

# ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad-500 004

## Present

Sri Justice G. Bhavani Prasad, Chairman

Dr. P. Raghu, Member

Sri P. Rama Mohan, Member

Dated 19<sup>th</sup> November, 2016

In the matter of

Determination of Surcharge and Additional Surcharge under Sections 39, 40 and 42 of the Electricity Act, 2003  
for FY 2016-17.

O.P.No.15 of 2016

Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL) and

O.P.No.16 of 2016

Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)

This matter came up for public hearings before various stakeholders from 04.06.2016 to 22.10.2016 and having stood over for consideration till this day, the Commission passes the following:

## ORDER

### CHAPTER-I

#### Introduction

1. As per section 39(2) (d) (ii) and 40(c) (ii) of the Electricity Act, 2003 (hereinafter referred to as 'the Act'), the State Transmission Utilities and Transmission licensees are bound to provide non-discriminatory open access to their transmission systems for use by any consumer as and when such open access are provided by the State Commissions under sub-section (2) of section 42, on payment of the transmission charges and a surcharge (hereinafter also referred to as 'the Cross Subsidy Surcharge') thereon, as may be specified by the State Commissions. Section 42(2) of the Act provides for payment of the **surcharge** in addition to the wheeling charges as determined by the State Commission for availing the open access and such surcharge shall be utilised to meet the requirements of current level of cross subsidy within the area of supply of the distribution licensee. Therefore, as per the above provisions, the cross subsidy surcharge has to be levied on the consumers who avail open access.
2. Section 42(4) of the Act provides that a consumer or class of consumers permitted to receive supply of electricity from a person other than the Distribution Licensee of the area in which such consumer is located,

shall be liable to pay an **additional surcharge** to meet the fixed costs of the distribution licensee arising out of his obligation to supply.

3. As per Provision 17.1. of APERC Terms and Conditions of Open Access to Intra State Transmission and Distribution Networks (Regulation 2 of 2005),

- a. The Open access users of the Transmission and/or Distribution System where such open access is for delivery of electricity to the consumer's premises in the area of supply of a distribution licensee, shall pay to the distribution licensee the (cross-subsidy) surcharge as determined by the Commission from time to time under Section 42 (2) of the Act.

Provided that no (cross-subsidy) surcharge shall be payable if the open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use.

Provided further that the Cross Subsidy Surcharge and additional surcharge shall be exempted for third party sale if the source of power is from such Solar Power Projects set up within the State as mentioned in G.O.Ms.No.8, Dated 12.02.2015 for a period of five (5) years from the date of commissioning of such projects.

- b. The Open Access user shall also be liable to pay additional surcharge on charges of wheeling as may be specified by the Commission from time to time under section 42(4) of the Act, in case open access is sought for receiving supply from a person other than the distribution licensee of such consumer's area of supply, to meet the fixed cost of the distribution licensee arising out of his obligation to supply.

### **Background**

4. The erstwhile APERC for undivided state of Andhra Pradesh State for the first time determined the Cross Subsidy Surcharges (CSS) and Additional Surcharges (AS) vide order dt. 21.09.2005 in OP No.16 of 2005, and Order dt. 29.08.2006 in OP. No.13 of 2006, for FY 2005-06 and FY 2006-07 respectively. While determining the CSS for FY 2005-06 and FY 2006-07, the erstwhile APERC followed the embedded cost method in which the ARR is allocated among different consumer categories to arrive at per unit Cost of Service for each consumer category. The per unit Cross Subsidy for each consumer category is calculated as the difference between per unit average revenue realization and Cost of Service for that category.
5. Aggrieved with the method of determination of CSS by the erstwhile APERC, M/s. RVK Energy & others challenged such determination for FY 2005-06 and FY 2006-07 before Hon'ble APTEL (Appellate Tribunal for Electricity). The Hon'ble APTEL in the order dt. 05.07.2007 in Appeal Nos. 169-172 of 2005 & 248-249 of 2006 allowed the appeals and directed the erstwhile APERC to compute the cross subsidy surcharge, which consumers are required to pay for use of open access in accordance with the Surcharge Formula specified in para 8.5 of the National Tariff Policy, 2006 for FY 2006-07 and subsequent years. Further, the Hon'ble APTEL in the order observed the following.

*In future all the Regulatory Commissions while fixing wheeling charges, cross subsidy surcharge and additional surcharge, if any, shall have regard to the spirit of the Act as manifested by its Preamble. The charges shall be reasonable as would result in promoting competition. They shall be worked out in the light of the above observations made by us. This direction shall also apply to the APERC for computing the cross subsidy surcharge for the year 2005-06 as well.*

6. The erstwhile APERC filed Civil Appeal Nos. 4936-4941 of 2007 before the Hon'ble Supreme Court challenging the order of the Hon'ble APTEL. In the interim order passed on 05.05.2008, the Hon'ble Supreme Court stayed the order of the Hon'ble APTEL until further orders. By the order dt. 04.12.2009, the interim order dt. 05.05.2008 was made to remain operative till final disposal of the Civil Appeals. Ultimately, the Hon'ble Supreme Court dismissed the CA Nos. 4936-4941 of 2007 on 31.03.2016. Accordingly, the direction issued by the Hon'ble APTEL in its Order issued on 05.07.2007 has become a binding direction on the Commission due to which the Commission has to follow the Tariff Policy in fixation of the cross subsidy surcharge and additional surcharge.
7. Meanwhile, the erstwhile APERC provisionally extended the applicability of CSS/AS rates determined for FY 2006-07 for subsequent years also by its Order dt. 28.03.2007 in OP. No.5 of 2007. The erstwhile APERC finally determined CSS for FY 2007-08 to FY 2012-13 in O.P. No. 5 of 2007, O.P. No. 73 of 2012, 74 of 2012, 75 of 2012, 76 of 2012 and 77 of 2012 respectively. In all the above orders, the Commission followed the embedded cost method for determining the CSS/AS and observed that the determination of the CSS and AS are subject to final judgment of the Hon'ble Supreme Court in Civil Appeal Nos. 4936-4941 of 2007. The above orders were the subject of challenge before the Hon'ble High Court in W.P.Nos.34215 of 2012 and batch. In view of the orders of the Hon'ble Supreme Court dated 31.03.2016, the Hon'ble High Court by a common order dated 20.06.2016, set aside the above orders and remitted back the matters to this State Commission or Telangana State Electricity Regulatory Commission for consideration afresh keeping all the legal and factual objections at large.
8. For the FY 2013-14, the erstwhile APERC determined the CSS/AS as 'NIL' due to the prevailing Restriction and Control measures and the inability of the Licensees to supply uninterrupted power to the consumers and for the FY 2014-15, no CSS/AS order was passed .
9. Consequent to bifurcation of the State, the present APERC was constituted in terms of the Andhra Pradesh Reorganisation Act, 2014. The present APERC determined the CSS for FY 2015-16 in the order dt.15.04.2015 in OP. No.8 of 2015 following the embedded cost method and observed in the order that the determination of CSS and AS for FY2015-16 is subject to final judgment of Hon'ble Supreme Court in Civil Appeal Nos. 4936-4941 of 2007. Several consumers challenged the above order of the Commission before the Hon'ble High Court of Judicature at Hyderabad. Further, several of the stakeholders filed review petitions before the Commission on the above CSS order. The Hon'ble High Court initially granted interim stay and finally

disposed off the WPs on 27.04.2016 stating that Civil Appeals on the very same principle were dismissed Hon'ble Supreme Court on 31.03.2016 and remanded the matter to APERC for disposal in accordance with law. In view of the Hon'ble High Court Order, the Commission disposed of review petitions on 04.06.2016 stating that order which is sought to be reviewed is set aside and ceases to exist and nothing survives in these review petition to be adjudicated by this Commission.

10. Keeping the above legal position in view, the Commission has decided to determine the CSS for FY 2016-17 based on the formula specified in the revised National Tariff Policy issued on 28.01.16. For re-determination of CSS/AS for FY 2005-06 to FY 2012-13 and FY 2015-16, the Commission has already taken up the issue in a separate proceeding and will decide the matter in accordance with law. However, such determination afresh for FY2013-14 and FY2014-15 does not arise as CSS and AS are "Nil" for FY 2013-14 and the same were not determined for FY 2014-15.

#### **Filings by the Licensees and public hearings**

11. The distribution licensees, Southern Power Distribution Company of A.P. Ltd. (APSPDCL) and Eastern power Distribution Company of A.P. Ltd (APEPDCL) have included the proposals for determination of CSS (Cross Subsidy Surcharge) for open access transactions along with ARR/FPT filings for determination of tariff for retail sale of electricity during FY 2016-17 based on the formula specified in the National Tariff Policy, 2006. Subsequent to the filings, Ministry of Power, GOI published revised National Tariff Policy vide resolution dated 28.01.2016 in the Gazette. Keeping in view the revised National Tariff Policy, the Commission in its letter dated 23.02.2016 informed the Licensees that
- i. They are at liberty to file fresh proposals for determination of the Cross Subsidy Surcharge for FY 2016-17 in accordance with such methodology as they deem fit and proper, as the National Tariff Policy, 2006 which formed the basis of earlier filings ceased to exist.
  - ii. If the Licensees come up with fresh filings, the determination of the Cross Subsidy Surcharge for FY 2016-17 will be made in accordance with the prescribed procedure duly complying with all the necessary formalities independent of the other proposals made in the original filings.
12. In response to the above letter, APSPDCL and APEPDCL filed their revised proposals for determination of CSS for FY 2016-17 based on the revised National Tariff Policy on 04.03.2016 and 28.03.2016 respectively. The Commission assigned O.P.No.15 of 2016 and O.P.No.16 of 2016 to the filings made by APSPDCL and APEPDCL respectively and directed the Licensees vide letter dated 06.04.2016 to publish a public notice in the prescribed format in Telugu (Telugu text) and in English (English text) newspapers having circulation throughout the state of Andhra Pradesh by 10.04.2016 inviting the stakeholders to submit their views/objections/suggestions on or before 10.05.2016. The last date for furnishing replies by the Licensees to the views/objections/suggestions of the stakeholders was fixed at 21.05.2016. The Licensees were also directed to place copies of the filings on their websites and to make the hard copies of the filings available

at corporate and circle offices from 11.04.2016 onwards and allow the interested person(s) for perusal of CSS filings and to take note thereof during office hours at any of the said offices at free of cost. The copies of the filings were placed on the website of APERC also.

13. As directed by the Commission, the Licensees issued public notices in the Telugu (Andhra Jyothy) and English (Indian Express) newspapers on 08.04.2016(Annexure-I). In response to the public notices, 18 Nos of stakeholders filed 10 Nos of written objections by 20.05.2016. The Licensees furnished the replies to views/objections/suggestions submitted by the stakeholders. The Commission issued notice to all the above objectors informing them that the public hearing will be taken up on CSS/AS at 11.00 A.M on 04.06.2016 at Court Hall of APERC at Hyderabad. A copy of the above notice was placed on the website of APERC also to enable the interested persons/organizations desirous of being heard in person to appear before the Commission on the said date. In addition to the above written objections, Dr. Gokaraju Ganga Raju, Member of Parliament(Lok Sabha) addressed a letter dated 30.05.2016 to the Secretary/APERC requesting the Commission to determine the CSS as per the mandate specified in the Act and consequences upon the legislative policy. Subsequently, 10 Nos of additional written objections (FTAPCCI-4 Nos. and 1 No. each from IEX, Rayalaseema Alkalies and Alloyed Chemicals Limited, ITC, Shri Girija Alloy and Power(P) Ltd., Sri K. Goapl Choudary and Open Access Users Association) and 1 No. of Memo by Sri K. Gopal Choudary/Advocate) were filed before the Commission up to 22.10.2016. The Commission considered all the above written objections/Memo while determining the CSS/AS for FY 2016-17 (The details of list of the objectors are as per Annexure-II).
14. The Commission conducted public hearings on the filings made by the Licensees on 04.06.2016, 10.06.2016, 25.06.2016, 16.07.2016, 30.07.2016, 27.08.2016, 17.09.2016 and 22.10.2016. During hearings, Sri P.Shiva Rao & G.V. Brahmananda Rao, learned counsels represented APSPDCL and APEPDCL, Sri K. Gopal Choudary and others (List as per Annexure-II) represented the objectors. Several stakeholders raised the objections during the public hearings that the methodology adopted by the Licensees for filing CSS based on ARR (instead of Retail Supply Tariff Order for FY 2016-17) is not correct and that filings themselves suffer from many deficiencies like of inadequacy of data, authenticity, accuracy etc. Therefore, the Commission directed the Licensees to furnish the data to the stakeholders in full shape.
15. Accordingly, during the public hearing held on 16.07.16, the Licensees submitted revised proposals of CSS to the Commission in the form of IAs to the main petitions and furnished copies of the same to the objectors. Further, the Licensees furnished the additional information available with them during subsequent hearings and finally on 22.10.2016, Sri P. Shiva Rao stated that no further information is available with the Licensees in the matter of determination of CSS for FY 2016-17. The Commission concluded the public hearings on 22.10.16 and posted the matter for orders on 19.11.16.

## CHAPTER-II

### VIEWS/OBJECTIONS/SUGGESTIONS OF THE STAKEHOLDERS, REPLIES OF THE LICENSEES AND THE VIEWS OF THE COMMISSION

#### **Dr. Gokaraju Ganga Raju, Member of Parliament (Lok Sabha)**

16. Dr. Gokaraju Ganga Raju in the letter dated 30.05.2016 addressed to the Secretary/APERC stated his views on the CSS filed by the Licensees. In the letter, he gave brief introduction about the State of Andhra Pradesh, its potential, the initiatives of GOI like 'Make in India', 'Skill India', 'Digital India', 'Smart Cities' and of GoAP like 'Swarnandhra Vision 2029', status of power sector reforms, the need to promote industrial development in the State which requires congenial climate to the investors like providing cheaper power charges, flexibility to choose the markets, Report of the Second Task Force on "Measures Operationalising Open Access in the Power Sector etc. He requested the Commission not to approve the CSS of about 20% of tariff proposed by the Licensees and reduce the same to a minimum limit. The CSS proposed by the Licensees are against EA, 2003, NTP; are exorbitantly high, unreasonable, prohibit open access forcing the consumer to source the electricity from the licensee alone; and will increase the cost of manufactured product and obstruct the global competitiveness. The Commission may therefore carefully analyze and take in to consideration the effect and consequences of the proposed CSS on various sources of supply other than the distribution licensee and also the effect and consequences upon the legislative policy and mandate for open access and competition. The Commission may keep in view the fact that CSS should be progressively reduced as per the mandate of EA, 2003.

**Commission's View:** The Commission determined the CSS keeping in view the need to balance the interests of all the stakeholders, the spirit of EA, 2003, NTP, the judgements of Hon'ble APTEL, Hon'ble High Court and Hon'ble Supreme Court.

#### **Information/Data Insufficiency**

17. Objectors listed from serial Nos. from 6 to 18 under Annexure-II sought from the Licensees the detailed calculations for the Average Realisations for each category together with the specific data used, detailed calculations as to how the wheeling charges mentioned in the table of proposed cross subsidy surcharges are arrived at together with references to the relevant orders which are the basis of the charge, detailed calculations as to how the applicable loss are 10.01%, 6.45% and 3.34% for 11, 33 and 132 kV for both the APEPDCL & APSPDCL and the reference of the orders of the Commission on which these are based, explanation on why the transmission loss was stated as 3.34% when the relevant tariff order provides for 4.01%, explanation for variance between average PP cost as shown in the CSS calculations and as shown in the Form 1.4 for 2016-17, explanation of how the average realisation per kVAh is adjusted with respect to average PP cost in kWh.

**DISCOMS' Response:** The licensee have computed average Realizations for each category as per the Formula: Average Realization of a category (Rs./Unit) = (Total Revenue Realized under the category at the proposed tariff / Energy Sales projected to the Category). Total Revenue from each category was computed and submitted along with the ARR Proposal as per Form 12. Total Revenue includes Energy Charges (Demand Charges + Fixed Charges), Minimum Charges, Customer Charges, Non-Tariff Income. This implies that the average realization for each category is irrespective of Load Factors, Minimum Charges, and Customer Charges.

