

**BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION AT PANCHKULA**

**Case No. HERC/Petition No. 22 of 2025**

**(Remand back Petition No. 70 of 2020)**

**Date of Hearing : 10.07.2025**

**Date of Order : 12.08.2025**

**In the matter of:**

**Judgement dated 21.02.2025 passed by Hon'ble APTEL in Appeal No. 91 of 2022 (HPPC Vs. LR Energy and Ors) and Appeal No. 31 of 2023 (LR Energy vs. HPPC and Ors)**

**And**

**In the matter of**

**Petition under Sections 62 of the Electricity Act, 2003 and all other enabling provisions of the Act read with the relevant provisions of Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy certificate) Regulations, 2017 for determination of Project Specific Tariff of 20 MWp (AC) Solar Pv Power Plant located at Tosham, Dt. Bhiwani, Haryana. (HERC/PRO-70 of 2020)**

**Petitioner**

M/s. L R Energy Pvt. Ltd.

**Respondents**

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

**Present on behalf of the Petitioner**

1. Mr. Amal Nair, Advocate
2. Ms. Devyani Prasad, Advocate
3. Mr. Ranbir Chatterjee, Vice-President

**Present On behalf of the Respondents**

1. Mr. Shubham Arya, Advocate, HPPC
2. Ms. Reeha Singh, Advocate, HPPC
3. Mr. Harshvardhan Singh, Advocate, HPPC

**Quorum**

**Shri Nand Lal Sharma  
Shri Mukesh Garg**

**Chairman  
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 21.02.2025, wherein the APTEL has observed as under:-

*"It is submitted by the contesting parties that issue in hand in the instant batch of appeals are considered by Court I in Appeal No. 326 of 2021 & Appeal No. 149 of 2021 on 25.10.2024 and some of these issues might have covered by the said judgement. After examining the judgement, we find it appropriate that identical issues / similar issues were considered by Court I in Appeal No.326 of 2021 & Appeal No.149 of 2021*

and the matter was remanded to the State Commission for fresh consideration ruling as under:-

“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.

38. Considering the fact that the Appellant Amplus has sought a levelized tariff of Rs. 3.86/Kwh and levelized tariff in the range of Rs. 3.71/Kwh is worked out with CUF of 17.3% so claimed to be achievable with 1:1 AC:DC modules and approved cost, and Amplus has now sought a levelized tariff of only Rs. 3.03/Kwh in the interregnum, till the matter decided by State commission, we are inclined to accept their request as an interim arrangement.

39. However, as submitted by learned counsels for Amplus and HPPC, all the issues raised in the Petitions are interlinked to Capital cost except escalation factor allowed in O&M. Regarding contention of Learned counsel of HPPC regarding higher escalation factor of 5.72% allowed in O&M in the impugned order, we are not inclined to interfere with the same since it is as per prevailing Regulation, as also admitted by the learned counsel of HPPC.

40. In view of the above deliberations, we set aside the Impugned order to the limited extent and remand the matter in both the appeals (APL 326 of 2021 & APL 149 of 2021) to State Commission for redetermination of tariff after prudence check of Capital cost including related issues raised and considering the feasible CUF corresponding to the capital cost of AC: DC module allowed. We make it clear that the issues with regard to interest on term loan and working capital, Interest During Construction and O&M expenses shall not be open for reconsideration as admitted by learned counsel of Amplus. In the interregnum, Amplus is allowed a tariff of Rs.3.03/Kwh from the date of their order till the matter is finally decided by the State Commission upon remand, which needs to be decided expeditiously by State Commission. Both the appeals and associated IAs are disposed of in view of the above-mentioned terms.”

In the light of the above decision, the Appeal nos. 91 of 2022 & 31 of 2023 stand remanded to the State Commission considering that a decision has already been taken

by the Coordinate Bench of this Tribunal with the directions to pass the consequential order expeditiously within three months.”.

2. Upon giving a preliminary hearing to the parties on 22.04.2025, the petitioner was directed to file its detailed written submissions including the year-wise CUF w.r.t. generation achieved since the date of CoD and the complete record of competitive bidding held to select the vendor of major items of the project.
3. Petitioner's reply affidavit dated 07.05.2025:-  
In response to the Interim Order of the Commission, M/s. LR Energy filed the requisite information as under:-
- 3.1 That the details of year-wise CUF and generation achieved post-COD is as under:-

<b>FY</b>	<b>Month</b>	<b>Units billed</b>	<b>CUF (%) on billed units</b>
2021-22	Aug-21	21,12,084	14.19%
	Sep-21	21,42,000	14.40%
	Oct-21	25,21,200	16.94%
	Nov-21	16,92,000	11.37%
	Dec-21	17,37,600	11.68%
	Jan-22	13,90,800	9.35%
	Feb-22	23,91,600	16.07%
	Mar-22	29,06,400	19.53%
	<b>TOTAL</b>	<b>1,68,93,684</b>	<b>14.19%</b>
2022-23	Apr-22	29,40,000	20.42%
	May-22	30,81,600	20.71%
	Jun-22	30,74,400	21.35%
	Jul-22	25,57,200	17.19%
	Aug-22	29,48,400	19.81%
	Sep-22	28,46,400	19.77%
	Oct-22	27,15,600	18.25%
	Nov-22	24,67,200	17.13%
	Dec-22	23,12,400	15.54%
	Jan-23	21,22,800	14.27%
	Feb-23	28,72,800	21.38%
	Mar-23	30,51,600	20.51%
	<b>TOTAL</b>	<b>3,29,90,400</b>	<b>18.86%</b>
2023-24	Apr-23	34,80,000	24.17%
	May-23	32,82,000	22.06%
	Jun-23	31,54,800	21.91%
	Jul-23	26,80,800	18.02%
	Aug-23	32,41,200	21.78%
	Sep-23	29,07,600	20.19%
	Oct-23	30,69,600	20.63%
	Nov-23	18,20,400	12.64%
	Dec-23	21,40,800	14.39%
	Jan-24	12,60,000	8.47%
	Feb-24	25,16,400	18.08%
	Mar-24	34,16,400	22.96%
	<b>TOTAL</b>	<b>3,29,70,000</b>	<b>18.77%</b>
2024-25	Apr-24	32,54,400	22.60%
	May-24	34,16,400	22.96%
	Jun-24	30,96,000	21.50%
	Jul-24	28,78,800	19.35%
	Aug-24	27,18,000	18.27%
	Sep-24	25,35,600	17.61%
	Oct-24	28,26,000	18.99%
	Nov-24	17,56,800	12.20%
	Dec-24	17,68,800	11.89%
	Jan-25	16,93,200	11.38%
	Feb-25	22,40,400	16.67%
	Mar-25	34,42,000	23.13%
	<b>TOTAL</b>	<b>3,16,26,400</b>	<b>18.05%</b>

- 3.2 That the documents pertaining to the work orders for major components are attached.
- 3.3 That in the case of a similarly placed generator namely M/s Greenyana Solar Private Limited, HPPC has accepted the capital cost of Rs. 34 Million/MWp to be market-aligned. While the capital cost approved for the Petitioner in the first round was in the vicinity of the same i.e. 35.74 Million/MWp.

4. **Petitioner's rejoinder under affidavit dated 09.06.2025 to the reply of HPPC dated 21.05.2025:-**

RE: CAPITAL COST

- 4.1 That the capital cost of Rs. 71.48 Crores as allowed by this Hon'ble Commission in the first round is erroneous. It is stated that the capital cost of the Petitioner comes to Rs. 90.448 Crores as sought for in the first round.
- 4.2 That the government financing agency, IREDA has, after conducting its own due diligence and project appraisal, approved the capital cost of Rs. 83.50 Crores for the project. This sanction by IREDA is based on an independent prudence check, commercial assessment, and financial verification. While IREDA, after exhaustive scrutiny, found Rs. 83.50 Crores to be prudent and viable, this Hon'ble Commission has allowed a figure that is not only substantially lower than the actual expenditure but even lower than what the Government financing institution has independently certified as viable.
- 4.3 That one of the reasons for the incorrect reduction of the capital cost of the Petitioner was that this Hon'ble Commission had put the cost incurred by the Petitioner at par with that of other projects in the State of Haryana. Whereas, there is nothing similar amongst the project save for the fact that all of them are set up in the State of Haryana.
- 4.4 That in the context of scale of operations, the Petitioner is incomparable with that of Amplus Solar or Greenyana Solar. The latter two (or their holding companies, as the case maybe) are some of the biggest renewable companies with their renewable portfolio in multiples Giga Watt. In comparison, the Petitioner only has a total portfolio of 36 MWp.
- 4.5 That it is a basic principle of supply chain that bulk orders are cheaper. This stems from the concept of economies of scale where the cost per unit of an item decreases as the quantity purchased increases. Essentially, buying in large quantities allows businesses to leverage lower per-unit production costs.
- 4.6 That the Petitioner can never secure prices in the same range as that of other established market leaders with whom this Hon'ble Commission has compared the capital cost of the Petitioner and accordingly reduced the same. For example, cost of inverters and transformers have been drastically reduced and pegged at the rate the procurement prices of Amplus Solar.

4.7 That the petitioner, being a relatively smaller generator, incurs higher unit costs for critical equipment and services due to limited bargaining power, lack of scale discounts, and higher credit risk premium. Comparing transformer and inverter costs of the Petitioner with those of a multi-site, multi-MW entity like Amplus Solar grossly distorts the reality of project economics and violates the principle of project-specific tariff determination.

4.8 That the reliance as placed by HPPC on Regulation 47 of the RE Regulations, 2021 is both irrelevant and also misplaced for the reason that the said regulations are not even applicable to the Petitioner. Relevant extract of the regulations is as under:

*“(3) Scope and extent of application: These Regulations shall apply to the RE Power Projects set-up / to be set – up in Haryana and where the tariff is determined by the Commission u/s 62 of the Act for Grid Connected RE Projects up to an installed capacity of 2 MW except the general provisions for banking, RPO, Late Payment Surcharge/ rebate etc. applicable for all concerned.”*

This Hon'ble Commission in the case of Avaada Energy has held that the RE Regulations, 2021 are applicable only for plants less than 2 MW. The Appellate Tribunal in numerous decisions has held that the regulatory commissions have to be consistent in their treatment.

4.9 That the reliance as placed by HPPC on the Statement of Reasons (SOR) accompanied with the CERC Regulations 2020 is also misconceived. It is stated that this very contention was advanced by HPPC before the Appellate Tribunal in the Greenyana Case, which has been categorically rejected as under:

*“13. Learned counsel for Respondent made a reference to the Statement of Objects and Reasons issued by CERC for CERC RE Regulations 2020, wherein rational for keeping 21 % CUF is stated that as per advancement of solar technology the CUF of 21% is achievable, and made submissions that such 21% CUF ought to be achieved with AC: DC Ratio of 1:1. As such, the Statement of Objects and Reasons (SOR) can be referred to while interpreting subordinate legislation, as it provides insights into the legislative intent behind the enactment of the law. Courts and regulatory bodies often use it as a tool to understand the purpose and objectives of the legislation/Subordinate legislation, especially when there is ambiguity in the interpretation of specific provisions.”*

*14. We are, however, unable to appreciate and find merit in the submissions made by Respondent HPPC for the following reasons: firstly, in the present lis, we are concerned with the HERC Regulations 2021, however no reference has been made to its SOR, and reference is made to the SOR of the CERC RE Regulations 2020, which is not the reference regulation for the present lis; and secondly, or more significantly , 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."*

4.10 That the HPPC relied heavily on the order dated 20.12.2019 passed by this Hon'ble Commission in PRO 57 of 2019. Whereas, the conception and genesis of the projects under the PM KUSUM scheme make it patently different from projects such as that of the Petitioner. The projects which were born under the PM KUSUM were the result of heavy subsidies, promotion and welfare schemes etc. From a perusal of the order the following becomes clear:

a) The projects had the assistance of HAREDA which assisted the farmers in project development activities including formation of DPR. PPA/EPC contracts, getting funds from financial institutions and also many other activities. This is certainly not the scheme of events in the present case.

b) The tariff allowed was much higher than that of the Petitioner i.e., Rs. 3.11 per unit.

That the ultimate tariff as allowed was Rs. 3.11 per unit as against the much lesser tariff of the Petitioner, how the procurement under the PM KUSUM scheme is better for the consumers in the State of Haryana. Ultimately, the entire power purchase cost has to be recovered from the general consumers by way of retail supply tariff.

4.11 That the reliance placed on various other projects does not further the case of HPPC as each and every project is materially different from that of the Petitioner.

4.12 That the additional 4 MW DC capacity stands installed and commissioned at the Project in April 2022.

4.13 That the comparison of the Petitioner's project with that of Amplus Solar and Greenyana is like comparing apples to oranges. It is stated that the Petitioner is doomed from the very beginning in case its capital cost is compared with that of industry leaders and companies which have multi fold installed capacity as well as substantial capacity in pipeline.

4.14 That project specific tariff determination exercise is fundamentally different from a generic tariff exercise. What essentially HPPC is contending is to convert a project specific tariff to a generic tariff, where a project with the lowest capital cost would be taken as a benchmark and all other projects would be granted the same capital cost.

4.15 That the Petitioner has also substantiated every cost component with invoices, CA

certificates, and purchase contracts, including for modules, BOS, project management, and land lease rentals. The module pricing, which constitutes ~50% of total capex, escalated due to:

- (i) 100 – 150% increase in freight rates,
- (ii) 22% rise in glass prices (a critical input in solar modules),
- (iii) Significant rise in steel costs during 2020–2021,
- (iv) INR/USD exchange volatility, which impacted the import cost of modules and raw materials.

- 4.16 That HPPC seems to be making insinuations on the procurement process of the Petitioner. There is no provision in any of the regulations which provides that work orders have to be necessarily bid out. It is reiterated that the only test is if the generator is being imprudent, which is not the case herein.
- 4.17 That the HPPC seems to be suggesting that the Petitioner has indulged in related party transactions and has thus been imprudent. It is relevant to point out that Greenyana Solar had entered into supply agreements with related parties, which was even flagged by this Hon'ble Commission. However, HPPC has accepted the order and has not challenged the same. HPPC being a state utility cannot take the stand that Greenyana Solar can enter into related party transactions whereas the Petitioner cannot. It is well settled that state entities cannot vary their stance when it comes to private entities as the same is reflective of partisan attitudes. This is impermissible.
- 4.18 That the commercial arrangements were at an arm' length, supported by valid purchase orders, invoices, payment records, and material delivery confirmations. No evidence of financial impropriety, over-invoicing, or circular transactions has been presented by HPPC. Allegations based solely on corporate structure are speculative, irrelevant in the absence of any finding of mala fide intent, and do not impact the prudence of the cost incurred.
- 4.19 That the termination of the original module procurement contract dated 06.04.2020 was due to non-performance and delays by the supplier - ReneSola Solutions in the face of worsening global supply constraints due to the pandemic. The Petitioner exercised its contractual right to terminate the contract and opted for alternate vendors to ensure project viability. The increase in unit prices (USD 0.1975/Wp to USD 0.225/Wp and later USD 0.26/Wp) reflects the progressive increase in module prices during late 2020 and early 2021, widely reported in trade indices. Further, the urgency of delivery to meet commissioning timelines; and inclusion of enhanced technical warranties and quality benchmarks impacted the decision to terminate the said contract. These are normal market variations, not indicative of imprudence or excess.
- 4.20 That HPPC has contended that the Petitioner has majorly procured the modules from India. This infact supports the case of the Petitioner since module prices in India are

on a much steeper price.

