# JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA AND UNION TERRITORIES

'Vanijya Nikunj', 2<sup>nd</sup> Floor, Udyog Vihar, Phase V, Gurgaon, (122016) Haryana

Coram<sup>1</sup>

Sh. S. K. Chaturvedi, Chairperson

Petition No. 133/2014

#### In the matter of:

Review petition under Regulation 74 of JERC (Conduct of Business Regulations), 2009 read with section 94 (f) of the Electricity Act 2003 for reviewing the tariff order dated April 11, 2014, passed in the matter of petition no. 110/2013.

#### And in the matter of:

Chandigarh Renewal Energy and Science & Technology Promotion Society (CREST)

.....Petitioner

#### And in the matter of:

Electricity Department, Union Territory of Chandigarh

.....Respondent

#### Argued by

## Petitioner:

- 1. Sh. Santosh Kumar, Chief Executive Officer, CREST, Chandigarh
- 2. Sh. Ravinder Singh, P.D., CREST, Chandigarh

#### Respondent:

1. Sh. Sunil Sharma, Executive Engineer, ED, UT of Chandigarh

# **ORDER**

# **Date: 13, October 2014**

# 1. Introduction

#### 1.1. JERC Formation

In exercise of the powers conferred by Section 83 of the Electricity Act, 2003 the Central Government constituted a two member (including Chairperson) Joint Electricity Regulatory Commission for all Union Territories except Delhi to be known as "Joint Electricity Regulatory Commission for Union Territories" with Headquarters at Delhi as notified vide notification no. 23/52/2003- R&R dated 2nd May, 2005. Later with

<sup>&</sup>lt;sup>1</sup> As per section 93 of the Electricity Act, 2003; No act or proceedings of the Appropriate Commission shall be questioned or shall be invalidated merely on the ground of existence of any vacancy or defect in the constitution of the Appropriate Commission. Therefore due to vacancy of the position of Member in the Joint Electricity Regulatory Commission for the state of Goa and the UTs, the Chairperson constitutes Coram.

the joining of the state of Goa, the Commission came to be known as "Joint Electricity Regulatory Commission for the State of Goa and Union Territories" as notified on 30th May, 2008. The Joint Electricity Regulatory Commission (for the State of Goa and Union Territories) started functioning with effect from August 2008 temporarily in the district town of Gurgaon, Haryana.

## 1.2. Submission of Petitioner

Chandigarh Renewal Energy and Science & Technology Promotion Society (CREST) hereinafter referred to as petitioner has filed the present petition under Regulation 74 of JERC (Conduct of Business Regulations), 2009- read with section 94 (f) of the Electricity Act 2003 for reviewing the tariff order dated April 11, 2014, passed in the matter of petition no. 110/2013.

This application has been submitted by the petitioner, CREST, for review of order dated April 11, 2014 in Petition no. 110/2013 whereby the Commission had determined the levelised tariff for Roof-top Solar PV based Power projects (10 in no. with a gross capacity of 2.79 MW) for a period of 25 years, in terms of Section 62(1) (a) read with Sections 64 and 86(1)(e) and other enabling provisions of the Electricity Act 2003.

Aggrieved by the said order, the petitioner has sought review on the ground of discovery of new and important fact or evidence which, could not be produced at the time of making the order for reasons beyond the control of the petitioner. The petitioner raised the following issues:

## 1. Tariff determination:

- a. The petitioner submitted that these Rooftop SPV Power Projects are not implemented with 100% grant from Central Government and MNRE as was considered by the Commission while issuing the Tariff Order in petition no 110/2013. As a result of which, the Commission has not considered any capital cost for the purpose of calculation of return on equity, depreciation and interest on loan capital for the purpose of tariff determination.
- b. The petitioner further submitted that central financial assistance by MNRE is limited to 30% in some projects & 50% in some other projects covered under the Petition of project cost. For the balance Cost of 70% or 50% (as the case may be) of the Project, the finances are infused /funded by Department of Science & Technology, Chandigarh.
- c. The petitioner during the hearing submitted a corrigendum order no. S&T/2014/724 dated 13.08.2014 issued by the Deptt. of Science & Technology in reference to sanction order vide no. S&T/Sanc/03/2012/1901-1906 dated 06.03.2012, whereby the word shown as "Matching grant" to be read as "Matching UT share for Rooftop Solar PV Plants to be installed as deposit work by CREST". This corrigendum also indicated that the contribution made by Department of Science & Technology, UT of Chandigarh is in the form of capital infusion and Department is fully entitled to get its return on investments made.
- d. Ministry of New and Renewable Energy vide letter no 5/25/2011-12/ST/ Vol. II dated 12.08.2014 requested the Commission for adequate return on governmental infusion of funds and supporting the Solar Projects.

#### 2. Operation & Maintenance Expenses:

- a. The petitioner submitted that realistic assumptions are not used for estimating the O&M expenses from 11<sup>th</sup> year onwards for these roof-top solar Power plants.
- b. The petitioner also submitted that the escalation at the rate of 5.72% per annum is not realistic. The petitioner highlighted that the salaries of the employees are increasing at a rate not less than 10% per annum, whereas other material cost is also increasing at a rate higher than above. The petitioner indicated that the letter from Ministry of Power vide its D.O. no. 25/09/2002 dated 08.10.2009 categorically states that all the Power utilities of the state should get full permissible return on their investments so as to generate equity funds for future expansions.

#### 3. Net Metering:

a. The petitioner submitted that instead of Solar Rooftop PV system with installed capacity of 50 kWp & above, only those Roof-top solar PV systems with a capacity of more than 100 kWp should have been covered under the ambit of connecting at 11 kV.

# 4. Metering arrangement:

a. The petitioner submitted that instead of quoting the specification of bi-directional meter, the Commission may modify it to the extent that meter shall adhere to the standards specified by the CEA (Installation & Operation of Meters Regulations), 2006 and its amendments.

### 5. Capping:

a. The petitioner submitted that these 10 Rooftop Solar PV projects under consideration have been installed with an aim to produce solar power to provide renewable energy to DISCOM, so that it can meet out its RPO obligation besides promoting use of renewable energy. As such the capping set by the Commission should not be applicable for these commercial projects.

## 1.3. Admission of Petition and Notice for hearing

Commission heard the representative of the petitioner on 'admission'. Review petition was admitted on the issues raised above on May 24, 2014 as petition no. 133/2014.