Wheeling Charges are computed as per the formula: Wheeling Charge for a voltage level (Rs./Unit) = Transmission Charge Rs./kVA/month + Wheeling Charge up to that voltage level Rs./kVA/month adjusted to Rs./Unit assuming 80% Load Factor. Transmission Charges and Distribution Wheeling Charges are as per the MYT orders dated 09.05.14 Issued by APERC for Transmission and Distribution businesses for the control period FY 20014-19.

Actual losses are lower than the losses which were approved in the Distribution MYT. Hence, the licensee have considered lower losses while filing ARR 2016-17 i.e. wheeling losses at 5% lower than that given in the wheeling Tariff Order and Transmission loss at the actual average loss during First half of FY 2015-16.

Cross Subsidy Surcharge is computed using the NTP-2016 of  $CSS = T - \{C / (1 - L) + D + R\}$ . In this formula, the component 'D' is the sum of transmission charge and wheeling charge as approved by APERC, component 'T' is the Average realization which is reflective of the approved tariffs and is common across both DISCOMs. For the component 'C', the licensee adopted average power purchase cost at state level which is slightly different from the average PP costs of APEPDCL & APSPDCL.

Before KVAh billing, the total revenue from a customer is Demand Charge + Energy Charge + Low Power Factor Surcharge. With the current system, Billing is as per KVAh.

**Commission's View:** The Licensees submitted revised CSS filings before the Commission on 16.07.16 with copies to the objectors. The revised filings show detailed calculations which answer the queries raised by the objectors.

#### **No proposal by Licensees on Additional Surcharge u/s 42(4) of the Act**

18. Objectors listed from serial Nos. from 6 to 18 under Annexure-II stated that is no proposal by the Licensees for additional surcharge and accordingly it is construed that it is not within the scope of this proceeding.

**DISCOMS' Response:** Under the purview of the Hon'ble Commission.

**Commission's View:** The Commission has not fixed the additional surcharge under section 42(4) of the Act for FY2016-17 as detailed *supra*.

#### **Exemption of NCE energy sources from levy of Cross Subsidy Surcharges**

19. Objectors listed from serial Nos. from 6 to 18 under Annexure-II stated that the provisions of the Act contained in the preamble, section 61 (h) and 86(1) {e} requiring promotion of NCE sources of energy has to

be given due consideration. There has to be special consideration shown by way of exemption from cross subsidy surcharges in respect of such energy. Further, RPPO obligation is imposed upon various categories of obligated entities including licensees, captive consumers and open access consumers. The fulfilment of such obligation cannot be unreasonably coupled with the burden of cross subsidy surcharge. There is no justification in imposing an RPPO obligation on the one hand and mulcting the discharge of such obligation by cross subsidy surcharge. There is no wisdom in a cross subsidy surcharge that makes open access impossible, makes open access illusory, defeats and frustrates generation from renewable sources of energy, and inflicts wholly unjustified and warranted costs in complying with RPPO obligations by obligated entities. Particularly in the context of generation from renewable sources and the legislative mandate to promote such generation, a regulatory environment that inflicts unbearable costs on the sale of renewable energy through open access or under pre-existing arrangements otherwise than under open access is not justified. Therefore, the cross subsidy surcharge ought to be determined as NIL for renewable energy.

**DISCOMS' Response:** When an industrial or commercial consumer decides to purchase power from an independent generator and not from the distribution licensee, the Cross Subsidy Surcharge is imposed on them to ensure that the distribution licensee does not pass on the additional amount to the domestic and agricultural consumers, which can result in a steep rise in the cost of power. Cross Subsidy Surcharge would be applicable for all open access consumers irrespective of the source from which power has been sourced. However, subject to government policies, certain sources would be **exempted** such as "Solar Power, Wind Power" as per the Government Policies subject to the approval of the Hon'ble Commission. In case any new source/renewable source to be exempted, then either the Government have to consider and issue policy directions or the Hon'ble Commission has to direct the licensees to exempt the Cross Subsidy Surcharge from a particular source.

**Commission's View:** Enough incentives were already provided to the renewable energy sector in the State through Central and State Regulations such as the facility to sell RECs(Renewable Energy Certificates) in power exchanges, compulsory purchase of minimum percentage of energy by the obligated entities from renewable energy sources, 'NIL' transmission and distribution charges for wheeling of renewable energy within the State, exemption from the requirement of scheduling the energy, banking facilities for the solar, Mini-Hydel and wind power projects, purchase of unutilized banked energy by the DISCOMs and exemption from paying CSS and Additional Surcharge and bearing distribution losses(injecting at 33KV or below) for the new solar power projects set up under G.O.Ms.No.8, dt.12.02.2015 etc. The Commission has to balance the interests of all the stakeholders. It cannot ignore the interests of DISCOMs by providing all the benefits to some stakeholders only. Further, the EA, 2003 does not specifically exempt the open access consumers from paying CSS if they purchase energy from renewable energy sources.



### **Typical Consumer is to be Considered for Computing Tariff Payable by a Class of Consumers**

20. Objectors listed from serial Nos. from 6 to 18 under Annexure-II and Rayalaseema Alkalies and Allied Chemicals Limited stated that the Tariff Policy requires "*tariff payable by the relevant category of consumers including reflecting the Renewable Purchase Obligation*" is to be taken in to account for the factor "T" which is the tariff payable by the relevant category of consumers. The average realisation considered by the licensees is incorrect and not in conformity with the Policy. It is also relevant to consider that the Policy also prescribes a 20% cap of the "*tariff applicable to the relevant category of the consumers seeking open access*". The Hon'ble Commission ought to assume and consider a profile of the consumer of a particular category which is likely to avail open access. It is such a typical consumer who is to be considered, and the per unit tariff payable by such a consumer is to be taken into account. Typically, it is only consumers with high load factor that would go in for open access. Low load factor consumers would not, and could not, opt for open access. Therefore, the Hon'ble Commission ought to consider, in each tariff category, a consumer with a Load Factor of 80% or more and the per unit tariff of such a consumer ought to be taken for the factor "T".

**DISCOMS' Response:** The licensees have computed average Realizations for each category as per the Formula: Average Realization of a category (Rs./Unit) = (Total Revenue Realized under the category at the proposed tariff / Energy Sales projected to the Category). Total Revenue from each category was computed and submitted along with the ARR Proposal as per Form 12. Total Revenue includes Energy Charges (Demand Charges + Fixed Charges), Minimum Charges, Customer Charges, Non-Tariff Income. This implies that the average realization for each category is irrespective of Load Factors, Minimum Charges, and Customer Charges.

**Commission's View:** Keeping in view the difficulties expressed by the DISCOMs in achieving the RPPO targets set by the Commission for the control period FY 2012-17 due to various reasons, the Commission vide order dated 28.05.2016 in R.P.No.19 of 2015 in O.P.No.19 of 2014 permitted the DISCOMs to meet deficit in RPPO for the period from FY 2012-13 to FY 2016-17 during the corresponding years of the control period FY 2017-18 to FY 2021-22. Therefore, shortfall in RPPO is not required to be taken in to account while computing 'T'. Hon'ble APTEL in Appeal Nos.102, 103 and 112 of 2010 and other related orders gave interpretation to the component 'T' and defined it as

Average Tariff realization for a category =

$$\frac{\text{Total expected revenue realized from that category as per ARR}}{\text{Total anticipated sale to that category as per ARR}}$$

From the above, it is clear that the component 'T' reflects average factor load for that category and includes demand, energy and other charges. However, the Commission excluded other charges while computing 'T'

keeping in view that the other charges are any way collected by the Licensees irrespective of open access. The objectors must note that the CSS rates determined now by the Commission by computing 'T' as per above are less than the per unit Cross Subsidy amounts arrived at in the Retail Supply Tariff order for FY 2016-17 for most of the categories. As a result, the DISCOMs will not be able to meet the revenue estimates projected in the Retail supply Tariff order if the cross subsidizing consumers opt for open access. The shortfall in the revenue has to be compensated at the time of true up by increasing the tariffs which will ultimately burden the rest of consumers who have not opted for open access. Therefore, it is not justified to reduce the CSS rates further by computing 'T' based on 80% load factor. As already stated, the Commission has to balance the interests of all the stakeholders. The commission, by adopting the formula specified in the National Tariff Policy, has already provided enough benefit to the open access consumers. Any further reduction in the CSS rates as requested by the objectors will unduly benefit them at the expense of the DISCOMs which in the long run will adversely affect the electricity sector.

#### **No clarity in Computation of Average Realisation**

21. Objectors listed from serial Nos. from 6 to 18 under Annexure-II and Rayalaseema Alkalies and Allied Chemicals Limited stated that without prejudice to the submission that the average realisation is not the proper consideration, it is not at all clear as how the Average Realization for each consumer category has been worked out. The values are quite abnormal. Nowhere is the method made transparent or explained. The objectors gave some examples of calculations to justify their point.

**DISCOMS' Response:** The licensees have computed average Realizations for each category as per the Formula: Average Realization of a category (Rs./Unit) = (Total Revenue Realized under the category at the proposed tariff / Energy Sales projected to the Category). Total Revenue from each category was computed and submitted along with the ARR Proposal as per Form 12. Total Revenue includes Energy Charges (Demand Charges + Fixed Charges), Minimum Charges, Customer Charges, Non-Tariff Income. This implies that the average realization for each category is irrespective of Load Factors, Minimum Charges, and Customer Charges.

**Commission's View:** In the revised filings, the Licensees have explained how they computed the average realization rates and wheeling charges.

#### **No Explanation on how the Wheeling Charges were arrived at**

22. Objectors listed from serial Nos. from 6 to 18 under Annexure-II and Rayalaseema Alkalies and Allied Chemicals Limited have stated that for the purpose of computing the proposed cross subsidy surcharge, both the licensees have stated the wheeling charges to be 61 p, 18p and 16p per unit for 11, 33 and 132 kV. Further, the applicable losses filed by both the Licensees are same. There is no explanation as to how these figures were calculated or their basis. The Licensees may provide the detailed calculations.

**DISCOMS' Response:** Actual losses which were filed in the ARR for Retail Tariff for FY 2016-17 are lower than the losses approved in the Distribution MYT order, hence the lower losses were considered while computing CSS.

**Commission's View:** In the revised filings, the Licensees have explained how they computed the wheeling charges and the applicable losses.

**Tariff Policy 2016 stipulates Examination of the Objective of the Act**

23. Objectors listed from serial Nos. from 6 to 18 under Annexure-II and Rayalaseema Alkalies and Allied Chemicals Limited stated that It is also mentioned in the NTP 2016 that the matter has to be examined keeping in view the objectives of the Electricity Act and also considering the different circumstances prevailing in the areas of the licensees. While the National Tariff Policy 2016 is notified, the Hon'ble Commission needs to eventually examine and make necessary adjustments as may be required for good and sufficient reason having regard to all eventual effects and consequences on competition and consumer choice in the circumstances in the State and ensure that the legislative policy of the Act is not impaired or frustrated. Para 5.8.3 of the National Electricity Policy and Para 8.5.1 of the National Tariff Policy clearly bring out the caution that the surcharge should not be so onerous that it eliminates competition that is intended to be fostered in generation and supply of power directly to consumers through the provision of open access.

**DISCOMS' Response:** Nil.

**Commission's view:** The Commission has kept in view the spirit of EA, 2003, the National Tariff and Electricity Policies while determining the CSS.

**Consumers with High Load Factors Pay more Cross Subsidy at the Proposed Rates**

24. Objectors listed from serial Nos. from 6 to 18 under Annexure-II stated that consumers with 40%, 60% and 80% load factors would be contributing a lesser amount as cross subsidy to the distribution licensee at the notified tariffs than the amount of surcharge proposed. Therefore, for availing open access from a different source, such consumers would actually be paying much more towards cross subsidy than they would have paid as cross subsidy had they taken the energy from the distribution licensee. The objectors gave some examples of CSS calculations considering different load factors of HT-I consumers at different voltages.

**DISCOMS' Response:** None.

**Commission's view:** The commission already explained at Para No. 20 above on why it has considered average load factor instead of different load factors like 40%, 60% and 80% for computing CSS.

**Truing up of CSS should be considered**

25. Objectors listed from serial Nos. from 6 to 18 under Annexure-II stated the effect of subsequent variations in power purchase cost which are pass-through for the Discoms also needs to be considered. If the power purchase cost later increases, the cross subsidy surcharge amount as per the formula or any variation

thereof would change. How this true up is to be done is to be considered. It should not be that the surcharge is determined on low power purchase costs and the higher costs later allowed as a pass through to the licensees are ignored such that the open access consumers are unfairly put to further loss.

**DISCOMS' Response:** Determination of CSS is under the purview of the Hon'ble Commission with the prevailing regulations and in accordance with the electricity Act, 2003.

**Commission's view:** It is not always the case that the actual power purchase costs increase subsequently and put open access users under loss. Sometimes, the actual power purchase costs may decrease and if the CSS rates are revised based on true up, then open access users will be put under loss. The determination of CSS based on tariff order (with no subsequent true ups) is the standard practice being followed throughout India and even Hon'ble APTEL has also not objected to the same. The justification for true up of CSS rates arises only if the same can fully compensate the loss the DISCOMs suffer when the cross subsidizing consumers opt for open access which is not the case here.

**Surcharge should be fixed far below 20% of Tariff**

26. AP Ferro Alloys Producers Association stated that the HT-I B category now renamed Energy Intensive Category is a distinct category as indicated by the name itself. In the present proposals, the category is clubbed with HT-I A for the purpose of levy of Cross Subsidy Surcharge which is illogical and is also a departure from the established practice. As the load factor of the Category is high of order of 85%, clubbing it with other category of lower average load factors is irrational and detrimental to the interests of the Energy Intensive Category. Going by the spirit of Open Access Cross Subsidy Surcharge, the DISCOMS have to be compensated to the extent of their loss in case of weaning away the consumer by the difference between the Tariff applicable to that category and the Cost of Service of the Category at that particular voltage level. The high Levels of Cross Subsidy Surcharge proposed creates an impediment to adoption of open access despite availability at affordable rates going against the spirit of the Electricity Act and also dampens the Energy Market denying the Generators an access to the Market. The Cross Subsidy Surcharge should be proposed distinctly to Energy Intensive Category. The surcharge should be limited to the maximum of differential between the Cost of Service and the Tariff at that Voltage Level. In view of the inherent disadvantage of consumers in 'S-1' Sector because of the interstate corridor constraints, the Surcharge should not be fixed at the ceiling of 20% but at far lesser level as in the previous year.

**DISCOMS' response:** The licensee is of the view that the Energy Intensive Industries are given a very competitive tariff at the Cost of Service by the licensees. The industries in this category would be energy intensive with high energy consumption. If these consumers move to Open Access, the Licensee would not be able to recover the fixed costs. Hence, reducing the Cross Subsidy Surcharge would result in double benefit to these industries and would have a significant impact on the Cross Subsidy component. Historically, the licensees have filed Cross Subsidy Surcharge as per National Tariff Policy, which has been

now revised as National Tariff Policy 2016. Hence, the licensee have filed the Cross Subsidy Surcharge for 2016-17 as per the new NTP-2016. Even though there would be an impact on the licensee's revenue if the Cross Subsidy Surcharge is capped at 20% of average realization for each category as per NTP-2016, the licensee feels that it cannot partly follow this methodology. The licensee would also like to mention that the Hon'ble Commission has been following COS Methodology till 2015-16 in determining the Cross Subsidy Surcharge. As per the provision in NTP-2016, the State Regulatory Commissions, while keeping the overall objectives of the Electricity Act in view, may review and vary the same taking into consideration the different circumstances prevailing in the area of distribution licensee. Hence, the licensee feels that it is under the purview of the Hon'ble Commission to review the filing and follow the appropriate methodology which would help achieve the overall objectives of the Electricity Act and simultaneously not detrimental to the bounden objective of the Discom to service the larger Public.

