., DC Capacity of 13.24 MWp is required for achieving generation corresponding to AC Capacity of 10.72 MW and AC CUF of 21%. Accordingly, based on the allowed AC CUF of 21%, GSPL is entitled for recovery of the cost of additional DC modules of 2.52 MWp and its associated civil works. The computation of CUF considering AC:DC ratio of 1:1.235 (i.e., DC Capacity of 13.24 MWp) and AC:DC ratio of 1:1 (i.e., DC Capacity of 10.72 MWp) is annexed.
- 3.7. That Hon'ble APTEL in its Judgment dated 16.11.2021 in Nisagra Renewable Energy Pvt. Ltd. etc. v. Maharashtra Electricity Regulatory Commission & Anr. etc. 2021 SCC OnLine APTEL 81 ("Juniper-Nisagra Judgment") has recognized DC Overloading up to the extent of 145% and 146% of the AC Capacity. Further, even in the SECI bid documents, DC overloading has been allowed up to 150% of the AC capacity. Hence, GSPL's claim of AC:DC ratio of 1:1.235 is well within the judicially recognized and SECI's accepted norms of AC:DC ratio.
- 3.8. That the levelized tariff considering DC capacity of 13.24 MWp as against the AC capacity of 10.72 MW with AC CUF of 21% and AC:DC ratio of 1:1.235 is as under: -
- (a) Rs. 3.13 per kWh (as per GSPL methodology i.e., PMT formula); and
 - (b) Rs. 2.81 per kWh (as per this Hon'ble Commission's methodology (indicated in Annexure A of the Tariff Order dated 29.01.2024).
- 3.9. That the above tariffs have been computed based on the same parameters as considered in the Tariff Order dated 29.01.2024 and after deducting Rs. 50.69 million (Rs. 5.07 Crores) of revenue deduction made by this Hon'ble Commission in the Tariff Order. Further, based on the allowed AC CUF of 21%, GSPL is entitled for recovery of the cost of Rs. 70.53 million (Rs. 7.053 Crores) towards additional DC modules of 2.52 MWp and its associated civil works (i.e., Rs. 434.99 million – Rs. 364.46 million).
- 3.10. That in terms of Article 4.2 of the PPA dated 20.02.2023 executed with HPPC, GSPL had agreed to a ceiling tariff of Rs. 2.75 per kWh for the term of the PPA. Accordingly, GSPL is restricting its claim only to the tariff of Rs. 2.75 per kWh, even though the resultant tariff based on AC:DC ratio of 1:1.235 is more than the ceiling of Rs. 2.75 per kWh.
- 3.11. That GSPL ought to be allowed to recover the balance differential amount from HPPC for the entire power supplied from the Project to HPPC from 20.02.2023 onwards (i.e., after signing of the PPA) after the final tariff is determined by this Hon'ble Commission in the present remand proceedings.
- B. Incorrectly computation of the levelized tariff of Rs. 2.35/kWh
- 3.12. That an inadvertent computational error had crept in computation of the levelized tariff of Rs. 2.35 per kWh based on the approved Capital Cost of the Project i.e., Rs. 364.46 million (i.e. Rs. 36.446 Crores), in Annexure A to the Tariff Order dated 29.01.2024.

- 3.13. That as per GSPL's computation (basis PMT formula) and based on the data / details mentioned in Annexure A to the Tariff Order dated 29.01.2024, the levelized tariff for GSPL's Project worked out to Rs. 2.62 per kWh, instead of Rs. 2.35 per kWh. Accordingly, there was some discrepancy in the levelized tariff computed by this Hon'ble Commission and GSPL.
- 3.14. That GSPL had written to this Hon'ble Commission on 19.03.2024 requesting to share the tariff computation sheet (in excel) and/or the formula used to arrive at the levelized tariff of Rs. 2.35/kWh and had also filed a Rectification Application on 26.03.2024 pointing out the computational error and seeking rectification of the levelized tariff from Rs. 2.35 per kWh to Rs. 2.62 per kWh. However, the tariff computation sheet (in excel) and/or the formula used to arrive at the levelized tariff of Rs. 2.35/kWh was not provided to GSPL. Due to this, GSPL has not been able to verify the computation made by this Hon'ble Commission. Considering GSPL's submission, the Hon'ble APTEL has directed this Hon'ble Commission to address the computational issue while working out the levelized tariff.
- 3.15. That in view thereof, GSPL requests this Hon'ble Commission to share the tariff computation sheet (in excel) and the formula used to arrive at the levelized tariff of Rs. 2.35/kWh. GSPL's reserves its right to make further submission on this issue once the aforesaid details are provided by this Hon'ble Commission.
- 3.16. That in terms of Section 86(3) of the Electricity Act, Clause 5.8.8 of the National Electricity Policy, 2005 and Clause 4.0 of the Revised Tariff Policy, 2016, this Hon'ble Commission is duty bound to ensure transparency while exercising its powers and discharging its functions under the Act. The principle of transparency is a statutorily recognized concept and this Hon'ble Commission is bound by it. The same has also been recognised by the Hon'ble Supreme Court in PTC India Ltd. v. CERC & Ors., (2010) 4 SCC 603, as under: -

"54. As stated above, the 2003 Act has been enacted in furtherance of the policy envisaged under the Electricity Regulatory Commissions Act, 1998 as it mandates establishment of an independent and transparent Regulatory Commission entrusted with wide-ranging responsibilities and objectives inter alia including protection of the consumers of electricity. ..."

Hon'ble High Court of Madras in Tata Communications Ltd v. Telecom Regulatory Authority of India & Ors; 2018 SCC OnLine Mad 1991 held that it is an essential aspect of transparency that the basis for a decision has to be made available and known to the stakeholders, as under: -

"(5cb) ... Not only should the basis be taken on empirically hard facts, it should also be clearly made available and made known to the stakeholders as this is a very

essential aspect of transparency. This has also been specifically elucidatively articulated by the Hon'ble Supreme Court in the call drop case."

The above findings was rendered by the Hon'ble High Court of Madras with respect to Section 11(4) of the TRAI Act, 1997 which provides that Telecom Regulatory Authority of India ("TRAI") shall ensure transparency while exercising its powers and discharging its functions, similar to Section 86(3) of the Electricity Act.

- 3.17. That the Hon'ble Telecom Disputes Settlement and Appellate Tribunal ("TDSAT") in *Videsh Sanchar Nigam Limited v. Telecom Regulatory Authority of India* : 2005 SCC OnLine TDSAT 38, held that by not disclosing certain documents and information, TRAI has breached the mandatory requirement of transparency in its functioning, as under: -

"... We, therefore, direct that all the documents and information as asked for by the VSNL, the appellant, be supplied it by TRAI. In this view of the matter we are of the opinion that in the absence of non-disclosure of information to the appellant principles of natural justice have been violated and so also TRAI has breached the mandatory requirement of transparency in its functioning as required under Section 11(4) of the TRAI Act.

We could ourselves have heard the matter finally after the documents and information are supplied to the appellant but then the appellant would be deprived of its right to be heard by TRAI and their further statutory right of appeal. We are, therefore, of the opinion that the matter should be heard by the TRAI. We accordingly set aside the impugned order and remand the matter to TRAI to have fresh look after giving full opportunity to the appellant keeping in view the observations made by us in this order."

- 3.18. That in the facts and circumstances mentioned above, this Hon'ble Commission may be pleased to: -
- (a) Allow a minimum AC:DC ratio of 1:1.235 (i.e., DC Capacity of 13.24 MWp) which is required to achieve the approved CUF of 21%;
 - (b) Allow the cost of Rs. 70.53 million (Rs. 7.053 Crores) towards the additional DC modules of 2.52 MWp and its associated civil works for redetermination of the levelized tariff in the present proceedings;
 - (c) Provide the tariff computation sheet (in excel) and the formula used to arrive at the levelized tariff of Rs. 2.35/kWh in Annexure A of Tariff Order dated 29.01.2024 and rectify the error in computation of levelized tariff;
 - (d) Direct Haryana Power Purchase Centre to make payment of the balance differential amount to GSPL for the entire power supplied from the Project to HPPC from 20.02.2023 onwards (i.e., after signing of the PPA) basis the final tariff to be determined by this Hon'ble Commission in the present remand proceeding; and

- (e) Pass any such further order(s) as this Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

4. **HPPC' reply dated 02.07.2025**

HPPC has submitted as under:-

- 4.1. That on 29.01.2024, this Hon'ble Commission passed the Order in Petition No. 33 of 2023 determining the levelized tariff of Rs. 2.35 per unit for GSPL's solar power project. This Hon'ble Commission vide Order dated 29.01.2024 approved the capital cost of Rs. 36.45 Crore as against the exorbitant capital cost of Rs. 66.31 Crore claimed by GSPL. The relevant extracts read as under:

"The Commission observes that the petitioner has proposed a capital cost of Rs. 6.19 crore/MW with CUF of 24.08% giving a tariff of Rs. 4.46/kWh, which has surpassed even the ceiling tariff of Rs. 2.75/kWh agreed upon between the parties. As against the same, in the project specific tariff determination proceedings before it, the capital cost approved, vide its order dated 18.01.2021 (petition no. 59 of 2020 for 50 MW, in the matter of M/s. Amplus), 17.09.2021 (petition no. 70 of 2020 for 20 MW in the matter of M/s. LR) and 11.11.2021 (petition no. 16 of 2021 for 50 MW in the matter of M/s. Avaada), was Rs. 3.82 crore/MW (CUF 25.91%), Rs. 3.57 crore/MW (CUF 22.14%) and Rs. 3.24 crore/MW (CUF 17.29%), respectively.

Consequently, the tariff proposed by the petitioner is clearly not aligned to the market and hence the parameters for tariff determination claimed by the petitioner requires prudence check to remove the distortions and thereby arrive at a reasonable tariff to be borne by the distribution utilities in Haryana which in turn is passed on to the electricity consumers by way of distribution and retail supply tariff.

*Considering cost of Poly Crystalline Modules, at 18.37 Cents per Wp in 2020 excluding taxes and USD: INR exchange rate of Rs. 74.13, the FOB cost of 10.72 MWp modules would work out to Rs.136.17 Million. **Adding the estimated cost of logistics and taxes @ 15% on the same, the landed cost of Poly Crystalline Modules comes out to Rs. 156.60 millions as against Rs. 323.43 millions proposed by the petitioner.** It is observed that besides the price, a major difference is caused due to the fact that HERC RE Regulations, 2021 do not reckon with DC capacity and all the norms / benchmarks including land size are for AC capacity alone. In effect the Commission considers DC:AC capacity in the ratio of 1:1 while the petitioner's proposed cost is for 14.90 MWp solar Pv modules as against 10.72 MWp considered by this Commission. Further, as corollary the balance of system cost (installation and commissioning), cost of inverters, cables, HT panels etc. will also get reduced. The amount claimed under this head (booked to the project) was Rs. 200.66 Million (Rs. 542.02 millions minus Rs. 323.43 millions towards cost of solar mouldes minus Rs.*

17.93 millions towards transmission line equipments). **Accordingly, the Commission has considered Rs. 144.37 Million towards balance of system/EPC cost for 10.72 MWp as against 14.90 MWp solar power generating system considered by the petitioner.**

On the issue of cost of land / lease rental, the Commission observes from the ground mounted solar PV projects commissioned in Haryana in the recent past, the land parcel required, on an average, has been 4.14 Acres per MWp. Hence, in the instant case, for 10.72 MWp, the requirement of land has been restricted to 44.34 Acres. The contention of the petitioner that they used modules of a particular wattage is not sufficient to claim higher per MW of land. **Needless to add that in Haryana, where land is available at a premium as compared to say Rajasthan, high efficiency modules requiring less land is preferable. Consequently, the cost of land and site development claimed for 14.90 MW DC capacity is pared down to 10.72 MWp capacity i.e. Rs. 44 Acres (rounded off).**

The Commission has perused Annexure – 7 (page no. 164 to 281) of the petition under consideration. The petitioner has annexed sales deed for the land purchased by them for the present project. The per acre cost of acquisition including stamp duty is Rs. 1.155 million. As the total land required could be met from own / purchased land, the Commission has not considered the balance land leased / exchanged for which documents have been submitted by the petitioner.