Commission fixed July 22, 2014 to hear the representatives of the petitioner on the issues and contentions of the petitioner, and respondent. However, the petitioner vide letter no CREST/2014/597 dated 16.7.2014 requested to postpone the hearing to a date after August 15, 2014. The Commission accordingly fixed the date as 21<sup>st</sup> August 2014.

The Commission heard the representatives of the petitioner and respondent on August 21, 2014 in the Courtroom of JERC at the 2nd Floor, HSIIDC Office Complex, Vanijya Nikunj, Udyog Vihar, Phase-V, Gurgaon, Haryana.

#### 1.4. Interaction with the petitioner

This Order has referred at numerous places to various actions taken by the "Commission". It is pertinent to mention for the sake of clarity, that the term "Commission" unless otherwise specified in most of the cases

also refers to the Staff of the Commission for carrying out the due diligence & validation of the petitions filed by the petitioner, obtaining and analyzing information and clarifications received from the petitioner and submitting relevant issues for consideration of the 'Commission'.

The Commission's Staff held discussions with the Petitioner/Petitioner's representative, obtained information/clarifications wherever required and carried out validation with regard to the information provided.

Commission's staff interacted regularly with the Petitioner to seek clarifications and justification on various issues raised by the Petitioner. Various queries rose by the Commission; the petitioner clarified most of the queries with the last email communication dated 07.10.2014 Commission has to rely on the information made available by the petitioner through emails and letters to continue the process of analysis and also got the information on the affidavits for the purpose of records.

The petitioner during the hearing on 21.08.2014 submitted a corrigendum issued by Dept. Of Science and Technology order no. S&T/2014/724 dated 13.08.2014 in reference to their sanction order vide no. S&T/Sanc/03/2012/1901-1906 dated 06.03.2012, whereby the word shown as "Matching grant" to be read as "Matching UT share for Rooftop Solar PV Plants to be installed as deposit work by CREST". Further the corrigendum also states the following:

## Quote

"These Rooftop SPV Power Plants shall be owned by Department of Science & Technology & CREST is only the executing agency for its installation & operation & maintenance for next 10 years. The contribution made by Department of Science & Technology for these Rooftop SPV Power Plant Projects is in the form of capital infusion and Department of Science & Technology, UT of Chandigarh is fully entitled to get its return on investments made, if the Power is sold to DISCOM. The revenue earned if any, from sale of these SPV Power Plants should be deposited in the Government Treasury. This shall be applicable for all Rooftop SPV Power Plants being installed under Model Solar City Programme. CREST shall submit DPR for individual SPV Plants separately and shall obtain sanction from MNRE, GOI before starting work"

# **Un-quote**

#### 1.5. Public hearing

The new facts or evidence submitted by the Petitioner has consequent effect on the tariff, So Commission decided to hold a public hearing at Chandigarh on September 19, 2014 to hear the views of the public on the new facts furnished by the petitioner. The date for hearing was later postponed to September 22, 2014 and was held on Sept. 22. 2014

Commission published public notices in the leading newspapers giving due intimation to stakeholders, consumers, objectors and the public at large about the public hearing on the "review petition filed by CREST in the matter of tariff order dated April 11, 2014" to be conducted by the Commission on September 22, 2014 at Auditorium of Museum & Art Gallery from 10:00 AM onwards.

Table 1: Notices for Public hearing at Chandigarh

S. No.	Date	Language	Name of Newspaper and Edition
1.	28.08.2014 & 20.09.2014	Hindi	Punjab Kesari
2.	28.08.2014 & 20.09.2014	Punjabi	Ajit
3.	28.08.2014 & 20.09.2014	English	Tribune Chandigarh

The copies of public notice published by the Commission for intimation of public hearing are attached as Annexures 4 to this order.

Commission has not received any written objection / suggestion on the petition before the date of public hearing.

During the public hearing, each participant was provided an opportunity to present his views on the petition filed by the Petitioner. All those present in the hearing, were given an opportunity to express their views. Stakeholders who raised their concerns on the spot were replied to, by the officers of the Petitioner orally on the spot. The list of all participants during public hearing is attached at Annexure 3 to this order.

The list includes the stakeholders who did not give their written objection or prior intimation, but participated in the hearing on the spot. All these objections/suggestions were responded to by the petitioner/Commission during the hearing itself.

#### 2. POWER TO REVIEW

- 2.1. Commission's Power to review
  - **2.1.1.** The Commission's power to review its own orders flows from Section 94(1)(f) of the Electricity Act, 2003 and as the same is conferred on a Civil Court by the Code of Civil Procedure (CPC). These have been spelt out in Section 114, read with Order 47, of the CPC. The review application has to necessarily meet the requirements of Section 114 and Order 47 of the CPC.
  - **2.1.2.** As per the said provisions, the specific grounds on which an order already passed can be reviewed are:
    - 2.1.2.1. If there are mistakes or errors apparent on the face of the record, or
    - 2.1.2.2. On discovery of new and important matter or evidence which, after due diligence, was not within the knowledge or could not be produced at the time of making the order, or
    - 2.1.2.3. If there exist other sufficient reasons.
  - 2.1.3. The power of review, legally speaking, is permissible where some mistake or error apparent on the face of record is found and the error apparent on record must be such an error which may strike one on a mere looking at the record and would not require any long drawn process of reasoning. A review cannot be equated with the original hearing of a case. A review petition has a limited purpose and cannot be allowed to be an appeal in disguise and it cannot be exercised on the ground that decision was erroneous on merits. But, simultaneously the materials on record, which on proper consideration may justify the claim, cannot be ignored.

2.1.4. Clerical or arithmetical mistakes in judgments or orders or errors arising therein from any accidental slip or omission may at any stage be corrected by the Commission under Section 152 of the CPC, either of its own motion or on the application of any of the parties. The use of word "may" shows that no party has a right to have a clerical or arithmetical mistake corrected. The matter is left to the discretion of the Court. Such discretion is required to be exercised judiciously to make corrections necessary to meet the ends of justice. The word "accidental" qualifies the slip/ omission. Therefore, this provision cannot be invoked to correct an omission which is intentional, however erroneous. Because Section 152 does not countenance a re-argument on merits of fact or law, the Commission has the limited powers to correct any clerical or arithmetical mistakes in judgments or orders, or errors arising therein from any accidental slip or omission.