#### RE: CAPACITY UTILIZATION FACTOR (CUF) AND ANNUAL DEGRADATION

- 4.21 That this Hon'ble Commission has already examined the capital cost breakdown and allowed the CUF degradation of 0.5% on a technical basis as part of energy generation estimation, not as a monetary compensation. The degradation is not monetised in the capital cost of the Petitioner and therefore does not result in any double-counting or excess burden.
- 4.22 That the inclusion of 0.5% annual CUF degradation is a standard technical parameter, consistent with PVSyst. Its purpose is to adjust energy yield projections over the life of the project and not to provide financial gain to the developer. HPPC' conflation of CUF degradation with financial cost is misleading.
- 4.23 That HPPC' reliance on the PM KUSUM Order dated 20.12.2019 and the UERC Order dated 07.06.2019 is misplaced. Both schemes pertain to small-scale and subsidised projects, with different risk profiles and financial structures and contain inclusive capital cost structures explicitly designed for normative tariff setting, not project-specific determination.
- 4.24 That the benefit of higher CUF (19% +/- .05%), as prescribed under RE Regulations, 2017, can only be achieved by 24MW additional DC capacity. For that to be availed by HPPC, the cost of additional DC modules must be allowed in determination of tariff.
- 4.25 That the technical necessity for this additional DC capacity is further substantiated through detailed calculations derived from the PVSyst report, as already submitted in the review proceedings. The PVSyst simulation results demonstrate the following:
- The AC Capacity of Solar Power Plant = 20 MW
  - The DC Capacity of the Solar Power Plant = 20 MW
  - The Specific Production = 1558 kwh/kwp/yr
  - Maximum Yield per year =  $(1558 \times 20 \times 1000)$  kwh = 31,160,000 kwh/yr
  - The CUF of the plant =  $(31,160,000) / (365 \times 24 \times 20 \times 1000) = 17.785\%$
- 4.26 That it is denied that the actual CUF achieved thus far is indicative of sub-optimal design or sub-standard panels. all modules used by the Petitioner are sourced from MNRE-approved vendors; conform to IEC and BIS standards, and were procured with long-term performance warranties from reputed manufacturers. CUF can be affected by various factors, which are not in control of Petitioner such as stabilization losses, curtailment due to grid unavailability or outages, seasonal variability in solar radiation, and temporary operational and commissioning phase inefficiencies. Thus, no CUF data should be evaluated in isolation without considering these factors.
- 4.27 That the Petitioner procured modules for 22 MW from Waaree Energies Ltd. and 2 MW from ReneSola Solutions, both of which are recognized and established suppliers in



the solar industry supplying Tier I grade global modules. The said modules have been accepted and commissioned through all statutory inspections and clearances.

RE: PROJECT MANAGEMENT COST

- 4.28 That the objection raised by HPPC regarding the Project Management Cost of Rs. 1.55 Crores is erroneous. Such expenses, though not always supported by standalone invoices like material procurement, are inevitably incurred over the course of project development and substantiated through certified cost statements from qualified Chartered Accountants, as already placed on record in the submission dated 07.05.2025.
- 4.29 That as per established market standards and regulatory practice, Project Management Costs in the range of 2% to 2.5% of the total capital cost are considered reasonable for utility-scale solar projects. The Petitioner's claim of Rs. 1.55 Crores works out to approximately 1.71% of the total capital cost, which is well within the recognized and accepted industry norms. Hence, there is no basis to disallow or reduce the Project Management Cost claimed.

5. **Petitioner's written submissions under affidavit dated 28.07.2025:-**

- 5.1 That the present exercise is in the nature of remand back proceedings. Hon'ble Tribunal has set aside the order dated 17.09.2021 passed by this Hon'ble Commission in Case No. HERC/PRO 70 of 2022. The Hon'ble Tribunal by way of decision dated 21.02.2025 ("Remand Order") has remanded Case No. HERC/PRO 70 of 2022 back to this Hon'ble Commission for reconsideration. The Remand Order was passed in cross appeals against the 17.09.2021 order preferred by the generator as well as the discom.
- 5.2 That the matter was thereafter listed before this Hon'ble Commission for hearing on 10.07.2025 where arguments were made and hearing in the matter got concluded. The present written submissions are being filed pursuant to the said hearing.
- 5.3 At the outset, it is stated that Haryana Power Purchase Centre ("HPPC") in the hearing put forth a self-serving interpretation of the Remand Order. HPPC's attempt to narrow down the scope of the present remand is misconceived.
- 5.4 That since the Hon'ble Tribunal had remanded HERC/PRO 70 of 2022 in terms its earlier decision in Appeal No. 326 and 149 of 2021, it bears relevance to refer to the said decision. Relevant extract of the said decision is as under:

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.**

.....  
39. However, as submitted by learned counsels for Amplus and HPPC, all the issues raised in the Petitions are interlinked to Capital cost except escalation factor allowed in O&M. Regarding contention of Learned counsel of HPPC regarding higher escalation factor of 5.72% allowed in O&M in the impugned order, we are not inclined to interfere with the same since it is as per prevailing Regulation, as also admitted by the learned counsel of HPPC.

40. **In view of the above deliberations, we set aside the Impugned order to the limited extent and remand the matter in both the appeals (APL 326 of 2021 & APL 149 of 202) to State commission for redetermination of tariff after prudence check of Capital cost including related issues raised and considering the feasible CUF corresponding to the capital cost of AC: DC module allowed. We make it clear that the issues with regard to Interest on term loan and working capital, Interest During Construction and O& M expenses shall not be open for reconsideration as admitted by learned counsel of Amplus. In the interregnum, Amplus is allowed a tariff of Rs 3.03/Kwh from the date of their order till the matter is finally decided by the State Commission upon remand, which needs to be decided expeditiously by State Commission. Both the appeals and associated IAs are disposed of in view of the above-mentioned terms.**

(emphasis supplied)

- 5.5 That from a conjoint reading of paragraphs 37 and 40 it is crystal clear that the remand exercise also includes prudence check on capital cost not just related to the capital cost of the additional DC capacity.
- 5.6 That the Petitioner in its appeal being Appeal No. 31 of 2023 had categorially challenged the capital cost as allowed by this Hon'ble Commission. In this view of the matter, it is not understood as to how the Petitioner is not entitled to claim increased in capital cost.
- 5.7 That the sheet anchor of the submissions of HPPC in the hearing was Regulation 47 of the Renewable Regulations, 2021. The submission made was that in terms of the said regulation 'prevalent market trend' is the threshold against which the claim of capital cost is to be tested.
- 5.8 That the said regulation is not even applicable to the case of the Petitioner, since the regulation is applicable only to projects below 2 MW. It is stated that applicability or inapplicability of the regulation is not a separate issue but rather an issue intrinsically related to the issue of capital cost.

5.9 That the reliance as placed by HPPC on the Statement of Reasons of the CERC RE Regulations, 2020, has to be struck off at the outset. This is for the reason that identical argument on the principle has been rejected by the Hon'ble Tribunal in the case of Greenyana Solar in Appeal No. 302 of 2024. Relevant extract of the decision is as under:

13. *Learned counsel for Respondent made a reference to the Statement of Objects and Reasons issued by CERC for CERC RE Regulations 2020, wherein rational for keeping 21 % CUF is stated that as per advancement of solar technology the CUF of 21% is achievable, and made submissions that such 21% CUF ought to be achieved with AC: DC Ratio of 1:1. **As such, the Statement of Objects and Reasons (SOR) can be referred to while interpreting subordinate legislation, as it provides insights into the legislative intent behind the enactment of the law. Courts and regulatory bodies often use it as a tool to understand the purpose and objectives of the legislation/Subordinate legislation, especially when there is ambiguity in the interpretation of specific provisions.***

14. ***We are, however, unable to appreciate and find merit in the submissions made by Respondent HPPC for the following reasons: firstly, in the present lis, we are concerned with the HERC Regulations 2021, however no reference has been made to its SOR, and reference is made to the SOR of the CERC RE Regulations 2020, which is not the reference regulation for the present lis; and** secondly, or more significantly , 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.*

5.10 That the above finding makes it clear what was otherwise crystal clear that Statement of Reasons of the Central Commission cannot be used an external tool for interpreting the regulations as framed by this Hon'ble Commission.

5.11 That thus, there is no such test as 'prevalent market trend' against which the capital cost incurred by the Petitioner has to be tested. Thus, being a project specific tariff determination, the only test which applies is prudence check.

5.12 The broad submissions of HPPC during the hearing, on the issue of capital cost, were:

- a) Petitioner has entered into related party transactions which is alleged as being imprudent; and
- b) Capital cost incurred by the Petitioner is higher as compared to the cost incurred by other generators namely Amplus Solar and Greenyana Solar.

- 5.13 It is stated that both the submissions as taken by HPPC are misconceived.
- 5.14 That undertaking of competitive bidding is nowhere mandatory and is not a criterion or a condition provided under the applicable regulations. In this view of the matter, it is not understood as to how the Petitioner is being faulted for not undertaking competitive bidding to issue work orders.
- 5.15 That neither the regulations nor the contractual terms found in the PPA stipulate that orders for solar modules can only be placed through competitive bidding. It is not the allegation of HPPC that the Petitioner is in violation of a particular regulation or is in breach of a particular contractual provision. Instead, what has been put forth are vague submissions of prejudice on the nature of work orders as issued by the Petitioner. The only allegation is that the Petitioner has entered into related party transactions and as such being related party transactions they have been given the stamp of being imprudent and burdensome by HPPC. This is misconceived.
- 5.16 That in EPC contracts and also in the realm of infrastructure and construction projects, more often than not, entering into transactions through group companies results in saving of costs. This is also why there is no bar in the regulations to enter into such contracts. There is no allegation by HPPC that the Petitioner has entered into contracts for amounts higher than the actual market price of modules, as also there is no allegation of fudging of books or that transactions have been entered into by wilfully inflating the cost of modules.
- 5.17 That all details including the work orders as issued were submitted along with the tariff petition. Even though HPPC carried the tariff order in appeal, no grounds on related party transactions were taken by HPPC. This allegation is now being raised clearly as an afterthought. It is stated that even Greenyana Solar was found to have entered into related party transactions, however, the same was accepted by HPPC. As a government utility HPPC ought not to take partisan stands. The submission of HPPC essentially is that Greenyana Solar can enter into related party transactions whereas the Petitioner cannot. Such a stand is impermissible for a public utility. In the hearing reliance was placed on the decision in Union of India v. M.R. Sarkar (2010) 2 SCC 59 to contend a party cannot claim benefit in case someone else has been extended a wrong benefit. First of all, the issue here is not extending of any benefit, the issue raised is whether public utilities can take varied stand while entering into commercial agreements with private entities. Moreso, can a public utility choose to look the other way in a particular case, while choosing not to in another. The decision as cited by HPPC does not answer this.

- 5.18 That the other contention raised by HPPC is that the capital cost as incurred by the Petitioner is higher compared to the capital cost as incurred by Amplus Solar and Greenyana Solar. This argument is misplaced.
- 5.19 That the comparison being made, to begin with, is itself erroneous and severely prejudices the Petitioner. It is stated that in the context of scale of operations, the Petitioner is incomparable with that of Amplus Solar or Greenyana Solar. The latter two (or their holding companies, as the case maybe) are some of the biggest renewable companies with their renewable portfolio in multiples Giga Watt. In comparison, the Petitioner only has a total portfolio of 36 MWp. It is but a basic principle of supply chain that bulk orders are cheaper. This stems from the concept of economies of scale where the cost per unit of an item decreases as the quantity purchased increases. Essentially, buying in large quantities allows businesses to leverage lower per-unit production costs. Thus, it is evident that the Petitioner can never secure prices in the same range as that of other established market leaders with whom this Hon'ble Commission has compared the capital cost of the Petitioner and accordingly reduced the same. For example, cost of inverters and transformers have been drastically reduced and pegged at the rate the procurement prices of Amplus Solar, which is incorrect.
- 5.20 That the government financing agency, IREDA has, after conducting its own due diligence and project appraisal, approved the capital cost of Rs. 83.50 Crores for the project. This sanction by IREDA is based on an independent prudence check, commercial assessment, and financial verification. This itself points to the prudence of the costs incurred by the Petitioner.
- 5.21 That HPPC has relied heavily on the order dated 20.12.2019 passed by this Hon'ble Commission in PRO 57 of 2019. It is stated that the conception and genesis of the projects under the PM KUSUM scheme make it patently different from projects such as that of the Petitioner. The projects which were born under the PM KUSUM were the result of heavy subsidies, promotion and welfare schemes etc. From a perusal of the order the following becomes clear:
- a) The projects had the assistance of HAREDA which assisted the farmers in project development activities including formation of DPR. PPA/EPC contracts, getting funds from financial institutions and also many other activities. This is certainly not the scheme of events in the present case.
  - b) The tariff allowed was much higher than that of the Petitioner i.e., Rs. 3.11 per unit.
- 5.22 That when the ultimate tariff as allowed was Rs. 3.11 per unit as against the much lesser tariff of the Petitioner, how the procurement under the PM KUSUM scheme is better for the consumers in the State of Haryana. Ultimately, the entire power purchase cost has to be recovered from the general consumers by way of retail supply tariff. In

fact, reliance placed on the Order passed in PRO 57 of 2019 supports the case of the Petitioner. Similarly, reliance placed on various other projects does not further the case of HPPC as each and every project is materially different from that of the Petitioner.