Consequently, the Commission, for the purpose of arriving at a capital cost, has considered Rs. 50.82 million as cost of land including site development.

It needs to be noted that the RE Regulations notified by this Commission from time to time and also that in vogue including Solar PV project specific tariff determined by this Commission reckons with AC capacity only and has no benchmarks / norms for DC capacity, which entirely depends on the discretion of the project developer.

.....

In view of the above discussions, the Capital Cost considered by the Commission for the purpose of tariff determination in the present case is Rs. 364.46 million i.e. Rs. 34 Million / MWp as tabulated below:

.....

It is observed that the per MW cost in the present case is almost at par with the mean value of per MW cost determined by this Commission i.e. Rs. 3.4crore/MW for the similarly situated solar PV project projects. Further, the contention of the petitioner that the current value of their project ought to be considered instead of original value has no merit as the project has been supplying to Haryana on a commercial basis since Nov., 2020. Hence, it is quite strange to reckon with CoD w.e.f. 08.02.2023.

- 4.2. That GSPL filed Appeal No. 302 of 2024 before the Hon'ble Appellate Tribunal for Electricity ('Hon'ble APTEL) challenging the Tariff Order dated 29.01.2024 on the following aspects:
- (a) Determination of capital cost corresponding to AC capacity of 10.72 MW and without considering the DC capacity of 14.90 MWp;
 - (b) The Commercial Operation Date ought to have been treated as 11.11.2020 instead of 08.02.2023 and the tariff paid by HPPC for the power supplied by GSPL since 11.11.2020 ought not to have been deducted from the Capital Cost of the Project for the purposes of calculating depreciation;
 - (c) The State Commission has incorrectly computed the levelized tariff of Rs. 2.35/kWh instead of Rs. 2.62/kWh.
- 4.3. That on 02.04.2025, GSPL had filed a Memo mentioning that amongst the three issues arising for consideration in the Appeal, its submissions are confined to Issue A, namely, the determination of Capital Cost by this Hon'ble Commission considering the installed capacity on the basis of AC:DC ratio of 1:1. GSPL has also sought the liberty to seek rectification in computation in terms of Annexure A of the Tariff Order dated 29.01.2024.
- 4.4. That before deciding Appeal No. 302 of 2024, the Appellate Tribunal passed an Order dated 04.04.2025, recording the submissions of both parties pertaining to the above-mentioned Memo. The relevant extracts of the Order dated 04.04.2025 reads as under:
- "A Memo is filed on behalf of the Appellant stating that, with respect to all the three issues which arise for consideration in the Appeal, the Appellant's submissions are confined only to issue-A; the Appellant does not impugn the principle of deduction of amounts from the Capital Cost under issue-B (as to already recovered or to be claimed in future); and with respect to issue-C, the Appellant seeks liberty to seek rectification in computation (other than on account of Ground B above).*
- Issues A, B & C as detailed in the Memo, read thus:*
- "(a) ISSUE A: Determination of Capital Cost by Ld. HERC considering installed capacity on the basis of AC:DC ratio of 1:1.*
- (b) ISSUE B: Deduction of amounts already recovered/ to be recovered in the future by GSPL from HPPC prior to 20.02.2023 (i.e., date of signing of the PPA) from the Capital Cost of the Project.*
- (c) Issue C: Incorrect computation of levelized tariff by Ld. HERC in the Impugned Order."*
- Mr. Shubham Arya, Learned Counsel for the 2nd Respondent, would submit that their only objection to the Memo is that, with respect to Issue-C, this Tribunal may make it clear that the liberty, if any, which this Tribunal may consider granting, may be confined*

only to the computation in terms of Annexure-A to the impugned order, and not beyond. Mr. Pratyush Singh, Learned Counsel for the Appellant, would fairly agree for such an order to be passed.

Learned Counsel on either side agree that this Tribunal, if it so consider it appropriate, may dispose of the main appeal itself instead of passing an order in the IA.”

- 4.5. That on 23.04.2025, the Appellate Tribunal passed an Order in Appeal No. 302 of 2024. The relevant extracts of the Order dated 23.04.2025, *inter-alia*, read as under:

“11. On going through the contentions put forth by learned counsel for Appellant and learned counsel for Respondent No.2, it emerges that the dispute in the present appeal is confined to the required AC: DC ratio to achieve CUF of 21% for Appellant’s Solar PV Project with allowance of cost for corresponding DC Modules besides computational issues in Annexure A. In the Impugned order, the State Commission while working out the project specific tariff for Appellant’s 10.72 MW (AC) project has allowed cost of DC module corresponding to AC: DC ration of 1:1, and the Appellant has contended that with an AC: DC ration of 1:1, CUF of only 17.01 is achievable and accordingly claimed cost of DC modules for 14.92 MWp resulting in AC: DC ratio of 1:1.389.

12. There is no dispute that the issue in the present case is governed by the Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable purchase obligation, and Renewable Energy Certificate) Regulation 2021 (“HERC Regulations 2021”), the relevant extracts are reproduced hereunder:

“48. Capacity Utilisation Factor - The Commission shall approve capacity utilization factor for project specific tariff determination.

Provided that the minimum capacity utilisation factor for Solar PV project including floating solar project shall be 21%.

Provided that the minimum capacity utilisation factor for Solar Thermal project shall be 23%.”

.....

14., we do not find any ambiguity in the provisions of the applicable HERC Regulations 2021, as it does not specify the AC:DC ratio while specifying that the minimum capacity utilization factor (“CUF”) for Solar PV project should be 21% and in such a situation, in our view, prudence check is required to be undertaken by the State Commission for the required AC:DC ratio to achieve the specified CUF while undertaking project specific tariff determination. The State commission in the Impugned Order, citing RE Regulations, has determined project-specific tariff reckoning with AC capacity only and stated that installation of DC capacity is left to the

discretion of project developer, and restricted the cost of DC module considering ratio of AC:DC as 1:1.

15. In our considered view, the project-specific tariff determination under Section 62 of the Electricity Act is to arrive at a tariff that is uniquely tailored to the economic and operational realities of a particular project, while being subject to stringent checks for transparency, fairness, and policy consistency; such an approach not only helps secure return on investment but also ensures that tariff levels remain in line with consumer protection goals and broader market efficiency. The project specific tariff reflects actual costs incurred subject to prudence check.

16. It is trite that the ratio of AC:DC module, the associated capital cost and the resultant CUF are interlinked, as held in “Amplus Sun Solutions Pvt. Ltd. v. HERC & Ors” in Appeal No.326 & 149 of 2021”. In our view, in the absence of any stipulation with regard to an AC:DC ratio for achieving specified CUF in the HERC Regulations 2021, it is important for the State Commission to make prudence check of required AC:DC ratio for achieving the specific CUF while undertaking project specific Tariff determination in Appellant’s Solar PV Project. Since such an exercise has not been carried out by the State Commission in the present case, we are inclined to remand the matter to the State Commission for carrying out such prudence check and it is made clear that we have not expressed any opinion on the rival contentions made herein. We would like to further state that as pointed out by Respondent No.2 that adjustment made by Appellant on account of system unavailability and grid downtime in CUF calculations has been rejected by the State Commission in the Impugned Order and has not been challenged by the Appellant in the present Appeal. It is, therefore, not open for deliberation when the matter is considered by State Commission upon remand.

17. The Appellant has sought a Tariff of Rs 2.75/Kwh in the interregnum, however, we are conscious of the fact that this is the ceiling tariff which the Appellant would be entitled to in the event all the contentions raised in the Appeal are allowed. Allowing such a tariff of Rs 2.75/Kwh at the Interim stage, would, in effect, amount to granting the final relief sought, without affording the State Commission an opportunity to reconsider the matter upon remand. Considering the contention of the Appellant that with AC: DC ratio as 1:1, a CUF of only about 17 % is achievable and as held above that adjustment for system unavailability (1.94%) and grid downtime (0.67%) is now not open for deliberation and accordingly if same is added back, prima-facie the resultant tariff shall be about Rs 2.50/Kwh. We also take note that in terms of Article 4.3 of the PPA dated 20.02.2023 signed by the Appellant and Respondent HHPC, all delivered energy is to be paid @ Rs 2.50/kwh in case project attains COD before

determination of Tariff by the State Commission. Based on these consideration, a tariff of Rs 2.50/Kwh is allowed during the interim period, till the matter is decided by the State Commission upon remand, making it clear that it is open to the State Commission consequent on remand to determine the applicable Tariff, uninfluenced by the aforesaid prima facie findings.

18. In view of above deliberations, we set aside the Impugned Order to the limited extent and remand the matter to the State Commission to make prudence check on the required AC:DC ratio and corresponding capital cost of DC modules to achieve specified CUF, as well as to address the computational issue while working out the levelised tariff, in terms of Annexure A of the Impugned Order. In the interregnum, the Appellant is allowed a tariff of Rs 2.50/kwh from the date of this order, which shall remain in force until the matter is finally decided by the State Commission upon remand, which may be decided as expeditiously as possible by State Commission. The subject appeal and associated IAs are disposed of in the above mentioned terms.”

[Emphasis Supplied]

4.6. That in light of the above, the Hon'ble Tribunal has remanded the matter to this Hon'ble Commission on the following limited issues:

- (i) Conduct the prudence check with respect to the required AC:DC ratio and the associated capital cost of DC modules required by GSPL to achieve the mandated Capacity Utilization Factor ('CUF');
- (ii) Computational error, if any, in determination of the levelized tariff in Annexure A of the Tariff Order dated 29.01.2024 passed by this Hon'ble Commission.