**Commission's view:** In the revised CSS filings submitted on 16.07.2016, the DISCOMs proposed separate CSS rates for Energy Intensive Industries voltage wise under HT-I(B) category. The Commission also determined separate CSS rates for Energy Intensive Industries voltage wise under HT-I(B) category. The request of the objector to limit the CSS rates to the maximum of differential between the Cost of Service and the Tariff at that Voltage Level (which in essence is Embedded Cost Methodology) cannot be accepted as Hon'ble APTEL set aside the CSS orders of APERC for FY 2005-06 and FY 2006-07 (which were based on the Embedded Cost Methodology) and directed the Commission to determine the CSS rates from FY 2006-07 onwards as per National Tariff Policy. The CAs filed by APERC against the Hon'ble APTEL order were dismissed by the Hon'ble Supreme Court. Regarding the request for reducing the capping rate which is 20% applicable tariff rate, the objector may note that the CSS rates determined based on capping rate of even 20% will not adequately compensate the DISCOMs.

#### **Load Factor of 85% to be considered**

27. The Federation of Telangana and Andhra Pradesh Chambers of Commerce and Industry (FTAPCCI) has stated that the 'average tariff' approved in the tariff order translates/assumes a significantly lower load factor for HT industries. While this calls for a thorough prudence check on the part of this Hon'ble Commission, it also emphasizes the unfairness to industries which maintain high load factor. There is a direct relationship between load factor and average tariff; as the load factor increases, the average tariff reduces. The lower load factor assumption to project average tariff has prejudiced the industrial consumers as it has led to higher Cross Subsidy Surcharge estimation. The lower load factor assumption is also not reflective of the consumption and load pattern of the industries in the State. The objector gave examples of the Average realization calculations at different load factors.

The federation further stated that the Electricity Act and National Tariff Policy mandate the promotion of Open Access so that consumer gains the advantage of affordable power and Generators find an alternative

Market while DISCOMs are not put to losses on account of shifting consumers. The 'S-I' sector under which our state of Andhra Pradesh is classified in the Energy Market Map has been at a disadvantage comparatively mainly on account of restricted interstate corridor capacity which is leading to lower Supply and there by higher demand and consequent higher rates. Keeping in view this inherent disadvantage caused by historical infrastructural constraints leading to higher basic market rates despite a glut in certain neighbouring States and the need to provide affordable power at competitive rates to the Manufacturing Sector, Cross Subsidy need not be pegged at the ceiling rate of 20% tariff but at a much lower limit. For the purposes of calculation of Cross Subsidy Surcharge, the 'average tariff' i.e. 'T' shall be reckoned with respect to each individual industrial consumer. Alternately, the 'average tariff' i.e. 'T' shall be calculated considering Load Factor of 85% which is reflective of the prevalent load profile of HT-I category of industries. Therefore, the Hon'ble Commission may approve the Cross Subsidy Surcharge as per the rates suggested by them considering 10% of average tariff based on a load factor of 85%.

**DISCOMS' response:** The licensees have computed average Realizations for each category as per the Formula: Average Realization of a category (Rs./Unit) = (Total Revenue Realized under the category at the proposed tariff / Energy Sales projected to the Category). Total Revenue from each category was computed and submitted along with the ARR Proposal as per Form 12. Total Revenue includes Energy Charges (Demand Charges + Fixed Charges), Minimum Charges, Customer Charges, Non-Tariff Income. This implies that the average realization for each category is irrespective of Load Factors, Minimum Charges, and Customer Charges.

Transmission Charges in the state of AP, are computed based on the installed capacity. As per the PPA, 80% availability of the generating station has to be ensured and DISCOM has an obligation to pay fixed charges up to 80% availability. Hence, assuming the same energy availability is utilized by Open Access consumers, the transmission and wheeling charges are computed assuming 80% PLF.

Historically, the licensees have filed Cross Subsidy Surcharge as per National Tariff Policy, which now has been revised as National Tariff Policy 2016. Hence, the licensee have filed the Cross Subsidy Surcharge for 2016-17 as per the new NTP-2016. Even though there would be an impact on the licensee's revenue if the Cross Subsidy Surcharge is capped to 20% of average realization for each category as per NTP-2016, the licensee feels that it cannot partly follow this methodology. The licensee would also like to mention that, the Hon'ble Commission has been following COS Methodology till 2015-16 in determining the Cross Subsidy Surcharge. As per the provision in NTP-2016, the State Regulatory Commissions, while keeping the overall objectives of the Electricity Act in view, may review and vary the same taking into consideration the different circumstances prevailing in the area of distribution licensee.

Hence, the licensee feels that, it is under the purview of the Hon'ble Commission to review the filing and follow the appropriate methodology which would help achieve the overall objectives of the Electricity Act and simultaneously not detrimental to the bounden objective of the Discom to service the larger public.

**Commission's view:** The Commission already explained the reasons for not reducing the capping percentage and also why it adopted average load factor for computing CSS rates.

**28. M/s. Synergies Castings Limited stated that it is a 100% export Oriented Unit located in Visakhapatnam Special Economic Zone. They are Aluminium Alloy Wheel Manufacturers and Original Equipment suppliers for General Motors (USA), Chrysler (USA), Toyota Kirloskar, Tata Motors, Mahindra & Mahindra, Ford and other car manufacturers in India. APEPDCL proposed a CSS Charge of Rs. 1.43 for HT-I consumers drawing power at 33 KV. The objector requested the Commission not to approve the same/ reduce to a minimal limit as it is against the Electricity Act and National Tariff Policy which is supporting Open Access so that consumer gains the advantage of affordable Power and Generators find an alternative Market. The proposed charge will increase the cost of the manufactured product and in turn will obstruct the global competition. The proposed cross subsidy surcharge is exorbitantly high, unreasonable and irrational. It is clearly prohibitive of open access and has the effect, intentionally or otherwise, of presenting the consumer with no choice at all except to source electricity from the distribution licensee alone. The present cross subsidy surcharge is tantamount to a penalty on the consumer who intends to purchase electricity from sources other than the distribution licensee, and/or a penalty on a generating company which intends to sell the electricity generated through open access. The objector quoted various provisions of the EA, 2003 and National Tariff Policy to justify its argument. Finally, the objector requested the Commission to carefully analyse and take into consideration the effect and consequences of the proposed cross subsidy surcharge on various sources of supply other than the distribution licensee, and also the effect and consequences upon the legislative policy and mandate for promoting open access and competition. Therefore, the objector prayed that the Hon'ble Commission may be pleased to determine the cross subsidy surcharge by keeping in view that the cross subsidy surcharge and cross subsidies should be progressively reduced as per the mandate of Electricity Act. 2003.**

**DISCOMS' Response:** The Cross Subsidy Surcharge is imposed when an industrial or commercial consumer decides to purchase power from an independent generator and not from the distribution licensee. The imposition of CSS is to ensure that the distribution licensee does not pass on the additional amount to the domestic and agricultural consumers which can result in a steep rise in the cost of power. However, there is no single method to compute Cross Subsidy Surcharge. There are guidelines from the Hon'ble Commission, National Tariff Policy 2006 as well as from the new National Tariff Policy 2016. Historically, the licensees have filed Cross Subsidy Surcharge as per National Tariff Policy, which now got amended as National Tariff Policy 2016. Hence, the licensees have filed the Cross Subsidy Surcharge for 2016-17 as per the new NTP-

2016. Even though there would be an impact on the licensee's revenue if the Cross Subsidy Surcharge is capped to 20% of average realization for each category as per NTP-2016, the licensee feels that it cannot partly follow this methodology. The licensee would also like to mention that, the Hon'ble Commission has been following COS Methodology till 2015-16 in determining the Cross Subsidy Surcharge and also as per the provision in NTP-2016, the State Regulatory Commissions, while keeping the overall objectives of the Electricity Act in view, may review and vary the same taking into consideration the different circumstances prevailing in the area of distribution licensee." Hence, the licensee feels that, it is under the purview of the Hon'ble Commission to review the filing and follow the appropriate methodology which would help achieve the overall objectives of the Electricity Act and simultaneously not detrimental to the bounden objective of the Discom to service.

**Commission's view:** The Commission balanced the interests of all stakeholders while determining the CSS rates keeping in view the spirit of EA, 2003 and National tariff policy.

#### **Binding Nature of Provisions of Tariff Policy 2016 from Legal Perspective**

29. Sri M. Venugopala Rao, Senior Journalist & Convener/Center for Power Studies has quoted various provisions of the EA, 2003 and National Tariff Policy related to CSS. He further stated that the reform process has its dichotomies, in the form of regulation, on the one hand, and encouraging competition and free market, on the other; in the form of allowing consumers to opt for open access, on the one hand, and forcing the Power Distribution Companies, which actually means their consumers of power, to purchase high cost renewable energy under Renewable Power Purchase Obligation; etc. In view of the peculiar nature of power sector, there is no scope for level-playing field to ensure real competition. Unlike other commodities, power cannot be stored, except with very high and unbearable expenditure and arrangements which are unviable because generation and consumption being simultaneous which is well known. Though the utility of power to consumers is the same, with no scope for differences in quality, irrespective of its mode of generation, technology and fuels used for the same, and variations in requirements of systems needed for evacuation, transmission and distribution depending on the location of generation and final point of consumption, the costs of generation, transmission and distribution vary naturally from generator to generator. In such a situation, competition is meaningless, as there is simply no scope for level playing field.

When Discoms can meet demand for power, there is no point in encouraging open access. No consumer would opt for open access, if adequate supply of power is ensured and tariff is competitive vis a vis open access. Preference for open access implies that there is no level playing field in terms of costs of generation and consumers prefer open access if only supply of adequate power is ensured to them at tariffs less than what are being charged by the Discoms or when the latter fails to ensure supply adequate power. It also implies that suppliers under open access can charge tariffs to consumers higher than the tariffs at which



they can sell their power to the Discoms. In such a situation, only those suppliers of power with relatively lesser costs of generation and supply, which need not be higher efficiency, can attract open access consumers. Needless to say, cross-subsidised and subsidized consumers need not opt for open access. When cross-subsidising consumers, obviously HT consumers, opt for open access and leave the Discoms, the latter will be deprived of cross subsidy and profit proportionately. As a result, based on cost of service, requirement of the Discoms for cross subsidy will increase. To bridge the gap of cross subsidy and revenue requirement of the Discoms that arises as a result of open access, either charges for subsidized consumers have to be increased, or cross subsidy from subsidizing consumers has to be increased, or subsidy from the Government has to be increased. It also leads to dichotomy of consumers of same category paying different tariffs – tariffs fixed by the Commission to the Discoms and tariffs under open access. With increase in open access, this trend gets intensified. In other words, social responsibility of serving subsidized consumers rests with the Discoms and the Government, and opportunities for higher profits go to open access suppliers of power with relatively cheaper costs and cross subsidy to be provided by subsidizing consumers who opt for open access will come down. As per the cross subsidy surcharge formula in the latest tariff policy, only a part of the revenue gap, including cross subsidy, of the Discoms that arises as a result of open access can be bridged with permissible cross subsidy surcharge. The calculations of cross subsidy surcharge given by both the Discoms make it clear that compared to the formula in the earlier tariff policy, the formula in the latest tariff policy provides for lesser cross subsidy surcharge.

The tariff policy says: "In case of outages of generator supplying to a consumer on open access, standby arrangements should be provided by the licensee on the payment of tariff for temporary connection to that consumer category as specified by the Appropriate Commission provided that such charges shall not be more than 125 percent of the normal tariff of that category" (8.5.6). When the Commission is determining tariffs to different categories of consumers for temporary connection, the tariff policy is not leaving it to the discretion of the Commission to determine tariffs for such open access consumers who draw power from the Discoms in such a way that it covers tariffs determined by the Commission for temporary connections adding cross subsidy surcharge also, in view of the stipulation that "such charges shall not be more than 125 percent of the normal tariff (not of tariff for temporary connections determined by the Commission) of that category. This is another anomaly, giving undue preference to open access consumers vis a vis consumers getting temporary connections from the Discoms.

When open access consumers leave the Discoms, the tariff policy says: "The additional surcharge for obligation to supply as per section 42(4) of the Act should become applicable only if it is conclusively demonstrated that the obligation of a licensee, in terms of existing power purchase commitments, has been and continues to be stranded, or there is an unavoidable obligation and incidence to bear fixed costs consequent to such a contract. The fixed costs related to network assets would be recovered through

wheeling charges" (8.5.4). When open access consumers draw power from the Discoms even after opting for open access, the standby arrangements provided for such open access consumers by the Discoms may become stranded once they go back to open access supplier and till the same is put to use for supply to consumers of Discoms. In such cases, the Hon'ble Commission may exercise its discretion to fix additional surcharge to be recovered from such open access consumers substantially.

Keeping the above points, among others, in view, he requested the Hon'ble Commission to examine the legal position on how far the provisions of tariff policy are binding on it or is there scope for deviating from them to protect interests of subsidized consumers, on the one hand, and ensure uniformity in terms of tariffs to be paid by same category of consumers of the Discoms and under open access and take appropriate decisions.

**DISCOMs' response:** As stated supra.

**Commission's view:** Open access cannot be denied as EA, 2003 mandates it. The Commission has determined the Additional Surcharge as 'NIL' for the reasons already stated at Para No.62. Regarding the binding nature of the provisions of the tariff policy, it is to state that as far as the CSS is concerned, the Commission is bound to fix the CSS rates as per formula specified in the National Tariff Policy based on the Hon'ble APTEL and Hon'ble Supreme Court Judgements.

**Exclusion of Fixed Charges, TOD charges while computing 'T'.**

30. Sri Surya Prakasa Rao, Former Secretary of erstwhile APERC stated that the Cross subsidy Surcharge (CSS) provisions in the New Tariff policy notified by Central Government in Jan, 2016 balance the interests of both Licensees and OA consumers. It would be fair and equitable to consider only "Energy charges" as the tariff (T) for the purpose of computations of CSS as per formula specified in the new Tariff Policy on the following considerations.

- (a) One of the main Objectives of EA 2003 is to promote competition in supply by allowing open access subject to Levy of surcharge at current level of x-subsidy, which is to be gradually reduced/phased out.
- (b) Apparently such reduction or phasing out is not happening for various reasons. In the absence of such reduction in Cross Subsidy, at least some consideration can be shown to OA consumers in the matter of fixing the Surcharge within the policy framework and without much of detriment to the interests of licensees in the spirit of Objects of EA 2003.
- (c) OA consumers do not normally reduce CMD with licensees so as to take care of exigencies in supply from external source and thus pay full demand charges to the licensees. Hence, this component can be reasonably omitted in arriving at the value of "T" i.e. "tariff" in the formula for the purpose of computing CSS.
- (d) Similarly, TOD charge component which works to about 11 paise/kwh at 60% Load factor ( $105/6 \times .06$ ) may also be omitted as the OA consumers help in reducing procurement of high cost power during peak load hours. ( This was the rationale for arriving at the value of "C" in the old formula , i.e. top 5% purchase cost )

- (e) Residual Andhra Pradesh needs Industrial Development and the facility of OA to avail power from cheaper sources will be of some help to achieve this vital imperative for the new State.
- (f) State commissions can deviate from the formula specified in tariff policy to achieve the objects of the EA, 2003 considering specific circumstances in the area of a licensee, and this Hon'ble Commission may grant relief to the extent feasible under the electricity law.

Therefore, he requested the Hon'ble commission to consider the above suggestions while determining the CSS for the FY 2016-17.

**DISCOMs' response:** The licensee have computed average Realizations for each category as per the Formula: Average Realization of a category (Rs./Unit) = (Total Revenue Realized under the category at the proposed tariff / Energy Sales projected to the Category). Total Revenue from each category was computed and submitted along with the ARR Proposal as per Form 12. Total Revenue includes Energy Charges (Demand Charges + Fixed Charges), Minimum Charges, Customer Charges, Non-Tariff Income. This implies that the average realization for each category is irrespective of Load Factors, Minimum Charges, and Customer Charges. Wheeling Charges are computed as per the formula.