- 5.23 That the Petitioner has also substantiated every cost component with invoices, CA certificates, and purchase contracts, including for modules, BOS, project management, and land lease rentals. The module pricing, which constitutes ~50% of total capex, escalated due to:
- (i) 100 – 150% increase in freight rates,
  - (ii) 22% rise in glass prices (a critical input in solar modules),
  - (iii) Significant rise in steel costs during 2020–2021,
  - (iv) INR/USD exchange volatility, which impacted the import cost of modules and raw materials
- 5.24 That HPPC' contentions dilute and negate the entire project specific tariff determination. It needs no reiteration that no two projects would be identical. The only criteria against which costs have to be tested is prudence. A generator can only be faulted for being imprudent.
- 5.25 That this Commission has already examined the capital cost breakdown and allowed the CUF degradation of 0.5% on a technical basis as part of energy generation estimation, not as a monetary compensation. The degradation is not monetised in the capital cost of the Petitioner and therefore does not result in any double-counting or excess burden.
- 5.26 That the inclusion of 0.5% annual CUF degradation is a standard technical parameter, consistent with PVSyst. Its purpose is to adjust energy yield projections over the life of the project and not to provide financial gain to the developer. HPPC' conflation of CUF degradation with financial cost is misleading.
- 5.27 That the benefit of higher CUF (19% +/- 5%), as prescribed under RE Regulations, 2017, can only be achieved by 24 MW additional DC capacity. For that to be availed by HPPC, the cost of additional DC modules must be allowed in determination of tariff.
- 5.28 That the technical necessity for this additional DC capacity is further substantiated through detailed calculations derived from the PVSyst report, as already submitted in the review proceedings. The PVSyst simulation results demonstrate the following:
- The AC Capacity of Solar Power Plant = 20 MW
  - The DC Capacity of the Solar Power Plant = 20 MW
  - The Specific Production = 1558 kwh/kwp/yr Maximum Yield per year = (1558 x 20 x 1000) kwh = 31,160,000 kwh/yr
  - The CUF of the plant = (31,160,000) / (365 x 24 x 20 x 1000) = 17.785%

- 5.29 That the project of the Petitioner is incomparable with that of Greenyana Solar or for that matter even Amplus Solar. The entire endeavour of HPPC is to pick the best set of facts from one Project and then seek to apply it across the board to all projects. This is a dangerous precedent and would render the entire project specific tariff determination exercise meaningless.
- 5.30 That the actual CUF achieved thus far is not indicative of sub-optimal design or sub-standard panels. CUF can be affected by various factors, which are not in control of the Petitioner such as stabilization losses, curtailment due to grid unavailability or outages, seasonal variability in solar radiation, and temporary operational and commissioning phase inefficiencies. Thus, no CUF data should be evaluated in isolation without considering these factors. It is submitted that all modules used by the Petitioner are sourced from MNRE-approved vendors; conform to IEC and BIS standards, and were procured with long-term performance warranties from reputed manufacturers. Specifically, the Petitioner procured modules for 22 MW from Waaree Energies Ltd. and 2 MW from ReneSola Solutions, both of which are recognized and established suppliers in the solar industry supplying Tier I grade global modules. The said modules have been accepted and commissioned after all statutory inspections and clearances.
- 5.31 That the reliance placed by HPPC on Solar Module Sales Contract dated 06.04.2020 executed with ReneSola for procurement of 22 MW Modules at a unit price of USD 0.1975/Wp, as a benchmark to question the reasonableness of a subsequent procurement from Roop Ram Industries Pvt. Ltd. at unit rates of USD 0.225/Wp and USD 0.26/Wp for procurement of 3.476 MW and 20.6 MW of modules (*vide* Purchase Orders dated 30.10.2020/02.12.2020/17.02.2021), is misconceived.
- 5.32 That the transaction with M/s. Roop Ram Industries Pvt. Ltd. for procurement of solar modules was undertaken at arm's length and on commercially prudent terms, duly disclosed in accordance with applicable laws and regulatory requirements governing related party transactions.
- 5.33 That the comparison drawn by HPPC fails to account for material differences between the two procurements. It is stated that the unit price of USD 0.1975/Wp under the ReneSola Contract pertained solely to basic price of modules and expressly excluded additional costs such as custom clearance, transportation costs, transit insurance, CFS handling, SGD, Customs Duty, GST along with associated risks of Forex variations and delayed delivery due to pandemic conditions prevailing at that time. In contrast, the domestic procurement from Roop Ram Industries Pvt. Ltd. was inclusive of several such elements and further mitigated the prevailing risk at the relevant time, including Forex fluctuations and pandemic induced supply chain disruptions and delay

in international logistics. Therefore, the said comparison without factoring in these commercial considerations is neither prudent nor justified.

- 5.34 That, insofar as the ReneSola modules procured from Roop Ram Industries Pvt. Ltd. are concerned, the same were purchased for a consideration almost equal to the consideration for which they were then sold to LR Energy Pvt. Ltd. for Rs. 3,94,58,846.04/-. The difference in price is attributable to incidental costs incurred towards repacking and transportation of modules from Sirsa to Tosham. Similarly, Waaree Modules were procured by Roop Ram Industries Pvt. Ltd. and sold to LR Energy Pvt Ltd for Rs. 44,54,77,136/-, with the differential amount towards ancillary expenses towards repacking and transportation between aforesaid locations. The respective invoices evidencing the onward sale of solar modules from Roop Ram Industries Pvt. Ltd. to L.R. Energy Pvt. Ltd., along with add-on costs incurred, are attached as Annexure B.
- 5.35 That during the course of hearing, a submission was made by HPPC that Roop Ram Educare is primarily engaged in the manufacturing of rubber products. It is stated that this statement is neither correct nor relevant to the present case. The involvement of Roop Ram Educare (which has been disclosed as a related entity to the Petitioner Company), in the procurement of solar modules was necessitated due to exigent financial circumstances prevailing at the relevant time. It is important to mention that the progress of the Project had suffered considerable delays owing to pendency in approval and disbursement of the term loan from IREDA. Since, the release of funds was subject to final loan sanction, interim financial arrangements had to be made to ensure and maintain continuity and viability of the Project and to avoid incurring costs due to time overruns. In light of the foregoing situation, Roop Ram Educare, who at the material time, held an equity stake in Petitioner Company, stepped in to procure solar modules on behalf of the company to implement the Project. The said modules were purchased and supplied by Roop Ram Educare, and were invoiced directly to LR Energy Pvt. Ltd. Upon receipt of the sanctioned loan from IREDA, the Petitioner made payment to Roop Ram Industries towards the cost of the modules. A CA certificate evidencing shareholding of Roop Ram Educare Pvt. Ltd. and Roop Ram Industries Pvt. Ltd. in LR Energy Pvt. Ltd. is attached herewith and marked as Annexure C.
- 5.36 That this Hon'ble Commission has disallowed a sum of Rs. 2.08 crores from the claimed cost of Rs. 5.72 crores towards inverters (2.5MW x 8 Nos.), on the ground that other similarly placed generators such as M/s. Avaada Green and M/s. Amplus, have reportedly claimed significantly lower inverter costs i.e., Rs. 3.256 million for a 3.125 MW inverter (Rs. 1.04 million/MW) and Rs. 20.8 million for a 50 MW AC plant (Rs. 1.04 million/MW) respectively. In this regard, it is stated that the actual invoice or the purchase of inverters along with proof of payment made to the vendor is attached



herewith and marked as Annexure D. It is respectfully submitted that in a proceeding for determination of project specific tariff under Section 62 of the Electricity Act, 2003, while this Hon'ble Commission is empowered to undertake a prudence check, such check must be confined to verifying the genuineness of the expenditure and guarding against any excessive or inflated claims.

- 5.37 That this Hon'ble Commission has disallowed a sum of Rs. 2.42 crores from the claimed cost of Rs. 3.50 crores towards the procurement of 20 MVA 660v/33 KV step up transformers, approving only Rs. 1.08 crores. The disallowance is premised on the ground that a similarly placed generator, M/s. Amplus, procured a 50 MVA 132/33 KV step up transformer procured from M/s. Bharat Bijlee Ltd. at a cost of only Rs. 27.21 million. Accordingly, the cost for the 20 MVA transformer was proportionately reduced for 20 MVA, at Rs. 10.88 million ( $\text{Rs. } 27.21/50 \times 20$ ). In this regard, the actual invoice evidencing the purchase of 20 MVA transformer along with proof of payment to the vendor, is attached herewith and marked as Annexure E.
- 5.38 That benchmarking the Petitioner's actual cost against the cost incurred by other developers, who may have benefitted from economies of scale, different technical configurations, or stronger negotiating power, is arbitrary and does not reflect the commercial realities faced by individual project developers. The Petitioner cannot be penalised for economical procurement made by other developers in unrelated transactions and taking decisions best suited for their business' sustenance. If such an approach were to be adopted uniformly, it would effectively deny developers the opportunity to recover their actual and prudently incurred costs, thereby rendering the Section 62, of the Electricity Act, 2003 framework illusory and commercially unviable.
- 5.39 That unlike tariff determination under Section 63 of the Electricity Act, 2003, where the tariff is discovered through a competitive bidding process based on projected capital costs, Section 62 offers the assurance of cost recovery based on actual expenditure supported by verifiable documentation. Denial of such actual expenditure solely on the basis of costs incurred by other developers undermines the intent of Section 62 and creates undue uncertainty, adversely affecting the financial sustainability of regulated projects. The Petitioner, therefore, prays that the claimed cost of Rs. 5.72 crores towards inverters and Rs. 3.50 crores towards transformers be allowed in light of the foregoing submissions.
- 5.40 That even after a substantial reduction in the cost of solar modules in recent years and corresponding improvements in their efficiency, HPPC itself has recently discovered a tariff of Rs. 2.99/unit in competitive bidding conducted under Section 63 of the Electricity Act, 2003. This also debunks the theory of HPPC that with time the tariffs have gone down.

- 5.41 That the objection raised by HPPC regarding the Project Management Cost of Rs. 1.55 Crores is erroneous. It is stated that Project Management Cost forms part of capital cost and as such is included in the ambit of the remand exercise. Such expenses, though not always supported by standalone invoices like material procurement, are inevitably incurred over the course of project development and substantiated through certified cost statements from qualified Chartered Accountants, as already placed on record in the submission dated 07.05.2025.
- 5.42 That as per established market standards and regulatory practice, Project Management Costs in the range of 2% to 2.5% of the total capital cost are considered reasonable for utility-scale solar projects. The Petitioner's claim of Rs. 1.55 Crores works out to approximately 1.71% of the total capital cost, which is well within the recognized and accepted industry norms. Hence, there is no basis to disallow or reduce the Project Management Cost claimed.
- 5.43 That in view of the submissions made in foregoing paragraphs, it is prayed that this Hon'ble Commission may be pleased to re-determine the tariff of Petitioner's project by appropriately revising it upwards. The objections raised by HPPC are without merit, unsupported by relevant averments, and therefore warrant no interference with the Petitioner's just and substantiated claims.

6. **HPPC' reply dated 21.05.2025**

HPPC has submitted as under:-

- 6.1 That on 30.04.2021 this Hon'ble Commission, in exercise of powers under Section 181 of the Electricity Act notified the Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations 2021 ('Renewable Regulations, 2021').
- 6.2 That the solar project of L.R. Energy was commissioned on 31.07.2021. As on the date of the commissioning, the Renewable Regulations, 2021 were in force and the tariff determination by this Hon'ble Commission has been in terms of the Renewable Regulations, 2021.
- 6.3 That on 17.09.2021, this Hon'ble Commission passed its Order in Petition being Case No. HERC/PRO 70 of 2020 determining the levelized tariff of Rs. 2.5843 per unit for L.R. Energy's solar power project. It is pertinent to note that the capital cost allowed by this Hon'ble Commission was exclusive of the land costs and cost to compensate for annual degradation.
- 6.4 That Hon'ble APTEL, has remanded back the matter to this Hon'ble Commission with respect to the following limited issues:

- a) Consideration of excessive Capital Cost contrary to prevalent market trends without conducting a prudence check;
- b) Consideration of Annual Degradation in the CUF; and
- c) Consideration/determination of tariff corresponding to additional DC capacity for achieving CUF of 22.14%.

Re: CONSIDERATION OF EXCESSIVE CAPITAL COST CONTRARY TO PREVALENT MARKET TRENDS

- 6.5 That the capital cost of Rs. 714.81 million (Rs. 3.574 Crores per MW), allowed by this Hon'ble Commission vide Order dated 17.09.2021 (Case No. HERC/PRO 70 of 2020), is significantly higher than what has been allowed by this Hon'ble Commission and various other State Commissions for similarly placed generators. Further, it is pertinent to note that the said amount was allowed exclusive of the land costs as well as the cost to compensate for annual degradation of 0.5% in the CUF.
- 6.6 That Regulation 47 of the Renewable Regulations, 2021, provides for the consideration of prevalent market trends while determining tariff under Section 62 of the Electricity Act. The same reads as under:  
*"47. Technology Aspects*  
*.....*  
*Provided that the norms including Capital Cost, O&M expenses etc. and the tariff thereto for Solar Pv / Thermal / Rooftop / Canal top / Water works, as per the technology approved by the MNRE, shall be determined on project specific basis depending on the prevalent market trend only if required i.e. in case the competitive bidding route for any reason does not take effect."*
- 6.7 That Hon'ble Central Electricity Regulatory Commission ('CERC') in its Order dated 07.07.2020 in the matter of Central Electricity Regulatory Commission (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2020 applicable from 1.07.2020 - Statement of Objects & Reasons ('SOR') observed that in view of the solar power market having attained maturity, the consideration of market trend is even more imperative. The relevant extracts of the Order dated 07.07.2020 are as under:  
*"6.11 Most of the utilities are adopting competitive bidding route for procurement of power from solar and wind power projects. In some cases, it is observed that the tariff determination has been done by SERCs on case to case basis, which lead to the inclusion of solar power projects and wind power projects under project specific tariff. Further, the solar power and wind power have reached maturity level and hence, the market driven determination of tariff needs to be promoted."*
- 6.8 That this Hon'ble Commission in its Order dated 20.12.2019 (PRO 57 of 2019) for the Petition for determination of levelized tariff for purchase of power from decentralized Solar Power Plants set up under PM KUSUM Scheme introduced by Government of

India ('Gol') held that the capital cost for the project has to be determined as per the prevalent market trends. The relevant extracts of the Order dated 20.12.2019 read as under:

*"The Commission observes that the most important parameter impacting the levelized tariff is the project cost which as per HERC RE Regulations has to be aligned with the market trend"*

6.9 That in terms of the above, HPPC had placed details before this Hon'ble Commission regarding the Capital Cost allowed by various State Commissions for several similarly placed generators as under:-

- a) Order dated 29.01.2024 passed by this Hon'ble Commission in PRO-33 of 2023 in the case of Greenyana Solar Private Limited wherein the the capital cost as considered and approved by this Hon'ble Commission was Rs. 3.40 crores per MW. The above cost is inclusive of land cost.
- b) Order dated 20.12.2019 passed by this Hon'ble Commission in PRO-57 of 2019 for PM - KUSUM scheme which was in fact for capacity of less than 2 MW. In the said scheme, the capital cost as considered and approved by this Hon'ble Commission was Rs. 3.40 crores per MW. The above cost is inclusive of land cost and cost to compensate for annual degradation.
- c) Order dated 07.06.2019 passed by the Uttarakhand Electricity Regulatory Commission in Petition No. 18 of 2019 considering the cost of Rs. 3.56 crores per MW (out of which Rs. 50 lacs has been considered as the land cost and Rs. 8.84 Lakh/MW as the degradation cost over the life of the project). In the present case, the land cost is not included in the capital cost. Therefore, the corresponding consideration would be around Rs. 3 crores per MW. This is for projects up to the capacity of 1 MW.
- d) Order dated 01.08.2019 passed by Karnataka Electricity Regulatory Commission had adopted capital cost of Rs. 3.14 crores per MW. This was for projects of capacity less than 5 MW. This capital cost is exclusive of land cost.
- e) Order dated 11.02.2020 passed by Rajasthan Electricity Regulatory Commission for KUSUM Scheme had considered the cost of setting up 1 MW solar plant including the cost of 3km connected 11 kV line as Rs. 3.65 Crores per MW and the cost of project without the cost of 11 kV line/breaker works out to be Rs. 3.40 crores per MW. This is including the land cost.