# 3. SUMMARY OF OBJECTIONS RAISED BY THE PETITIONER AND COMMISSION'S VIEWS

The issues raised by the petitioner in respect of the Review of Commission's Tariff Order dated April 11, 2014 and on each of these issues, the respective observations and speaking orders of the Commission are as follows:

#### 3.1. Issue: Tariff Determination

#### Petitioner's submission for Review

- 1. The Petitioner submitted that the Commission in para 5.4 at page 12/13 of the order has held that "In this case, the projects are being implemented with 100% assistance from Central Government and MNRE for implementation of Solar City programme; therefore the Commission has not considered any capital cost for the purpose of calculation of return on equity, depreciation and interest on loan capital for the purpose of tariff determination".
- 2. The Petitioner submitted that Commission has gravely erred while assuming the same, as the projects in question are getting only 50% or 30%, as the case may be, as Central Financial Assistance. The Petitioner further submitted that the same was categorically demonstrated before the Commission through the written submissions filed by the petitioner dated 16.01.14. The balance share of 50% or 70% as the case may be is being funded from the budget of Science & Technology Department of UT Chandigarh. Furthermore the petitioner has duly submitted before the Commission through its submission dated 15<sup>th</sup> Jan 2014, that the Department of Science and Technology has authorized the Petitioner-CREST to file the Petition for sale of power to Chandigarh Electricity Department and the revenue earned from sale of Power shall be deposited in Government's Treasury in the account of Science and Technology Department, being the Capital infuser of the projects. It is pertinent here to mention that the same averment was confirmed and supported by submission of written statement by Additional Director (Science & Technology) of UT Chandigarh dated January 15, 2014 filed before the Commission.
- 3. The Petitioner submitted that in the instant case for the projects in question, the petitioner (society) has received a sum of Rs. 19 Crores in total. Out of which 9.5 Crores have been received from MNRE as

grant in aid. However the remaining amount of Rs. 9.5 Crores out of the total investment has been given to the petitioner society by the Science and Technology Department being a capital infuser of the projects. It is pertinent hereto mention, that the Petitioner society is just an executing agency on behalf of the Science and Technology Department, who have been duly authorized by the Science & Technology Department to prefer the petition for tariff determination for the projects in question. The ultimate ownership of the projects vests with the Science and Technology Department, UT Chandigarh.

- 4. The Petitioner also states that even the Balance sheet of the Petitioner Society-CREST for the year 2012-13 also goes to show that 19 Crore (Rs. 9.5 Crore from MNRE (Min. of New & Renewable Energy) and Rs. 9.5 Crores from Dept. of S & T, UT Chandigarh) are shown as liabilities for CREST and not its ASSETs. So, these Rooftop SPV Plants are not the ASSETs of CREST rather these are the ASSETs OF Dept. of S&T, UT Chandigarh and these ASSETS shall be handed over to Department of S&T after its installation & 10 years maintenance by concerned bidder under supervision of CREST. However the Commission has erred while passing the order by ignoring the material facts already on record as indicated by the Petitioner.
- 5. The Petitioner indicated that the Petitioner vide its submission dated 15.01.2014 has specifically submitted that, "Department of Science & Technology of U.T. Administration should get the tariff at the same rate at which any private entity would have got by filing the Petition before this Hon'ble Commission because Government of U.T. Chandigarh has invested its money and it should get all its benefit similar to what should have been given to any other individual/ company etc. as per calculation of CERC". However the Commission overlooked the material submissions and record and has granted a meager tariff of Rs. 1.13 per unit on the pretext of operation and maintenance costs only.
- 6. The Petitioner also submitted that the Commission vide its order dated 11<sup>th</sup> April, 2014 under para 2.1.4 (h) has cited the Guiding Principles and Approach for determination of Tariff is for "The Promotion of co-generation and generation of electricity from Renewable sources of energy". However, the Commission while granting the tariff ignored its own findings as mentioned above and granted an inadequate tariff as submitted by the Petitioner.
- 7. The Petitioner highlighted that the order in question is very much detrimental to the development of Chandigarh as Solar City in particular & development of Solar Energy Sector in general. If the UT administration i.e. Science and Technology Department does not get the return of its capital cost invested in the projects in question, then such large scale Solar Energy Programs may not be continued to be funded in future. And in such eventuality the basic objective of the scheme shall be curbed. If the Science and Technology Department, U.T, Chandigarh does not get return on capital cost then it may tend to restrict itself to installation of limited number of Rooftop SPV Projects for "Demonstration Purpose" only as has happened over last 10 years in the entire country.
- 8. The petitioner further submitted that If the Solar City Programme is to be pursued on large scale with an aim to produce electricity from Renewable energy sources like Solar so as to add to the total energy basket of Electricity department, then it has to be encouraged by the Commission in such a manner so that project is self- sustainable.

- 9. The Petitioner also stated that as a per Mater plan for Chandigarh Solar City prepared by TERI and approved by MNRE, GOI, the total target for next 10 years for Rooftop SPV installation has been kept as 10 MW and for Grid connected SPV plant as 25 MW. On such low tariff, the ambitious Solar City programme shall not sustain.
- 10. The Petitioner further humbly submits that by grant of such a meager tariff for the U.T owned projects, no Government organization located in UT Chandigarh shall be interested to install SPV plants on its Rooftop, which will lead to non-utilization of such huge resources i.e. vacant rooftops and shall be very bad for Solar city programme.
- 11. The Petitioner submitted that as per Regulations laid down by the Commission i.e. JERC (Procurement of Renewable Energy) Regulations, 2010, every state & UT have to meet its RPO obligations. As per target set by the Commission, it is 0.6% of total power consumption for FY 2014-15, meaning thereby UT Chandigarh should have around 6.92 MW SPV Power plant (assuming 1500 MU of Consumption in 2014-15 and 1 MWP SPV plant in Chandigarh generating 1.3 MU of electricity) to meet its RPO Obligation.
- 12. The Petitioner also submitted that as on today, Chandigarh Electricity Department (CED) is meeting its RPO obligation through Purchase of REC Certificates which is costing roughly 10 rupees per unit to CED. Apart from the same, Rs. 3.1 rupees/unit is also incurred, as average cost of Power purchase of CED. Meaning thereby, effectively, one unit of solar electricity is costing Rs. 13.10 to CED. Whereas, the Commission, while passing the order has ignored this peculiar fact; And the petitioner is being asked to supply solar electricity to DISCOM i.e. CED at a tariff of Rs 1.13 per unit, which is highly discriminatory and arbitrary.
- 13. The Petitioner submitted that Commission has gravely erred while granting the tariff for the projects in question, as while passing the tariff the Commission ignored that the huge capital cost have been infused to set up the projects in question. The Commission by relying upon its own benchmark wrongly that the cost of the project has been received by the petitioner by way of 100% subsidy and has declined to grant even the generic tariff as regulated by the CERC. In fact, as per the CERC guidelines the projects in question are duly entitled for the general tariff. The question of source of funds does not arise at all as the ultimate ownership of the projects vests with Science and Technology Department, Chandigarh. It is again reiterated for the sake of clarification that 50% to 30% subsidized for the projects have been made by the MNRE for the promotion of setting up these projects which is in the shape of Central Financial Assistance to anybody. However, the material fact remains that the entire and exclusive ownership of the projects ultimately vests with Science and Technology Department. Even for the purpose of taxation and accounting the projects will be treated as assets of the science and technology department and not of the MNRE. MNRE under a Special Central Scheme for the promotion of Solar Projects has granted subsidy for the projects in question. Although the petitioner is duly entitled for the tariff qua the entire cost of project, however, even otherwise, the Commission further erred by not even considering the grant of tariff qua the return of investment made by the Science and technology department, which the Capital Infuser is duly entitled to. The Commission has ignored the