The Cross Subsidy Surcharge is imposed when an industrial or commercial consumer decides to purchase power from an independent generator and not from the distribution licensee. The imposition of CSS is to ensure that the distribution licensee does not pass on the additional burden to the domestic and agricultural consumers which can result in a steep rise in the cost of power. However, there is no single method to compute Cross Subsidy Surcharge. There are guidelines from the Hon'ble Commission, National Tariff Policy 2006 as well as from the new National Tariff Policy 2016.

Historically, the licensees have filed Cross Subsidy Surcharge as per National Tariff Policy, which now got amended as National Tariff Policy 2016. Hence, the licensees have filed the Cross Subsidy Surcharge for 2016-17 as per the new NTP-2016. Even though there would be an impact on the licensee's revenue if the Cross Subsidy Surcharge is capped to 20% of average realization for each category as per NTP-2016, the licensee feels that it cannot follow this methodology partly.

The licensee would also like to mention that, the Hon'ble Commission has been following COS Methodology till 2015-16 in determining the Cross Subsidy Surcharge and also as per the provision in NTP-2016, the State Regulatory Commissions, while keeping the overall objectives of the Electricity Act in view, may review and vary the same taking into consideration the different circumstances prevailing in the area of distribution licensee."

Hence, the licensee feels that it is under the purview of the Hon'ble Commission to review the filings and follow the appropriate methodology which would help in achieving the overall objectives of the Electricity Act and simultaneously not being detrimental to the bounden objective of the Discom to service.

**Commission's view:** The contention of the objector that 'Open Access consumers do not normally reduce CMD with licensees so as to take care of exigencies in supply from external source and thus pay full demand charges to the licensees' may not be true in all the cases. Only in case of short term open access, the consumer may not be willing to reduce the CMD with the DISCOM in view of the laborious procedure involved and accrual of little financial gain. But, in case of a medium/long term open access consumer, financial prudence would certainly force him to seek reduction in the CMD with the DISCOM. It is not appropriate to omit the TOD (Time of Day) while computing CSS as the Commission already explained the reason for adopting the "average realization rate" as 'T' which includes the TOD tariff component also. The Commission is aware the fact that the new state of Andhra Pradesh needs industrial development and that the State commission(s) can deviate from the formula specified in tariff policy to achieve the objects of the EA,2003 considering specific circumstances in the area of a licensee. At the same time, the Commission feels that the CSS rates determined now provide enough financial leverage to the consumers who are willing to opt for open access. Any further reduction of CSS rates will put the DISCOMs finances in jeopardy and will harm the Electricity Sector in the long run.

**Additional objections submitted by ITC**

31. The Licensees considered unrealistic load factors which are not reasonable with respect to the open access consumers. If a consumer goes for open access, energy charges only ought to be considered as the demand charges at 80% of the Contracted Maximum Demand and consumer charges are any way paid. Therefore, 'T' implies only energy charges approved by the Commission. The losses as specified in the applicable wheeling charges order which is in force should be considered instead of the losses filed in the petition for determination of CSS. Further, the settlement and balancing of open access transactions in the State of AP is being done considering the approved losses under the wheeling tariff order and not on the actual losses. The objector reworked the CSS based on the above observations and enclosed the relevant working sheets with the written objections.

**DISCOMs' response:** None

**Commission's view:** The Commission explained under Para No.20 the basis on which 'T' was arrived at. The losses in the network have reduced compared to that approved in the transmission/wheeling tariff orders as a result of the DSM (Demand Side Management) measures undertaken by the Licensees like the distribution of the LED lamps etc. The Commission considered these reduced losses while determining the rates in the Retail Tariff Order. As determination of CSS is based on Retail Tariff Order, these reduced losses were considered for determining the CSS also. Hence, the Licensees are also directed to adopt these losses for settlement and balancing of open access transactions.

### **Additional objections submitted by FTAPCCI**

32. The tariff order data should be the basis for determining the CSS. The consumers with higher load factor contribute less to the DISCOMs by way of cross subsidy. Only these consumers are more likely to consider open access as an option. The load factor of given consumer should be borne in mind while determining CSS. The average realization 'T' for will differ for every consumer even within the same category. Any given consumer in any case is obligated to pay the minimum demand charges specified in the tariff order. The objector pointed out several anomalies (in their view) in the revised CSS filings of the Licensees like interpretation of 'T' as average realization applicable instead of tariff applicable by way of two examples and sought several clarifications from the Licensees. 'T' should exclude demand charges as the open access consumers pay minimum charges or MD charges whichever is higher. The cap on CSS should be 10% of tariff applicable for given category of consumer. Avoided Cost methodology as filed by the Licensees in the ARR proposals for determination of CSS may be adopted as the Licensees will not be put to any financial disadvantage and NTP, 2016 provides leverage to the Commission to review and deviate from the CSS formula taking in to consideration the different circumstances prevailing in the area of distribution licensee. Since the Licensees have not made any proposals for additional CSS, the same is concluded as 'NIL'. Keeping in view the languishing manufacturing sector to remain globally competitive due to globalization, FTA, there is a need to reduce input costs by all means. For arriving at 'T', only energy charges should be considered. For every open access user, 'T', the average tariff realization should be calculated independently based on the specific consumers load factor. Whether the new formula for CSS is appropriate considering that CSS being levied as part of the tariff is well above the mandate of +20% of the COS?

**DISCOMs' response:** The Licensees have computed 'T' in accordance with the Hon'ble APTEL order dated 26.05.16 in Appeal No.181 of 2015 in which Hon'ble APTEL opined that 'T' reflects the effective combination of fixed/demand and energy charges payable by that category of consumers. The Licensees are of the view that CSS should be of one value for each sub-category of consumer. The Licensees furnished revised computation tables in respect of scenario 2 & 3 i.e. 80% and 60% load factors and furnished several other clarifications.

**Commission's view:** The Commission determined the CSS based on the data of the Retail Tariff Order. On the other points raised by the objector, the views of the Commission are already covered in the other parts of this order.

### **Shri Girija Alloy and Power(P) Limited**

33. The objector is a Ferro Alloys manufacturer having captive power plant of 3x36 MW installed capacity. After meeting their captive power requirement of 13 MW, they have tied up the balance power with AP and Telangana DISCOMs. The Ferro Alloy Industry has been going through a severe crisis due to the down turn of domestic and global steel industry. As a result, they are operating the Furnaces at 40% capacity and are

not in position to recover the variable costs also leave alone interest and depreciation. Moreover, AP has reduced power purchases from their captive power plant and at the same time they are not able to sell the power from the captive power plant to third parties due to cross subsidy surcharge. The cost of generation from power plant is high due to small size of the boiler and dependence on the imported coal. Due to the above factors, they are unable to pay the term loans and have gone for restructuring of the loans. If the cross subsidy charges are imposed, they will have to shut down their operations totally. In view of the above, they requested the Commission to waive off CSS for Ferro Alloys Industries having captive power plants for the FY 2015-16 and FY 2016-17.

**DISCOMs' response:** None

**Commission's view:** Keeping in view the employment generation potential of Ferro Alloy Industries, the crisis the industry is facing and the need to encourage the industrial development in the new State of AP, the Commission fixed the energy charges for this industry at lower levels compared to that of other industries. Further, demand charges for this the industry are 'NIL' and the minimum energy charges were also reduced to 50 kVAh/KVA. Moreover, GoAP is providing a subsidy Rs.1.50 per unit also to these industries. The Commission feels that enough incentives have already been provided to this industry for its revival.

#### **Open Access Users Association**

34. The members of the OAUA (Open Access Users Association) are manufacturing industries and purchasing power through open access. The Association filed a petition dated 10.09.16 stating their views in the matter of determination of CSS for the FY 2016-17. In the petition, the Association mentioned various provisions in the EA,2003 and National tariff Policy on Open Access, the orders issued by APERC and the Judgements given by Hon'ble APTEL and Hon'ble Supreme Court in this regard. Finally, the Association requested the Commission to fix as an interim measure the CSS proposed by the Licensees in their petitions till the final determination of the same. The Commission was also urged to fix a cap on the CSS. The CSS for interim period should be the lower of the above two rates.

**DISCOMs' response:** None.

**Commission's view:** As the Commission has now determined the final CSS in this order, there is no need to fix the interim CSS as requested by the OAUA.

#### **IEX (Indian Energy Exchange)**

35. The Licensees have not proposed any capping of CSS at 20% of tariff in their revised filings in respect of 60% and 80% load factors scenario which is not in line with the NTP, 2016 as the policy categorically mandates capping of CSS @20% of tariff. In view of dismissal of APERC Appeal against Hon'ble APTEL order dated 05.07.2007 which mandates APERC to follow NTP formula for calculation of CSS, the legal position is clear that there cannot be any room for deviation from NTP for determination of CSS. In the above context, if

APERC decides to determine CSS based on 60% or 80% load factor scenario, CSS should be capped @20% of tariff.

**DISCOMs' response:** None.

**Commission's view:** The Commission has determined the CSS rates considering the cap @20% of tariff in line with NTP, 2016.

36. In addition to the above written objections, various objectors submitted their views orally during the public hearings. Sri K. Gopal Choudary, learned counsel reiterated what was stated in the written objections and raised additional points like the affect of Renewable Power purchase Obligation of consumers on 'T', the concept of Residual Energy Generation Rate, adjustment of TOD while computing 'T'. Sri R. Shiva Kumar on behalf of AP Spinning Mills Association stated that Avoided Cost Methodology should be adopted for computing CSS, monthly power purchase cost should be submitted by the Licensees, the CSS charges determined should be prospective only and that the Licensees claimed no Additional Surcharge, hence it is presumed that there will be no Additional Surcharge. Other objectors basically reiterated what was already stated in the written objections.

### **CHAPTER-III**

#### **LEGAL ISSUES**

- 37.** Section 39 (2) (d) (ii) of the Electricity Act, 2003 makes it one of the functions of a State Transmission Utility to provide non-discriminatory open access to its transmission system for use by any consumer as and when such open access is provided by the State Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the State Commission in respect of transmission. Open Access provided to a person establishing captive generating plant for carrying the electricity to the destination of his own use shall not be levied any such surcharge.
- 38.** Section 40 (c) (ii) of the Electricity Act, 2003 provides that a transmission licensee has to provide non-discriminatory open access to its transmission system for use by any consumer as and when such open access is provided by the State Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the State Commission. Such surcharge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use.
- 39.** Section 42 (4) of the Electricity Act, 2003 makes a consumer receiving supply of electricity from a person other than the distribution licensee liable to pay an additional surcharge on the charges of wheeling, as may be specified by the State Commission.
- 40.** The Andhra Pradesh Electricity Regulatory Commission made Regulation No.2 of 2005 on the terms and conditions of Open Access in exercise of the powers conferred by sections 181, 39, 40 and 42 of the Electricity Act, 2003 and Regulation 17 thereof provides for regulation of levy of open access charges on open access users.
- 41.** Thereafter the Andhra Pradesh Electricity Regulatory Commission issued orders in O.Ps.16 of 2005 and 13 of 2006 determining the Cross Subsidy Surcharge and additional surcharge for 2005-06 and 2006-07 based on embedded cost methodology which was applied for determination of the Cross Subsidy Surcharge.
- 42.** The same was the subject of challenge before the Hon'ble Appellate Tribunal for Electricity in Appeal No.169 of 2006 and batch decided on 05.07.2007. The Hon'ble Appellate Tribunal on an exhaustive consideration concluded that surcharge formula as prescribed by the Tariff Policy is in tune with the spirit of the Electricity Act and must be adopted by all the Regulatory Commissions. The Andhra Pradesh Electricity Regulatory Commission was directed to compute the Cross Subsidy Surcharge for 2006-07 and for subsequent years in accordance with the surcharge formula given in para 8.5 of the Tariff Policy. The Hon'ble Appellate Tribunal further directed that the charges shall be reasonable as would result in promoting competition with due regard to the spirit of the Act as manifested by its Preamble and the direction also shall apply for computing Cross Subsidy Surcharge for 2005-06 as well.



43. The matter was carried to the Hon'ble Supreme Court by the State Commission and the Hon'ble Supreme Court dismissed the Civil Appeal Nos.4936 to 4941 of 2007 by the order dated 31.03.2016 due to which this Commission is bound by the orders of the Hon'ble Appellate Tribunal, which have become final, to compute the Cross Subsidy Surcharge for 2005-06, 2006-07 and for subsequent years in tune with the observations made by the Hon'ble Appellate Tribunal.
44. In the meanwhile in O.Ps.5 of 2007 and 73 to 77 of 2012, the Andhra Pradesh Electricity Regulatory Commission determined the Cross Subsidy Surcharge and additional surcharge for the years 2007-08 to 2012-13 by the orders dated 26.10.2012. The State Commission passed a provisional order in O.P.No.5 of 2007 on 28.03.2007 extending the same Cross Subsidy Surcharge and additional surcharge for 2006-07 with effect from 01.04.2007 also.
45. The order dated 26.10.2012 was the subject of challenge before the Hon'ble High Court in W.P.Nos.34215 of 2012 and batch which was disposed of by a common order dated 20.06.2016. The Hon'ble High Court set aside the orders of the State Commission in view of the orders of the Hon'ble Supreme Court dated 31.03.2016 and remitted back the matters to this State Commission or Telangana State Electricity Regulatory Commission for consideration afresh keeping all the legal and factual objections at large.
46. In the meanwhile in O.P.No.8 of 2015, this Commission has determined the Cross Subsidy Surcharge and additional surcharge for the year 2015-16 by an order dated 15.04.2015 which was the subject matter of challenge before the Hon'ble High Court in W.P.Nos.26740 of 2015 and batch. The Hon'ble High Court by the common order dated 27.04.2016 noted that as Civil Appeals filed by the State Commission on the very same principle of embedded cost methodology were dismissed by the Apex Court, the issue has to be reconsidered by the State Commission in accordance with law. The Hon'ble High Court accordingly remitted back to the State Commission, making any payments made subject to the final orders of the State Commission. Thus the determination of the Cross Subsidy Surcharge and additional surcharge by the erstwhile Andhra Pradesh Electricity Regulatory Commission for 2005-06 to 2012-13 and by this Commission for 2015-16 is made the subject of reconsideration herein setting aside the earlier determination, by the orders of the Hon'ble Appellate Tribunal and confirmed by the Hon'ble Supreme Court and the orders of the Hon'ble High Court in various matters.
47. The question of jurisdiction of this Commission for making such redetermination for a period prior to the bifurcation of the State was raised herein. In a batch of 34 matters, this Commission has already decided the question of jurisdiction by its orders dated 28.09.2016 holding that all proceedings which either exclusively relate to the territory of the State of Andhra Pradesh or which do not exclusively relate to the territory of the new State of Telangana shall fall within the jurisdiction of this Commission and be adjudicated by this Commission in accordance with law. The said order is the subject matter of challenge before the Hon'ble High Court of Judicature at Hyderabad for the State of Telangana and the State of

Andhra Pradesh, but the order has not so far been stayed or suspended by the Hon'ble High Court. In view of the view taken by this Commission on the question of jurisdiction, this Commission is empowered in law to re-determine the Cross Subsidy Surcharge and additional surcharge for the earlier years in obedience to and compliance with the orders of the Hon'ble Appellate Tribunal for Electricity and the Hon'ble High Court. Even otherwise, the Central Electricity Regulatory Commission or the Telangana State Electricity Regulatory Commission cannot have jurisdiction over the determination of the Cross Subsidy Surcharge and additional surcharge for the territories now forming part of the State of Andhra Pradesh for any period prior to the bifurcation of the State under any provision of the Electricity Act, 2003 or the Andhra Pradesh Reorganisation Act, 2014 or any rules or regulations made there-under. The statutory duty imposed on the State Commission to determine such Cross Subsidy Surcharge and additional surcharge under Sections 39, 40 and 42 of the Electricity Act, 2003 and the Regulation No.2 of 2005 made there-under cannot be left in a vacuum without being exercised by anybody. This Commission alone will be the appropriate Commission under law to perform such statutory duty in respect of the territories now forming part of the State of Andhra Pradesh for any period prior to the bifurcation of the State also. It may also be noted that the liability of any Open Access consumers for being subjected to levy of such Cross Subsidy Surcharge and additional surcharge in accordance with law can be clearly demarcated and identified without in any manner touching any Open Access consumers within the territories now forming part of the State of Telangana in any year. Such severability also further justifies exercise of jurisdiction in this regard by this Commission. The data and information forming the basis for such determination have been so analysed and calculated as to represent with all possible accuracy the liability of the Open Access consumers of the present State of Andhra Pradesh only within the jurisdiction of two Distribution Companies of the State including the two districts made over to the Southern Power Distribution Company of Andhra Pradesh Limited on bifurcation.