The cost considered in most of the above Orders are inclusive of land costs and cost to compensate for annual degradation which have been provided to L.R. Energy separately. Therefore, there is no element of land cost and degradation of panels in the capital cost. Further the above costs are usually for projects of less than 2MW. Considering the economies of scale and reduced cost of solar

inverter and panels, the capital cost per MW ought to have been reduced by 15-20% for L.R. Energy.

6.10 That considering the submissions placed by HPPC and L.R. Energy, on 17.09.2021, this Hon'ble Commission, decided Petition being Case No. HERC/PRO 70 of 2020 whereby this Hon'ble Commission approved the Capital Cost of 20 MW Solar PV Project at Rs. 71.48 Crores (Rs. 3.574 Crores per MW). While approving the above capital cost, this Hon'ble Commission had rightly made the following disallowances:

- A. With respect to the cost of inverter, the Commission observed that the Petitioner in its reply had not justified the excess claim towards the cost of invertors amounting to Rs. 36.4 Million, i.e., Rs. 1.82 Million/MW for 20 MW and the Commission was not convinced regarding its prudence. Accordingly, cost of inverter of 20 MW had been approved at Rs. 20.8 Million, i.e., Rs. 1.04 Million/MW; and
- B. With respect to the cost of transformers, this Hon'ble Commission observed that the cost of Transformer claimed by similarly placed generator - M/s Amplus Sun Solutions in PRO-59 of 2020 for its 50 MW AC power plant must be considered. The 50 MVA 33/132 kV step up transformer was procured by M/s Amplus Sun Solutions at a cost of Rs. 27.21 Million. Proportionately for 20 MVA, the cost had been allowed at Rs. 10.88 Million (27.21/50\*20).

6.11 That while considering the capital cost for solar modules, this Hon'ble Commission, even after duly noting that the cost claimed for solar modules is exorbitant as compared to other similarly placed projects, allowed the cost of solar modules at Rs. 1.99 Crores/MW. In this regard, the relevant part of the Order dated 17.09.2021 passed by this Hon'ble Commission is as under:

*"The Commission observes that 10% mark up over the base price hypothetically determined by HPPC may not hold good, taking into consideration of increased transportation cost, insurance and safeguard duty which itself is 14.90%. Nevertheless, it cannot be altogether denied that the Petitioner has not exercised due diligence and financial prudence while purchasing Solar PV modules at such high cost as Rs. 1.99 Crore/MW, particularly considering the fact that the similarly paced Solar PV Power generator M/s. Amplus Sun Solutions Pvt. Ltd., had claimed cost of solar PV modules at Rs. 132.01 Crore for 75 MW modules i.e. Rs. 1.76 Crore/MW. Accordingly, the cost of Solar PV modules is allowed at Rs. 19.925 Million/MW, as claimed by the Petitioner for 20 MW AC capacity i.e. Rs. 398.50 Million (reduced by Rs. 79.70 Million)"*

6.12 That the cost for solar modules is much higher than the cost of solar modules allowed by this Hon'ble Commission in Order dated 29.01.2024 in Petition No. PRO-33 of 2023 in the case of Greenyana Solar Private Limited at Rs. 1.44 Crores/MW. Even in the

case of M/s Amplus Sun Solutions Private Limited, the cost of solar modules had been allowed at Rs. 1.76 Crores/MW (the above cost of Rs. 1.76 Crores/MW is also excessive and is pending determination by this Hon'ble Commission).

- 6.13 That at the time of passing of the Order dated 17.09.2021, L.R. Energy had only installed 20 MW DC capacity. The additional 4 MW DC capacity for which the L.R. Energy had sought capital cost and had challenged the same before the Hon'ble Appellate Tribunal had not been installed at the relevant time. The above aspect needs to be clarified by L.R. Energy in order to even maintain the claim for 4 MW DC capacity.
- 6.14 That the Capital Cost towards Solar PV Modules of Rs. 47.82 Crores for 24 MW as claimed by L.R. Energy is not relatable to the documents filed by L.R. Energy on 07.05.2025 in compliance of the Order dated 23.04.2025 passed by this Hon'ble Commission. In the above submissions dated 07.05.2025, L.R. Energy has attached three contracts of different periods in relation to procurement of Solar PV Modules. These contracts/Purchase Orders are:

- A. Solar Module Sales Contract dated 06.04.2020 with ReneSola for procurement of 22 MW Modules at unit price of USD 0.1975/Wp;
- B. Purchase Order dated 30.10.2020 with Roop Ram Industries Private Limited for procurement of 3.476 MW Modules at unit price of USD 0.225/Wp (Pages 98-99, Submissions dated 07.05.2025); and
- C. Purchase Order dated 02.12.2020/17.02.2021 with Roop Ram Industries Private Limited for procurement of 20.6 MW Modules at unit price of USD 0.26/Wp (Pages 120-121 and 150-151, Submissions dated 07.05.2025).

From the documents attached to the Submissions dated 07.05.2025, it is observed that the Solar Module Sales Contract dated 06.04.2020 was terminated on 10.02.2021.

- 6.15 That a perusal of the above documents attached to the Submissions dated 07.05.2025 and the reasons stated hereinbelow clearly proves that the Solar Modules cost is excessive and ought not to be allowed at the cost claimed by L.R. Energy:-

- A. No competitive bidding was undertaken by L.R. Energy for procurement of Solar PV Modules. L.R. Energy has not given any justification as to why no such procedure of inviting bids was followed by it. If such procedure was followed, better offers and therefore better price discovery could have been made for Solar PV Modules;
- B. L.R. Energy has placed Purchase Orders for procurement of Solar PV Modules on M/s Roop Ram Industries Private Limited and Roop Ram Educare Private Limited. Some of the Directors in the above Companies and L.R. Energy are same. Further, the above Companies and L.R. Energy are also registered at the same address. Roop Ram Industries are engaged in the manufacturing of rubber products and Roop Ram Educare is engaged in providing educational services.

No justification in regard to placing purchase orders on the above two companies has been provided for by L.R. Energy. It is submitted that adverse inference be drawn against L.R. Energy for placing contracts on the above two companies rather than the manufacturer of Solar PV Modules itself.

- C. L.R. Energy had entered into different contracts for different quantity of PV Modules. The contract at Pages 45-51 was entered into at Unit Price of USD 0.1975/Wp, however was terminated on 10.02.2021 without any corresponding liability. Thereafter, two purchase orders were placed on Roop Ram Industries namely Purchase Order dated 30.10.2020 for procurement of 3.476 MW at Unit Price of USD 0.225/Wp and Purchase Order dated 02.12.2020/17.02.2021 for procurement of 20.6 MW at Unit Price of USD 0.26/Wp. No justification/explanation has been given by L.R. Energy as to why (i) the contract dated 06.04.2020 was terminated without any liability, (ii) the difference of cost between USD 0.1975/Wp and USD 0.225/Wp and USD 0.26/Wp.
- D. If L.R. Energy would have procured Solar PV Modules at unit price of USD 0.1975/Wp (considering the exchange rate of 73.25), the cost incurred for the procurement of Solar PV Modules would have been Rs. 34.78 Crores (approx.) (Rs. 1.44 Crores/MW) as against the claimed cost of Rs. 47.82 Crores (Rs. 1.99 Crores/MW).
- 6.16 That the observation of this Hon'ble Commission in the Order dated 17.09.2021 to the effect that the objection of HPPC in regard to Solar PV Module cost may not hold good considering that the safeguard duty of Rs. 14.90% would have increased the procurement costs may not be correct as it seems that L.R. Energy has procured 70-80% of the Solar PV Modules, i.e., 20.06 MW from within India.
- Re: DEGRADATION IN CUF
- 6.17 That this Hon'ble Commission erred in considering the degradation of 0.5% in the CUF when the capital cost is inclusive of the monetised value attributed to degradation of solar panels. This Hon'ble Commission had compared the capital cost of L.R. Energy with the costs considered in other Orders; however it failed to consider that such other Orders had included the cost of degradation in the capital cost and had not provided for a separate degradation in the CUF.
- 6.18 That the comparison may made to the capital cost under KUSUM scheme in Order dated 20.12.2019 and the benchmark cost approved by other State Commissions which included in addition to cost of land, evacuation system, "monetised value attributed to degradation of solar panels". Without such degradation, the capital cost would have been much lower. The net present value cost associated with degradation of solar panel has been specifically worked out as Rs. 8.84lakhs/MW by the

Uttarakhand Electricity Regulatory Commission in its order dated 07.06.2019. If the cost of degradation is not included in the capital cost of L.R. Energy, the benchmark capital costs to be considered should be lower. Thus, capital cost for the Project of L.R. Energy would have to be reduced to exclude the degradation cost.

- 6.19 That vide Submissions dated 07.05.2025, L.R. Energy has claimed Rs. 1.550 Crores as Project Management Cost. However, no documents substantiating the said claim have been put forth by L.R. Energy. Therefore, the same ought not to be included in the Capital Cost sought by L.R. Energy.

Re: SUB-OPTIMAL CUF ACHIEVED BY L.R. ENERGY

- 6.20 That this Hon'ble Commission vide Order dated 17.09.2021 passed in Petition being Case No. HERC/PRO 70 of 2020, allowed the CUF for L.R. Energy's plant at 22.14% with annual degradation of 0.50% as against L.R. Energy's claim of 17.79%.
- 6.21 That the claim of L.R. Energy that it can only achieve of CUF of 17.79% with AC:DC ratio of 1:1 is wrong and baseless. L.R. Energy had proposed a CUF of 20.62% AC after subtracting 3.287% towards grid downtime and 3.37% towards system unavailability. The above assumption was rejected by the State Commission and this Hon'ble Commission had determined the CUF at 22.14% AC. This aspect had not been challenged by L.R. Energy in the Appeal filed before the Appellate Tribunal. The CUF of 22.14% AC would result in 18.45% DC and not 17.79%. Therefore, at the very minimum, with an AC:DC ratio of 1:1, L.R. Energy ought to achieve CUF of 18.45%.
- 6.22 That the CUF of 18.45% is also lower than the CUF of other similarly situated solar power plants, i.e., Greenyana Solar Private Limited which even with a ratio of 1:1 is in a position to achieve a CUF of 19.215%. If the minimum CUF of 19.215% at the AC:DC ratio of 1:1 is applied to the case of L.R. Energy, then L.R. Energy would only need to install 3.044 MW extra DC capacity. It is the submission of HPPC that the said 19.215% as CUF with AC:DC ratio of 1:1 in Greenyana's case is also on the lower side and is not being admitted by HPPC.
- 6.23 That from the data provided by L.R. Energy of the yearly CUF achieved shows that L.R. Energy has been only able to achieve a sub-optimal CUF in the range of 18% which is even lesser than the 18.45% CUF achievable with an AC:DC ratio of 1:1. The above is clearly indicative of the fact that L.R. Energy has procured sub-optimal and sub-standard solar panels.

7. **HPPC' written submissions dated 16.07.2025**

HPPC has submitted as under:-

- 7.1 That the solar project of L.R. Energy was commissioned on 31.07.2021. As on the date of the commissioning, the Renewable Regulations, 2021 were in force and the tariff



determination by this Hon'ble Commission has been in terms of the Renewable Regulations, 2021.