4.7. That while passing the Judgment dated 23.04.2025, the Appellate Tribunal has held as under:

- (i) That Ld. HERC vide Tariff Order dated 29.01.2024 has worked out the the *project specific tariff for Appellant's 10.72 MW (AC) project has allowed cost of DC module corresponding to AC: DC ration of 1:1, and the Appellant has contended that with an AC: DC ration of 1:1, CUF of only 17.01 is achievable and accordingly claimed cost of DC modules for 14.92 MWp resulting in AC: DC ratio of 1:1.389. [Para 11]*
- (ii) That there is no dispute that the present case is governed by the HERC RE Regulations, 2021 and that Regulation 48 provides for the CUF to be a minimum of 21% for Solar PV Project; **[Para 12]**
- (iii) That determination of project-specific tariff under Section 62 of the Electricity Act, 2003 reflects a tariff that is uniquely tailored to the economic and operational realities of a particular project while ensuring consumer protection goals and broader market efficiency subject to prudence check; **[Para 15]**

- (iv) That in absence of 'any stipulation with regard to an AC:DC ration for achieving specified CUF in the HERC Regulations 2021, it is important for the State Commission to make prudence check of required AC:DC ratio for achieving the specific CUF while undertaking project specific Tariff determination in Appellant's Solar PV Project. **[Para 16]**
- (v) 'adjustment made by Appellant on account of system unavailability and grid downtime in CUF calculations has been rejected by the State Commission in the Impugned Order and has not been challenged by the Appellant in the present Appeal. It is, therefore, not open for deliberation when the matter is considered by State Commission upon remand.' **[Para 16]**
- 4.8. That in light of the above, GSPL has filed the present Affidavit dated 03.06.2025 restricting its submission to Issue A i.e., AC:DC ratio required for achieving the CUF of 21% and Issue C only to the extent of the computation in Annexure A of the Tariff Order dated 29.01.2024.

INSTALLED CAPACITY CONSIDERED AS 10.72 MW (AC) INSTEAD OF 14.90 MWp (DC) (NOW CLAIMED FOR 13.24 MW) FOR DETERMINATION OF CAPITAL COST:

- 4.9. That in so far as the reliance placed by GSPL on the Order dated 25.10.2024 passed by the Hon'ble Tribunal in Appeal Nos. 326 and 149 of 2021 in the matter of Amplus Sun Solutions Private Limited v. Haryana Electricity Regulatory Commission & Ors. & Batch ('Amplus Judgment'), it may be noted that the Hon'ble Tribunal has remanded the matter to this Hon'ble Commission on the issue of AC v. DC capacity after holding that this Hon'ble Commission could not have disallowed the extra capital cost incurred by Amplus for installation of additional DC capacity while considering the CUF of 25.91% as proposed by Amplus. The CUF allowed by this Hon'ble Commission was more than the CUF prescribed in the RE Regulations in vogue.
- 4.10. That, in terms of the Judgment dated 23.04.2025 passed by the Hon'ble Tribunal, this Hon'ble Commission has been directed to conduct the prudence check for the required AC:DC ratio to achieve the specified CUF of 21%.
- 4.11. That in terms of the remand made by the Hon'ble Tribunal, GSPL has claimed an additional capital cost of Rs. 70.53 million and associated civil works towards the additional DC module of 2.52 MW on the alleged basis that with AC:DC ratio of 1:1, it can only achieve a CUF of 17.01% and for achieving the CUF of 21% it requires an additional DC capacity of 2.52 MW i.e., AC:DC ratio of 1:1.235.
- 4.12. That the above basis for claiming the additional capital cost is broadly baseless for the following reasons:
- (i) The assumption that with AC:DC ratio of 1:1, it can only achieve a CUF of 17.01% is contrary to the Order dated 29.01.2024 passed by this Hon'ble

Commission and the Judgement dated 23.04.2025 passed by the Hon'ble Appellate Tribunal; and

- (ii) The capital cost sought for the additional DC capacity is contrary and in excess of the capital cost determined by this Hon'ble Commission vide Order dated 29.01.2024.

It is relevant to note that decision on both the aspects mentioned above has become final and cannot be reopened in the present proceedings.

WRONG ASSUMPTION OF THAT ONLY 17.01% CUF CAN BE ACHIEVED WITH AC:DC RATIO OF 1:1

4.13. That GSPL has wrongly claimed that with an AC:DC ratio of 1:1, it can only achieve a CUF of 17.01% and consequently, has wrongly claimed that for achieving a CUF of 21%, it would require additional DC modules of 2.52 MW in the ratio of 1:1.235. The assumption taken by GSPL that only a DC CUF of 17.01% and corresponding AC CUF of 24.08 (with an AC:DC ratio of 1:1.39) can be achieved based on the PVSYST simulations, has already been rejected by this Hon'ble Commission.

4.14. That the CUF of 17.01% (corresponding to AC CUF of 24.08% with an AC:DC ratio of 1:1.39) was arrived at by GSPL after adjusting for system unavailability (1.94%) and grid downtime (0.67%). The above adjustments have been rightly rejected by this Hon'ble Commission as under:

"The Commission observes that while calculating CUF of 24.08%, 1.94% system unavailability has already been subtracted in the PVSYST report submitted by the petitioner and grid downtime of 0.67% has been again subtracted from the generated energy, to claim CUF of 24.08%. The Commission, in its Orders dated 18.01.2021 and 17.09.2021 in the matter of tariff determination of similarly placed Solar PV Power generator in case no. HERC/PRO-59 of 2020 (M/s. Amplus Sun Solutions Pvt. Ltd.) and in case no. HERC/PRO-70 of 2020 (M/s. LR Energy), respectively, had rejected the adjustment of the petitioner in the CUF, towards system unavailability. The Commission, in its ibid Order, had decided that "it is not inclined to build in compensation for grid unavailability by adjusting the CUF. However, over the project life cycle the degradation in module efficiency has become an established norm. Resultantly, the Commission has considered 0.50% degradation by accordingly adjusting the CUF over the useful life of the project."

Accordingly, CUF is not required to be adjusted for system unavailability and the deduction of 1.94% in the PVSYST report is to be added back while calculating CUF of 24.08%. However, even with the CUF of 24.08%, the approved capital cost/MW, per percentile of CUF comes out to Rs. 1.41 millions/MW (Rs. 34 millions/MW/24.08), which is lesser as compared to the Rs. 1.61 millions/MW per percentile and Rs. 1.87

millions/MW per percentile approved by the Commission in tariff determination proceedings in the case of M/s. LR energy and M/s. Avaada. Accordingly, the same may not give the tariff aligned to the market. The Commission is of the considered view that the tariff is the end result of various financial and technical components and CUF is one such component. The Commission has statutory obligation to ensure that the tariff determined by it is aligned to the market conditions so that the electricity consumers of Haryana are not un-necessarily burdened. However, the CUF of 17.01% at DC proposed by the petitioner, can also not be accepted, in view of the minimum acceptable capacity utilization factor of 21% for solar PV power projects, provided in the HERC RE Regulations, 2021. **Accordingly, the Commission is constrained to peg CUF at 21%, to give the approved capital cost/MW, per percentile of CUF at Rs. 1.62 millions/MW (Rs. 34 millions/MW/21). The approved CUF of 21%, taking into account of the revenue of Rs. 50.69 millions earned in the FY 2019-20 and FY 2020-21 which has been reduced from the project cost, for working out eligible depreciation, would ensure that the tariff is aligned to the market.**

(Emphasis Supplied)

- 4.15. That the above aspect had also not been challenged by GSPL before the Hon'ble Tribunal which has been duly noted by the Hon'ble Tribunal in the Order dated 23.04.2025 as under:
"adjustment made by Appellant on account of system unavailability and grid downtime in CUF calculations has been rejected by the State Commission in the Impugned Order and has not been challenged by the Appellant in the present Appeal. It is, therefore, not open for deliberation when the matter is considered by State Commission upon remand."
- 4.16. That in view of the above, it is incorrect on the part of GSPL to proceed on the basis that with an AC:DC ratio of 1:1, it can only achieve 17.01%. The above is not just contrary to the Order dated 29.01.2024 passed by this Hon'ble Commission but also against the remand made by the Hon'ble Tribunal.
- 4.17. That, if the above adjustments are to be added back to the CUF, then the AC CUF achieve would have been 26.69% (AC:DC ratio of 1:1.139) and corresponding would have resulted in DC CUF of 19.215% (AC:DC ratio of 1:1). In such circumstances, it is only 0.9958 MW (AC:DC ratio of 1:1.0928) would be required to achieve 21% and not 2.52 MW as being claimed by GSPL.
- 4.18. That minimum CUF of 19.215% at the AC:DC ratio of 1:1 is achievable by GSPL and consequently would only need to install 1 MW extra DC capacity. Consequently, it is respectfully submitted that the prudence check with regard to the capital cost of additional DC has to be restricted to only 1 MW.
- 4.19. That as regard the computation of CUF provided by GSPL, it is unclear on what basis

the sum of energy generation has been computed. GSPL may be directed to clarify the above aspect. The reliance placed by GSPL on the Judgement dated 16.11.2021 in Nisagra Renewable Energy Private Limited v. Maharashtra Electricity Regulatory Commission is misplaced, HPPC carves liberty to make appropriate submissions at the time of hearing.

CAPITAL COST IN REGARD TO THE ADDITIONAL DC CAPACITY

- 4.20. That the claim of GSPL for the capital cost of Rs. 70.53 million (Rs. 7.053 Crore) towards the installation of additional DC modules of 2.52 MW is incorrect and contrary to the submissions made hereinabove. It is reiterated that, to achieve a CUF of 21%, GSPL only requires an additional DC capacity of 1 MW and not 2.52 MW.
- 4.21. That the capital cost of 70.53 million as sought for by GSPL for extra DC Module and associated capital works of 2.52 MW is excessively and itself contrary to the capital cost decided by this Hon'ble Commission in the Order dated 29.01.2024. In the Order dated 29.01.2024, this Hon'ble Commission had approved cost of Rs. 156.60 Million towards solar modules. The per MW cost would Rs. 14.60 Million and if the same is calculated for 2.52 MW, the same would translate to Rs. 36.81 Million (without prejudice).
- 4.22. That in regard to the associated civil works, GSPL has not provided any breakup of the costs. It is submitted that GSPL, thereafter, has added EPC and other costs to the cost of procurement to arrive at the alleged cost of Rs. 70.53 Million. EPC costs such as cost for inverters cannot be included for considering the cost of additional 1 MW DC capacity.
- 4.23. That in view of the above, it is submitted that, since per MW capital cost approved by the Hon'ble Commission has attained finality and cannot be reopened in the present proceedings, this Hon'ble Commission ought to only consider the capital cost of Rs. 14.60 million for the additional DC capacity of 1 MW along with the applicable civil cost. HPPC reserves liberty to submit additional reply once the breakup of costs sought for by GSPL is provided.

Re: TARIFF OF RS. 2.81 PER UNIT SOUGHT FOR BY GSPL:

- 4.24. That GSPL has computed a tariff of Rs. 2.81 per unit considering a DC capacity of 13.24 as against the AC capacity of 10.72 with AC CUF of 21% (AC:DC ratio of 1:1.235), which is flawed and has been done considering that GSPL's Project can only achieve CUF of 17.01%, if AC:DC ratio of 1:1 is adopted. In view of the foregoing, GSPL would be able to achieve a CUF of 19.215% with an additional DC of 1 MW and therefore, would be entitled to a much lower tariff as sought for by GSPL.