48. Then was raised the question of retrospectivity of the determination of the Cross Subsidy Surcharge and additional surcharge and the objectors referred to a decision of the Hon'ble Supreme Court in *Binani Zinc Limited Vs. Kerala State Electricity Board and others* (2009) 11 Supreme Court Cases 244 but the principle laid down by the Hon'ble Supreme Court therein was that the State Commission is not empowered to frame tariff with retrospective effect so as to cover the period before its constitution. Such a contingency does not arise here as the determination from 2005 to 2017 was only for a period after the constitution of the erstwhile Andhra Pradesh Electricity Regulatory Commission and this Commission in continuity. The prospectivity or retrospectivity of the law constituting or empowering the Commission is therefore not a question arising herein.
49. The objectors also relied on the decision of the Hon'ble Appellate Tribunal for Electricity in Appeal Nos.111 of 2010 and batch dated 11.01.2011 wherein a principle was laid down that none of the provisions

contained in the Electricity Act, 2003 dealing with the powers, duties and functions of the State Commission enable passing an order with retrospective effect. In respect of the years 2005-06, 2006-07 and 2007-08, the proceedings of the Commission were prospective and not retrospective including the interim order passed in O.P.No.5 of 2007 on 28.03.2007 extending the rates specified in O.P.No.13 of 2006 from 01.04.2007 also. In respect of O.P.Nos.73 to 77 of 2012, the erstwhile Andhra Pradesh Electricity Regulatory Commission opined that the proceedings are a continuation of the proceedings already taken up by the Commission in which the interim order dated 28.03.2007 was issued. This interim order was passed under Section 94 (2) of the Electricity Act, 2003 which empowers the Commission to pass any interim order and the interim order was clearly stated to continue till a final order is passed on the proceedings already initiated which final orders were only passed ultimately on 26.10.2012. This view of the Commission cannot be straightaway dissented from as illogical as the interim order clearly makes the continuance of the existing rates and payment there-under subject to adjustment against such surcharge or additional surcharge payable under the final orders and the final orders passed subsequently may not attract the vice of retrospectivity. What is being determined is the quantum of the liability for the relevant periods but not the imposition of the liability to contend that the liability is being imposed retrospectively. The liability is imposed by the statute and the regulation which already exist, which is being only quantified by this order.

50. Even in respect of the financial year 2015-16 under consideration in O.P.No.8 of 2015, the licensees have included the request for determination of the Cross Subsidy Surcharge and additional surcharge in their ARR/FPT filings filed before the Commission much before the commencement of the financial year 2015-16 and the request was also part of the public notice inviting views/suggestions/objections of all the stakeholders and only one objection was received by the Commission which was answered in the Tariff Order of 2015-16 at Page 50 in Para 93. The fact that the Commission did not determine the Cross Subsidy Surcharge and additional surcharge in the Tariff Order itself but decided it separately in O.P.No.8 of 2015 cannot act to the disadvantage of the Distribution Licensees. Though O.P.No.8 of 2015 was rather incorrectly described as *suo motu*, it is in fact a continuation of the tariff proceedings and it was decided on 15.04.2015 with the liability for payment of the surcharge and additional surcharge from 01.04.2015, with some of the objectors approaching the Hon'ble High Court with Writ Petitions raising among other things the question of imposing such surcharge and additional surcharge since 14 days prior to the order. Apart from other things, the well settled principle that an act of the Court cannot prejudice anyone comes to the aid of the Distribution Licensees as their approach to the Commission was much anterior to the financial year though the determination by the Commission was after commencement of the financial year. In *State of Gujarat and others Vs. Essar Oil Limited and another* (2012) 3 Supreme Court Cases 522, the Hon'ble Supreme Court observed that this principle is based on justice and good sense and is a guide for administration of law. The Hon'ble Supreme Court referred to various decisions and the principle of

*restitution* and in fact the order was made during the billing month of April itself, thus not attracting any retrospectivity in the real sense.

51. The Distribution Licensees referred to a decision of the Hon'ble Supreme Court in U.P. Power Corporation Ltd., Vs. National Thermal Power Corporation Ltd., and others (2009) 6 SCC 235 wherein the Hon'ble Supreme Court recognized the exclusive jurisdiction of the Central Electricity Regulatory Commission to frame not only tariff but also any amendment, alterations and additions in regard thereto. It was also held that the principles of *res judicata* have no application having regard to the nature of jurisdiction. The Apex Court also referred to the framing of tariff in several stages and thus the wide powers of the appropriate Commission in relation to the tariff received the approval of the Hon'ble Supreme Court. The Distribution Licensees also relied on the decision of the Hon'ble Appellate Tribunal for Electricity in Rico Auto Industries Ltd., Omax Vs. Haryana Electricity Regulatory Commission decided on 10.07.2007 in which the Commission was questioned on the ground of violating the period of limitation incorporated in Section 56 of the Electricity Act, 2003. The Hon'ble Appellate Tribunal held that Section 56 (2) of the Electricity Act, 2003 cannot apply when the utilities cannot recover their dues till the Commission determines the same and did not determine the FSA. Observing that the limitation as provided by the Limitation Act has not expired, the Hon'ble Appellate Tribunal refused to apply Section 56 (2) of the Electricity Act, 2003. In the present consideration, the question of limitation does not arise in respect of 2005-06, 2006-07, 2007-08 and 2015-16, while the said liability was determined as NIL for 2013-14 and not determined at all for 2014-15. Even in respect of the remaining years 2008-09 to 2012-13, the determination on 26.10.2012 cannot involve any limitation till the expiry of the period of limitation provided by the Limitation Act, 1963 or the limitation provided by Section 56 (2) of the Electricity Act, 2003 by any logic. However, when the liability for payment of surcharge and additional surcharge has to be determined by the Commission in performance of its duty and the Commission fails to do so, prejudice would be caused to the rights of the licensees to recover the same as and when determined by the Commission, if such a right were to be deprived on the ground of any concept of limitation, the applicability of which is open to suspicion and does not appear to have been covered by any binding precedent.
52. In respect of the FY 2016-17, both the Distribution Licensees included the proposals for determination of Cross Subsidy Surcharge for Open Access transactions along with ARR/FPT filings for determination of tariff for Retail Sale of Electricity during FY 2016-17 based on the formula prescribed by the National Tariff Policy, 2006. Subsequent to the same, the National Tariff Policy was revised by the Ministry of Power, Government of India under a Resolution dated 28.01.2016 and consequently the Commission by a letter dated 23.02.2016 informed the Licensees to file fresh proposals in this regard in accordance with such methodology as they deem fit and proper, as the National Tariff Policy, 2006 which formed the basis of the earlier filings ceased to exist. The Licensees were also informed that in case of such fresh filings, the

determination of Cross Subsidy Surcharge will be done independently as per the prescribed procedure. The revised proposals were submitted by both the Distribution Licensees on 04.03.2016 and 28.03.2016 respectively and thus the original filings and the revised filings were also much prior to the commencement of the FY 2016-17. Compliance by the Commission of all the necessary formalities before such determination of the Cross Subsidy Surcharge inevitably consumed further time, the fault for which cannot be laid at the door of the Distribution Licensees. While the Retail Supply Tariff Order for 2016-17 was made on 31.03.2016, during the course of public hearings of these matters on the objections raised by several stakeholders, the Distribution Licensees were asked by the Commission to file revised proposals of Cross Subsidy Surcharge in tune with the findings of this Commission in the order on Retail Supply Tariffs, as the original and revised proposals were based on estimates assessed by the Distribution Licensees which can no longer form the basis for determination of such surcharge. After the revised proposals and all the required additional information was placed before the Commission, the public hearings were concluded only on 22.10.2016. The controversy as to whether the Commission can impose any such surcharge retrospectively or not does not arise on facts on the present background as the consideration of the proposals for determination of the Cross Subsidy Surcharge for the FY 2016-17 was thus pending since much before the commencement of the FY 2016-17 on 01.04.2016. The pendency of the proceedings for various reasons detailed above till now cannot deprive the Licensees of their statutory right to recover such surcharge under the statute and the regulation already referred to. While any order by a judicial or quasi-judicial body on any matter pending before it will be with reference to the date of its institution before it and not the date of disposal, in any view, the unquestioned principle that the act of the Court cannot prejudice any one answers any such objections. The consumer who had the liability to pay surcharge or additional surcharge by virtue of the statutory liability, cannot complain of any surprise or prejudice or injustice as their liability is statutory if the conditions of the relevant provisions are satisfied and is not depending on the discretion of the Licensees or consumer or even the Commission. The pendency of the proceedings before the Commission cannot result in any unjust deprivation to the Licensees or any unforeseen benefit to the consumers. The consumers who enjoyed the services of the transmission system of the State Transmission Utility/Transmission licensee and the distribution system of the Distribution Licensees cannot seek any unfair advantage of getting such services gratuitously against the letter and spirit of the Electricity Act, 2003 and Regulation No.2 of 2005. Even under the general law it is well settled that the obligation of a person enjoying the benefit of non-gratuitous act is to compensate the person lawfully doing anything for that other person not intending to do so gratuitously. The principle of Section 70 of the Indian Contract Act, 1872 would also thus apply to such cases. Therefore, notwithstanding the pendency of these proceedings since prior to 01.04.2016 till now, the determination of Cross Subsidy Surcharge by this order shall have to be made effective from 01.04.2016.

53. It is true that individual notices were not given in these proceedings to all the Open Access consumers in the State of Andhra Pradesh, whether they were parties to the proceedings before the Hon'ble Appellate Tribunal for Electricity or the Hon'ble High Court of Andhra Pradesh, after the orders of remand by the Hon'ble Appellate Tribunal for Electricity or the Hon'ble High Court of Andhra Pradesh. Regulation 4 of 2005 which prescribes the Terms and Conditions for Determination of Tariff for Wheeling and Retail Sale of Electricity and Regulation No.5 of 2005 which governs the Terms and Conditions for Determination of Transmission Tariff only provide for the guidelines for computation and filing of ARR/FPT, while Regulation 4 of 2005 enables the Distribution Licensees to include any matters considered appropriate by it to be included in the proposals for tariff. Regulation No.5 of 2005 definitely has in its scope the Open Access users also as specifically defined by Regulation 2 (i) (u) of the said Regulation. The procedure and the rules governing conduct of proceedings before the Commission are laid down in the Andhra Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and proceedings are defined by Regulation 2 (g) thereof as including proceedings of any nature that the Commission may hold in the discharge of its functions under the Act. This necessarily covers the proceedings of the present nature also. Under Regulation No. 8 thereof on initiation of the proceedings, the Commission may give the necessary orders and directions for service of notice on the affected or interested parties or it may, if it considers appropriate issue orders for advertisement of the petition inviting comments on the issues involved in the proceedings in such form as the Commission may direct. In all matters involving the pending issues of tariff or charge or surcharge or additional surcharge, the Andhra Pradesh Electricity Regulatory Commission is invariably following the procedure of issue of public notice through advertisement in the website of the Commission and/or websites of the Licensees and/or by publication in Telugu and English newspapers in circulation in the State. It also conducted public hearings open to every stakeholder in such cases of general application. The same was the procedure followed in the original proceedings herein also before remand and the objectors before the Commission or the persons who approached the Hon'ble Appellate Tribunal for Electricity or the Hon'ble High Court of Andhra Pradesh also participated in the proceedings only in response to such general information. After remand, the public hearings of this Commission were again notified on the websites of the Commission and the Licensees. The persons who are parties before the Hon'ble Appellate Tribunal for Electricity or the Hon'ble High Court of Andhra Pradesh who must have had knowledge about the orders passed therein could not have been presumed to be ignorant of the remanded proceedings before this Commission in obedience to the orders passed in the matters filed by them before the Hon'ble Appellate Tribunal for Electricity or the Hon'ble High Court of Andhra Pradesh. In fact, a number of such persons are again among the objectors in the proceedings herein after remand also concerning FYs 2005 to 2017 either in person or through counsel. The hearing of the matter is left to the discretion of the Commission in all respects by Regulation No.15 of Regulation No.2 of 1999. Thus, there is

an effective and reasonable compliance with the procedure prescribed for the conduct of the proceedings and any omission or deviation from the same is not shown to have occurred or in any manner to have caused any prejudice or inconvenience to the rights and interests of any such user or consumer. Anyhow, this objection is to be answered in respect of the earlier years and not 2016-17 which is strictly in accordance with the prescribed procedure.

54. While any deficiency in the relevant data to enable the Commission to satisfactorily determine the Cross Subsidy Surcharge has been supplied by the Distribution Licensees during the pendency of the proceedings on the directions of the Commission from time to time with notice to the objectors and an opportunity for them to respond, any hyper-technical questions about the absence of specific applications or proposals in writing from the Distribution Companies need no deeper consideration as all the relevant material is before the Commission and as the Hon'ble Appellate Tribunal for Electricity directed determination of Cross Subsidy Surcharge not only for 2005-06 and 2006-07 but also for subsequent years which mandate has become final by the dismissal of the appeals by the Hon'ble Supreme Court and which cannot be disregarded in any manner by the Commission. The judgment of the Hon'ble Appellate Tribunal for Electricity in O.P.No:1 of 2011 dated 11.11.2011 considered an identical question about the jurisdiction of the State Regulatory Commissions to determine the tariff in the absence of any tariff application by the utilities. Referring exhaustively to the provisions of the Electricity Act, 2003 and the various State Regulations, the Hon'ble Appellate Tribunal with reference to its earlier judgments and the decisions of the Apex Court, observed that quasi-judicial authorities like the State Electricity Regulatory Commissions are vested with more liberal powers to adopt more flexible process to fulfil their statutory objectives with purposeful efficiency. Hence, the Hon'ble Appellate Tribunal concluded that the State Commissions can initiate *suo motu* proceedings and collect the data and information and give suitable directions and then determine the tariff even in the absence of the application filed by the utilities by exercising the powers under the Act and the Regulations. A consequent direction that the State Commission must initiate *suo motu* proceedings for tariff determination in the event of delay in filing the ARR one month beyond the scheduled date was given. The principle is squarely applicable to the present consideration and performance of the statutory function and duty by the Commission is not dependent on presence or absence of specific applications or proposals from the Distribution Licensees in respect of any year under examination. The Commission made its best efforts to have the relevant data and information before it for making such determination before and after remand also.

55. Concerning the objections about Anantapur and Kurnool districts being beyond the scope of determination of such surcharge due to their having come into the Southern Power Distribution Company of Andhra Pradesh Limited only after bifurcation, it has to be noted that the data of those two districts was neither furnished by the Distribution Companies nor specifically taken into account by the Commission in

calculating the Cross Subsidy Surcharge. The same makes no material difference of significance as all the parameters governing such quantum of surcharge are more or less identical even for those two districts. Application of the law of averages in such a situation cannot be considered as unjust and unreasonable when any marginal or peripheral variations of no significance in the relevant parameters is of no or little impact on the correctness or accuracy of the determination of the Cross Subsidy Surcharge.

56. Thus, the determination of the Cross Subsidy Surcharge and additional surcharge for the years 2005 to 2017 in different Original Petitions now being disposed of by two separate orders by this Commission is in faithful obedience to the directions and orders of the Hon'ble Appellate Tribunal for Electricity and the Hon'ble High Court which this Commission is duty bound to comply and is not in violation or deviation of any provisions of any statute or rule or regulation or legal principle or judicial precedent.