- 7.2 That on 17.09.2021, this Hon'ble Commission passed its Order in Petition being Case No. HERC/PRO 70 of 2020 determining the levelized tariff of Rs. 2.5843 per unit for L.R. Energy's solar power project. It is pertinent to note that the capital cost allowed by this Hon'ble Commission was exclusive of the land costs and cost to compensate for annual degradation.
- 7.3 That aggrieved by the above Order, Haryana Power Purchase Centre ("HPPC") filed Appeal No. 91 of 2022 before the Hon'ble Appellate Tribunal for Electricity ("Appellate Tribunal"). Consequently, on 29.04.2022, L.R. Energy filed Appeal No. 31 of 2023 before the Appellate Tribunal challenging the Order dated 17.09.2021 passed by this Hon'ble Commission.
- 7.4 In Appeal No. 91 of 2022 filed by HPPC, the following issues were raised before the Hon'ble Appellate Tribunal:
- a) Consideration of excessive Capital Cost contrary to prevalent market trends; and
  - b) Consideration of Annual Degradation in Capital Utilisation Factor ('CUF').
- 7.5 In Appeal No. 31 of 2023 filed by L.R. Energy, the following issues were raised before Hon'ble Tribunal:
- a) Consideration of CUF as 22.14%;
  - b) Consideration of Capital Cost at Rs. 71.48 Crores excluding the capital cost incurred for the additional DC capacity of 4 MW; and
  - c) Failure to conduct prudence check by this Hon'ble Commission while calculating O&M Expenses.
- 7.6 On 21.02.2025, the Hon'ble Tribunal passed a common Order in Appeal Nos. 91 of 2022 and 31 of 2023. The relevant extracts of the Order dated 21.02.2025, *inter-alia*, read as under:
- "It is submitted by the contesting parties that issue in hand in the instant batch of appeals are considered by Court I in Appeal No. 326 of 2021 & Appeal No. 149 of 2021 on 25.10.2024 and some of these issues might have covered by the said judgement. After examining the judgement, we find it appropriate that identical issues / similar issues were considered by Court I in Appeal No.326 of 2021 & Appeal No.149 of 2021 and the matter was remanded to the State Commission for fresh consideration ruling as under:*
- "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.*

*38. Considering the fact that the Appellant Amplus ahs sought a levelized tariff of Rs.3.86/Kwh and levelized tariff in the range of Rs.3.71/Kwh I worked out with CUF of 17.3% so claimed to be achievable with 1:1 AC:DC modules and approved cost, and Amplus ahs now sought a levelized tariff of only Rs.3.03/Kwh in the interregnum, till the matter decided by State commission, we are inclined to accept their request as an interim arrangement.*

*39. However, as submitted by learned counsels for Amplus and HPPC, all the issues raised in the Petitions are interlinked to Capital cost except escalation factor allowed in O&M. Regarding contention of Learned counsel of HPPC regarding higher escalation factor of 5.72% allowed in O&M in the impugned order, we are not inclined to interfere with the same since it is as per prevailing Regulation, as also admitted by the learned counsel of HPPC.*

*40. In view of the above deliberations, we set aside the Impugned order to the limited extent and remand the matter in both the appeals (APL 326 of 2021 & APL 149 of 2021) to State Commission for redetermination of tariff after prudence check of Capital cost including related issues raised and considering the feasible CUF corresponding to the capital cost of AC : DC module allowed. We make it clear that the issues with regard to interest on term loan and working capital, Interest During Constuction and O&M expenses shall not be open for reconsideration as admitted by learned counsel of Amplus. In the interregnum, Amplus is allowed a tariff of Rs.3.03/Kwh from the date of their order till the matter is finally decided by the State Commission upon remand, which needs to be decided expeditiously by State Commission. Both the appeals and associated IAs are disposed of in view of the above-mentioned terms.”*

*In the light of the above decision, the Appeal nos. 91 of 2022 & 31 of 2023 stand remanded to the State Commission considering that a decision has already been taken by the Coordinate Bench of this Tribunal with the directions to pass the consequential order expeditiously within three months.”*

**Re: SCOPE OF THE REMAND PROCEEDINGS**

**7.7** That the Order dated 21.02.2025 in Appeal Nos. 91 of 2022 and 31 of 2023 has been passed based on the I.A. No. 2045 of 2024 filed by L.R. Energy in Appeal No. 31 of 2023 wherein the submission of L.R. Energy was that the Appeal is squarely covered by the decision dated 25.10.2024 in Appeal Nos. 326 of 2021 and 149 of 2021 in the

case of Amplus Sun Solutions Private Limited v. Haryana Electricity Regulatory Commission ("Amplus Case").

- 7.8 That in view of the above, the Hon'ble Tribunal remanded Appeal Nos. 91 of 2022 and 31 of 2023 to this Hon'ble Commission for consideration in terms of decision dated 25.10.2024 in the Amplus Case.
- 7.9 That the above falls within the purview of 'limited remand' and only such issues which were raised by L.R. Energy and HPPC can be considered which are identical to the issues which were considered by the Hon'ble Tribunal in the Amplus Case. Further, such issues which were raised by Amplus Sun Solutions Private Limited ("Amplus") in its Appeal, though remanded to this Hon'ble Commission for reconsideration, however, not being raised by L.R. Energy in its Appeal cannot be allowed to be reopened in the garb that such issues have been remanded in the Amplus Case.
- 7.10 Therefore, the matter has been remanded to this Hon'ble Commission with respect to the following limited issues:
- a) Consideration of excessive Capital Cost contrary to prevalent market trends without conducting a prudence check (raised by HPPC in Appeal No. 91 of 2022);
  - b) Consideration of Annual Degradation in the CUF (raised by HPPC in Appeal No. 91 of 2022); and
  - c) Consideration of Capital Cost only corresponding to additional DC capacity for achieving CUF of 22.14% (raised by L.R. Energy in Appeal No. 31 of 2023).
- 7.11 That L.R. Energy is not entitled to claim any increase in the capital cost other than what is relatable to the additional DC capacity in light of the terms of the Remand Order dated 21.02.2025, passed by the Hon'ble Appellate Tribunal. The submissions made during the arguments before this Hon'ble Commission on 10.07.2025 by L.R. Energy that the entire Capital Cost is to be reconsidered, i.e., seeking increase in the Capital Cost for the entire Project is wrong.
- 7.12 That in the Appeal No. 31 of 2023 filed by L.R. Energy, it had challenged the aspect of disallowed Capital Cost only with respect to the Capital Cost not considered for the extra 4 MW DC Module since this Hon'ble Commission had restricted the entire Capital Cost to 20 MW AC.

Re: CONSIDERATION OF EXCESSIVE CAPITAL COST CONTRARY TO PREVALENT MARKET TRENDS

- 7.13 That this Commission vide Order dated 17.09.2021 passed in Case No. HERC/PRO 70 of 2020 has allowed the capital cost of Rs. 714.81 million (Rs. 3.574 Crores per MW). It is respectfully submitted that the said amount is significantly higher than what has been allowed by this Hon'ble Commission and various other State Commissions for similarly placed generators. Further, it is pertinent to note that the said amount was

allowed exclusive of the land costs as well as the cost to compensate for annual degradation of 0.5% in the CUF.

- 7.14 That Regulation 47 of the Renewable Regulations, 2021, provides for the consideration of prevalent market trends while determining tariff under Section 62 of the Electricity Act.
- 7.15 That L.R. Energy has erroneously contended that the above Regulations do not apply to the present case as they only apply to Projects with an installed capacity of up to 2 MW. In this regard, it is reiterated that the present remand was sought for by L.R. Energy and decision of the Hon'ble Appellate Tribunal is to strictly consider the matter in terms of the Amplus Case. It would mean therefore, all such issues raised by L.R. Energy, however not considered in the Amplus Case, have been given up by L.R. Energy. One such argument/contention raised by L.R. Energy in the Appeal was in regard to the non-application of Renewable Regulations 2021 to the Project of L.R. Energy, however, such argument was neither raised nor considered in the judgement passed by the Hon'ble Appellate Tribunal in the Amplus Case. It is therefore respectfully submitted that L.R. Energy is not allowed to raise the argument of non-application of Renewable Regulations 2021 in the present proceedings.
- 7.16 That the above submission made by L.R. Energy is erroneous as, if the above submission was correct, then the components which have been decided by this Hon'ble Commission in the Order dated 17.09.2021 in Case No. HERC/PRO 70 of 2020, in terms of the Renewable Regulations, 2021, would also not apply to the facts of the present case. The Renewable Regulations, 2021, have been applied by this Hon'ble Commission while determining debt-equity ratio, loan and finance charges, depreciation, return on equity, etc. for the L.R. Energy's Solar Project. However, the same has not been challenged by L.R. Energy before the Hon'ble Appellate Tribunal. L.R. Energy cannot be allowed to pick and choose specific provisions of the Renewable Regulations, 2021 which are beneficial to it and ignore provisions which are not beneficial to the it.
- 7.17 That L.R. Energy in Petition No. HERC/PRO 70 of 2020, *inter-alia*, prayed as under:  
*"4.0 In view of the above backdrop, the Petitioner herein by way of the instant petition most humbly prays that this Hon'ble Commission may kindly determine project specific tariff for the petitioner's solar power project for the entire useful life under Section 62 of the Electricity Act, 2003 read with Regulations 6(1) of the HERC (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy certificate) Regulations, 2017 (hereinafter referred to as the RE Regulations, 2017)"*

In view of the above, it is submitted that L.R. Energy during the proceedings before this Hon'ble Commission prayed for determination of Tariff as per regulations notified by this Hon'ble Commission. Thus, L.R. Energy cannot at this stage wriggle out of the provisions of the Regulations which are not beneficial to it.

- 7.18 That Renewable Regulations, 2021, providing for market trends to be considered, are consistent with the Order dated 07.07.2020 passed by Hon'ble Central Electricity Regulatory Commission ('CERC') in the matter of Central Electricity Regulatory Commission (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2020 applicable from 01.07.2020 - Statement of Objects & Reasons ('SOR'). The relevant extracts of the Order dated 07.07.2020 are as under:

*"6.11 Most of the utilities are adopting competitive bidding route for procurement of power from solar and wind power projects. In some cases, it is observed that the tariff determination has been done by SERCs on case to case basis, which lead to the inclusion of solar power projects and wind power projects under project specific tariff. Further,, the solar power and wind power have reached maturity level and hence, the market driven determination of tariff needs to be promoted."*

- 7.19 That the submission of L.R. Energy in the Rejoinder filed before this Hon'ble Commission that the above reliance by HPPC on the SOR dated 07.07.2020 has been rejected by the Hon'ble Appellate Tribunal vide its Order dated 23.04.2025 in Appeal No. 302 of 2024 in the case of Greenyana Solar Private Limited v. Haryana Electricity Regulatory Commission and Ors ("Greenyana Case") is erroneous. In this regard, it is submitted that the Hon'ble Tribunal had rejected the argument of HPPC, based on SOR dated 07.07.2020, to the effect that minimum 21% CUF has to be achieved and not the reliance of the SOR to state that market trends have to be considered while determining the capital cost of the Project. In this regard, the relevant extracts of the Order dated 23.04.2025 passed by the Hon'ble Appellate Tribunal in the Greenyana Case, *inter-alia*, read as under:

*"14. We are, however, unable to appreciate and find merit in the submissions made by Respondent HPPC for the following reasons: firstly, in the present lis, we are concerned with the HERC Regulations 2021, however no reference has been made to its SOR, and reference is made to the SOR of the CERC RE Regulations 2020, which is not the reference regulation for the present lis; and secondly, or more significantly, 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.”*

- 7.20 That this Hon'ble Commission in its Order dated 20.12.2019 passed in PRO 57 of 2019 for the Petition for determination of levelized tariff for purchase of power from decentralized Solar Power Plants set up under PM KUSUM Scheme introduced by Government of India ('GoI') held that the capital cost for the project has to be determined as per the prevalent market trends. The relevant extracts of the Order dated 20.12.2019 read as under:

*“The Commission observes that the most important parameter impacting the levelized tariff is the project cost which as per HERC RE Regulations has to be aligned with the market trend”*

- 7.21 L.R. Energy has erroneously contended that the Order dated 20.12.2019 passed by this Hon'ble Commission in Case No. HERC/PRO 57 of 2019 does not apply to the present case. In this regard, it is stated that the said Order merely states that *the most important parameter impacting the levelized tariff is the project cost which as per HERC RE Regulations has to be aligned with the market trend*. The said statement is an interpretation of the Regulations and not applicable only to the projects set up under the PM KUSUM Scheme.

CAPITAL COST DETERMINED BY THIS HON'BLE COMMISSION VIDE ORDER DATED 17.09.2021

- 7.22 That, on 17.09.2021, this Hon'ble Commission, decided Petition being Case No. HERC/PRO 70 of 2020 whereby this Hon'ble Commission approved the Capital Cost of 20 MW Solar PV Project at Rs. 71.48 Crores (Rs. 3.574 Crores per MW). While approving the above capital cost, this Hon'ble Commission had rightly made the following disallowances:

- A. With respect to the cost of inverter, this Hon'ble Commission observed that the Petitioner in its reply had not justified the excess claim towards the cost of invertors amounting to Rs. 36.4 Million, i.e., Rs. 1.82 Million/MW for 20 MW and the Commission was not convinced regarding its prudence. Accordingly, cost of inverter of 20 MW had been approved at Rs. 20.8 Million, i.e., Rs. 1.04 Million/MW; and
- B. With respect to the cost of transformers, this Hon'ble Commission observed that the cost of Transformer claimed by similarly placed generator - Amplus in PRO-59 of 2020 for its 50 MW AC power plant must be considered. The 50 MVA 33/132 kV step up transformer was procured by Amplus at a cost of Rs. 27.21 Million.

Proportionately for 20 MVA, the cost had been allowed at Rs. 10.88 Million (27.21/50\*20).

- 7.23 However, while considering the capital cost for solar modules, this Hon'ble Commission, even after duly noting that the cost claimed for solar modules is exorbitant as compared to other similarly placed projects, allowed the cost of solar modules at Rs. 1.99 Crores/MW. In this regard, the relevant part of the Order dated 17.09.2021 passed by this Hon'ble Commission is as under:

*"The Commission observes that 10% mark up over the base price hypothetically determined by HPPC may not hold good, taking into consideration of increased transportation cost, insurance and safeguard duty which itself is 14.90%. Nevertheless, it cannot be altogether denied that the Petitioner has not exercised due diligence and financial prudence while purchasing Solar PV modules at such high cost as Rs. 1.99 Crore/MW, particularly considering the fact that the similarly paced Solar PV Power generator M/s. Amplus Sun Solutions Pvt. Ltd., had claimed cost of solar PV modules at Rs. 132.01 Crore for 75 MW modules i.e. Rs. 1.76 Crore/MW. Accordingly, the cost of Solar PV modules is allowed at Rs. 19.925 Million/MW, as claimed by the Petitioner for 20 MW AC capacity i.e. Rs. 398.50 Million (reduced by Rs. 79.70 Million)"*

CAPITAL COST DETERMINED BY THIS HON'BLE COMMISSION VIDE ORDER DATED 17.09.2021 NOT RELATABLE TO MARKET TRENDS AND EVEN OTHERWISE, NOT RELATABLE TO DOCUMENTS FURNISHED BY L.R. ENERGY ITSELF:

- 7.24 That the cost for solar modules is much higher than the cost of solar modules allowed by this Hon'ble Commission in Order dated 29.01.2024 in Petition No. PRO-33 of 2023 in the case of Greenyana Solar Private Limited ("Greenyana") at Rs. 1.44 Crores/MW. Even in the case of Amplus, the cost of solar modules had been allowed at Rs. 1.76 Crores/MW (the above cost of Rs. 1.76 Crores/MW is also excessive and is pending determination by this Hon'ble Commission in Petition No. PRO-59 of 2020).
- 7.25 That the Projects of Greenyana and Amplus were commissioning within the State of Haryana, in and around the same time when the Project of L.R. Energy was commissioned. In fact, as L.R. Energy's commissioning date is later than the commissioning date of Greenyana and Amplus, it is submitted that the solar panels cost were showing reducing trends and therefore, the per MW capital cost of solar panels in the case of L.R. Energy should have been lower than even Greenyana. The comparative table in this regard is as under:

Project	Commissioning Date	Per MW Capital Cost for Solar Modules
L.R. Energy	31.07.2021 (20 MW) April, 2022 (4 MW)	Rs. 1.99 Crores/MW
Greenyana	11.11.2020 (however, COD of 08.02.2023 considered for the purposes of PPA)	Rs. 1.44 Crores/MW
Amplus	12.01.2021	Rs. 1.76 Crores/MW

- 7.26 That L.R. Energy has erroneously contended that it had to incur higher capital cost on account of it being a relatively small generator. In this regard, it is stated that when a project is set up under Section 62, during the tariff determination process, the size of the project's holding company is irrelevant. The State Commissions are supposed to keep consumer interest in mind while determining project specific tariff. The same cannot be considered as a free pass to claim whatever amounts the generator desires, whether incurred prudently or imprudently. Nevertheless, the above argument of L.R. Energy has not been substantiated by any documents or invoices showing that Greenyana and/or Amplus incurred lesser costs on account of placing purchase orders in bulk and thus, cannot be considered.
- 7.27 That the Capital Cost towards Solar PV Modules of Rs. 47.82 Crores for 24 MW as claimed by L.R. Energy is not relatable to the documents filed by L.R. Energy on 07.05.2025 in compliance of the Order dated 23.04.2025 passed by this Hon'ble Commission. In the above submissions dated 07.05.2025, L.R. Energy has attached three contracts of different periods in relation to procurement of Solar PV Modules. These contracts/Purchase Orders are:
- A. Solar Module Sales Contract dated 06.04.2020 with ReneSola for procurement of 22 MW Modules at unit price of USD 0.1975/Wp;
  - B. Purchase Order dated 30.10.2020 with Roop Ram Industries Private Limited for procurement of 3.476 MW Modules at unit price of USD 0.225/Wp (Pages 98-99, Submissions dated 07.05.2025); and
  - C. Purchase Order dated 02.12.2020/17.02.2021 with Roop Ram Industries Private Limited for procurement of 20.6 MW Modules at unit price of USD 0.26/Wp (Pages 120-121 and 150-151, Submissions dated 07.05.2025).
- 7.28 That from the documents attached to the Submissions dated 07.05.2025, it is observed that the Solar Module Sales Contract dated 06.04.2020 was terminated on 10.02.2021.
- 7.29 That, a perusal of the above documents attached to the Submissions dated 07.05.2025, and the reasons stated hereinbelow clearly proves that the Solar Modules cost is excessive and ought not to be allowed at the cost claimed by L.R. Energy:
- A. It is observed that no competitive bidding was undertaken by L.R. Energy for procurement of Solar PV Modules. L.R. Energy has not given any justification as to why no such procedure of inviting bids was followed by it. It is submitted that if such procedure was followed, better offers and therefore better price discovery could have been made for Solar PV Modules.
- It is submitted that, in terms of Clause 2.1.39 of the PPA dated 30.10.2020 entered into between LR Energy and HPPC, under the definition of Prudent Utility Practices, it is specifically prescribed that *practices, methods and standards that are generally accepted internationally from time to time by electric utilities for the*



*purpose of ensuring the safe, efficient and economic design, construction, commissioning .....*;

- B. L.R. Energy has placed Purchase Orders for procurement of Solar PV Modules on M/s Roop Ram Industries Private Limited and Roop Ram Educare Private Limited. Some of the Directors in the above Companies and L.R. Energy are same. Further, the above Companies and L.R. Energy are also registered at the same address. Roop Ram Industries are engaged in the manufacturing of rubber products and Roop Ram Educare is engaged in providing educational services. No justification in regard to placing purchase orders on the above two companies has been provided for by L.R. Energy.

Adverse inference be drawn against L.R. Energy for placing contracts on the above two companies rather than the manufacturer of Solar PV Modules itself. Reference in this regard may be placed on the Judgement of the Hon'ble Appellate Tribunal in Appeal No. 36 of 2008 in the case of BSES Rajdhani Power Limited v. Delhi Electricity Regulatory Commission and Ors. wherein the Hon'ble Appellate Tribunal upheld the Delhi Electricity Regulatory Commission's disallowance of capital expenditure incurred by the discoms through procurement from their group company at prices significantly above market rates amounting to a 68% markup over the purchase cost. The Hon'ble Tribunal held that a licensee must demonstrate that such transactions are conducted at arm's length and supported by transparent disclosures and competitive benchmarking. Mere approval of a capex scheme or general reliance on group expertise is not sufficient to justify inflated costs. Therefore, where related party transactions are neither justified nor competitively sourced, this Hon'ble Commission is well within its jurisdiction to draw an adverse inference and disallow the inflated portion of the cost to protect consumer interest and ensure tariff prudence.

- C. L.R. Energy had entered into different contracts for different quantity of PV Modules. The contract entered into at a Unit Price of USD 0.1975/Wp was terminated on 10.02.2021 without any corresponding liability. Thereafter, two purchase orders were placed on Roop Ram Industries namely Purchase Order dated 30.10.2020 for procurement of 3.476 MW at Unit Price of USD 0.225/Wp and Purchase Order dated 02.12.2020/17.02.2021 for procurement of 20.6 MW at Unit Price of USD 0.26/Wp. No justification/explanation has been given by L.R. Energy as to why (i) the contract dated 06.04.2020 was terminated without any liability, (ii) the difference of cost between USD 0.1975/Wp and USD 0.225/Wp and USD 0.26/Wp.

- D. It is submitted if L.R. Energy would have procured Solar PV Modules at unit price of USD 0.1975/Wp (considering the exchange rate of 73.25), the cost incurred for the procurement of Solar PV Modules would have been Rs. 34.78 Crores (approx.) (Rs. 1.44 Crores/MW) as against the claimed cost of Rs. 47.82 Crores (Rs. 1.99 Crores/MW).
- 7.30 That L.R. Energy has erroneously contended that since HPPC failed to raise the issue of related party transactions before the Hon'ble Appellate Tribunal in the Greenyana Case, it cannot do the same at the present stage. In this regard, it is submitted that, even if the argument of L.R. Energy is to be accepted that HPPC failed to raise the issue of related party transactions before the Hon'ble Appellate Tribunal in the Greenyana Case, the same does not entitle L.R. Energy to any wrongful benefits. Reference in this regard may be placed on the judgement of the Hon'ble Supreme Court dated 08.12.2009 passed in the case of Union of India and Ors. v. M.R. Sarkar (2010) 2 SCC 59 which, *inter-alia*, reads as under:
- "25. There is another angle to the issue. If someone has been wrongly extended a benefit, that cannot be cited as a precedent for claiming similar benefit by others. This Court in a series of decisions has held that guarantee of equality before law under Article 14 is a positive concept and cannot be enforced in a negative manner; and that if any illegality or irregularity is committed in favour of any individual or group of individuals, others cannot invoke the jurisdiction of courts for perpetuating the same irregularity or illegality in their favour also on the reasoning that they have been denied the benefits which have been illegally extended to others."*
- 7.31 That M/s. L.R. Energy has erroneously contended that this Hon'ble Commission has erred in not allowing the entire capital cost as determined by IREDA. In this regard, it is stated that this Hon'ble Commission is not bound by any prudence study conducted by IREDA or any other agency for the purpose of granting loan. According to Regulation 47 of the Haryana RE Regulations, 2017 (Regulations under which L.R. Energy has filed the present Petition), the State Commission is required to fix tariff in light of prevalent market trends. The same can only be done by comparing the alleged costs incurred by the Petitioner with other similarly placed generators. Similar comparisons have been carried out by this Hon'ble Commission in Greenyana's case as well.
- 7.32 That the Capital Cost earlier approved by this Hon'ble Commission vide Order dated 17.09.2021 is exorbitant to the capital cost allowed by this Hon'ble Commission/various State Commissions for several similarly placed generators as under:
- a) Order dated 20.12.2019 passed by this Hon'ble Commission in PRO-57 of 2019 for PM - KUSUM scheme which was in fact for capacity of less than 2 MW. In the said scheme, the capital cost as considered and approved by this Hon'ble

Commission was Rs. 3.40 crores per MW. The above cost is inclusive of land cost and cost to compensate for annual degradation.

- b) Order dated 07.06.2019 passed by the Uttarakhand Electricity Regulatory Commission in Petition No. 18 of 2019 considering the cost of Rs. 3.56 crores per MW (out of which Rs. 50 lacs has been considered as the land cost and Rs. 8.84 Lakh/MW as the degradation cost over the life of the project). In the present case, the land cost is not included in the capital cost. Therefore, the corresponding consideration would be around Rs. 3 crores per MW. This is for projects up to the capacity of 1 MW.
- c) Order dated 01.08.2019 passed by Karnataka Electricity Regulatory Commission had adopted capital cost of Rs. 3.14 crores per MW. This was for projects of capacity less than 5 MW. This capital cost is exclusive of land cost.
- d) Order dated 11.02.2020 passed by Rajasthan Electricity Regulatory Commission for KUSUM Scheme had considered the cost of setting up 1 MW solar plant including the cost of 3km connected 11 kV line as Rs. 3.65 Crores per MW and the cost of project without the cost of 11 kV line/breaker works out to be Rs. 3.40 crores per MW. This is including the land cost.

The cost considered in most of the above Orders are inclusive of land costs and cost to compensate for annual degradation which have been provided to L.R. Energy separately. Therefore, there is no element of land cost and degradation of panels in the capital cost. Further the above costs are usually for projects of less than 2MW. Considering the economies of scale and reduced cost of solar inverter and panels, the capital cost per MW ought to have been reduced by 15-20% for L.R. Energy.

Re: DEGRADATION IN CUF

- 7.33 That this Hon'ble Commission erred in considering the degradation of 0.5% in the CUF when the capital cost is inclusive of the monetised value attributed to degradation of solar panels. This Hon'ble Commission had compared the capital cost of L.R. Energy with the costs considered in other Orders; however it failed to consider that such other Orders had included the cost of degradation in the capital cost and had not provided for a separate degradation in the CUF.
- 7.34 That the comparison may made to the capital cost under KUSUM scheme in Order dated 20.12.2019 and the benchmark cost approved by other State Commissions which included in addition to cost of land, evacuation system, "monetised value attributed to degradation of solar panels". Without such degradation, the capital cost would have been much lower. The net present value cost associated with degradation of solar panel has been specifically worked out as Rs. 8.84lakhs/MW by the Uttarakhand Electricity Regulatory Commission in its order dated 07.06.2019. If the

cost of degradation is not included in the capital cost of L.R. Energy, the benchmark capital costs to be considered should be lower. Thus, capital cost for the Project of L.R. Energy would have to be reduced to exclude the degradation cost.

Re: SUB-OPTIMAL CUF ACHIEVED BY L.R. ENERGY

7.35 That this Hon'ble Commission vide Order dated 17.09.2021 passed in Petition being Case No. HERC/PRO 70 of 2020, allowed the CUF for L.R. Energy's plant at 22.14% with annual degradation of 0.50% as against L.R. Energy's claim of 17.79%.

7.36 The claim of L.R. Energy that it can only achieve of CUF of 17.79% with AC:DC ratio of 1:1 is wrong and baseless. L.R. Energy had proposed a CUF of 20.62% AC after subtracting 3.287% towards grid downtime and 3.37% towards system unavailability. The above assumption was rejected by the State Commission and this Hon'ble Commission had determined the CUF at 22.14% AC. This aspect had not been challenged by L.R. Energy in the Appeal filed before the Appellate Tribunal. The CUF of 22.14% AC would result in 18.45% DC and not 17.79%. Therefore, at the very minimum, with an AC:DC ratio of 1:1, L.R. Energy ought to achieve CUF of 18.45%.

7.37 That the deductions made by this Hon'ble Commission, having not been challenged before the Hon'ble Tribunal, cannot be reopened in the present proceedings. A similar situation was considered by the Hon'ble Appellate Tribunal in the Greenyana case, wherein, it was held as under:

*"16. .... 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.”*

- 7.38 That the CUF of 18.45% is also lower than the CUF of other similarly situated solar power plants, i.e., Greenyana, which even with a ratio of 1:1 is in a position to achieve a CUF of 19.215%. If the minimum CUF of 19.215% at the AC:DC ratio of 1:1 is applied to the case of L.R. Energy, then L.R. Energy would only need to install 3.044 MW extra DC capacity. It is the submission of HPPC that the said 19.215% as CUF with AC:DC ratio of 1:1 in Greenyana’s case is also on the lower side and is not being admitted by HPPC.
- 7.39 That from the data provided by L.R. Energy of the yearly CUF achieved shows that L.R. Energy has been only able to achieve a sub-optimal CUF in the range of 18% which is even lesser than the 18.45% CUF achievable with an AC:DC ratio of 1:1. The above is clearly indicative of the fact that L.R. Energy has procured sub-optimal and sub-standard solar panels.

Re: PROJECT MANAGEMENT COSTS (PMC)

- 7.40 That, vide Submissions dated 07.05.2025, L.R. Energy has claimed Rs. 1.550 Crores as Project Management Cost. It is submitted that the above costs are beyond the scope of present remand proceedings. Such costs were never sought for by L.R. Energy before the Hon’ble Appellate Tribunal and cannot become the subject matter of the present remand. It is submitted that such issues cannot be agitated for the first time in the remand proceedings when the scope of remand is limited.
- 7.41 Further, in any event, no documents substantiating the said claim have been put forth by L.R. Energy. Therefore, the same ought not to be included in the Capital Cost sought by L.R. Energy.

#### **Commission’s Analysis and Order**

8. The Commission heard the arguments of the parties at length as well as perused the written submissions placed on record by the parties. The Commission observes that the impugned order dated 17.09.2021 (Petition No. 70 of 2020) was remand back by Hon’ble Appellate Tribunal for Electricity (APTEL) for redetermination of tariff after prudence check of capital cost including related issues raised and considering the feasible CUF corresponding to the capital cost of AC: DC module allowed. The issues with regard to Interest on term loan and working capital, Interest During Construction and O& M expenses shall not be opened for reconsideration.
9. Thus, the remand back is limited to the issue of allowing the reasonable DC capacity corresponding to the AC CUF approved and capital cost corresponding to the allowed

DC capacity. In order to examine the same, 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?**

**Issue No. 2: Whether Annual Degradation in CUF is allowed?**

**Issue No. 3: What should be the revised capital cost after considering the approved DC capacity?**

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:-

**13.1 Issue No. 1: What DC capacity should be feasible corresponding to the approved CUF?**

The Petitioner in the original petition had claimed CUF at 17.79% (considering AC:DC as 1:1) and 20.62% (considering AC:DC as 1.2:1) based on PVSYST simulations report for the Project. The Commission, in its impugned order had approved CUF @ 22.14%, disregarding the assumption of 3.287% towards grid downtime and 3.37% towards system unavailability. The petitioner had claimed that it has installed 24 MW DC module capacity for 20 MW AC capacity with AC:DC ratio as 1.2:1 and claimed capital cost for 24 MW DC modules. The petitioner, in the remand back proceedings, is still claiming CUF of 17.785% (considering AC:DC as 1:1).