Re: INCORRECT COMPUTATION OF THE LEVELIZED TARIFF OF RS. 2.35/KWH:

- 4.25. That the levelised tariff computed by the State Commission in Annexure A of the Impugned Order is correct.
- 4.26. That the contention of GSPL that this Hon'ble Commission has wrongly calculated the levelized tariff is wrong and denied. GSPL while computing the levelized tariff, has considered the discounting factor from the 1st Year of Commercial Operation Date i.e., 08.02.2023 for every year as against the discounting factor which has been made applicable from the 2nd year of Commercial Operation Date which is considered by this Hon'ble Commission.
- 4.27. That the levellised tariff has been defined under the HERC RE Regulations, 2021 as under:
"(19) 'Levellised Tariff' means the tariff calculated by carrying out levelisation for 'useful life' of each technology considering the discount factor for time value of money."
- 4.28. That the Discount Factor has been defined in the HERC RE Regulations, 2021 as under:
"70. Discount Factor. – The discount factor for working out levelised generic tariff shall be the weighted average cost of capital (WACC)."
- 4.29. That Regulation 9(2) of the HERC RE Regulations, 2021 reads as under:
"(2) For the purpose computation of levellised tariff, the discount factor equivalent to weighted average cost of capital {Term Loan (R) and Return on Equity (RoE)} shall be considered i.e. $\{(R \times 0.7) + (RoE \times 0.3)\}$."
- 4.30. That the levelized tariff is the tariff determined for the useful life of the project from the date of COD. This Hon'ble Commission in the Order dated 29.01.2024 has recognised that *'discounting factor for working out the levelized tariff, for the entire useful life of the project i.e. 25 years, shall be the weighted average cost of capital i.e. 10.02%. (70% loan) and 14% (30% Equity Capital) i.e. 11.21%. As the tax (MAT / Corporate Tax) is not built into the tariff model i.e., as per the RE Regulations in vogue it has to be claimed on an actual basis, impact of the same has not been considered for working out Weighted Average Capital Cost in the present case.'*
- 4.31. That a perusal of the above makes it clear that "Levellised Tariff" is computed considering the discount factor for the *"time value of money"*. The *"discount factor"* or the *"time value of money"* for the first year has to be considered as unity i.e., 1, and not otherwise, as being considered by GSPL. The discount factor is computed in the following manner:

$$\text{Discount Factor} = 1/(1+d)^n$$

Wherein:

n = number of years over which the Tariff has to be paid from the date of COD till 25 years

d = Discount rate

- 4.32. That while computing the discount factor for the first year, the 'n' would be considered as 0 leading to a discount factor of 1 as there is no change in the money available to GSPL in the first year. It is on the above basis that the State Commission has computed the discount factor. The above approach of the State Commission is consistent with the approach of the Hon'ble Central Commission while determining the generic tariff. In this regard, the relevant extracts from the generic tariff order passed by the Hon'ble Central Commission for FY 2016-2017 are attached.
- 4.33. That GSPL has mentioned the discounting factor as 1 for the first year, however, has applied the discounting factor of 0.90 for the First Year while calculating the levelized tariff. Thus, in light of the submissions made hereinabove GSPL's calculation of discounting factor from the First Year is erroneous and contrary to the standard practice of calculations. Even if discounting factor is considered 0.9 for the first year as per contention of the GSPL, then the discounted tariff ought to be calculated based on the same for the first year and thereon. Based on this also, the levelized tariff of the project works out to be Rs. 2.35/kWh.

5. **Petitioner's rejoinder under affidavit dated 12.09.2025 to the reply of HPPC dated 02.07.2025:-**

A. APPROVED AC CUF OF 21% CANNOT BE ACHIEVED WITH AC:DC RATIO OF 1:1

- 5.1. That the Hon'ble APTEL vide judgment dated 25.10.2024 passed in Appeal Nos. 326 and 149 of 2021 titled **Amplus Sun Solutions Pvt. Ltd. v. HERC & Ors. & batch** ("**Amplus Judgment**"), has *inter-alia* held that: -

5.1.1. Capital Cost shall be determined considering the DC modules corresponding to CUF of the project. [Para 30]

5.1.2. AC:DC ratio, associated capital cost and the resultant CUF are interlinked. Thus, this Hon'ble Commission had erred by disallowing the capital cost for the additional DC capacity (modules) of 25 MWp against the AC capacity of 50 MW, while at the same time, fixing higher CUF which can only be achieved with higher AC:DC ratio (i.e., additional DC capacity). [Para 37]

Relevant extracts from the **Amplus Judgment** are reproduced as under: -

"Analysis and Discussion

28. *Heard learned counsel on both sides mainly on the issue of Capital Cost and corresponding CUF. Main contention urged on behalf of the Amplus is that the State commission, though has disallowed cost for 25 MW DC module (over and above 50 MW DC module), has considered higher CUF of 25.91% which is achievable only if for AC of 50 MW, DC module of 75 MW are considered; it is not possible to achieve*

25.91% CUF with 50 MW DC module with 50 MW AC. In the past, the State commission has allowed CUF of 17% with AC: DC module ratio of 1:1. On the other hand, the contention urged on behalf of HPPC is that in spite of acknowledging higher per MW cost of Amplus project, without prudence check of the cost, proportionate cost of 50 MW DC modules for 50 MW AC project has been allowed, and as such, the CUF considered should be higher i.e. 27.17% against the allowed CUF of 25.91%, as claimed by Amplus.

[...]

30. The State Commission, in the impugned order, has disallowed Rs 44 Crore on account of additional 25 MW DC module (claimed Rs 132 Crore for 75 MW DC module, allowed Rs 88 Crore for 50 MW DC module) and about Rs 6.81 crore associated civil work cost (claimed Rs 20.41 Crore for 75 MW DC module, allowed Rs 13.61 Crore for 50 MW DC module); besides disallowed certain other costs like Interest during construction (Rs 9.59 Crore), Project Management Expenses (Rs 23.75 Crore), and overall approved capital cost of Rs 191.25 Crore against the claim of Amplus for capital cost of Rs 275.4 Crore. The State Commission has further observed that approved capital cost of Rs 191.25 crore for 50 MW project works out to Rs 3.85 Crore per MW which is comparatively higher comparing it with benchmark cost of Rs 3.56 Crore per MW; **in our view given the benefit of higher CUF of 25.91% proposed by Amplus, the capital cost need to consider the DC modules cost corresponding to higher CUF, subject to prudence check.** We, however, refrain from expressing a conclusive view on this aspect as these are matters for the commission to consider in accordance with law. In the impugned order, the Commission approved CUF of 25.91%, as proposed with annual degradation of 0.5% and worked out levelized tariff of Rs 2.48 per unit.

35. **On a query by this Tribunal, learned counsel for Amplus has submitted that considering AC: DC module ratio as 1:1 for their project, the CUF shall be only 17.3% and resultant levelized tariff would be Rs. 3.71 per Kwh on the approved capital cost of Rs 191.25 Crore and other parameters as per Impugned order; and CUF of 19 % is achievable only with AC:DC ratio of 1:1.11,** requiring about Rs 11.95 Crores of additional cost, then the resultant levelized tariff works out to Rs 3.55/Kwh with capital cost of Rs 203.20 Crore (Rs 191.25 + Rs 11.95 Crore) and other parameters same as that of the impugned order.

36. Learned counsel for HPPC has also claimed that prudence check on the CUF and other costs submitted by Amplus has not been carried out by the State commission, which resulted in allowing higher cost and lower CUF to Amplus.

37. **In our view, the ratio of AC: DC module, associated capital cost and resultant CUF are interlinked and the State Commission has erred by disallowing**

the Capital Cost on higher DC module but at the same time considered the higher CUF, which can possibly be achieved with higher DC: AC ratio; and, had also not carried out prudence check of the capital cost and associated CUF while determining tariff under section 62, therefore it needs reconsideration.”

[Emphasis Supplied]

- 5.2. That in so far as the above findings in the Amplus Judgment are concerned, it is submitted that the Hon'ble APTEL had not granted the relief to Amplus solely on the fact that the allowed CUF was higher than the CUF prescribed under the HERC RE Regulations 2017. Rather, as is evident from Para 30 & 37 of the Amplus Judgment, the relief was granted on the principle that in case of project-specific tariff determination, capital cost of DC modules required for achieving the approved CUF or CUF prescribed under the applicable regulations ought to be allowed.
- 5.3. That the above has also been recognized in Para 15-16 of the Remand Judgment dated 23.04.2025, wherein the Hon'ble Tribunal took note of the ***Amplus Judgment*** and further held that the project specific tariff should reflect the actual costs incurred towards setting up the Project, as under: -
- “15. ***In our considered view, the project-specific tariff determination under Section 62 of the Electricity Act is to arrive at a tariff that is uniquely tailored to the economic and operational realities of a particular project, while being subject to stringent checks for transparency, fairness, and policy consistency; such an approach not only helps secure return on investment but also ensures that tariff levels remain in line with consumer protection goals and broader market efficiency. The project specific tariff reflects actual costs incurred subject to prudence check.***
16. ***It is trite that the ratio of AC:DC module, the associated capital cost and the resultant CUF are interlinked, as held in “Amplus Sun Solutions Pvt. Ltd. v. HERC & Ors” in Appeal No. 326 & 149 of 2021”. In our view, in the absence of any stipulation with regard to an AC:DC ratio for achieving specified CUF in the HERC Regulations 2021, it is important for the State Commission to make prudence check of required AC:DC ratio for achieving the specific CUF while undertaking project specific Tariff determination in Appellant’s Solar PV Project. Since such an exercise has not been carried out by the State Commission in the present case, we are inclined to remand the matter to the State Commission for carrying out such prudence check and it is made clear that we have not expressed any opinion on the rival contentions made herein. ...”***
- 5.4. That GSPL is entitled to the entire capital cost towards installation of additional DC capacity which is necessitated for achieving the approved AC CUF of 21%.
- 5.5. That to achieve the AC CUF of 21% with AC capacity of 10.72 MW, GSPL is required

to: -

(a) Based on PVSYST projections, install a minimum of 13.24 MWp DC Capacity (with AC:DC ratio of 1:1.235); and

(b) Based on actual generation data for the Project from FY 2021-22 to FY 2024-25, verified by HPPC under the monthly joint meter readings for electricity supplied by GSPL during the aforesaid period, install approximately 14.27 MWp DC Capacity (with AC:DC ratio of 1:1.331).

5.6. That based on PVSYST projections, the minimum DC capacity of 13.24 MWp has been arrived at, as under: -

Description	Units
Plant DC CUF [A]	17.01%
Plant Yield (kWh/kWp) [B = A*8760 hrs.]	1490.076
Plant DC Capacity (MWp) [C]	14.901
Total Plant Yield (kWh) [D = B*C*1000]	2,22,03,622.48
Plant AC CUF [E = D/10.72/24/365/1000]	23.64%
Plant AC Capacity (MW)	10.72
To achieve 21% AC CUF	
Plant AC CUF [F]	21%
Hence Total Plant Yield (kWh) [G = F/E*D]	1,97,20,512.00
Plant DC Capacity required [H = G/D*C]	13.24
Hence, AC/DC Ratio [i.e., 13.24/10.72]	1.235

5.7. That in the Order dated 29.01.2024, this Hon'ble Commission did not reject the PVSYST projections submitted by GSPL but merely pegged the CUF to 21% in terms of Regulation 48 of the HERC RE Regulations 2021. This Hon'ble Commission acknowledged that the result of this Hon'ble Commission's computation of the projected generation (i.e., 22.53 MUs per year) was almost similar to the result of the PVSYST simulations (i.e., 22.21 MUs per year), as under: -

“... The petitioner has averred that based on the PVSYST simulations for the Project, the CUF is estimated to be 17.01% DC (24.08% CUF AC), with an annual degradation in CUF of 0.50%. The simulation parameters (PVSYST V6.88) dated 17.03.2022 is for 20 MWac, with grid power limited to 10.7 MW (Si Poly) at a performance ratio (PR average) of 76.89%, the simulated produced energy is 22.21 MUs per year. It is observed that at the minimum benchmark CUF of 21%, the project would have generated 19.72 Mus per year (10.72 MW X 21% X 8760 Hrs. /1000). Further, the energy produced would increase by 0.94 MUs with every percentage (%) increase in the CUF. Consequently, with a CUF of 24%, the project would generate 22.53 Mus per year i.e. almost similar to PVSYST simulation results of 22.21 MUs of energy injected into the grid. ...”