ground reality while holding that the petitioner is getting 100% subsidy for the projects in question and the projects does not involve any investment. In fact, Science and Technology Department has invested a huge amount for setting up these plants and is duly entitled for the return of the investment made in the project. The same is essential for the further expansion/implementation of the solar projects. Therefore, the projects in question deserve a proper re-determination of tariff, which would accomplish the objectives of making Chandigarh a model solar city.

- 14. The Petitioner also submitted that in the Power sector, guidelines set by the CERC are termed to be guiding principles. In order to regulate the power sector, Central Electricity Regulatory Commission (CERC) every year comes out with a generic levelised generation tariff for Renewable Energy including Solar Energy. For the financial year 2013-14, Hon'ble CERC has fixed Rs. 8.75 per unit as generic levelised generation tariff for solar PV. The above cost is estimated by CERC taking in to account the most general case i.e. Taking into account the capital cost, return on equity, interest on loan capital, depreciation, interest on working capital, O&M expenses. This generalized tariff rate is calculated after rigorous procedure. As per the guidelines set by the CERC any project for the FY 2013-14 is entitled to the general tariff as laid down by the CERC. As per the guidelines laid down by the CERC, the general tariff is not governed by the source of money for setting up of the SPV Power Plant. Therefore, the projects in question are entitled for at least the generic tariff as laid down by the CERC.
- 15. The Petitioner further submitted that the Commission while fixing the Operation & Maintenance expense from 11<sup>th</sup> Year onward for these Rooftop SPV Projects has further erred while estimating the O&M expenses based on some assumptions which are not realistic in the present economic environment. In fact, as per the Regulation 18 of the CERC RE Tariff Regulations, O&M expenses are defined as "O&M expense shall comprise repair & maintenance (R&M), establishment including employee expense and administrative and general expense". In the present economic scenario, it can be seen that the salaries for the employees are increasing at a rate not less than 10% per annum, whereas other material cost is also increasing at a rate higher than above. It is pertinent here to mention that Salaries are only one part as explained above as per the CERC RE Tariff, which even will not be able to meet out by the O&M Expenses rendered by the Commission. Hence, rendering escalation of the O&M expenses @ 5.72% per annum is not realistic. It is feared that after 10<sup>th</sup> year of operation, when the CREST will carry out tender for O&M for 11<sup>th</sup> year onward, the tendered cost for O&M may come at a very high rate which has not been discounted in the above assumption and in such a case it will be very difficult for the CREST to operate & maintain the plant. Hence, the above tariff design of Commission is not practicable.
- 16. The Petitioner submitted that even the spirit of letter from Ministry of power vide its D.O No. 25/9/2002 dated 8.10.2009, has categorically held that the all the power utilities of the state should get full permissible return on their investment so as to generate equity funds for future expansions. From the bare perusal of the letter, it is evident that Ministry of Power wants to establish a sustainable regime so that all such state power should get return on equity so as to sustain it.
- 17. The Petitioner also submitted that this Hon'ble Commission has rightly held that the projects in question are entitled for the O&M costs, however, has erred while calculating the tariff on the aspect

which needs to be reviewed, as prayed for. In fact, the order of the Commission goes contradictory to its own findings, that the projects in question are not entitled for any tariff, as the projects in question have been set up by mechanism of 100% subsidy. That as per the own findings of the Commission, the Commission has appreciated that the Projects are entitled to 0&M costs, therefore relying, on the same parameters, the projects in question are also entitled at least for the generic tariff as per CERC guidelines. The Commission have gravely erred while declining the other components of the tariff to the projects in question, which is totally contradictory and is apparent on record, as while calculating one component of the tariff, the projects are entitled and while calculating the other components of tariff the projects in question are not entitled. Hence the order passed by the Commission is self-contradictory and self-discriminatory. The Commission while granting the tariff has itself appreciated that the projects in question form entitlement vis-a-vis O & M costs and on the basis of same benchmark, the projects in question are also entitled for the other components of the tariff as per CERC RE Guidelines. Hence, the Commission may kindly please to review the order 11.04.2014, as prayed for.

- 18. In light of the facts and submissions made above, the Petitioner humbly prayed that the order passed by the Commission qua the issue of grant of Tariff for the projects in question may kindly be reviewed and a suitable tariff considering the entitlement of the capital infuser to the return on Equity/investment made be granted as per the CERC's order dated 28<sup>th</sup> Feb,2013 determining generic levelised generation tariff for the FY 2013-14 under Regulation 8 of the Central Electricity Regulatory Commission (Terms and conditions for Tariff determination from Renewable Energy Sources) Regulations 2012.
- 19. The petitioner during the hearing submitted a corrigendum to order no. S&T/2014/724 dated 13.08.2014 in reference to sanction order vide no. S&T/Sanc/03/2012/1901-1906 dated 06.03.2012, whereby the word shown as "Matching grant" to be read as "Matching UT share for Rooftop Solar PV Plants to be installed as deposit work by CREST". Further the corrigendum also states the following:

#### Quote

"These Rooftop SPV Power Plants shall be owned by Department of Science & Technology & CREST is only the executing agency for its installation & operation & maintenance for next 10 years. The contribution made by Department of Science & Technology for these Rooftop SPV Power Plant Projects is in the form of capital infusion and Department of Science & Technology, UT of Chandigarh is fully entitled to get its return on investments made, if the Power is sold to DISCOM. The revenue earned if any, from sale of these SPV Power Plants should be deposited in the Government Treasury. This shall be applicable for all Rooftop SPV Power Plants being installed under Model Solar City Programme. CREST shall submit DPR for individual SPV Plants separately and shall obtain sanction from MNRE, GOI before starting work"

**Un-quote** 

#### Commission's Views

- Commission rejects the contention of the Petitioner that Commission has erred in its analysis that
  projects are being implemented with 100% assistance from Central Government and MNRE for
  implementation of Solar City programme; therefore the Commission has not considered any capital
  cost for the purpose of calculation of return on equity, depreciation and interest on loan capital for the
  purpose of tariff determination.
- 2. Commission drew attention of the Petitioner towards their own submission. Commission acknowledges the fact that MNRE has granted Central Financial Assistance of 30% or 50% as the case may be and Department of Science & Technology gave a balance share of 70% or 50% as "matching grant" based on the documentary evidence submitted by the Petitioner.
- 3. Based on the documentary evidence submitted by the Petitioner, Commission construed that the projects are being implemented with 100% grant from Central Government (Department of Science & Technology, UT of Chandigarh) and MNRE.
- 4. The Petitioner during the hearing on the Review Petition submitted the corrigendum to Order no. S&T/2014/724 dated 13.08.2014 in reference to sanction order vide no. S&T/Sanc/03/2012/1901-1906 dated 06.03.2012, whereby the word shown as "Matching grant" was now to be read as "Matching UT share for Rooftop Solar PV Plants to be installed as deposit work by CREST".
- 5. In accordance with the above corrigendum, it has been clarified by Department of Science & Technology that the contribution made by Department of Science & Technology, UT of Chandigarh is in the form of capital infusion and therefore Department is fully entitled to get its return on investments made.
- 6. Given the new facts submitted by the Petitioner towards the contribution of D&ST, Commission has now taken a view to consider the contribution of D&ST as Capital Cost for installation of 10 Rooftop Solar PV Power Plants. 30% of entire contribution excluding O&M expenses is considered as equity and remaining 70% as notional loan in accordance with the CERC regulations for determination of tariff for RE projects. The Operation & Maintenance expenses funded by the D&ST shall not be capitalized for the purpose of return on equity, interest and depreciation. Accordingly, the tariff of ten number Rooftop Power Plants (taken together) is revised. The details of contribution made by D&ST and MNRE towards capital cost and O&M expenses for each of the project is mentioned in Annexure-2 of this Order.
- 7. In the context of the Operation & Maintenance Expenses; Commission would like to draw the attention of the Petitioner towards the relevant excerpts of the Order as mentioned below.

#### Quote

"The average operation and maintenance expenses of the rates mentioned in the work order for ten number rooftop solar PV power plants are worked out at Rs. 9.58 lakhs per MW.

Commission has analyzed the submissions made by the petitioner regarding operation & maintenance expenses and operation & maintenance expenses as worked out from the bids. Accordingly, Commission is of the view that besides operation & maintenance expenses, monitoring & overhead expenses are also necessary for smooth functioning of Rooftop Solar PV Power Plant and maintaining a repository of reliable database for spreading necessary awareness about the plants. Commission therefore has considered the operation & maintenance expenses at the rate of Rs. 11.63 lakhs per MW, in accordance with normative O&M expenses fixed by CERC for Solar PV Projects for FY 2013-14. Since there shall be no O&M expenses for initial period of ten years, therefore the Commission has accordingly escalated the O&M expenses of Rs. 11.63 lakhs per MW per annum at the rate of 5.72% per year to work out the O&M expenses for remaining period of fifteen years of the useful life plant.

#### **Un-Quote**

Commission reiterates that the normative O&M expenses of Rs. 11.63 Lakhs per MW and annual escalation rate of 5.72% per annum from 2<sup>nd</sup> year onwards have been considered, in accordance with tariff parameters fixed by CERC. Accordingly, the approved O&M expenses arrived in 11<sup>th</sup> year at Rs. 20.28 lakhs per MW is higher than the present expenses on operation & maintenance borne by the CREST.

# 3.2. Abstract of cost parameters approved by the Commission

Based on the above decisions of the Commission, the following is the abstract of the parameters considered for determination of tariff.

Table 2: Abstract of cost parameters approved by Commission

Particulars Particulars	UoM	Approved Parameters
Particulars	OOM	Solar Rooftop PV
Total Capital Cost for 2.79 MW	Rs. Lakhs	1553
Debt : Equity Ratio	Ratio	70:30
Debt (Notional)	Rs. Lakhs	1087
Equity	Rs. Lakhs	466
Debt Repayment Tenure (Notional)	Years	12
Capacity Utilization Factor	%age	18%
Return on Equity	%age	20% for 1 <sup>st</sup> 10 years and 24% from 11 <sup>th</sup> year
Discount Factor equal to WACC	%age	10.7%
Auxiliary Consumption	%age	0.25%
O&M Expenses per MW	Rs. Lakhs	11.63
O&M Escalation per annum	%age	5.72
Interest on Notional Debt	%age	12.71%
Working Capital	Receivables	2 months
Interest on Working Capital (Notional)	%age	13.48%
Depreciation for first 12 years	%age	5.83%
Depreciation from 13 <sup>th</sup> year	%age	1.54%

#### 3.3. Other issues for Review

#### 3.3.1. Grid Connectivity

#### Petitioner's submission for review

The Petitioner submitted that the Petitioner has filed a separate Petition requesting the Commission to issue guidelines for Grid connectivity/ Net Metering. However, few related aspects of the same have been passed by the Commission in the order dated April 11, 2014.

The Petitioner submitted that the Commission in Para 5.10.2 of the order dated April 11, 2014 has held that "Solar Rooftop PV System with installed capacity of 50 KWp & above shall be connected at 11 KV distribution system".

The Petitioner further submitted that the Commission has erred while passing the order on this issue also as the only Rooftop Solar PV system with capacity of more than 100 KWp should have been covered under the ambit of connecting at 11 KV distribution system as it shall reduce the Transformer loss happening twice i.e. first on converting the 415 Volt solar output to 11 KV and then again from 11 KV to 415 Volt to be used by various institutions where the final supply voltage is only at 415 V only. The same practice is being followed by most of the regulators. A copy of the order dated 13.11.2013 on LT Connectivity & net metering by Tamil Nadu Energy Regulatory Commission. Hence following this procedure demonstrated above, the Commission may review its order qua the issue in question for the sake of preventing the loss of national resource.