## CHAPTER-III

### DETERMINATION OF CSS

57. Now, therefore, the Commission, in exercise of the powers conferred by Sections 39, 40, and 42 of the Act and all other powers enabling it in that behalf and after examination of the licensees' filings for determination of the cross subsidy surcharge for FY2016-17 and after taking cognizance of all the stakeholders' views/objections/suggestions on these filings obtained as part of the public consultation process, hereby determines the Cross Subsidy Surcharge/Additional Surcharge applicable for different categories of consumers availing open access for the FY 2016-17, as indicated hereinafter in this order. The Commission has decided to adopt the formula specified in the National Tariff Policy, 2016 for computing the CSS keeping in view the Hon'ble Supreme Court judgement and the need to balance the interests of all stakeholders.

#### Filings by the Licensees

58. As already mentioned at Para no.15, the Licensees submitted revised filings before the Commission on 16.07.2016 for determination of CSS for FY 2016-17 based on the figures approved in the Retail Supply Tariff Order for FY 2016-17 and as per the formula specified in the National Tariff Policy, 2016. As per the said Tariff Policy, the surcharge shall be computed as per the following formula;

$$S = T - [C / (1 - L/100) + D + R]$$

Where, 'S' in Rs/unit is the Cross Subsidy Surcharge, 'T' is the tariff payable by the relevant category of consumers in Rs/unit, including reflecting the Renewable Purchase Obligation, 'C' is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation in Rs/unit, 'D' is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level in Rs/unit and 'L' in percentage is the aggregate of transmission, distribution and commercial losses, applicable to the relevant voltage level and 'R' is the cost of carrying regulatory assets in Rs/unit.

#### Commission's Analysis of the Licensees filings

59. The Commission analysed the filings made by the Licensees (Annexure-III) component wise. For arriving at 'T' (the tariff payable by the relevant category of consumers in Rs/unit, including reflecting the Renewable Purchase Obligation) for each category of consumers, the Licensees divided the Revenue realization figures approved for each category in the Retail Supply Tariff Order for FY 2016-17 (after excluding the Non-Tariff Income for that category) by the estimated sales approved for that category in the Retail Supply Tariff Order for FY 2016-17. However, the Commission is of the view that the component 'T' should include demand charges, energy Charges but exclude other tariff related charges and Non-tariff Income (since these charges are any way collected by the Licensees irrespective of open access). Hence, the Commission computed 'T' by considering the demand and energy charges only.

For the component 'C', the Licensees adopted the per unit weighted average cost of power purchase approved in the Retail Supply Tariff Order for FY 2016-17. Hence, the Commission accepts same. In this context, it may be noted that RPPO is not required to be factored in for computing 'T' since the Commission vide the order dt. 28.05.2016 in R.P.No.19 of 2015 in O.P.No.19 of 2014 permitted the Licensees to meet any deficit in RPPO during FY 2016-17 in FY 2021-22.

For computing component 'L', the Licensees adopted the loss percentages approved in the Retail Supply Tariff Order which include the PGCIL network losses also. The Commission concurs with the Licensees because Tariff rates are computed based on the approved losses in the Retail supply Tariff Order. Hence, it is appropriate to consider the same losses for computing 'L' also.

For computing the component 'D', the Licensees have adopted the rates as approved in the MYT orders for Transmission and Distribution businesses for the control period FY 2014-19. However, the Licensees considered the load factor of the consumers also for computing 'D' which is not correct since the transmission/wheeling charges are levied based on the contracted capacity irrespective of the load factor of the consumers. Further, PGCIL networks charges also need to be considered for computing 'D' (which the Licensees have not done) since PGCIL charges are also part transmission charges. The wheeling charges should be grossed up with appropriate transmission network losses which the Licensees have not done. Therefore, the Commission computed the component 'D' by considering all the above factors.

The Licensees considered the 'R' component as NIL since the Commission has not approved any Regulatory Asset and the Commission accepts the same.

#### CSS computation by the Commission

60. With the above modifications, the Commission has recomputed the CSS applicable for different categories of the consumers. The details of the calculations are indicated below.

APEPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17							
Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+(4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
<b>HT Category at 11 kV</b>							
HT-IA: Industrial General	7.68	3.68	0.56	10.75%	3.00	1.54	1.54
HT-1B: Energy Intensive Industries	5.68	3.68	0.56	10.75%	1.00	1.14	1.00

**APEPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17**

Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+(4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
HT-IC: Aqua culture and Animal Husbandry	3.83	3.68	0.56	10.75%	0.00	0.77	0.00
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	6.16	3.68	0.56	10.75%	1.48	1.23	1.23
HT-IIA: Others	9.96	3.68	0.56	10.75%	5.28	1.99	1.99
HT-IIB: Religious Places	4.97	3.68	0.56	10.75%	0.29	0.99	0.29
HT-IIC: Function halls and Auditoriums	11.32	3.68	0.56	10.75%	6.64	2.26	2.26
HT-III: Public Infrastructure and Tourism	7.80	3.68	0.56	10.75%	3.12	1.56	1.56
HT-IVA: Govt Lift Irrigation	5.60	3.68	0.56	10.75%	0.92	1.12	0.92
HT-IVA: Private Lift Irrigation & Agriculture	5.60	3.68	0.56	10.75%	0.92	1.12	0.92
HT-IVB: CP Water Supply Schemes	4.70	3.68	0.56	10.75%	0.02	0.94	0.02
HT-VI: Townships and Residential Colonies	6.35	3.68	0.56	10.75%	1.67	1.27	1.27
HT VII: Green Power	11.32	3.68	0.56	10.75%	6.64	2.26	2.26
HT-VIII: Temporary	-	3.68	0.56	10.75%	-	-	-
<b>HT Category at 33 kV</b>							
HT-IA: Industrial General	6.75	3.68	0.22	7.22%	2.57	1.35	1.35
HT-1B: Energy Intensive Industries	5.23	3.68	0.22	7.22%	1.05	1.05	1.05
HT-IC: Aqua culture and Animal Husbandry	3.81	3.68	0.22	7.22%	0.00	0.76	0.00
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.77	3.68	0.22	7.22%	1.59	1.15	1.15
HT-IIA: Others	8.76	3.68	0.22	7.22%	4.57	1.75	1.75
HT-IIB: Religious Places	5.00	3.68	0.22	7.22%	0.82	1.00	0.82
HT-IIC: Function halls and Auditoriums	11.32	3.68	0.22	7.22%	7.14	2.26	2.26

**APEPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17**

Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+(4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
HT-III: Public Infrastructure and Tourism	7.69	3.68	0.22	7.22%	3.50	1.54	1.54
HT-IVA: Govt Lift Irrigation	5.60	3.68	0.22	7.22%	1.42	1.12	1.12
HT-IVA: Private Lift Irrigation & Agriculture	5.60	3.68	0.22	7.22%	1.42	1.12	1.12
HT-IVB: CP Water Supply Schemes	4.70	3.68	0.22	7.22%	0.52	0.94	0.52
HT-VI: Townships and Residential Colonies	6.25	3.68	0.22	7.22%	2.06	1.25	1.25
HT VII: Green Power	11.32	3.68	0.22	7.22%	7.14	2.26	2.26
HT-VIII: Temporary	-	3.68	0.22	7.22%	-	-	-
<b>HT Category at 132 kV</b>							
HT-IA: Industrial General	6.47	3.68	0.20	4.14%	2.43	1.29	1.29
HT-1B: Energy Intensive Industries	4.81	3.68	0.20	4.14%	0.77	0.96	0.77
HT-IC: Aqua culture and Animal Husbandry	3.81	3.68	0.20	4.14%	0.00	0.76	0.00
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.91	3.68	0.20	4.14%	1.87	1.18	1.18
HT-IIA: Others	9.67	3.68	0.20	4.14%	5.63	1.93	1.93
HT-IIB: Religious Places	5.07	3.68	0.20	4.14%	1.03	1.01	1.01
HT-IIC: Function halls and Auditoriums	11.32	3.68	0.20	4.14%	7.28	2.26	2.26
HT-III: Public Infrastructure and Tourism	7.30	3.68	0.20	4.14%	3.26	1.46	1.46
HT-IVA: Govt Lift Irrigation	5.60	3.68	0.20	4.14%	1.56	1.12	1.12
HT-IVA: Private Lift Irrigation & Agriculture	5.60	3.68	0.20	4.14%	1.56	1.12	1.12
HT-IVB: CP Water Supply Schemes	4.70	3.68	0.20	4.14%	0.66	0.94	0.66

**APEPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17**

Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+ (4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
HT-V –Railway Traction	6.68	3.68	0.20	4.14%	2.64	1.34	1.34
HT-VI: Townships and Residential Colonies	6.25	3.68	0.20	4.14%	2.21	1.25	1.25
HT VII: Green Power	11.32	3.68	0.20	4.14%	7.28	2.26	2.26
HT-VIII: Temporary	-	3.68	0.20	4.14%	-	-	-

**APSPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17**

Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+ (4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
<b>HT Category at 11 kV</b>							
HT-IA: Industrial General	8.05	3.75	0.52	10.97%	3.32	1.61	1.61
HT-1B: Energy Intensive Industries	5.68	3.75	0.52	10.97%	0.95	1.14	0.95
HT-IC: Aqua culture and Animal Husbandry	3.90	3.75	0.52	10.97%	0.00	0.78	0.00
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	6.49	3.75	0.52	10.97%	1.76	1.30	1.30
HT-IIA: Others	9.42	3.75	0.52	10.97%	4.69	1.88	1.88
HT-IIB: Religious Places	5.04	3.75	0.52	10.97%	0.31	1.01	0.31
HT-IIC: Function halls and Auditoriums	11.32	3.75	0.52	10.97%	6.59	2.26	2.26
HT-III: Public Infrastructure and Tourism	7.97	3.75	0.52	10.97%	3.24	1.59	1.59
HT-IVA: Govt Lift Irrigation	5.60	3.75	0.52	10.97%	0.87	1.12	0.87

**APSPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17**

Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+(4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
HT-IVA: Private Lift Irrigation & Agriculture	5.60	3.75	0.52	10.97%	0.87	1.12	0.87
HT-IVB: CP Water Supply Schemes	4.70	3.75	0.52	10.97%	0.00	0.94	0.00
HT-VI: Townships and Residential Colonies	6.22	3.75	0.52	10.97%	1.48	1.24	1.24
HT VII: Green Power	11.32	3.75	0.52	10.97%	6.59	2.26	2.26
HT-VIII: Temporary	-	3.75	0.52	10.97%	-	-	-
<b>HT Category at 33 kV</b>							
HT-IA: Industrial General	6.78	3.75	0.22	7.59%	2.50	1.36	1.36
HT-1B: Energy Intensive Industries	5.23	3.75	0.22	7.59%	0.95	1.05	0.95
HT-IC: Aqua culture and Animal Husbandry	3.80	3.75	0.22	7.59%	0.00	0.76	0.00
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.69	3.75	0.22	7.59%	1.41	1.14	1.14
HT-IIA: Others	9.15	3.75	0.22	7.59%	4.88	1.83	1.83
HT-IIB: Religious Places	5.02	3.75	0.22	7.59%	0.74	1.00	0.74
HT-IIC: Function halls and Auditoriums	11.32	3.75	0.22	7.59%	7.04	2.26	2.26
HT-III: Public Infrastructure and Tourism	8.49	3.75	0.22	7.59%	4.21	1.70	1.70
HT-IVA: Govt Lift Irrigation	5.60	3.75	0.22	7.59%	1.32	1.12	1.12
HT-IVA: Private Lift Irrigation & Agriculture	5.60	3.75	0.22	7.59%	1.32	1.12	1.12
HT-IVB: CP Water Supply Schemes	4.70	3.75	0.22	7.59%	0.43	0.94	0.43
HT-VI: Townships and Residential Colonies	6.25	3.75	0.22	7.59%	1.98	1.25	1.25
HT VII: Green Power	11.32	3.75	0.22	7.59%	7.04	2.26	2.26
HT-VIII: Temporary	-	3.75	0.22	7.59%	-	-	-
<b>HT Category at 132 kV</b>							
HT-IA: Industrial General	6.49	3.75	0.20	4.13%	2.38	1.30	1.30
HT-1B: Energy Intensive Industries	4.81	3.75	0.20	4.13%	0.70	0.96	0.70

**APSPDCL-Cross Subsidy Surcharges approved by APERC for FY 2016-17**

Category	Average Realization (Rs./unit) (Excluding NTI, Minimum Charges and Customer Charges)	Per unit Weighted Average cost of Power Purchase (Rs./unit)	Wheeling Charges (Rs./unit)	Applicable Loss	Cross Subsidy Surcharge (Rs./unit)	20% of Average Realization (Rs./Unit)	CSS as per APERC (Rs/unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)/(1-(5)/100)+(4))	(7)=0.2*(2)	(8)=Lesser of (6) and (7)
HT-IC: Aqua culture and Animal Husbandry	3.81	3.75	0.20	4.13%	0.00	0.76	0.00
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.84	3.75	0.20	4.13%	1.73	1.17	1.17
HT-IIA: Others	7.72	3.75	0.20	4.13%	3.61	1.54	1.54
HT-IIB: Religious Places	4.95	3.75	0.20	4.13%	0.84	0.99	0.84
HT-IIC: Function halls and Auditoriums	11.32	3.75	0.20	4.13%	7.21	2.26	2.26
HT-III: Public Infrastructure and Tourism	8.16	3.75	0.20	4.13%	4.05	1.63	1.63
HT-IVA: Govt Lift Irrigation	5.60	3.75	0.20	4.13%	1.49	1.12	1.12
HT-IVA: Private Lift Irrigation & Agriculture	5.60	3.75	0.20	4.13%	1.49	1.12	1.12
HT-IVB: CP Water Supply Schemes	4.70	3.75	0.20	4.13%	0.59	0.94	0.59
HT-V –Railway Traction	6.68	3.75	0.20	4.13%	2.57	1.34	1.34
HT-VI: Townships and Residential Colonies	6.26	3.75	0.20	4.13%	2.15	1.25	1.25
HT VII: Green Power	11.32	3.75	0.20	4.13%	7.21	2.26	2.26
HT-VIII: Temporary	-	3.75	0.20	4.13%	-	-	-

**Residual Generation Rate**

61. The Commission examined the Residual Generation Rate concept and made computations to see whether the CSS rates determined now prohibit the consumers who opt for open access. Residual Generation Rate is maximum Rate at which the consumer can purchase power from a generator under open access without incurring any financial loss compared to the rates paid to the DISCOMs. The results of the computations are tabulated below.