- 5.8. That based on actual generation data from FY 2021-22 to FY 2024-25, obtained from the Joint Meter Readings (“JMRs”) verified and counter-signed by HPPC, the requirement of DC capacity of 14.27 MWp has been arrived at, as under: -

Calculation of DC capacity required to achieve 21% CUF basis actual generation data			
Financial Year	Actual Plant Energy Generation (kWh) [based on 14.90 MWp DC]	No of Days in the FY	Annual CUF Calculation
FY 2020-21	72,63,455.00	141	20.02%
FY 2021-22	2,17,97,927.00	365	23.21%
FY 2022-23	1,96,73,505.00	365	20.95%
FY 2023-24	2,02,26,554.00	365	21.54%
FY 2024-25	2,07,00,130.00	366	21.98%
FY 2025-26	72,85,263.00	122	23.21%
Average CUF for 4 consecutive full financial years (FY 2021-22 to FY 2024-25) [A]			21.92%
Thus, DC capacity required to achieve 21% CUF (in MWp) [B = 14.90 / A (i.e., 21.92%) x 21] [See Note 1]			14.27
AC:DC ratio [i.e., 14.27 / 10.72]			1.331
Additional DC Capacity required (in MWp) [i.e., 14.27 – 10.72]			3.55
Note 1: DC capacity (in MWp) required to achieve average CUF of 21.92% = 14.90 DC capacity (in MWp) required to achieve CUF of 1% = 14.90 / 21.92 Therefore, DC capacity (in MWp) required to achieve CUF of 21% = (14.90 / 21.92) x 21 = 14.27			

The detailed computation regarding requirement of the DC capacity to achieve 21% AC CUF basis actual generation data is annexed hereto.

The copies of the JMRs from November 2020 till July 2025, verified and counter-signed by HPPC, are annexed hereto.

- 5.9. That HPPC has contended that the CUF of 17.01% (corresponding to AC CUF of 24.08% with an AC:DC ratio of 1:1.39) was arrived at by GSPL after adjusting for system unavailability (1.94%) and grid downtime (0.67%), which had been disallowed and if these adjustments are to be added back to CUF, then GSPL would be able to achieve DC CUF of 19.215% with AC:DC ratio of 1:1. The said contentions of HPPC are incorrect, baseless and merit no consideration, for reasons detailed hereunder.
- 5.10. That HPPC’s reliance on PVSYST simulations submitted by GSPL during the tariff determination process, is erroneous and misleading. It bears mention that during the tariff determination process before this Hon’ble Commission, HPPC itself objected to the PVSYST simulations submitted by GSPL by *inter-alia* stating that (as extracted from the Tariff Order dated 29.01.2024): -

“5. HPPC’s (R-1) Submissions

5.20. CUF: *The Petitioner has submitted that – ‘Based on the PVSYST simulations for the Project, the CUF is estimated to be 17.01% DC (24.08% CUF AC), with annual degradation in CUF of 0.50%.’ However, as per the RE Regulations, 2021 it has been provided that – “... the minimum capacity utilization factor for Solar PV project including floating solar project shall be 21%.”*

5.21. ... The petitioner has claimed CUF of 17.01% DC (24.08% CUF AC) based on PVsyst simulations report for the Project. At the very outset, it is submitted that **PVsyst provides statistical estimates under different probabilities. The simulation results thus, achieved are dependent on various presumptions taken at the choice of the person preparing the report. The radiation data is available from different sources and varies from source to source. The input solar radiation is a variable factor which impacts the results of the simulation. Thus, considering Net Electrical Energy Generation obtained from PVsyst simulations may not be an effective indicator of the CUF.** As such, a minimum of 21% of CUF may be allowed in terms of the RE Regulations, 2021 as against the CUF of 17.01% DC (24.08% AC) claimed by the Petitioner.”

- 5.11. That HPPC cannot approbate and reprobate or blow hot and cold, by objecting to the PVSYST simulations during the tariff determination process and now relying upon the PVSYST simulations to suit its interests. In this regard, reliance can be placed on: -
- (a) **UHBVNL & Anr. v. Adani Power (Mundra) Ltd.**(2023) 14 SCC 736 (**Para 53**).
 - (b) **Union of India & Ors. v. N. Murugesan & Ors.,** (2022) 2 SCC 25 (**Para 26**)
 - (c) **State of Punjab v. Dhanjit Singh Sandhu** (2014) 15 SCC 144 (**Para 22-26**)
 - (d) **Rajasthan State Industrial Development & Investment Corpn. v. Diamond & Gem Development Corpn. Ltd.** (2013) 5 SCC 470 (**Paras 15-16**).
- 5.12. That even otherwise, HPPC's contention that in the Order dated 29.01.2024, this Hon'ble Commission had disallowed the system unavailability (1.94%) and grid downtime (0.67%) in CUF calculations, is incorrect and misleading. It is submitted that in the Order dated 29.01.2024, this Hon'ble Commission did not disallow deduction of grid downtime (0.67%) in GSPL's CUF computation. In this regard, relevant extracts from the Tariff Order dated 29.01.2024 are reproduced as under: -

“9. Commission's Analysis and Order

[...]

11. The Commission has perused the broad guidelines of the relevant regulations as re-produced below:

“48. Capacity Utilization Factor. – The Commission shall approve capacity utilization factor for project specific tariff determination.

Provided that the minimum capacity utilization factor for Solar PV project including floating solar project shall be 21%.

...

... The PVSYST report appended by the petitioner is in the name of Cleantech Solar Development Company incorporated in Singapore for 20 MWac and not in the name of the petitioner herein. However, the active power in the said report is stated as 10.7 MW and the location is Kuraganwali (Latitude 29.78 degrees North and Longitude

75.08 degrees East) i.e. same that of the Pv project of the petitioner i.e. M/s Greenyana Solar, **the Commission has examined the said simulation report dated 17.03.2022 as under: -**

The petitioner has averred that based on the PVSYST simulations for the Project, the CUF is estimated to be 17.01% DC (24.08% CUF AC), with an annual degradation in CUF of 0.50%. The simulation parameters (PVSYST V6.88) dated 17.03.2022 is for 20 MWac, with grid power limited to 10.7 MW (Si Poly) at a performance ratio (PR average) of 76.89%, the simulated produced energy is 22.21 MUs per year. It is observed that at the minimum benchmark CUF of 21%, the project would have generated 19.72 Mus per year (10.72 MW X 21% X 8760 Hrs. /1000). Further, the energy produced would increase by 0.94 MUs with every percentage (%) increase in the CUF. Consequently, with a CUF of 24%, the project would generate 22.53 Mus per year i.e. almost similar to PVSYST simulation results of 22.21 MUs of energy injected into the grid.

The Commission observes that while calculating CUF of 24.08%, 1.94% system unavailability has already been subtracted in the PVSYST report submitted by the petitioner and grid downtime of 0.67% has been again subtracted from the generated energy, to claim CUF of 24.08%. The Commission, in its Orders dated 18.01.2021 and 17.09.2021 in the matter of tariff determination of similarly placed Solar PV Power generator in case no. HERC/PRO-59 of 2020 (M/s. Amplus Sun Solutions Pvt. Ltd.) and in case no. HERC/PRO-70 of 2020 (M/s. LR Energy), respectively, had rejected the adjustment of the petitioner in the CUF, towards system unavailability. The Commission, in its ibid Order, had decided that “it is not inclined to build in compensation for grid unavailability by adjusting the CUF. However, over the project life cycle the degradation in module efficiency has become an established norm. Resultantly, the Commission has considered 0.50% degradation by accordingly adjusting the CUF over the useful life of the project.”

Accordingly, CUF is not required to be adjusted for system unavailability and the deduction of 1.94% in the PVSYST report is to be added back while calculating CUF of 24.08%. However, even with the CUF of 24.08%, the approved capital cost/MW, per percentile of CUF comes out to Rs. 1.41 millions/MW (Rs. 34 millions/MW/24.08), which is lesser as compared to the Rs. 1.61 millions/MW per percentile and Rs. 1.87 millions/MW per percentile approved by the Commission in tariff determination proceedings in the case of M/s. LR energy and M/s. Avaada. Accordingly, the same may not give the tariff aligned to the market. The Commission is of the considered view that the tariff is the end result of various financial and technical components and CUF is one such component. The Commission has statutory obligation to ensure that the tariff determined by it is aligned to the market conditions

so that the electricity consumers of Haryana are not un-necessarily burdened. However, **the CUF of 17.01% at DC proposed by the petitioner, can also not be accepted, in view of the minimum acceptable capacity utilization factor of 21% for solar PV power projects, provided in the HERC RE Regulations, 2021. Accordingly, the Commission is constrained to peg CUF at 21%, to give the approved capital cost/MW, per percentile of CUF at Rs. 1.62 millions/MW (Rs. 34 millions/MW/21).** The approved CUF of 21%, taking into account of the revenue of Rs. 50.69 millions earned in the FY 2019-20 and FY 2020-21 which has been reduced from the project cost, for working out eligible depreciation, would ensure that the tariff is aligned to the market.

12. CUF Degradation - Additionally, annual degradation in the CUF has been considered as 0.50% in line with the HERC RE Regulations, 2021.”

[Emphasis Supplied]

Evidently, in the Order dated 29.01.2024, this Hon'ble Commission observed that only system unavailability (1.94%) can be adjusted in computation of CUF and not grid downtime of 0.67%.

5.13. That even otherwise, HPPC's computation of DC CUF of 19.215% (AC CUF of 26.69%) with AC:DC ratio of 1:1 after adding back system unavailability (1.94%) and grid downtime (0.67%), is incorrect for the following reasons: -

- (a) The adjustment of grid downtime (0.67%) was not disallowed by this Hon'ble Commission in the Tariff Order.
- (b) HPPC has arrived at the alleged AC CUF of 26.69% by simply adding 1.94% towards system unavailability and 0.67% towards grid downtime to the overall AC CUF of 24.08% (i.e., $24.08 + 1.94 + 0.67 = 26.69$). This method of adding back system unavailability and grid downtime is erroneous. Even assuming that the system unavailability of 1.94% is to be added back to the AC CUF of 24.08%, HPPC ought to have increased the total generation by adding back the system unavailability of 1.94%, which would increase the AC CUF only to 24.12%, as under: -

$$\text{AC CUF} = \frac{\text{Generation} \times (1 + 1.94\%)}{10.72 \times 24 \times 365 \times 1000}$$

Computation of the AC CUF arrived at after adding back the system unavailability of 1.94% to the AC CUF of 24.08% (based on projections) is annexed herewith.