Per-contra, HPPC has vehemently argued that CUF of 18.45% is also lower than the CUF of other similarly situated solar power plants, i.e., Greenyana, which even with a ratio of 1:1 is in a position to achieve a CUF of 19.215%. If the minimum CUF of 19.215% at the AC:DC ratio of 1:1 is applied to the case of L.R. Energy, then L.R. Energy would only need to install 3.044 MW extra DC capacity. This aspect had not been challenged by L.R. Energy in the Appeal filed before the Appellate Tribunal. The CUF of 22.14% AC would result in 18.45% DC and not 17.79%. Therefore, at the very minimum, with an AC:DC ratio of 1:1, L.R. Energy ought to achieve CUF of 18.45%.

The solar power project of M/s. L.R. Energy was commissioned on 31.07.2021. As on the date of commissioning, the HERC RE Regulations, 2021 were in force. The Regulation clause 48 of the ibid regulations, provides as under:-

*“48. 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%. ”*

The ibid regulations were framed by this Commission, as guided by the relevant regulations framed by Hon'ble Central Commission, on the premise that the AC:DC ratio shall be 1:1.

Therefore, the minimum benchmark CUF should be considered as 21% with AC:DC ratio as 1:1 as per the HERC RE Regulations, 2021 in vogue and not 17.79% AC CUF as contended by M/s. LR.

However, the Commission has taken note of the decision of Hon'ble APTEL dated 23.04.2025 in Appeal No. 302 of 2024 in the matter of M/s. Greenyana Solar Pvt. Ltd. vs. Haryana Electricity Regulatory Commission & ors., wherein it has been observed as under:-

*“14. We are, however, unable to appreciate and find merit in the submissions made by Respondent HPPC for the following reasons: firstly, in the present lis, we are concerned with the HERC Regulations 2021, however no reference has been made to its SOR, and reference is made to the SOR of the CERC RE Regulations 2020, which is not the reference regulation for the present lis; and secondly, or more significantly, 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.”*

*“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.....”*

Accordingly, the Commission has not considered the benchmark CUF of 21%, as specified in the HERC RE Regulations, 2021 in vogue, with AC:DC ratio as 1:1, in absence of the specific provision regarding the same in the ibid regulations.

The Commission is of the considered view that AC:DC ratio of solar modules should be allowed proportionate to the resultant CUF.

Thus, in absence of the guiding regulation with regard to AC:DC ratio, and in order to make prudence check on the required AC:DC ratio for achieving the specific CUF, in line with the observations of Hon'ble APTEL, the Commission has considered it appropriate to examine the CUF as well as AC:DC proposed by the petitioners in all the three remand back matters under consideration before it viz. the present case (remand back order dated 25.10.2024), L.R's case (remand back order dated 21.02.2025) and Greenyana's case (remand back order dated 23.04.2025). The comparative table of AC:DC ratio and CUF claimed in all these three cases is given as under:-

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

The above table shows 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 has deemed it appropriate to consider the same as the base, for the purpose of deciding the DC capacity required to achieve the claimed CUF of 22.14%. Thus, the AC:DC ratio corresponding to the claimed CUF of 22.14% with base CUF of 18.45% (AC:DC as 1:1) is coming at 1.20.

**The Commission finds some force in the argument of the petitioner that as per PPA executed with HPPC dated 30.10.2020, penalty is payable for shortfall in the achievement of declared CUF; declared CUF has been defined in the PPA as the CUF declared by the solar power developer (SPD). The relevant clauses of the PPA are reproduced here under:-**

***“2.1.12 “Declared CUF” shall mean the CUF declared by the SPD and considered by the HERC for the purpose of determination of tariff for the Solar Power Project.” (Emphasis supplied)***

***“4.6 Solar Power Developer shall maintain generation so as to achieve minus five percent (-5%) variation of the Declared CUF. The Solar Power Developer will be liable to pay to HPPC, penalty for the shortfall in CUF any Contract Year below 95% of the Contracted Energy. The amount of such penalty will be in accordance with the terms of this Agreement, which shall ensure that HPPC is offset for all potential costs associated with low generation and supply of power under the Agreement, subject to a maximum of 25% (twenty-five per cent) of the cost of this shortfall in energy terms, calculated at the Tariff. However, this***



***compensation shall not be applicable in events of Force Majeure Event identified under the Agreement affecting supply of Solar Power by Solar Power Developer”***  
***(Emphasis supplied)***

The Commission has considered the data of actual CUF submitted by the petitioner on the basis of AC:DC ratio as 1.2:1 and observes that the power plant of the petitioner has been able to achieve CUF of 18.05% to 18.86%. Therefore, the approved CUF 22.14% may be liable to pay penalty to HPPC on account of shortfall in generation. In order to address the genuine difficulty of the petitioner, for the purpose of levy of penalty on account of shortfall in generation, as per above cited clauses of the PPA, the declared CUF by the generator shall be considered as 18.86%.

In view of the above discussion, the DC capacity corresponding to the approved CUF of 22.14%, for 20 MW AC power plant of the petitioner, in the ratio of 1.20:1 is approved at 24 MW.

**13.2 Issue No. 2: Whether Annual Degradation in CUF is allowed?**

The Commission in its impugned order dated 17.09.2021 had allowed annual degradation of 0.50% in the CUF, which has been contested by HPPC arguing that the Capital Cost is inclusive of the monetized value attributed to the degradation of solar panels and there is not provision in the PPA for the same.

Per-contra, the petitioner has submitted that Capital Cost has been claimed without any provision towards monetized value of degradation of CUF of the Project.

In order to examine the arguments raised by HPPC, the Commission has considered it appropriate to examine the extant Article 4.7 of the PPA, reproduced hereunder:-

*“The Solar Power Developer shall be free to undertake expansion / repowering of the Project including to take care of module degradation or any other losses in the Solar Power Project, provided that the rights and obligations of the Parties under this Agreement shall remain unaffected. However, it is clarified that no additional cost shall be allowed to SPD on this account.”*

The examination of the ibid article of the PPA, it is apparent that the PPA does not provide for the eligibility of the project developer towards incremental cost on account of module degradation. In line with the same, the project developer has not claimed incremental module cost. However, over the project life cycle the degradation in module efficiency has become an established norm, which effects the annual CUF. The same can either be compensated in form of module upgradation or in the annually degraded CUF. Since, the degradation is not monetized in the capital cost of the

petitioner and therefore does not result in any double-counting or excess burden. The intent and purpose of providing the same is to adjust energy yield projections over the life of the project.

**In view of the above discussion, the Commission answers the issue so framed in affirmative i.e. the annual degradation in CUF @ 0.50% is allowed, by adjusting the CUF over the useful life of the project. The similar annual degradation of 0.50% shall also be allowed in the declared CUF of 18.86% for the purpose of levy of penalty on shortfall in generation.**

**13.3 Issue No. 3: What should be the revised capital cost after considering the approved DC capacity?**

The Commission in its impugned order dated 17.09.2021 had allowed fixed cost at Rs. 714.81 millions, as against the claim of the petitioner for Rs. 904.48 millions, mainly on account of disallowance of 4 MW solar modules amounting to Rs. 79.70 millions, EPC proportionate to 4 MW DC capacity amounting to Rs. 36.57 millions, cost of inverter amounting to Rs. 36.40 millions, cost of transformer amounting to Rs. 24.19 millions and land lease rentals amounting to Rs. 12.81 millions.

On remand back from Hon'ble APTEL, the Petitioner has reiterated its claim over the capital cost as Rs. 904.48 millions, tabulated hereunder:-

Sr. No.	Particulars	Rs. Crore
1	Solar PV Modules (including SGD)	47.82
2	Inverter & BOS	24.752
3	Installation & Commissioning	10.875
4	Cost of Evacuation up to interconnection point	1.465
5	Civil Works	1.07
6	Land Development	0.056
7	Financing Cost	0.67
8	Project Management	1.55
9	Lease Rentals for Land (paid in advance)	2.19
<b>TOTAL</b>		<b>90.448</b>

The respondent Nigam (HPPC) has vehemently argued against the higher capital cost claimed by the petitioner on the ground of higher cost of solar modules purchased from related parties, unexplained project management expenses of Rs. 1.55 crore and that the unapproved cost of inverter and transformer cannot be reopened as was not argued before Hon'ble APTEL.

Additionally, the petitioner is not entitled to the cost of transmission / evacuation infrastructure, as the express disallowance for the same is provided in Clauses 6.1.3 and 6.1.4 of the PPA executed between the parties. The relevant clauses are reproduced hereunder:-

*“6.1.3 The entire cost of transmission including cost of construction of line, bay, metering and protection system etc. up to the Delivery Point shall be borne by the Solar Power Developer.*

*6.1.4 Construction and operation/maintenance of evacuation system including transmission line up to the point of connectivity at Nigam's/ Discom's substation shall be the responsibility of Solar Power Developer”*

The similar disallowance was also made while determining the tariff in the case of M/s. Greenyana Solar Pvt. Ltd. (Order dated 29.01.2024 in petition no. 33 of 2023). The relevant part of the order dated 29.01.2024 is reproduced hereunder:-

*“.....*

*Notes2: The cost of transmission has not been considered in view of the concluded contract between the parties cited by the intervener i.e. the same has to be borne by the generator (Ref. 6.1.3 and 6.1.4 of the concluded PPA approved by the Commission vide order dated 1.02.2023.*

*.....”*

*(Page 51 of the order dated 29.01.2024)*

The disallowance of cost of transmission / evacuation infrastructure, has not been challenged before any court of competent jurisdiction; therefore has attained finality. The respondent has further averred that the capital cost claimed is not consistent with the market trends.

The Commission is of the considered view that the project specific tariff determination under Section 62 of the Electricity Act, 2003, ought not to escape the rigor of prudence check. In doing so, this Commission as a regulatory body, is also mindful of its duties towards promoting of generation of electricity from renewable energy sources and protection of investment by electricity generators in the State. The tariff under Section 62 of the Electricity Act, 2003 is a cost-plus tariff i.e., the tariff is to necessarily compensate the generating company for the cost incurred towards generation. Although market trends could be of persuasive value in certain situations, but, in the present case, when the tariff determination is being done in terms of a duly notified tariff regulations with details of actual expenditure incurred available before this Commission for its perusal and prudence check, market trends all over the country may serve not more than a guiding factor to arrive at the correct tariff.

The Commission tends to agree with the arguments advanced by the petitioner that in project specific tariff determination under Section 62, the Commission can exercise its prudence check on the aspects of truthfulness and wrong claim made by the petitioner, if any. The petitioner cannot be penalized for economical purchase made by some other project developer. There might be endless probabilities of some other big market player buying items of capital cost at even cheaper rate. The Commission has

considered the submissions of the petitioner that in case such an approach is adopted in tariff determination under Section 62, the petitioner will never be able to recover the actual cost incurred and ultimately will go in bankruptcy. In tariff determination under Section 62, a certainty is assured to the project developer regarding recovery of its actual cost. In case of selection of bidder under Section 63, the petitioner would have quoted its tariff based on its capital cost and it would have been open for the procurer to accept the same. Whereas, under Section 62, denying actual cost incurred on the pretext of cost of procurement of some other project developer is unjustified; however, the actual cost incurred by the project developer should pass the test of reasonability and rigorous of financial prudence.

The determination of tariff under a Section 62 exercise cannot be linked to the tariff discovered and adopted under Section 63 which is lowest tariff offered by the bidders. While a Section 62 determination is done under the umbrella of notified regulations, wherein Appropriate Commissions determine tariff, basis the parameters outlined in the relevant tariff regulations.

The Commission has further observed that states like Uttar Pradesh, Kerala, Bihar and Maharashtra have discovered price of solar power in the rate of Rs. 3/unit. The details of such tariffs are as under:-

<b>Tender Particulars</b>	<b>Capacity Breakup</b>	<b>e-Reverse Auction Date</b>	<b>Tariff Discovered (Lowest Bidders)</b>
Bihar 250 MW Solar Projects Tender	250 MW	23 <sup>rd</sup> – August – 2021	Rs. 3.11/kWh – Rs. 3.20/kWh
Kerala 200 MW Solar Projects Tender	200 MW	12 <sup>th</sup> – Nov – 2020	200 MW – Rs. 2.97/kWh
MSEDCL 500 MW STU Connected Solar Projects Tender [Tranche-V]	500 MW	18 <sup>th</sup> – Mar – 2020	Rs. 2.90/kWh
Uttar Pradesh 500 MW Solar Projects Tender [Tranche-II]	500 MW	10 <sup>th</sup> – Oct – 2018	Rs. 3.17/kWh – Rs. 3.23/kWh
Uttar Pradesh 550 MW Solar Projects Tender [Tranche-III]	550 MW	12 <sup>th</sup> – Dec – 2018	Rs. 3.02/kWh – Rs. 3.08 /kWh

Further, HPPC itself in its bidding held in January, 2025, has discovered a tariff of Rs. 2.99/kWh, in respect of 5 MW solar power project, whereas the price of solar modules have shown a declining trend since 2020.

In view of the above, the Commission is not forming its opinion considering the market trends, but on the actual cost incurred by the petitioner in setting up of the solar power plant subject to the prudence check on the reasonability and fairness of the same.

Under the abovementioned broad principles of tariff determination along with adopting a cautious approach so that the generator is not allowed to unjustly enrich itself at the cost of the electricity consumers of the State, the Commission has proceeded to

approve the capital cost in respect of 24 MW DC (20 MW AC) solar power plant of the petitioner.

The petitioner has claimed cost of 24 MW solar modules amounting to Rs. 478.20 millions as part of the capital cost. The petitioner has further submitted that the cost actually incurred on the purchase of solar modules was Rs. 484.94 millions. However, due to an oversight at the time of filing of the petitioner, the same was claimed at Rs. 478.20 millions. HPPC has submitted that adverse inference be drawn against L.R. Energy for placing purchase orders on the related parties i.e. Roop Ram Industries and Roop Ram Educare, rather than from the manufacturer of Solar PV Modules through competitive bidding. HPPC has further submitted that if L.R. Energy would have procured Solar PV Modules at unit price of USD 0.1975/Wp (considering the exchange rate of 73.25), the cost incurred for the procurement of Solar PV Modules would have been Rs. 34.78 Crores (approx.), as against the claimed cost of Rs. 47.82 Crores.