#### Commission's Views

Commission acknowledges the contention of the petitioner. However, Commission would like to draw attention of the Petitioner towards the relevant Para in the Order in context of grid connectivity.

#### Quote

"

The grid connectivity shall be arranged by the distribution licensee in accordance with the prevailing CEA (Technical Standards for Connectivity to the Grid) Regulations 2007, CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2012 to be notified by CEA and JERC grid code regulations as amended from time to time. Further, the distribution licensee shall take adequate measures to install necessary protective devices to prevent the possibility of any feedback to the grid in the event of failure of grid power supply to ensure safety of personnel working on the distribution system. Further, safety precautions as stipulated in the CEA (Measures Relating to Safety and Electricity Supply) Regulations 2010 shall be complied with.

Ideally, grid interactive systems do not require battery back-up as the grid acts as the back-up for feeding excess solar power and vice-versa. However, to enhance the performance reliability of the overall systems, a minimum battery-back of one hour of load capacity is strongly recommended.

## Unquote

A prior concurrence of ED-Chd should be obtained by the Petitioner, if the Solar Power Generation plant is required to be connected at LT system and not 11 KV, to enable the respondent ED-Chandigarh to examine the stability aspects of distribution system by connecting 100Kwp Solar Power Generation at LT system.

If the 100 Kwp Solar plant can be connected to LT system after concurrence of ED-Chd, the issue stands resolved.

Appropriate explanation should be submitted to the Commission by the respondent, for Commission's consideration and approval, if connection of 100 Kwp Solar Plant cannot be made at LT system.

#### 3.3.2. Metering Arrangement, Billing and Energy Accounting

#### Petitioner's submission for review

- 1. The Petitioner submitted that the metering shall be in compliance with the CEA (Installation and Operation of Meters) Regulations 2006 as amended from time to time.
- 2. The Petitioner also submitted that the Commission at Para 5.10.3 (e) of the order dated April 11, 2014, under metering arrangement, has held that "Specification of bi-directional meter shall be of 0.2 class accuracy". In fact the Commission may modify the same to the following effect

"The meter shall adhere to the standards specified by the Central Electricity (Installation & Operation of Meters) Regulation 2006 as amended from time to time. Central Electricity Authority's (CEA) draft regulation on installation & operation of Meters 2013 may also be adopted till such time the final regulation/amendment is notified."

- 3. The Petitioner submitted that the Commission has erred while passing the order on above issue and has ignored the peculiar fact that the same practice is being followed by many Regulatory Commissions e.g. Tamil Nadu Electricity Regulatory commission, etc.
- 4. The Petitioner further submitted that the Commission at para 5.10.3 (j), of the order dated 11.04.2014 has held that "the Electricity generated from Solar Rooftop System shall be capped at 90% of the electricity consumption by eligible consumer....." In fact, the Commission has erred while passing the order qua the issue, as the Commission has left out to distinguish between domestic and the commercial/Institutional projects for framing regulations. The Commission while passing the order has kept both the variants in parity. The regulations framed by the Commission are viable vis-a-vis domestic projects-non commercial/ residential projects having smaller rooftop SPV system. However, the same shall not be made applicable for the 10 Rooftop SPV Projects under consideration, as the Rooftop SPV system have been installed with an aim to produce solar power to provide renewable energy to DISCOM, so that it can meet out its RPO obligation besides promoting use of Renewable Energy. Hence, the Commission may kindly review

the order qua the issue in question and pass an appropriate order after considering the submissions made by the petitioner qua the issue.

#### **Commission's Views**

- Commission reiterates that the primary aim of installation of Roof-top solar power plants under net-metering route is for self-consumption as per the petition submitted. Surplus Power would be fed into the grid. Given the above, the specifications of bi-directional meters have been specified to meet the measurement and safety requirements. One second loss calculation and error correction capabilities establish system losses and correct for measurement errors in real time.
- 2. These bi-directional meters are required as solar energy produced at the end of the consumer is more than the consumption, the surplus energy will automatically be exported to the ED-CHD distribution network or the grid. If there is less solar energy generated than what the consumer requires to meet its demand, the shortfall will be drawn from the grid (energy import). Such meters alone can measure both energy import (from the grid to the consumer) and energy export (from the consumer to the grid). These meters will replace the conventional meters at the premises of beneficiaries of the scheme.
- 3. Commission rejects the contention of the Petitioner that Commission has erred while passing the Order and has ignored the peculiar facts. Commission draws the attention of the Petitioner towards the tariff order wherein the Commission has also mentioned that "metering shall be in compliance with the CEA (Installation and Operation of Meters) Regulations 2006 as amended from time to time". In the present case of net metering, bi-directional meters with 0.2 class accuracy are essential to measure both energy import and energy export with adequate accuracy.
- 4. Commission rejects the contention of the petitioner that the 10 Rooftop SPV projects covered under the petition have been installed only with an aim to produce solar power to provide renewable energy to DISCOM, so that it can meet out its RPO obligation besides promoting use of Renewable Energy. Commission likes to reiterate that the Petitioner in its Petition has clarified that these Rooftop Solar SPV Power Plants are being set-up primarily for self-consumption and surplus power shall be sold to the utility. Further, the Petitioner has demanded the tariff on net metering basis. As such the surplus Power (after self-consumption) shall be sold to the ED, U.T. of Chandigarh, which is permissible. The surplus Solar Power from these Roof-top Solar Power Plants sold to ED-CHD/purchased by ED-CHD shall be used to fulfill the RPO obligations of the utility. Presently, the Commission has permitted the Petitioner to install a bi-directional meter on the principle of net-metering. A Capping on the energy injection in the grid is necessary for grid stability. The cap is intended to avoid de-stabilizing the grid with a large volume of variable PV generation and ensuring grid security. Thus, this Commission finds no merit in petitioner's submission on the capping and the issue is decided accordingly. However, Commission in view of the renewable purchase obligations of the ED-CHD, permits the consideration of "free energy" that may be injected into the grid after the capping, to meet the renewable purchase obligations of the utility.