APEPDCL-Residual Generation Rates for FY 2016-17					
Category	T= Average Realization (Rs./unit)	Transmission/ Wheeling Charges (Rs./unit)	Transmission /Wheeling losses converted to Rs/unit	CSS (Rs./unit)	Residual Generation Rate (Rs./unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)-(4)-(5))
<b>HT Category at 11 kV</b>					
HT-IA: Industrial General	7.68	0.56	0.44	1.54	5.14
HT-1B: Energy Intensive Industries	5.68	0.56	0.44	1.00	3.68
HT-IC: Aqua culture and Animal Husbandry	3.83	0.56	0.44	0.00	2.83
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	6.16	0.56	0.44	1.23	3.93
HT-IIA: Others	9.96	0.56	0.44	1.99	6.97
HT-IIB: Religious Places	4.97	0.56	0.44	0.29	3.68
HT-IIC: Function halls and Auditoriums	11.32	0.56	0.44	2.26	8.06
HT-III: Public Infrastructure and Tourism	7.80	0.56	0.44	1.56	5.24
HT-IVA: Govt Lift Irrigation	5.60	0.56	0.44	0.92	3.68
HT-IVA: Private Lift Irrigation & Agriculture	5.60	0.56	0.44	0.92	3.68
HT-IVB: CP Water Supply Schemes	4.70	0.56	0.44	0.02	3.68
HT-VI: Townships and Residential Colonies	6.35	0.56	0.44	1.27	4.08
HT VII: Green Power	11.32	0.56	0.44	2.26	8.06
HT-VIII: Temporary	-	0.56	0.44	-	-
<b>HT Category at 33 kV</b>					
HT-IA: Industrial General	6.75	0.22	0.29	1.35	4.90
HT-1B: Energy Intensive Industries	5.23	0.22	0.29	1.05	3.68
HT-IC: Aqua culture and Animal Husbandry	3.81	0.22	0.29	0.00	3.31
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.77	0.22	0.29	1.15	4.11
HT-IIA: Others	8.76	0.22	0.29	1.75	6.50
HT-IIB: Religious Places	5.00	0.22	0.29	0.82	3.68
HT-IIC: Function halls and Auditoriums	11.32	0.22	0.29	2.26	8.55
HT-III: Public Infrastructure and Tourism	7.69	0.22	0.29	1.54	5.64
HT-IVA: Govt Lift Irrigation	5.60	0.22	0.29	1.12	3.98
HT-IVA: Private Lift Irrigation &	5.60	0.22	0.29	1.12	3.98



**APEPDCL-Residual Generation Rates for FY 2016-17**

Category	T= Average Realization (Rs./unit)	Transmission/ Wheeling Charges (Rs./unit)	Transmission /Wheeling losses converted to Rs/unit	CSS (Rs./unit)	Residual Generation Rate (Rs./unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)-((3)-(4)-(5))
Agriculture					
HT-IVB: CP Water Supply Schemes	4.70	0.22	0.29	0.52	3.68
HT-VI: Townships and Residential Colonies	6.25	0.22	0.29	1.25	4.49
HT VII: Green Power	11.32	0.22	0.29	2.26	8.55
HT-VIII: Temporary	-	0.22	0.29	-	-
<b>HT Category at 132 kV</b>					
HT-IA: Industrial General	6.47	0.20	0.16	1.29	4.81
HT-1B: Energy Intensive Industries	4.81	0.20	0.16	0.77	3.68
HT-IC: Aqua culture and Animal Husbandry	3.81	0.20	0.16	0.00	3.45
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.91	0.20	0.16	1.18	4.37
HT-IIA: Others	9.67	0.20	0.16	1.93	7.38
HT-IIB: Religious Places	5.07	0.20	0.16	1.01	3.70
HT-IIC: Function halls and Auditoriums	11.32	0.20	0.16	2.26	8.70
HT-III: Public Infrastructure and Tourism	7.30	0.20	0.16	1.46	5.48
HT-IVA: Govt Lift Irrigation	5.60	0.20	0.16	1.12	4.12
HT-IVA: Private Lift Irrigation & Agriculture	5.60	0.20	0.16	1.12	4.12
HT-IVB: CP Water Supply Schemes	4.70	0.20	0.16	0.66	3.68
HT-V –Railway Traction	6.68	0.20	0.16	1.34	4.98
HT-VI: Townships and Residential Colonies	6.25	0.20	0.16	1.25	4.64
HT VII: Green Power	11.32	0.20	0.16	2.26	8.70
HT-VIII: Temporary	-	0.20	0.16	-	-

Average rates in the Power Exchanges are about Rs.2.50/unit to Rs.3.00/unit. The Residual Generation Rates for all the categories are more than the Exchange Rates. Therefore, the CSS rates determined by APERC now cause no financial hardship to the consumers who opt for open access.

APSPDCL-Residual Generation Rates for FY 2016-17					
Category	T= Average Realization (Rs./unit)	Transmission/ Wheeling Charges (Rs./unit)	Transmission /Wheeling losses converted to Rs/unit	CSS (Rs./unit)	Residual Generation Rates (Rs./unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)- ((3)-(4)-(5))
<b>HT Category at 11 kV</b>					
HT-IA: Industrial General	8.05	0.52	0.46	1.61	5.46
HT-1B: Energy Intensive Industries	5.68	0.52	0.46	0.95	3.75
HT-IC: Aqua culture and Animal Husbandry	3.90	0.52	0.46	0.00	2.92
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	6.49	0.52	0.46	1.30	4.21
HT-IIA: Others	9.42	0.52	0.46	1.88	6.55
HT-IIB: Religious Places	5.04	0.52	0.46	0.31	3.75
HT-IIC: Function halls and Auditoriums	11.32	0.52	0.46	2.26	8.07
HT-III: Public Infrastructure and Tourism	7.97	0.52	0.46	1.59	5.40
HT-IVA: Govt Lift Irrigation	5.60	0.52	0.46	0.87	3.75
HT-IVA: Private Lift Irrigation & Agriculture	5.60	0.52	0.46	0.87	3.75
HT-IVB: CP Water Supply Schemes	4.70	0.52	0.46	0.00	3.72
HT-VI: Townships and Residential Colonies	6.22	0.52	0.46	1.24	3.99
HT VII: Green Power	11.32	0.52	0.46	2.26	8.07
HT-VIII: Temporary	-	0.52	0.46	-	-
<b>HT Category at 33 kV</b>					
HT-IA: Industrial General	6.78	0.22	0.31	1.36	4.90
HT-1B: Energy Intensive Industries	5.23	0.22	0.31	0.95	3.75
HT-IC: Aqua culture and Animal Husbandry	3.80	0.22	0.31	0.00	3.27
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.69	0.22	0.31	1.14	4.03
HT-IIA: Others	9.15	0.22	0.31	1.83	6.80
HT-IIB: Religious Places	5.02	0.22	0.31	0.74	3.75
HT-IIC: Function halls and Auditoriums	11.32	0.22	0.31	2.26	8.53
HT-III: Public Infrastructure and Tourism	8.49	0.22	0.31	1.70	6.27
HT-IVA: Govt Lift Irrigation	5.60	0.22	0.31	1.12	3.95

**APSPDCL-Residual Generation Rates for FY 2016-17**

Category	T= Average Realization (Rs./unit)	Transmission/ Wheeling Charges (Rs./unit)	Transmission /Wheeling losses converted to Rs/unit	CSS (Rs./unit)	Residual Generation Rates (Rs./unit)
(1)	(2)	(3)	(4)	(5)	(6)=(2)- ((3)-(4)-(5))
HT-IVA: Private Lift Irrigation & Agriculture	5.60	0.22	0.31	1.12	3.95
HT-IVB: CP Water Supply Schemes	4.70	0.22	0.31	0.43	3.75
HT-VI: Townships and Residential Colonies	6.25	0.22	0.31	1.25	4.48
HT VII: Green Power	11.32	0.22	0.31	2.26	8.53
HT-VIII: Temporary	-	0.22	0.31	-	-
<b>HT Category at 132 kV</b>					
HT-IA: Industrial General	6.49	0.20	0.16	1.30	4.84
HT-1B: Energy Intensive Industries	4.81	0.20	0.16	0.70	3.75
HT-IC: Aqua culture and Animal Husbandry	3.81	0.20	0.16	0.00	3.45
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	5.84	0.20	0.16	1.17	4.31
HT-IIA: Others	7.72	0.20	0.16	1.54	5.82
HT-IIB: Religious Places	4.95	0.20	0.16	0.84	3.75
HT-IIC: Function Halls and Auditoriums	11.32	0.20	0.16	2.26	8.70
HT-III: Public Infrastructure and Tourism	8.16	0.20	0.16	1.63	6.17
HT-IVA: Govt Lift Irrigation	5.60	0.20	0.16	1.12	4.12
HT-IVA: Private Lift Irrigation & Agriculture	5.60	0.20	0.16	1.12	4.12
HT-IVB: CP Water Supply Schemes	4.70	0.20	0.16	0.59	3.75
HT-V –Railway Traction	6.68	0.20	0.16	1.34	4.99
HT-VI: Townships and Residential Colonies	6.26	0.20	0.16	1.25	4.65
HT VII: Green Power	11.32	0.20	0.16	2.26	8.70
HT-VIII: Temporary	-	0.20	0.16	-	-
Average rates in the Power Exchanges are about Rs.2.5 to Rs.3.00/unit. The Residual Generation Rates for all the categories are more than the Exchange Rates. Therefore, the CSS rates determined by APERC now cause no financial hardship to the consumers who opt for open access.					

From the above tables, it can be seen that the average rates (Rs.2.50 to Rs.3.00 per unit) at which different categories of consumers(including the industrial consumers at 80% load factor) can purchase power from

the exchanges are much less than Residual generation Rates. Therefore, it can be concluded that CSS Rates approved now cause no financial hardship to the consumers who opt for open access.

For comparison purpose, the CSS rates as filed by the Licensees, as per Embedded Cost Methodology, as approved by the Commission now and the maximum CSS rates even at which the consumers opting for open access incur no financial losses compared to the rates paid to the DISCOMs are tabulated below.

<b>APEPDCL-CSS Rates Comparison for FY 2016-17</b>				
<b>Category</b>	<b>CSS Rates filed (Rs./unit)</b>	<b>CSS Rates as per Embedded Cost Methodology (Rs./unit)</b>	<b>CSS Rates approved by APERC now (Rs./unit)</b>	<b>Maximum CSS Rates (Rs./unit)</b>
<b>HT Category at 11 kV</b>				
HT-IA: Industrial General	1.69	2.79	1.54	3.68
HT-1B: Energy Intensive Industries	0.72	0.79	1.00	1.68
HT-IC: Aqua culture and Animal Husbandry	-	-	0.00	-
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	0.80	1.27	1.23	2.16
HT-IIA: Others	2.27	4.82	1.99	5.96
HT-IIB: Religious Places	-	0.00	0.29	0.97
HT-IIC: Function halls and Auditoriums	2.26	6.18	2.26	7.32
HT-III: Public Infrastructure and Tourism	1.61	2.78	1.56	3.80
HT-IVA: Govt Lift Irrigation	-	1.71	0.92	1.60
HT-IVA: Private Lift Irrigation & Agriculture	0.70	1.71	0.92	1.60
HT-IVB: CP Water Supply Schemes	-	-	0.02	-
HT-VI: Townships and Residential Colonies	0.60	0.73	1.27	2.35
HT VII: Green Power	2.26	-	2.26	7.32
HT-VIII: Temporary	-	-	-	-
<b>HT Category at 33 kV</b>				
HT-IA: Industrial General	1.43	1.94	1.35	3.25
HT-1B: Energy Intensive Industries	1.01	0.42	1.05	1.73
HT-IC: Aqua culture and Animal Husbandry	-	-	0.00	0.31
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	1.15	0.96	1.15	2.27
HT-IIA: Others	1.96	3.94	1.75	5.25
HT-IIB: Religious Places	0.51	0.18	0.82	1.50
HT-IIC: Function halls and Auditoriums	2.26	6.50	2.26	7.82
HT-III: Public Infrastructure and Tourism	1.73	2.87	1.54	4.18
HT-IVA: Govt Lift Irrigation	1.12	1.78	1.12	2.10
HT-IVA: Private Lift Irrigation & Agriculture	1.12	1.78	1.12	2.10

**APEPDCL-CSS Rates Comparison for FY 2016-17**

Category	CSS Rates filed (Rs./unit)	CSS Rates as per Embedded Cost Methodology (Rs./unit)	CSS Rates approved by APERC now (Rs./unit)	Maximum CSS Rates (Rs./unit)
HT-IVB: CP Water Supply Schemes	0.50	-	0.52	1.20
HT-VI: Townships and Residential Colonies	1.25	0.63	1.25	2.74
HT VII: Green Power	2.26	-	2.26	7.82
HT-VIII: Temporary	-	-	-	-
<b>HT Category at 132 kV</b>				
HT-IA: Industrial General	1.36	1.87	1.29	3.11
HT-1B: Energy Intensive Industries	0.78	0.21	0.77	1.45
HT-IC: Aqua culture and Animal Husbandry	-	-	0.00	0.45
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	1.18	1.31	1.18	2.55
HT-IIA: Others	2.44	4.97	1.93	6.31
HT-IIB: Religious Places	0.48	0.37	1.01	1.71
HT-IIC: Function halls and Auditoriums	2.26	6.62	2.26	7.96
HT-III: Public Infrastructure and Tourism	1.46	2.65	1.46	3.94
HT-IVA: Govt Lift Irrigation	1.12	-	1.12	2.24
HT-IVA: Private Lift Irrigation & Agriculture	-	-	1.12	2.24
HT-IVB: CP Water Supply Schemes	-	-	0.66	1.34
HT-V –Railway Traction	1.34	1.11	1.34	3.32
HT-VI: Townships and Residential Colonies	1.25	0.63	1.25	2.89
HT VII: Green Power	2.26	-	2.26	7.96
HT-VIII: Temporary	-	-	-	-

**APSPDCL-CSS Rates Comparison for FY 2016-17**

Category	CSS Rates filed (Rs./unit)	CSS Rates as per Embedded Cost Methodology (Rs./unit)	CSS Rates approved by APERC (Rs./unit)	Maximum CSS Rates (Rs./unit)
<b>HT Category at 11 kV</b>				
HT-IA: Industrial General	1.63	2.86	1.61	4.07
HT-1B: Energy Intensive Industries	0.88	0.49	0.95	1.70
HT-IC: Aqua culture and Animal Husbandry	-	-	0.00	-

HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	0.84	1.30	1.30	2.51
HT-IIA: Others	1.90	4.29	1.88	5.44
HT-IIB: Religious Places	-	0.00	0.31	1.06
HT-IIC: Function halls and Auditoriums	2.26	6.19	2.26	7.34
HT-III: Public Infrastructure and Tourism	1.60	2.81	1.59	3.99
HT-IVA: Govt Lift Irrigation	-	0.86	0.87	1.62
HT-IVA: Private Lift Irrigation & Agriculture	0.65	0.86	0.87	1.62
HT-IVB: CP Water Supply Schemes	-	-	0.00	0.72
HT-VI: Townships and Residential Colonies	1.21	0.32	1.24	2.23
HT VII: Green Power	2.26	-	2.26	7.34
HT-VIII: Temporary	-	-	-	-
<b>HT Category at 33 kV</b>				
HT-IA: Industrial General	1.36	1.80	1.36	3.25
HT-1B: Energy Intensive Industries	0.92	0.25	0.95	1.70
HT-IC: Aqua culture and Animal Husbandry	-	-	0.00	0.27
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	1.14	0.71	1.14	2.16
HT-IIA: Others	1.83	4.06	1.83	5.63
HT-IIB: Religious Places	0.33	-	0.74	1.49
HT-IIC: Function halls and Auditoriums	2.26	6.23	2.26	7.79
HT-III: Public Infrastructure and Tourism	1.70	3.45	1.70	4.96
HT-IVA: Govt Lift Irrigation	-	0.93	1.12	2.07
HT-IVA: Private Lift Irrigation & Agriculture	1.12	0.93	1.12	2.07
HT-IVB: CP Water Supply Schemes	0.16	-	0.43	1.18
HT-VI: Townships and Residential Colonies	1.27	0.35	1.25	2.73
HT VII: Green Power	2.26	-	2.26	7.79
HT-VIII: Temporary	-	-	-	-
<b>HT Category at 132 kV</b>				
HT-IA: Industrial General	1.30	1.77	1.30	3.13
HT-1B: Energy Intensive Industries	0.69	0.09	0.70	1.45
HT-IC: Aqua culture and Animal Husbandry	-	-	0.00	0.45
HT-1D: Poultry, Hatcheries and Poultry feed mixing plants	1.17	1.12	1.17	2.48
HT-IIA: Others	1.55	2.90	1.54	4.36
HT-IIB: Religious Places	0.78	0.13	0.84	1.59

**APSPDCL-CSS Rates Comparison for FY 2016-17**

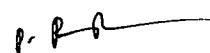
Category	CSS Rates filed (Rs./unit)	CSS Rates as per Embedded Cost Methodology (Rs./unit)	CSS Rates approved by APERC (Rs./unit)	Maximum CSS Rates (Rs./unit)
HT-IIC: Function halls and Auditoriums	2.26	6.50	2.26	7.96
HT-III: Public Infrastructure and Tourism	1.63	3.39	1.63	4.80
HT-IVA: Govt Lift Irrigation	1.12	-	1.12	2.24
HT-IVA: Private Lift Irrigation & Agriculture	1.12	-	1.12	2.24
HT-IVB: CP Water Supply Schemes	0.37	-	0.59	1.34
HT-V –Railway Traction	1.34	1.09	1.34	3.32
HT-VI: Townships and Residential Colonies	1.25	0.36	1.25	2.90
HT VII: Green Power	2.26	-	2.26	7.96
HT-VIII: Temporary	-	-	-	-

**Additional Surcharge**

62. The Licensees have not included the Additional Surcharge proposals in their filings. Further, as per Clause 8.5.4 of National Tariff Policy 2016, *"The additional surcharge for obligation to supply as per section 42(4) of the Act should become applicable only if it is conclusively demonstrated that the obligation of a licensee, in terms of existing power purchase commitments, has been and continues to be stranded, or there is an unavoidable obligation and incidence to bear fixed costs consequent to such a contract. The fixed costs related to network assets would be recovered through wheeling charges."* The Licensees have not demonstrated any such stranding in their filings. Hence, the Commission fixes the Additional Surcharges as NIL for FY 2016-17.
63. These orders are subject to the interim orders passed by the Hon'ble High Court in W.P.No.12630 of 2006 filed by M/s. Rain Calcining Limited and W.P.No.12554 of 2007 filed by M/s. Visakhapatnam Port Trust and any further or final orders that may be passed by the Hon'ble High Court therein. These orders are also subject to any order that may be passed by the Hon'ble Appellate Tribunal for Electricity or the Hon'ble High Court of Judicature at Hyderabad For the State of Telangana and the State of Andhra Pradesh or the Hon'ble Supreme Court in any matter pending before them or that may be brought before them concerning the subject matter of these orders.
64. The CSS rates determined above are effective from 01.04.2016.