- (c) Accordingly, even assuming HPPC's contention that system unavailability of 1.94% is to be added back to the AC CUF, the resultant AC CUF would only be 24.12% and not 26.69%.

Accordingly, HPPC's contentions and computation of CUF% are incorrect and merit no consideration by this Hon'ble Commission.

- 5.14. That to achieve the AC CUF of 21%, GSPL is required to: -
- (a) Based on PVSYST projections, install a minimum of 13.24 MWp DC Capacity (with AC:DC ratio of 1:1.235); and
 - (b) Based on actual generation data from FY 2021-22 to FY 2024-25, verified by HPPC, install approximately 14.27 MWp DC Capacity (with AC:DC ratio of 1:1.331).
- 5.15. That the DC overloading of 123.50% (based on projections) and **133.11% (based on actual generation data verified by HPPC)** required to achieve the allowed AC CUF of 21% is, in fact, much lower than the **DC overloading of 145% and 146% recognized by the Hon'ble APTEL in its Judgment dated 16.11.2021 in *Nisagra Renewable Energy Pvt. Ltd. etc. v. Maharashtra Electricity Regulatory Commission & Anr. etc.* 2021 SCC OnLine APTEL 81 and DC overloading of 150% allowed by Solar Energy Corporation of India ("SECI") in its RFS for 'Selection of Solar Power Developers for Setting up of 1200 MW ISTS-Connected Solar PV Power projects in India under Tariff-based Competitive Bidding (ISTS-VIII)' dated 03.01.2020 (as amended vide Amendment 2).** Accordingly, the DC overloading of 123.50% (based on projections) and 133.11% (based on actuals) by GSPL is prudent and ought to be allowed by this Hon'ble Commission.

B. GSPL IS ENTITLED FOR CAPITAL COST FOR ADDITIONAL DC CAPACITY OF 2.52 MWp

- 5.16. That in Para 26 to 28 of its Reply, HPPC has *inter-alia* contended that: -
- (a) The capital cost of Rs. 70.53 million as sought for by GSPL for extra DC Module and associated capital works of 2.52 MWp is excessive.
 - (b) In the Order dated 29.01.2024, this Hon'ble Commission had approved cost of Rs. 156.60 million towards solar modules, i.e., Rs. 14.60 million per MWp. Thus, for 2.52 MWp, the cost of solar modules would translate to Rs. 36.81 million only. EPC and other costs cannot be added.

The above contentions of HPPC are ex-facie erroneous.

- 5.17. That to achieve the approved AC CUF of 21% with AC capacity of 10.72 MW, GSPL is required to: -
- (a) Based on PVSYST projections, install a minimum of 13.24 MWp DC Capacity (with AC:DC ratio of 1:1.235); and
 - (b) Based on actual generation data from FY 2021-22 to FY 2024-25, verified by HPPC, install approximately 14.27 MWp DC Capacity (with AC:DC ratio of 1:1.331).
- 5.18. That once the additional DC capacity is allowed, GSPL is entitled for the consequential Capital Cost corresponding to the additional DC capacity. In this regard, it is submitted

that this Hon'ble Commission in the Tariff Order dated 29.01.2024 had approved the Capital Cost for GSPL's Project [at internal page 50], as under: -

"10. Capital Cost

..... In view of the above discussions, the Capital Cost considered by the Commission for the purpose of tariff determination in the present case is Rs. 364.46 million i.e., Rs. 34 Million / MWp as tabulated below: -

S. No.	Project Cost (Rs Million)	HERC Allowed
1	Cost of Solar Modules (inc logistics)	156.60
2	EPC Cost (Balance of Systems)	144.37
3	Land and Site Development	50.82
4	IDC and Finance Charges	12.67
	Total Project Cost (10.72 MWp)	364.46
	Rs Min / MWp	34.00 (rounded off)

[Emphasis Supplied]

- 5.19. That in view of the above, GSPL is entitled for recovery of the consequential capital cost towards the additional DC capacity, as under: -

SN	Project Cost (Rs Million)	Approved by HERC		For 13.24 MWp [C=B*13.24]	For 14.27 MWp [D=B*14.27]
		Cost for 10.72 MWp [A]	Cost per MWp [B=A/10.72]		
1.	Cost of Solar Modules (inc logistics)	156.6	14.61	193.41	208.46
2.	EPC Cost (Balance of Systems)	144.37	13.47	178.31	192.18
3.	Land and Site Development	50.82	4.74	50.82*	50.82*
4.	IDC and Finance Charges	12.67	1.18	12.67*	12.67*
5.	Total	364.46	34.00	435.21	464.13
6.	(less) Already allowed in Tariff Order dated 29.01.2024	-	-	(364.46)	(364.46)
7.	Remaining Capital Cost to be allowed	-	-	70.75	99.67

*Although GSPL is entitled for consequential cost towards 'Land and Site Development' and 'IDC and Finance Charges', GSPL has restricted its claim only to Cost of Solar Modules and EPC Cost (Balance of Systems).

- 5.20. That HPPC's contention that GSPL is only entitled for the cost of the additional solar modules and not for the EPC and other costs, is incorrect. It is submitted that in terms of the Remand Judgment dated 23.04.2025 (Para 18), GSPL is entitled to the cost of additional DC solar modules as well as its consequential costs, including EPC Cost, Land and Site Development and IDC and Finance Charges. However, GSPL is limiting its claim only to the cost of DC solar modules and EPC Cost, as tabulated above.
- 5.21. That considering the above capital cost and the additional DC capacity required to achieve the approved AC CUF of 21% with 10.72 MW AC capacity, the resultant levelized tariff would be: -
- (a) Considering DC capacity of 13.24 MWp and AC:DC ratio of 1:1.235 (based on projections): -

- (i) Rs. 3.13 per kWh (as per GSPL methodology i.e., PMT formula); and
 - (ii) Rs. 2.81 per kWh (as per this Hon'ble Commission's methodology (indicated in Annexure A of the Order dated 29.01.2024).
 - (b) Considering DC capacity of 14.27 MWp and AC:DC ratio of 1:1.331 (based on actual generation data): -
 - (i) Rs. 3.34 per kWh (as per GSPL methodology i.e., PMT formula); and
 - (ii) Rs. 3.01 per kWh (as per this Hon'ble Commission's methodology (indicated in Annexure A of the Tariff Order dated 29.01.2024).
- 5.22. That in the Annexure A-3 to the Affidavit dated 03.06.2025, an inadvertent computational error had crept in wherein the total Capital Cost basis the DC capacity of 13.24 MWp (based on projections) was wrongly considered as Rs. 434.99 million, instead of Rs. 435.21 million in the computation of levelized tariff. Correct version of the Annexure A-3 regarding computation of levelized tariff considering DC capacity of 13.24 MWp (with AC:DC ratio of 1:1.235) to achieve 21% AC CUF, is annexed. Further, detailed computation of the levelized tariff considering the DC capacity of 14.27 MWp (with AC:DC ratio of 1:1.331) to achieve 21% AC CUF, is also annexed.
- 5.23. That in terms of Article 4.2 of the PPA dated 20.02.2023 executed with HPPC wherein GSPL had agreed to a ceiling tariff of Rs. 2.75 per kWh for the term of the PPA, GSPL is restricting its claim only to the tariff of Rs. 2.75 per kWh, even though the resultant tariff based on AC:DC ratio of 1:1.235 or 1:1.331 works out to be more than the ceiling of Rs. 2.75 per kWh.
- 5.24. That basis the final tariff to be determined by this Hon'ble Commission in the present remand proceedings, GSPL ought to be allowed to recover the balance differential amount from HPPC for the entire power supplied from the Project to HPPC from 20.02.2023 onwards (i.e., after signing of the PPA).

C. INCORRECT COMPUTATION OF LEVELIZED TARIFF OF RS. 2.35/KWH IN ANNEXURE A OF THE TARIFF ORDER

- 5.25. That HPPC has contended that the levelized tariff of Rs. 2.35 per unit has been computed in Annexure A of the Tariff Order, considering the discounting factor of 1 from the first year of COD of 08.02.2023, as there is no change in the money available to GSPL in the first year. However, even though GSPL has mentioned discount factor of 1 for the first year, it has applied the discounting factor of 0.90 for the first year in its computation. The said contentions of HPPC are incorrect and merit no consideration.
- 5.26. That GSPL has computed the levelized tariff by considering the discount factor for the first year as '1' only and the data/details mentioned in Annexure A to the Tariff Order, using the PMT formula, which has also been mentioned in the said annexure. HPPC's contention that GSPL has applied the discounting factor of 0.90 for the first year is

incorrect, baseless and is completely based on conjectures.

- 5.27. That as per GSPL's computation (basis the PMT formula) and based on the data / details mentioned in Annexure A to the Tariff Order, the levelled tariff for GSPL's Project comes to Rs. 2.62 per kWh, instead of Rs. 2.35 per kWh computed by this Hon'ble Commission. In this regard, it bears mention that GSPL had already shared its computation with this Hon'ble Commission on 19.03.2024 (by way of an email) and on 26.03.2024 (by way of Rectification Application) and requested this Hon'ble Commission to either share the back calculation sheet (in excel) and/or the formula used to arrive at the levelized tariff of Rs. 2.35/kWh or to rectify the levelized tariff based on GSPL's computation.
- 5.28. That GSPL humbly requests this Hon'ble Commission to share the tariff computation sheet (in excel) and the formula used to arrive at the levelized tariff of Rs. 2.35/kWh. GSPL's reserves its right to make further submission on this issue once the aforesaid details are provided by this Hon'ble Commission.
- 5.29. That in terms of Section 86(3) of the Electricity Act, Clause 5.8.8 of the National Electricity Policy, 2005 and Clause 4.0 of the Revised Tariff Policy, 2016, this Hon'ble Commission is duty bound to ensure transparency while exercising its powers and discharging its functions under the Act. The principle of transparency is a statutorily recognized concept, and this Hon'ble Commission is bound by it. The same has also been recognized in: -
- (a) *PTC India Ltd. v. CERC & Ors.*, (2010) 4 SCC 603 (Para 54)
 - (b) *Tata Communications Ltd v. Telecom Regulatory Authority of India & Ors*; 2018 SCC OnLine Mad 1991 (Para 5cb) wherein the High Court held that it is an essential aspect of transparency that the basis for a decision has to be made available and known to the stakeholders.
 - (c) *Videsh Sanchar Nigam Limited v. Telecom Regulatory Authority of India*: 2005 SCC OnLine TDSAT 38, wherein the Hon'ble Telecom Disputes Settlement and Appellate Tribunal held that by not disclosing certain documents and information, the Telecom Regulatory Authority of India (TRAI) has breached the mandatory requirement of transparency in its functioning.