Regarding the higher actual cost of solar modules amounting to Rs. 484.94 millions, claimed by the petitioner in its written submissions dated 28.07.2025, the Commission is of the considered view that an amount higher than what has been claimed in the original petition, cannot be allowed.

Regarding, the procurement of solar modules from the related parties viz. M/s. Roop Ram Industries Pvt. Ltd. and M/s. Roop Ram Educare Pvt. Ltd., the Commission has considered the submissions of the petitioner that the same was necessitated due to exigent financial circumstances prevailing at the relevant time and tends to agree with the same. In practical circumstances, the vendors are not ready to supply goods to the new buyers having no track record and availability of funds. It becomes difficult to place order of such a big quantum on vendors without credit line sanctioned by banks/financial institutions. In the present case, IREDA has delayed disbursement of loan owing to pendency in approvals and in order to ensure continuity and viability of the Project, Roop Ram Educare, stepped in to procure solar modules on behalf of the company to implement the Project. The transactions entered into with related parties cannot be allowed to be discounted provided the same are at arm's length and on commercially prudent terms, duly disclosed in accordance with applicable laws and regulatory requirements governing such transactions.

The Commission has examined the arguments raised by HPPC that the petitioner should have procured Solar PV Modules at unit price of USD 0.1975/Wp as per the contract entered into with M/s. ReneSola dated 06.04.2020, leading to lesser cost i.e.

Rs. 34.78 Crores, as against the claimed cost of Rs. 47.82 Crores from (considering the exchange rate of 73.25). The Commission observes that there was outbreak of COVID pandemic around April, 2020, leading to uncertainties in the supplies from China. Therefore, the decision of the petitioner to cancel the import order for procurement of ReneSola PV module and instead source Waaree PV module from domestic vendor is justified. The respondent (HPPC) is not justified in comparing the all-inclusive purchase cost of solar module with basic unit price of a solar module under import @ USD 0.1975/Wp which does not include additional costs such as custom clearance, transportation costs, transit insurance, CFS handling, SGD, Customs Duty, Forex variations etc. The procurement of solar modules from domestic vendor led to the assured delivery schedule and the petitioner was justified in maintaining a trade-off between the upfront cost and uncertainties associated with the cost of imported goods particularly during COVID pandemic era.

Further, the cost incurred by a small solar power company with total portfolio of 36 MWp cannot be compared with Amplus Solar or Greenyana Solar, which along with their group companies are one of the biggest renewable companies with their renewable portfolio in multiples Giga Watt. The bigger companies are in a position to negotiate and take advantage of bulk orders with established vendor contacts. This stems from the concept of economics of scale where the cost per unit of an item decreases as the quantity purchased increases. Similarly, the comparison made with the projects under the PM KUSUM scheme having associated subsidies, promotions etc., does not stand to logic, particularly when the tariff allowed to such projects is Rs. 3.11/kWh.

**In view of the above discussions, the cost of Solar PV modules is allowed at Rs. Rs. 478.20 millions, as claimed by the Petitioner in the original petition, for 24 MW DC capacity.**

**Since, the DC modules capacity of 24 MW has been allowed along with the associated capital cost, the EPC cost of Rs. 36.57 million earlier disallowed in proportion to 4 MW DC capacity is also allowed.**

**The disallowance of land lease rentals amounting to Rs. 12.81 millions, was not contested by either party during the proceedings. Hence, the same shall be retained.**

The Commission is of the considered view that incurring of certain expenditure like salaries and allowances of the staff associated with the project, fee for obtaining approvals from various authorities, travelling expenses etc, incurred before the date of CoD, cannot be ruled out. Generally, project management expenses of such nature remains around @ 2% of the approved capital cost. However, in case of the petitioner herein, the same are coming at around 1.71% of the capital cost. Hence, the Commission stands with its earlier decision to approve project management expenses of Rs. 15.50 millions.

10. The Commission has carefully examined the order of Hon'ble APTEL dated 21.02.2025, vide which the original order was remand back for reconsideration of this Commission. The ibid order provides that the matter is remand back to the State Commission for redetermination of tariff after prudence check of Capital cost including related issues. Only the issues with regard to Interest on term loan and working capital, Interest During Construction and O& M expenses, are not open for reconsideration. Therefore, the contention of HPPC that issue of disallowance of inverter and transformer is not recovered under the remand back proceedings is ill founded. The capital cost claimed by the petitioner also includes Inverter cost (2.5 MW x 8 nos) amounting to Rs. 57.2 millions i.e. Rs. 2.86 million/MW. The Commission in its original order dated 17.09.2021 has observed that other similarly placed generators i.e. M/s. Avaada Green and M/s. Amplus have claimed the cost of inverter at around Rs. 1.04 million/MW. The Petitioner, neither in its reply during the original proceeding nor during the remand back proceedings, has justified the excess claim towards the cost of invertors amounting to 57.2 Million and instead has prayed to accept the actual invoices submitted by them. **Therefore, the Commission is not convinced regarding its prudence i.e. incurrence of comparatively higher inverter cost which is not aligned to the prevalent market conditions. Accordingly, cost of inverter of 20 MW is approved at Rs. 20.8 Million @ Rs. 1.04 Million/MW and the excess cost claimed by the petitioner amounting to Rs. 36.40 million is disallowed.**

The Commission has further observed that the petitioner has included cost of 2 Transformer of 10000 MVA amounting to Rs. 35.07 million. The Commission in its original order dated 17.09.2021 has observed that other similarly placed generators i.e. M/s. Amplus have claimed the cost of 50 MVA transformer as Rs. 27.21 million only. Accordingly, the cost of transformer was proportionately allowed for 20 MVA, at Rs. 10.88 Million ( $27.21/50 \times 20$ ) and the cost of Rs. 24.19 million was disallowed.

In this regard, the Commission has considered the arguments of the petitioner that benchmarking the Petitioner's actual cost against the cost incurred by other

developers, who may have benefitted from economies of scale, different technical configurations, or stronger negotiating power, is arbitrary and does not reflect the commercial realities faced by individual project developers. The Commission has also perused the actual invoice evidencing the purchase of 20 MVA transformer along with proof of payment to the vendor. It is observed that the cost of transformer does not proportionately increase or decrease with the capacity and the base cost remains the same, irrespective of the capacity. From the examination of cost data book submitted by UHBVNL in the Commission, it is observed that cost of 20/25 MVA 132/33 KV Power transformer has been shown as Rs. 29.50 million, as against the cost of 40/50 MVA 132/33 KV power transformer at Rs. 36.28 million. It gives a ratio of around 80% of 50 MVA transformer to 25 MVA transformer and 72% for 20 MVA transformer. **Accordingly, the cost of 20 MVA transformer is allowed at Rs. 19.59 Million (Rs. 27.21 million \*72%) and the cost of Rs. 15.48 million is disallowed.**

The Commission has further observed that the capital cost claimed by the petitioner amounting to Rs. 904.48 millions, also includes cost of transmission lines amounting to Rs. 14.65 millions. The Commission is of the considered view that the duly executed PPA between the parties, containing the express terms & conditions agreed upon by them with open eyes cannot be interpreted in a different context. Doing so will vitiate the legal efficacy and binding force of an act or instrument. Therefore, the article 6.1.3 of the duly executed PPA which provides that the entire cost of transmission including cost of construction of line, bay, metering and protection system etc. up to the Delivery Point shall be borne by the Solar Power Developer, impose a promissory estoppel on the petitioner to raise a claim to this effect.

**In view of the above discussions, the cost of transmission lines amounting to Rs. 14.65 millions, shall not form part of the approved capital cost and has to be borne by the generator.**

**Resultantly, the Commission approves total capital cost of 24 MW DC power plant at Rs. 825.14 million (Rs. 904.48 million claimed by the Petitioner minus disallowances of Rs. 12.81 millions towards land lease rentals, Rs. 36.40 millions towards cost of inverter, Rs. 15.48 million towards cost of transformer and Rs. 14.65 Crore as cost of transmission lines), for the purpose of tariff determination, which is Rs. 4.12 crore/MW, for 20 MW AC solar power plant.**

**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 is the year to year tariff computed by the Commission for the entire life of the project.**



**HPPC / Discoms are directed to make payment in respect of differential amount payable as worked out in Annexure 'A', 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 17.09.2021 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 12.08.2025.

Date: 12.08.2025  
Place: Panchkula

(Mukesh Garg)  
Member

(Nand Lal Sharma)  
Chairman

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		6.06	6.24	6.42	6.61	6.80	7.00	7.21	7.42	7.63	7.86	8.09	8.33	8.57	8.82	9.08	9.35	9.62	9.90	10.19	10.49	10.80	11.11	11.44	11.77	12.12	
Outstanding Loan amount		577.60	533.17	488.74	444.31	399.88	355.44	311.01	266.58	222.15	177.72	133.29	88.86	44.43													
Loan repayment		44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43	44.43												
Interest on loan		49.98	45.99	41.99	37.99	33.99	29.99	25.99	21.99	17.99	14.00	10.00	6.00	2.00													
Working Capital																											
One month O&M & Lease Rental		0.76	0.77	0.79	0.80	0.82	0.85	0.87	0.89	0.91	0.92	0.96	0.98	1.00	1.02	1.05	1.09	1.11	1.13	1.16	1.18	1.23	1.26	1.28	1.31	1.34	
2 Months receivables		23.40	22.75	22.11	21.46	20.82	20.21	19.57	18.93	18.29	17.65	17.06	16.42	15.79	10.31	10.36	10.44	10.49	10.54	10.59	10.64	10.74	10.79	10.85	10.91	10.97	
Maintenance spares15% of O&M		0.91	0.94	0.96	0.99	1.02	1.05	1.08	1.11	1.15	1.18	1.21	1.25	1.29	1.32	1.36	1.40	1.44	1.49	1.53	1.57	1.62	1.67	1.72	1.77	1.82	
Total		25.06	24.46	23.86	23.26	22.66	22.12	21.52	20.93	20.34	19.76	19.23	18.65	18.07	12.66	12.77	12.93	13.05	13.16	13.28	13.40	13.59	13.72	13.85	13.99	14.13	
Interest on working capital		2.26	2.20	2.15	2.09	2.04	1.99	1.94	1.88	1.83	1.78	1.73	1.68	1.63	1.14	1.15	1.16	1.17	1.18	1.20	1.21	1.22	1.23	1.25	1.26	1.27	
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)		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
CUF		22.14%	22.03%	21.92%	21.81%	21.70%	21.59%	21.48%	21.38%	21.27%	21.16%	21.06%	20.95%	20.85%	20.74%	20.64%	20.54%	20.43%	20.33%	20.23%	20.13%	20.03%	19.93%	19.83%	19.73%	19.63%	
Generation (Million Units)	A	38.7893	38.5953	38.4024	38.2103	38.0193	37.8292	37.6401	37.4519	37.2646	37.0783	36.8929	36.7084	36.5249	36.3422	36.1605	35.9797	35.7998	35.6208	35.4427	35.2655	35.0892	34.9137	34.7392	34.5655	34.3927	
Auxiliary Cons (Million Units)		0.62%	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)	A1	38.2923	38.4988	38.3064	38.1148	37.9242	37.7346	37.5460	37.3582	37.1714	36.9856	36.8006	36.6166	36.4336	36.2514	36.0701	35.8899	35.7103	35.5318	35.3541	35.1774	35.0015	34.8265	34.6523	34.4791	34.3067	
O&M Expenses	Costs	6.06	6.24	6.42	6.61	6.80	7.00	7.21	7.42	7.63	7.86	8.09	8.33	8.57	8.82	9.08	9.35	9.62	9.90	10.19	10.49	10.80	11.11	11.44	11.77	12.12	
Lease Rental charges		3.03	3.03	3.03	3.03	3.03	3.24	3.24	3.24	3.24	3.24	3.47	3.47	3.47	3.47	3.47	3.71	3.71	3.71	3.71	3.71	3.97	3.97	3.97	3.97	3.97	
Depreciation		44.39	44.39	44.39	44.39	44.39	44.39	44.39	44.39	44.39	44.39	44.39	44.39	44.39	13.79	13.79	13.79	13.79	13.79	13.79	13.79	13.79	13.79	13.79	13.79	13.79	
Interest on Term Loan		49.98	45.99	41.99	37.99	33.99	29.99	25.99	21.99	17.99	14.00	10.00	6.00	2.00													
Interest on Working Capital		2.26	2.20	2.15	2.09	2.04	1.99	1.94	1.88	1.83	1.78	1.73	1.68	1.63	1.14	1.15	1.16	1.17	1.18	1.20	1.21	1.22	1.23	1.25	1.26	1.27	
Return on Equity		34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	34.66	
Cost (Rs. Million)		140.38	136.50	132.63	128.77	124.91	121.27	117.42	113.58	109.75	105.92	102.33	98.52	94.71	61.88	62.15	62.67	62.95	63.25	63.86	64.47	65.11	65.45	65.81			
Tariff (Rs/kWh)		3.63	3.55	3.46	3.38	3.29	3.21	3.13	3.04	2.95	2.86	2.78	2.69	2.60	1.71	1.72	1.75	1.76	1.78	1.80	1.82	1.84	1.86	1.88	1.90	1.92	
Per unit tariff components																											
Per unit O&M Expenses		0.16	0.16	0.17	0.17	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.23	0.24	0.24	0.25	0.26	0.27	0.28	0.29	0.30	0.31	0.32	0.33	0.34	0.35	
Per Unit Depreciation		1.15	1.15	1.16	1.16	1.17	1.18	1.18	1.19	1.19	1.20	0.37	1.21	1.22	0.38	0.38	0.38	0.39	0.39	0.39	0.39	0.40	0.40	0.40	0.40	0.40	
Per Unit Interest on term loan		1.29	1.19	1.10	1.00	0.90	0.79	0.69	0.59	0.48	0.38	0.27	0.16	0.05	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	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	
Per Unit Return on equity		0.90	0.90	0.90	0.91	0.91	0.92	0.92	0.93	0.93	0.94	0.94	0.95	0.95	0.96	0.96	0.97	0.97	0.98	0.98	0.99	0.99	1.00	1.01	1.01	1.01	
Levelised tariff																											
Discount factor		1.00	0.905	0.819	0.741	0.671	0.607	0.549	0.497	0.450	0.407	0.368	0.333	0.302	0.273	0.247	0.224	0.202	0.183	0.166	0.150	0.136	0.123	0.111	0.101	0.091	
Discounted tariff		2.94	3.63	3.21	2.84	2.50	2.21	1.95	1.72	1.51	1.33	1.17	1.02	0.90	0.78	0.47	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17
Levelised Tariff (Rs/kWh)		2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	