## Accordingly, the amendment in the relevant section of the order is mentioned below

Ref: Section 5.10.3 (j) of the tariff order dated 11.04.2014 "Solar Power Electricity generated from a solar rooftop system shall be capped for export to the Grid cumulatively at 90% of the electricity consumption (approved electricity connection load for respective premises) by the eligible consumer at the end of the relevant financial year. In case of COD during the year, the 90% capping on export of solar Power to the Grid shall be effective from the date of COD to the end of the financial year and subsequently on financial year basis. The energy generation in excess of consumption shall be settlement on billing cycle basis and above capping shall apply therein to allow for seasonality in generation. Any excess solar power (above 90 per cent of approved power consumption) fed to the grid at the end of the financial year would be considered as free energy and not offset against the consumer's consumption. "The quantum of this free energy (if injected into the network of ED-CHD) shall qualify towards compliance of Renewable Purchase Obligation (RPO) of the distribution licensee; Provided that injection of this free energy should be recorded separately."

# 3.4. Revised Tariff for grid connected Rooftop Solar Photovoltaic Power Plants

On the basis of approved parameters & calculations (detailed at **Annexure 1** of this order), the following is revised tariff:

Particulars

Approved Tariff in Rs./Kwh

10 Rooftop Solar
Photovoltaic
Power Plants
listed under the
Petition

Petition

Petition

Approved Tariff in Rs./Kwh

6.80

Without any benefit of Accelerated Depreciation benefit availed by the Petitioner

Or alternatively

6.13

Petition

If the benefit of Accelerated Depreciation benefit availed by the Petitioner

**Table 3: Tariff for Rooftop Solar Power Plant** 

The above approved tariff is applicable to Rooftop solar PV Power Plants developed, implemented under central financial assistance, entering into power purchase agreements (PPA) with the Electricity Department, U.T. of Chandigarh. Commission further directs the petitioner to create a separate fund under the anvil of the Department of Science and Technology (DST), UT of Chandigarh for collection of the returns generated from the rooftop projects under consideration. Separate accounts should be maintained for this fund. This fund will be maintained and utilized by the D&ST for promoting programmes related to promotion of activities related to renewable energy generation / energy efficiency in the UT of Chandigarh.

With this Order, the Commission disposes of the Review Petition filed by CREST on May 24, 2014.

-sd-(Sh. S. K. Chaturvedi) Chairperson

Date: 13 October, 2014 (कीर्ति तिवारी) Place: Gurgaon

प्रमाणित प्रतिलिपि

हस्ताक्षरित

# Annexure 1: Levelised Tariff for Rooftop Solar Power Plants at Chandigarh (ten in number). Project wise Cost details are as at Annexure 2

Dogganatore	-			Param	nissioned duri																					
Parameters	UOM	Value		-	TOTAL T	UOM	Value																			
Plant Size	MW	2.79	Working	Capital		\$12000500																				
CUF (as per petitioner)	%	18.00%	370.00		M&O	Months	1																			
Useful Life of Project	Years	25			Spare	%	15%																			
Total Project Cost (petitions	Rs.Lakhs	1553			Receivables	Months	2																			
Tariff Period	Years	25		on Wca		%	13.48%																			
Debt Portion	%	70%	O&M E	xpenses	(as per bids)	Rs.Lakh	9.58																			
	Seesan		O&M E	xpenses	(as per CERC	Rs.Lakh	11.63																			
Equity Portion	%	30%	Escalat	ion for C	M&	%	5.72%																			
Debt	Rs Lakh	1087	Deprec	iation - 1	st 12 Years	%	5.83%																			
Equity	Rs.Lakh	466	Deprec	iation fro	m 13th Year	%	1.54%																			
Loan Repayment Period	Years	12	Income	Tax Rat	e	%	32.45%																			
MINISTER STATE OF THE STATE OF	93/00/2-		Income	Tax Holi	iday	50,5,0	0.00																			
Interest Rate - Loan	% (Notional)	12.71%	MAT R	ate		- %	20.00%																			
ROE - 1st 10 Years	%	20%	80 IA B	enefits		Yes/No	Yes																			
ROE from 11th Year	%	24%	WACC			%	10.8%																			
Module Performance (Yr 1)	%	100%	Perform	ance Re	duction (2nd yr	%	1.00%																			
module renormance (11.1)	70	10076	00000000000	to 10th	yr)	70	1.0036																			
Auxiliary Consumption	%	0.25%	Performa	ance Rea	duction (11th yr	%	0.71%																			
Auxiliary Consumption	70	0.23%	ony	vards) ti	I plant life	79	V./ 178																			
+0000000	eresal and	THE RESERVE THE PARTY OF THE PA		S EXERCISE SEC	PU ZAZ			1																		
Particulars	Year>	ect to be	commiss	sionea a	uring FY 13-1	-		7	0	6	10	11	12	49	14	15	16	17	18	40	20	21	22	23	24	+
Module Performance	%	100%	99%	98%	97%	96%	95%	0.40/	93%	020/		90%	89%	13 89%	88%		86%	86%	85%	19 84%	84%	83%	82%	81%		
Net Generation	MUs	4.39	4.34	4.30	4.26	4.21	4.17		4.08		3.99	3.95	3.92	3.89	3.86	3.82	3.79		3.73	3.70	3.67	3.64	3.60	3.57		
ivet Generation	MUS	4.33	4.34	4.30	4.20	4.21	M, LC	9.12	4,00	4.04	3.88	3.83	3.82	3.00	3.00	0.02	3.18	3.10	3.13	3.10	3.01	3.04	3.00	3.31	0.04	٠
O&M	Lakh	15.99	15.99	15.99	15.99	15.99	15.99	15.99	15.99	15.99	15.99	56.59	59.83	63.25	66.87	70.69	74.74	79.01	83.53	88.31	93.36	98.70	104.35	110.32	116.63	F
	Lakh	90.56	90.56	90.56	90.56	90.56	90.56	90.56	90.56	90.58	90.56		90.56		23.92						23.92			23.92		
Depreciation		132.45		109.43	97.92	86.41	74.90	63.39	51.88		28.86	17.34	5.83		-				-					-		Ť
Depreciation Interst on Loan	Lakh	132.40				7.09	6.83	6.56	6.30	6.03	5.77	8.17	8.09	6.61	6.81	7.02	7.24	7.48	7.73	7.99	8.27	8.57	8.88	9.21	9.56	Ť
Interst on Loan	Lakh Lakh		7.89	7.62	7,36	1.00			04.00	02.20	02.20	111 01		111.84						111.84	111.84			111 84	111.84	
	Lakh Lakh Lakh	8.15		7.62 93.20	7,36 93,20		93.20	93.20	93.20	83.20	33.ZU	111.04										1111.04	100			
Interst on Loan Interst on Wcap	Lakh		7.89 93.20 329		7,36 93.20 305	93.20		93.20 270	93.20 258	246	234	285	276	206	209	213	218	222	227	232	237	243	249	255	262	
Interst on Loan Interst on Wcap ROE Total Fixed Cost	Lakh Lakh Lakh	8.15 93.20 340	93.20 329	93.20 317	93.20 305	93.20 293	93.20 281	270	258	246	234	285	276	206		213			227	232	237	243	249	255	262	
Interst on Loan Interst on Wcap ROE	Lakh Lakh	8.15 93.20	93.20	93.20 317	93.20	93.20	93.20 281	270	258	246	234		276	206	209 5.43	213		222 5.91	227			243	249		262	