Commission's Analysis and Order

6. The Commission heard the arguments of the parties at length on various dates viz. 03.06.2025, 09.10.2025 and finally on 19.11.2025. The Commission has also carefully perused the written submissions placed on record by the petitioner as well as the respondent no. 1 (HPPC). The Commission observes that the impugned order dated 29.01.2024 passed in Petition No. 33 of 2023 was remanded by Hon'ble Appellate Tribunal for Electricity (APTEL) on the limited issue, specifically requiring a prudence

check with respect to the appropriate AC:DC ratio necessary to achieve the specified CUF of 21% as against the petitioner's claim of 17% CUF with AC: DC ratio of 1:1. The remand directions further require examination of the capital cost of DC modules corresponding to the allowed DC capacity as well as consideration of computational issue raised by the petitioner.

7. The Commission observes that the present remand back is limited strictly to the issue of allowing the reasonable DC capacity corresponding to the approved AC capacity and capital cost of DC modules corresponding to such allowed DC capacity. This remand is distinct from the remand directions issued by the Hon'ble APTEL vide orders dated 21.02.2025 in Appeal No. 91 of 2022 and Appeal No. 31 of 2023, and dated 25.10.2024 in Appeal No. 326 of 2021 and Appeal No. 149 of 2021, wherein the Commission's orders relating to tariff determination of similarly placed solar power generators were remanded for redetermination of tariff after undertaking a comprehensive prudence check of the capital cost, including allied issues, and after considering the feasible CUF corresponding to the capital cost and AC:DC module capacity allowed.

Thus, all other issues, including the capital cost as determined in the Commission's order dated 29.01.2024, have attained finality and do not warrant reconsideration in the present proceedings. The prudence check exercised by the Commission while approving the capital cost, including the per MW cost of modules, is not under challenge in the present lis. The Commission shall, however, address the computational error alleged by the petitioner while working out the levelised tariff. Consequently, the attempt made by the petitioner to expand the scope of the present remand proceedings by altering the claims raised before the Hon'ble APTEL, particularly with respect to the AC:DC ratio and the capital cost components other than the cost of DC modules, is beyond the scope of the remand and, therefore, not being considered in the present order.

8. Accordingly, the Commission has framed the following issues for consideration and decision in the matter:-

Issue No. 1: What DC capacity should be feasible corresponding to the approved CUF of 21%?

Issue No. 2: What should be the revised capital cost after allowing the capital cost of DC modules corresponding to the allowed DC capacity?

Issue No. 3: Is there any computation error in working out the levelized tariff?

After hearing the learned counsels for the parties and going through the record of the appeal, the findings of the Commission on the issues framed above, are as under:-

8.1. Issue No. 1: What DC capacity should be feasible corresponding to the approved CUF of 21%?

The Commission has taken note of the remand order of Hon'ble Appellate Tribunal for Electricity (APTEL) dated 23.04.2025, wherein it was observed that with an AC:DC ratio of 1:1, a CUF of only about 17% is achievable. Accordingly, a CUF of 21% would require augmentation of DC capacity beyond an AC:DC ratio of 1:1, which, on a proportional basis, works out to an AC:DC ratio of 1:1.235. The relevant part of the ibid order is reproduced hereunder:-

“Considering the contention of the Appellant that with AC: DC ratio as 1:1, a CUF of only about 17 % is achievable and as held above that adjustment for system unavailability (1.94%) and grid downtime (0.67%) is now not open for deliberation and accordingly if same is added back..”

The above observation is also in consonance with the submissions made by the Petitioner, dated 03.06.2025, before this Commission. The petitioner, vide its affidavit dated 03.06.2025, submitted that achievement of the approved CUF of 21% would require DC capacity of 13.24 MW, corresponding to an AC:DC ratio of 1:1.235, for generation from an AC capacity of 10.72 MW. The petitioner also furnished detailed computations in support thereof, as reproduced below:-

“Computation of CUF considering AC:DC ratio of 1:1.235 (i.e., DC Capacity of 13.24 MWp) and AC:DC ratio of 1:1 (i.e., DC Capacity of 10.72 MWp)

		10720	13239.2	
Relevant FY	Sum of Energy Generation kWh	CUF considering AC:DC ratio of 1:1.235 (13.24 MWp DC capacity)	CUF considering AC:DC ratio of 1:1 (10.72 MWp DC capacity)	No. of days
FY 2020-21	72,63,455	18.70	15.14	151
FY 2021-22	2,17,97,927	23.21	18.80	365
FY 2022-23	1,96,73,505	20.95	16.96	365
FY 2023-24	2,02,26,554	21.54	17.44	365
FY 2024-25	2,07,00,130	21.98	17.80	366
FY 2025-26	16,96,263	21.98	17.80	30

”

However, the Commission notes with concern that the petitioner, in its rejoinder dated 12.09.2025, revised its claim and asserted that a DC capacity of 14.27 MW is required to achieve the approved CUF of 21%, thereby materially altering its earlier claim of 13.24 MW.

In this regard, the Commission is of the considered view that a rejoinder cannot be used to set up a new case or to introduce a substantially different factual or technical foundation that did not form part of the original pleadings, particularly in remand proceedings where the scope of adjudication is strictly limited. The petitioner is,

therefore, not permitted to improve upon or fundamentally modify its case at the rejoinder stage, especially when such modification alters the basis on which the Hon'ble APTEL issued its remand directions vide order dated 23.04.2025. Therefore, the Commission has not gone into the details of modified submissions made by the petitioner.

The Commission is further of the view that the AC:DC ratio for solar projects must be allowed in a manner proportionate to the resultant CUF sought to be achieved. In the absence of any specific regulatory provision prescribing an AC:DC ratio, and in order to undertake a prudence check as directed by the Hon'ble APTEL, the Commission has examined the AC:DC ratio and CUF claimed in all three remanded matters presently under consideration, namely: the present case (remand order dated 23.04.2025), L.R. Energy's case (remand order dated 21.02.2025), and Amplus Sun Solutions' case (remand order dated 25.10.2024). The comparative position of AC:DC ratio and CUF claimed in all these three cases is tabulated below:-

Particulars	Amplus Sun Solutions	L.R. Energy	Greenyana Solar
DC (MW)	75	24	13.24
AC (MW)	50	20	10.72
CUF claimed and approved (%)	25.91	22.14	21
CUF with AC:DC as 1:1 (%)	17.27	18.45	17.00

From the table, it is evident that M/s. L.R. Energy situated in District Bhiwani has claimed best CUF of 18.45% with AC:DC ratio as 1:1. Accordingly, the Commission deems it appropriate to adopt the same as the benchmark for determining the reasonable DC capacity required to achieve a CUF of 21%.

Accordingly, proportionate DC capacity required to achieve a CUF of 21%, corresponding to a base CUF of 18.45% at an AC:DC ratio of 1:1, for a solar power plant with an AC capacity of 10.72 MW, works out to 12.20 MW.

In view of the above discussion, the DC capacity corresponding to the approved CUF of 21%, for 10.72 MW AC power plant of the petitioner, is approved at 12.20 MW.

8.2. **Issue No. 2: What should be the revised capital cost after allowing the capital cost of DC modules corresponding to the allowed DC capacity?**

The Commission has examined the claim of the petitioner for capital cost amounting to Rs. 70.53 million (Rs. 7.053 crore) towards installation of additional DC modules of 2.52 MW. As already held by the Commission, in the preceding paragraphs of the

present order, for achieving the approved CUF of 21% by a solar power plant of 10.72 MW AC capacity, the petitioner requires additional DC capacity of only 1.48 MW and not 2.52 MW. The Commission notes that the capital cost framework approved vide its order dated 29.01.2024, has attained finality and the additional capital admissible in the present remand proceedings is confined strictly to the cost of DC modules corresponding to the additional DC capacity of 1.48 MW, calculated at the per MW DC module cost approved in the order dated 29.01.2024, i.e. Rs. 14.60 million per MW. Applying the said approved benchmark, the capital cost of DC modules for additional 1.48 MW work out to Rs. 21.61 million.

The Commission further reiterates that the scope of the present remand proceedings is limited to determination of capital cost of additional DC modules corresponding to allowed DC capacity. Consequently, the claims raised by the petitioner towards other EPC-related costs, including costs pertaining to inverters and other AC-side equipment, have not been examined and are not being considered.

In view of the above discussions, the capital cost of Rs. 364.46 millions allowed by the Commission in its impugned order dated 29.01.2024 is increased by the cost of additional DC modules of 1.48 MW amounting to Rs. 21.61 millions.

Resultantly, the Commission approves total capital cost of the petitioner's 10.72 MW power plant at Rs. 386.07 millions, for the purpose of tariff determination, which works out to Rs. 36.01 millions/MW.

8.3. Issue No. 3: Is there any computation error in working out the levelized tariff?

The Commission has examined the contention raised by the petitioner alleging errors in the computation of the levelized tariff.

In order to examine the same, the Commission has perused the definition of the term "Levelised Tariff" as provided under Regulation 2(19) of the Haryana Electricity Regulatory Commission (Renewable Energy) Regulations, 2021, which reads as under:

"Levelised Tariff" means the tariff calculated by carrying out levelisation for the useful life of each technology considering the discount factor for time value of money."

Further, "Discount Factor" has been defined under Regulation 70 of the HERC RE Regulations, 2021 as under:

"The discount factor for working out levelised generic tariff shall be the weighted average cost of capital (WACC)."

Regulation 9(2) of the HERC RE Regulations, 2021 further provides as under:

“For the purpose of computation of levelised tariff, the discount factor equivalent to weighted average cost of capital {Term Loan (R) and Return on Equity (RoE)} shall be considered, i.e. $\{(R \times 0.7) + (RoE \times 0.3)\}$.”

The Commission observes that under the PPA, the levelised tariff is determined for the useful life of the project commencing from the date of Commercial Operation Date (COD). In the impugned order dated 29.01.2024, the Commission has duly recognised that the discount factor for working out the levelised tariff for the entire useful life of the project of 25 years shall be the weighted average cost of capital, i.e. 11.21%, considering 70% debt at 10.02% and 30% equity at 14%. The Commission had further clarified that since tax (MAT/Corporate Tax) is not built into the tariff model under the RE Regulations in force and is to be claimed on an actual basis, its impact has not been considered for computation of WACC.

From the above, it is evident that the levelised tariff is computed by applying the discount factor based on the time value of money. For the first year, the discount factor must necessarily be taken as unity (1), as there is no time lapse between the incurrence of cost and receipt of revenue in the first year. The discount factor is computed using the following formula:

$$\text{Discount Factor} = 1/(1+d)^n$$

Where:

n = number of years from COD over which the tariff is payable (0 to 25 years), and
d = discount rate (WACC).

Accordingly, for the first year, n = 0, resulting in a discount factor of 1. The Commission has, therefore, correctly applied the discount factor methodology, which is also consistent with the approach adopted by the Hon'ble Central Electricity Regulatory Commission while determining generic tariffs.

The Commission has further examined the affidavit filed by the petitioner and observes that although the petitioner has stated that the discount factor for the first year is 1 and has multiplied the first-year tariff accordingly, it has thereafter committed an error by dividing the sum total of discounted tariff by the sum total of discount factors taken from the second year onwards, resulting in an internally inconsistent and mathematically incorrect computation. For clarity, the correct approach as well as the approach adopted by the petitioner has been demonstrated in the following table:-

		YEAR																									
Commission's computation	No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Tariff (Rs/kWh)	1	3.15	3.06	2.97	2.88	2.79	2.70	2.61	2.52	2.43	2.33	2.24	2.14	2.05	1.42	1.44	1.45	1.47	1.49	1.50	1.52	1.54	1.55	1.57	1.59	1.61	
Discount factor	2	1.00	0.90	0.81	0.73	0.65	0.59	0.53	0.48	0.43	0.38	0.35	0.31	0.28	0.25	0.23	0.20	0.18	0.16	0.15	0.13	0.12	0.11	0.10	0.09	0.08	
Discounted tariff	3=1x2	3.15	2.75	2.40	2.10	1.83	1.59	1.38	1.20	1.04	0.90	0.77	0.67	0.57	0.36	0.33	0.30	0.27	0.24	0.22	0.20	0.18	0.17	0.15	0.14	0.13	
Sum total of row no. 2	4	9.22																									
Sum total of row no. 3	5	23.02																									
Levelled Tariff (Rs/kWh)	6=5/4	2.50																									
Petitioner's computation																											
Tariff (Rs/kWh)	1	3.15	3.06	2.97	2.88	2.79	2.70	2.61	2.52	2.43	2.33	2.24	2.14	2.05	1.42	1.44	1.45	1.47	1.49	1.50	1.52	1.54	1.55	1.57	1.59	1.61	
Discount factor	2	1.00	0.90	0.81	0.73	0.65	0.59	0.53	0.48	0.43	0.38	0.35	0.31	0.28	0.25	0.23	0.20	0.18	0.16	0.15	0.13	0.12	0.11	0.10	0.09	0.08	0.07
Discounted tariff	3=1x2	3.15	2.75	2.40	2.10	1.83	1.59	1.38	1.20	1.04	0.90	0.77	0.67	0.57	0.36	0.33	0.30	0.27	0.24	0.22	0.20	0.18	0.17	0.15	0.14	0.13	
Sum total of row no. 2 from 2nd year onwards till 26 year	4	8.29																									
Sum total of row no. 3	5	23.02																									
Levelled Tariff (Rs/kWh)	6=5/4	2.78																									

In view of the above discussion, the Commission answers this issue in the negative, holding that there is no computation error in working out the levelized tariff in Annexure-A of the impugned order dated 29.01.2024, and the same does not warrant any interference.

Based on the parameters discussed in the foregoing paras, the Commission determines the tariff for 25 years life of the project, appended to the present Order (Annexure – A). The tariff payable to the petitioner herein shall be in terms of Article 4.1 of the PPA i.e. fixed levelized tariff, as determined by the Commission i.e. Rs. 2.50/kWh, applicable for the entire life of the 10.72 MWp solar power project.

HPPC / Discoms are directed to make payment in respect of differential amount payable, within one month from the date of issue of this order. Further, in line with the principle of restitution, interest @ 9.58% p.a. i.e. the rate of interest on working capital allowed to UHBVNL in the ARR order dated 28.03.2025, shall also be payable from the date the differential amount would have been due in case the original tariff allowed in the order dated 29.01.2024 would have been the tariff determined in the present proceedings up to the date of actual payment. Any delay in payment of differential tariff along with applicable interest thereon, beyond the allowed period of 30 days, will attract late payment surcharge @

1.25% per month as per Article 5.2.3 of the duly executed PPA between the parties.

In terms of the above Order, the present petition is disposed of.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 21.01.2026.

Date: 21.01.2026
Place: Panchkula

Sd/-
(Shiv Kumar)
Member

Sd/-
(Mukesh Garg)
Member

Sd/-
(Nand Lal Sharma)
Chairman

Levelized Tariff for Greenyana 10.72 MW - Solar PV Projects for 25 years			ANNEXURE - A
Table of Parameters	Per MW	10.72	MW
Capital cost (Rs. in Million)	36.0140	386.07	
Less: Revenue earned prior to PPA (Rs. Million)		50.69	
Balance Capital cost (Rs. in Million)		335.38	
Less: Cost of land purchased (Rs. Million)		50.82	
Capital cost, excluding land (Rs. in Million)		284.56	
Residual value (10%) of Capital Cost Ex Land (Rs Million)		28.46	
Total depreciation (Rs Million)		256.10	
Loan component (Rs in Million)		270.25	
Equity component (Rs in Million)		115.82	
CUF		21.00%	
Annual degradation in CUF (%)		0.50%	
O&M (Rs Million)	0.3030	3.25	
O&M escalation (%)		2.93%	
Depreication (first 13 years) (%)		5.38%	
ROE (1st 10 years) (%)		14%	
ROE (11th year onwards) (%)		14%	
Parameters for accelerated depreciation:-			
Income Tax Normal rate (25% + 10% +4%)		28.60%	
Book Depreciation		5.28%	
Depreciation as per Income Tax Act		40.00%	
Additional Depreciation as per Income Tax Act		20.00%	
1st Year depreciation		50.00%	
Interest on term loan (%)		10.02%	
Interest on working capital(%)		10.02%	
Auxiliary consumption (%)		0.25%	
Auxiliary consumption+ Annual degradation		0.25%	
Discount rate WACC (%)		11.21%	
Levellised tariff (Rs / kWh)		2.50	

	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M with escalation (Rs Million)		3.25	3.34	3.44	3.54	3.65	3.75	3.86	3.98	4.09	4.21	4.34	4.46	4.59	4.73	4.87	5.01	5.16	5.31	5.46	5.62	5.79	5.96	6.13	6.31	6.50
Outstanding Loan amount (Rs Million)		270.25	249.46	228.67	207.88	187.10	166.31	145.52	124.73	103.94	83.15	62.37	41.58	20.79												
Loan repayment (staggered over 13 years) Rs Million		20.79	20.79	20.79	20.79	20.79	20.79	20.79	20.79	20.79	20.79	20.79	20.79	20.79												
Interest on loan (Avg of opening & closing) Rs Million		26.04	23.95	21.87	19.79	17.71	15.62	13.54	11.46	9.37	7.29	5.21	3.12	1.04												
Working Capital	Rs Million																									
One month O&M		0.27	0.28	0.29	0.30	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.41	0.42	0.43	0.44	0.46	0.47	0.48	0.50	0.51	0.53	0.54
2 Months receivables		10.32	9.98	9.65	9.31	8.98	8.64	8.31	7.97	7.64	7.31	6.98	6.65	6.32	4.37	4.40	4.42	4.45	4.48	4.50	4.53	4.56	4.59	4.62	4.65	4.68
Maintenance spares15% of O&M		0.49	0.50	0.52	0.53	0.55	0.56	0.58	0.60	0.61	0.63	0.65	0.67	0.69	0.71	0.73	0.75	0.77	0.80	0.82	0.84	0.87	0.89	0.92	0.95	0.97
Total Working Capital Required		11.08	10.76	10.45	10.14	9.83	9.52	9.21	8.90	8.60	8.29	7.99	7.69	7.39	5.48	5.53	5.59	5.65	5.71	5.78	5.84	5.91	5.98	6.05	6.12	6.20
Interest on working capital		1.11	1.08	1.05	1.02	0.98	0.95	0.92	0.89	0.86	0.83	0.80	0.77	0.74	0.55	0.55	0.56	0.57	0.57	0.58	0.59	0.59	0.60	0.61	0.61	0.62
Parameters	Derivation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Capacity (MW)		10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
CUF (%)		21.00%	20.90%	20.79%	20.69%	20.58%	20.48%	20.38%	20.28%	20.17%	20.07%	19.97%	19.87%	19.77%	19.68%	19.58%	19.48%	19.38%	19.28%	19.19%	19.09%	19.00%	18.90%	18.81%	18.71%	18.62%
Generation (Million Units)		19.72	19.62	19.52	19.43	19.33	19.23	19.14	19.04	18.95	18.85	18.76	18.66	18.57	18.48	18.38	18.29	18.20	18.11	18.02	17.93	17.84	17.75	17.66	17.57	17.49
Auxiliary Cons (%)		0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Generation (Ex-bus Million Units)		19.67	19.57	19.47	19.38	19.28	19.18	19.09	18.99	18.90	18.80	18.71	18.62	18.52	18.43	18.34	18.25	18.16	18.06	17.97	17.88	17.79	17.71	17.62	17.53	17.44
Fixed Costs																										
O&M Expenses (Rs million)		3.25	3.34	3.44	3.54	3.65	3.75	3.86	3.98	4.09	4.21	4.34	4.46	4.59	4.73	4.87	5.01	5.16	5.31	5.46	5.62	5.79	5.96	6.13	6.31	6.50
Depreciation (Rs million)		15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31	15.31
Interest on Term Loan (Rs million)		26.04	23.95	21.87	19.79	17.71	15.62	13.54	11.46	9.37	7.29	5.21	3.12	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital (Rs million)		1.11	1.08	1.05	1.02	0.98	0.95	0.92	0.89	0.86	0.83	0.80	0.77	0.74	0.55	0.55	0.56	0.57	0.57	0.58	0.59	0.59	0.60	0.61	0.61	0.62
Return on Equity (Rs million)		16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21	16.21
Total Fixed Cost (Rs. Million)		61.92	59.90	57.88	55.87	53.86	51.85	49.85	47.85	45.85	43.86	41.87	39.88	37.90	26.25	26.39	26.54	26.69	26.85	27.01	27.18	27.35	27.53	27.71	27.90	28.09
Tariff (Rs/kWh)		3.15	3.06	2.97	2.88	2.79	2.70	2.61	2.52	2.43	2.33	2.24	2.14	2.05	1.42	1.44	1.45	1.47	1.49	1.50	1.52	1.54	1.55	1.57	1.59	1.61
Per unit tariff components (Rs / kWh)																										
Per unit O&M Expenses		0.17	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.22	0.22	0.23	0.24	0.25	0.26	0.27	0.27	0.28	0.29	0.30	0.31	0.33	0.34	0.35	0.36	0.37
Per Unit Depreciation		0.78	0.78	0.79	0.79	0.79	0.80	0.80	0.81	0.81	0.81	0.81	0.82	0.83	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Per Unit Interest on term loan		1.32	1.22	1.12	1.02	0.92	0.81	0.71	0.60	0.50	0.39	0.28	0.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Unit Interest on working capital		0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
Per Unit Return on equity		0.82	0.83	0.83	0.84	0.84	0.85	0.85	0.85	0.86	0.86	0.87	0.87	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.91	0.91	0.92	0.92	0.93	0.93
Levellers tariff																										
Discount factor		1.00	0.899	0.809	0.727	0.654	0.588	0.529	0.475	0.427	0.384	0.346	0.311	0.279	0.251	0.226	0.203	0.183	0.164	0.148	0.133	0.119	0.107	0.097	0.087	0.078
Discounted tariff		3.15	2.75	2.40	2.10	1.83	1.59	1.38	1.20	1.04	0.90	0.77	0.67	0.57	0.36	0.33	0.30	0.27	0.24	0.22	0.20	0.18	0.17	0.15	0.14	0.13
Levellers Tariff (Rs/kWh)		2.50																								