Rs/KWh

Levelised Tariff

Tariff Determination for Solar PV Power Plant (roof top) - 10 in numbers commissioned at

# Annexure 1... Continues : Levelised Tariff for Rooftop Solar Power Plants at Chandigarh). Project wise Cost details are as at Annexure 2

Depreciation as per Compa	22000000	ualynt Li	ic mean	JU (B) 3.2	V /§																					1
Particulars	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
Booked Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%			100000000000000000000000000000000000000	5.28%	HALL CO. C.	CONTRACTOR OF THE PARTY OF THE	5.28%	****	Service de la constante de la	Delication and the Control		2.88%	0.00%	0.00%	0.00%	0.00%	0.00%		400000
Booked Depreciation	Lakh	41.01	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82,02	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02	44.74	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Depreciation as per Income	Tax Law	- Written I	Down Va	lue Meth	od @ 80%																					
Opening	%	100.00%	20.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00
Allowed During the Year	%	80.00%	16.00%	3.20%	0.64%	0.13%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00
Closing	%	20.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00
Accelerated Depreciation	Lakh	1242.72	248.54	49.71	9.94	1.99	0.40	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Accelerated Depreciation B	enefit																									
Net Depreciation Benefit	Lakh	1201.71	166.52	-32.31	-72.08	-80.03	-81.62	-81.94	-82.00	-82.02	-82.02	-82.02	-82.02	-82.02		-82.02	-82.02	-82.02			0.00	0.00	0.00	0.00	0.00	0.0
Tax Benefit	Lakh	389.89	54.03	-10.48	-23.39	-25.97	-26.48	-26.59	-26.61	-26.61	-26.61	-26.61	-26.61	-26.61	-26.61	-26.61	-26.61	-26.61	-14.52		0.00	0.00	0.00	0.00	0.00	0.0
Energy Generation	MUs	4.39	4.34	4.30	4.26	4.21	4.17	4.12	4.08	4.04	3.99	3.95	3.92	3.89	3.86	3.82	3.79	3.76	3.73	3.70	3.67	3.64	3.60	3.57	3.54	3.5
Tax Benefit	Rs/KWh	8.88	1.24	-0.24	-0.55	-0.62	-0.64	-0.64	-0.65			-0.67	-0.68	-0.68	-0.69	-0.70	-0.70	-0.71	-0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Discount Factor		1.00	0.95	0.86	0.77	0.70	0.63	0.57	0.51	0.46	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.0
4	111710-1																									
mmulative Levelised Bene	Lakh	27.42																								
evelised Solar Generation	MUs	4.09																								
Levelised Benefit / Unit	Rs/KWh	0.67																								

# Annexure 2 Project wise cost breakup.

		KW	Actual Comple	ted Cost (in Rs. L	acs excluding	Operation &	Maintenance Co	st for first 10
S.No	Name of the Project	rating		O&M)		У	ears (in Rs. Lac	)
	Name of the Project	of the	Contribution	Contribution	Total Cost	Contribution	Contribution	Total Cost
		project	from MNRE	from DST	TOTAL COST	from MNRE	from DST	TOTAL COST
1.	Post Graduate	210	61.97	144.58	206.55	6.20	14.45	20.65
	College,Sector-46,chd		(30%)	(70%)		(30%)	(70%)	
2.	Govt. College for Girls,	200	59.00	137.71	196.71	5.86	13.80	19.66
	Sector-42, Chd		(30%)	(70%)		(30%)	(70%)	
3.	Govt. College for Men,	435	220.525	220.525	441.05	27.94	27.95	55.89
	Sec-11, Chd		(50%)	(50%)		(50%)	(50%)	
4.	Govt. College for Girls,	495	227.82	227.82	455.63	22.78	22.75	45.56
	Sec-11,Chd		(50%)	(50%)		(50%)	(50%)	
5.	IRB Complex, Sarangpur	200	97.70	97.70	195.39	9.80	9.80	19.60
			(50%)	(50%)		(50%)	(50%)	
6.	Punjab Engg College,	1000	232.16	541.70	773.86	25.78	60.20	85.98
	sector-12		(30%)	(70%)		(30%)	(70%)	
7.	Model Central Burail	100	67.92	67.92	135.84	3.58	3.57	7.15
	Jail, Sec-45,chd		(50%)	(50%)		(50%)	(50%)	
8.	Paryavaran Bhawan,	50	43.20	43.20	86.40	2.00	2.00	4.00
	Sec-19, Chd		(50%)	(50%)		(50%)	(50%)	
9.	Govt. Model	50	38.71	38.71	77.42	2.04	2.03	4.07
	Sr.Sec.School,Sec-46		(50%)	(50%)		(50%)	(50%)	
10.	Govt. College of	50	14.37	33.53	47.90	1.44	3.35	4.79
	Commerce & Business		(30%)	(70%)		(30%)	(70%)	
	Administration, Sector-							
	42, Chandigarh							
	Total	2790	1063.6	1553.6	2616.75	107.42	159.9	267.35

Review Order on Order dated April 11, 2014 on tariff determined for Roof-	Top Solar PV Power Projects of CRES
Annexure-3: List of attendees in the public hearing	
	प्रमाणित प्रतिलिपि
	(कीर्ति तिवारी)
	सचिव

Review Order on Order dated April 11, 2014 on tariff determined for Roof-Top Solar PV Power Projects of Cl	REST
nexure-4: Public hearing notice details	