This Order is signed on 19<sup>th</sup> day of November, 2016.

  
P. RAMA MOHAN  
MEMBER

  
P. RAGHU  
MEMBER

  
G. BHAVANI PRASAD  
CHAIRMAN

# ANNEXURE-I

## PUBLIC NOTICE

(ENGLISH)

### BEFORE THE HONOURABLE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION (APERC)

D.No. 11-4-660, 4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, HYDERABAD - 500 004.



**EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED (APEPDC)**

#### PUBLIC NOTICE

1. Notice is hereby given to all that the Eastern Power Distribution Company of A.P. Limited holding Distribution and Retail Supply License No.12/2000, has on 23-03-2016, filed before the Andhra Pradesh Electricity Regulatory Commission (APERC) proposals for determination of Cross Subsidy Surcharge (CSS) for FY 2016-17 in accordance with Sections 38, 39, 40 and sub-section (2) of Section 42 of the Electricity Act, 2003. These filings have been taken on record by the Honourable Commission in O.P.No. 18 of 2016.

2. Copies of the filings are available in the Office of the Chief General Manager (Comm & RA), APERC, Corporate Office, P-1 Colony, Seethammadhara, Visakhapatnam-530013 and the Superintending Engineer, Operation circle, Srikalahasti, Visakhapatnam, Rajahmundry and Eluru. Interested persons may inspect these said proposals for determination of CSS and like notes thereof during office hours at any of the said offices free of charge. These proposals are also available on [www.aperc.gov.in](http://www.aperc.gov.in). A copy of these filings can be obtained from the above offices from the date of publication on payment of Rs.10/- by way of cash in person / Demand Draft in favour of P-1 Colony / APERC (Visakhapatnam).

3. Objections/suggestions if any, on filings proposed by the Distribution Company, together with supporting material may be sent to the Chief General Manager (Comm & RA), APERC, Corporate Office, P-1 Colony, Seethammadhara, Visakhapatnam in person or through Registered Post so as to reach on or before 10-05-2016 by 5 PM. A copy of the same must also be filed with the Commission Secretary, APERC at the address mentioned above. The Objections/suggestions should be duly signed and should carry full name and postal address of the person(s) sending the objections/suggestions. If the objections/suggestions are filed on behalf of any organization or any category of consumers, it should be so mentioned. If the objector also wants to be heard in person, it may also be specifically mentioned accordingly. The objections/suggestions should accompany the following statement as an overleaf.

Name & full address of the Objector (s)/ Suggestion(s)	Whether copy of objection & full address of the Objector (s)/ Suggestion(s) of APEPDC is enclosed (Yes/No)	Whether Objector wants to be heard in person (Yes/No)
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4. After perusing the objections/suggestions received in response to this notice the Honourable Commission may invite such persons, as it considers appropriate and conduct hearings on dates to be notified by the Commission.

Date : 08.04.2016  
Place : Visakhapatnam

CHAIRMAN & MANAGING DIRECTOR  
EASTERN POWER DISTRIBUTION COMPANY OF A.P. LTD

#### CROSS SUBSIDY SURCHARGE SCHEDULE

Categories	Average Realization (Rs./Unit)	Average PP Cost (Rs./Unit)	Wheeling Loss %	Cr. Subsidy (Rs./Unit)	Rate of Energy Effective CSS (Rs./Unit)
HT - Category at 11 KV					
HT-I - Indl Segregated	8.34	4.08	0.61	10.01%	3.41
HT-II - Indl Non Segregated	11.58	4.08	0.61	10.01%	6.45
HT-III - Public Distribution & Traction	9.21	4.08	0.61	10.01%	3.07
HT-IV A - Govt LHT Irrigation	5.42	4.08	0.61	10.01%	0.28
HT-V - Colony Supply	6.56	4.08	0.61	10.01%	1.43
HT-VI - Green Power	-	4.08	0.61	10.01%	0.00
HT - Category at 33 KV					
HT-I - Indl Segregated	7.14	4.08	0.18	6.45%	2.61
HT-II - Indl Non Segregated	10.01	4.08	0.18	6.45%	5.48
HT-III - Public Distribution & Traction	8.88	4.08	0.18	6.45%	4.34
HT-IV A - Govt LHT Irrigation	5.66	4.08	0.18	6.45%	1.13
HT-V - Colony Supply	6.43	4.08	0.18	6.45%	1.90
HT-VI - Green Power	-	4.08	0.18	6.45%	0.00
HT - Category at 132 KV					
HT-I - Indl Segregated	6.07	4.08	0.16	3.34%	1.69
HT-II - Indl Non Segregated	12.45	4.08	0.16	3.34%	8.08
HT-III - Public Distribution & Traction	-	4.08	0.16	3.34%	0.00
HT-IV A - Govt LHT Irrigation	5.86	4.08	0.16	3.34%	1.28
HT-V - Railway Traction	7.02	4.08	0.16	3.34%	2.65
HT-VI - Colony Supply	-	4.08	0.16	3.34%	0.00
HT-VII - Green Power	-	4.08	0.16	3.34%	0.00



**SOUTHERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED (APSPDC)**

#### PUBLIC NOTICE

1. Notice is hereby given to all that the Southern Power Distribution Company of A.P. Limited holding Distribution and Retail Supply License No.12/2000, has on 01-03-2016, filed before the Andhra Pradesh Electricity Regulatory Commission (APERC) proposals for determination of Cross Subsidy Surcharge (CSS) for FY 2016-17 in accordance with Sections 38, 39, 40 and sub-section (2) of Section 42 of the Electricity Act, 2003. These filings have been taken on record by the Honourable Commission in O.P.No. 15 of 2016.

2. Copies of the filings are available in the Office of the Chief General Manager (Operation), APERC, Corporate Office, P-1 Colony, Seethammadhara, Visakhapatnam-530013 and the Superintending Engineer, Operation circle, Vijayawada, Guntur, Ongole, Velamuri, Srikalahasti, Rajahmundry and Eluru. Interested persons may inspect these said proposals for determination of CSS and like notes thereof during office hours at any of the said offices free of charge. These proposals are also available on [www.aperc.gov.in](http://www.aperc.gov.in). A copy of these filings can be obtained from the above offices from the date of publication on payment of Rs.10/- by way of cash in person / Demand Draft in favour of P-1 Colony / APERC (Visakhapatnam).

3. Objections/suggestions if any, on filings proposed by the Distribution Company, together with supporting material may be sent to the Chief General Manager (Operation), APERC, Corporate Office, P-1 Colony, Seethammadhara, Visakhapatnam in person or through Registered Post so as to reach on or before 10-05-2016 by 5 PM. A copy of the same must also be filed with the Commission Secretary, APERC at the address mentioned above. The Objections/suggestions should be duly signed and should carry full name and postal address of the person(s) sending the objections/suggestions. If the objections/suggestions are filed on behalf of any organization or any category of consumers, it should be so mentioned. If the objector also wants to be heard in person, it may also be specifically mentioned accordingly. The objections/suggestions should accompany the following statement as an overleaf.

Name & full address of the Objector (s)/ Suggestion(s)	Whether copy of objection & full address of the Objector (s)/ Suggestion(s) of APSPDC is enclosed (Yes/No)	Whether Objector wants to be heard in person (Yes/No)
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4. After perusing the objections/suggestions received in response to this notice the Honourable Commission may invite such persons, as it considers appropriate and conduct hearings on dates to be notified by the Commission.

Date : 08.04.2016  
Place : Tirupathi

CHAIRMAN & MANAGING DIRECTOR  
SOUTHERN POWER DISTRIBUTION COMPANY OF A.P. LTD

#### CROSS SUBSIDY SURCHARGE SCHEDULE

Categories	Average Realization (Rs./Unit)	Average PP Cost (Rs./Unit)	Wheeling Loss %	Cr. Subsidy (Rs./Unit)	Rate of Energy Effective CSS (Rs./Unit)
HT - Category at 11 KV					
HT-I - Indl Segregated	8.20	4.08	0.61	10.01%	3.08
HT-II - Indl Non Segregated	9.56	4.08	0.61	10.01%	4.44
HT-III - Public Distribution & Traction	8.15	4.08	0.61	10.01%	3.03
HT-IV A - Govt LHT Irrigation	5.41	4.08	0.61	10.01%	0.29
HT-V - Colony Supply	6.37	4.08	0.61	10.01%	1.25
HT-VI - Green Power	-	4.08	0.61	10.01%	0.00
Rural Cooperatives	0.43	4.08	0.61	10.01%	0.00
HT - Category at 33 KV					
HT-I - Indl Segregated	5.83	4.08	0.18	6.45%	2.27
HT-II - Indl Non Segregated	9.32	4.08	0.18	6.45%	4.76
HT-III - Public Distribution & Traction	8.68	4.08	0.18	6.45%	4.09
HT-IV A - Govt LHT Irrigation	5.29	4.08	0.18	6.45%	0.73
HT-V - Colony Supply	5.47	4.08	0.18	6.45%	1.91
HT-VI - Green Power	-	4.08	0.18	6.45%	0.00
HT - Category at 132 KV					
HT-I - Indl Segregated	5.54	4.08	0.16	3.34%	2.17
HT-II - Indl Non Segregated	7.88	4.08	0.16	3.34%	3.51
HT-III - Public Distribution & Traction	-	4.08	0.16	3.34%	0.00
HT-IV A - Govt LHT Irrigation	5.52	4.08	0.16	3.34%	1.12
HT-V - Railway Traction	5.97	4.08	0.16	3.34%	2.60
HT-VI - Colony Supply	-	4.08	0.16	3.34%	0.00
HT-VII - Green Power	-	4.08	0.16	3.34%	0.00





**ANNEXURE-II**  
**LIST OF OBJECTORS**

S.No	Name of the Objector	Represented during public hearings by
1	Sri Gokaraju Ganga Raju/Member of Parliament (Lok Sabha)	-
2	FTAPCCI(Federation of Telangana and Andhra Pradesh Chambers of Commerce and Industry)	Sri R. Shiva Kumar and Sri T.Vizhay Babu/Advocate
3	A.P. Spinning Mills Association	Sri R. Shiva Kumar
4	Sree Rayaseema Alkalies and Allied Chemicals Limited	Sri Alladi Ravinder/Advocate and Sri V. Bhaskar/Sr.Manager
5	Synergies Casting Limited	Sri Challa Gunaranjan and Sri T.Vizhay Babu(Advocates)
6	RPP Limited	Sri K. Gopal Choudary/Advocate
7	Sree Rayalaseema Green Energy Limited	-Do-
8	ITC Limited	-Do-
9	Espar Pak Limited	-Do-
10	Sri Dhanalakshmi Cotton & Rice Mills Private Limited	-Do-
11	Sagar Power Limited	-Do-
12	Shivani Power Spinners Limited	-Do-
13	Shree Jayalakshmi Powercorp Limited	-Do-
14	Akshay Profiles Private Limited	-Do-
15	Tirumala Hydel Power Projects Private Limited	-Do-
16	Biomass Energy Developers Association	-Do-
17	SKJ Power Projects Limited	-Do-
18	Trident Power Systems Limited	-Do-
19	AP Ferro Alloys Producers Association	Sri Sandeep Kumar Baroliya/Advocate, Sri M.S.S. Sarma and Sri Vijaya Gopal Reddy
20	IEX(Indian energy Exchange)	Sri Naga Aditya
21	Sri M. Venugopala Rao, Senior Journalist	Self
22	Sri S.Surya Prakasa Rao, Former Secretary/Erstwhile APERC	-
23	Open Access Users Association	Sri Anand K. Ganesan/Advocate
24	Shri Girija Alloy & Power(I) Private Limited	-

**ANNEXURE – III  
DISCOMs FILING  
EPDCL**

**BEFORE THE**

**HONOURABLE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION  
AT ITS OFFICE AT 4<sup>th</sup> FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD**

1A No. \_\_\_\_\_ of 2016 In OP.No.16 of 2016

**In the matter of:**

Filing of revised proposal for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17 in accordance with the Sections 38, 39, 40 and sub-section 2 of 42 of Electricity Act, 2003 by the EASTERN Power Distribution Company of Andhra Pradesh Limited ('APEPDCL' or 'the Company' or 'the Licensee') as the Distribution and Retail Supply Licensee.

**In the matter of:**

**EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED**

... Applicant

**AFFIDAVIT OF APPLICANT VERIFYING THE APPLICATION ACCOMPANYING  
FILING of revised proposal for determination of Cross Subsidy Surcharge and additional  
surcharge for the FY 2016-17**

I, Sri K.S.N.Murthy, son of Sri Narasimhamurthy working for gain at the Eastern Power Distribution Company of Andhra Pradesh Limited do solemnly affirm and say as follows:

- 1) I am the Chief General Manager/Commercial, RA & Civil of APEPDCL, the Licensee that has, vide the Honourable Commission's approval in proceedings no. APERC/Secy/Engg/No.6 dt.31.3.2000, been granted the distribution and retail supply functions that APTransco was authorised to conduct or carry out under the Act and the license, with respect to the business of distribution and retail supply of electricity in the Eastern distribution zone in Andhra Pradesh. On December 27, 2000, the Honourable Commission has awarded a Distribution and Retail Supply License to APEPDCL, to be effective from April 1, 2001. I am competent and duly authorised by APEPDCL to affirm, swear, execute and file this affidavit in the present proceedings.
- 2) As such, I submit that I have been duly authorised by the Board of Directors of APEPDCL to submit the application for determination of Cross Subsidy Surcharge and additional surcharge for FY 2016-17, as per Section 38, 39, 40 and Sub-section 2 of Section 42 of Electricity Act, 2003 to the Honourable Commission.
- 3) I submit that I have read and understood the contents of the appended application of APEPDCL. The facts stated in the application are true to the best of my knowledge, which are

derived from the official records made available and certain facts stated are based on information and advice which, I believe to be true and correct.

I submit that for the reasons, and facts stated in the appended application this Applicant pray that the Honourable Commission may be pleased to

- Take the accompanying revised proposals for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17 on record and treat it as complete;
- Consider and approve APEPDCL's revised proposals for determination of Cross Subsidy Surcharge and additional surcharge for FY 2016-17 including all requested regulatory treatments in the filing;
- Pass such order as the Honourable Commission may deem fit and proper in the facts and circumstances of the case.

DEPONENT

**VERIFICATION:**

I, the above named Deponent solemnly affirm at Visakhapatnam on this..... day of July, 2016 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

DEPONENT

Solemnly affirmed and signed before me.

**BEFORE THE  
HONOURABLE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION  
AT ITS OFFICE AT 4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004**

IA No. \_\_\_\_\_ of 2016 In OP.No.16 of 2016

In the matter of:

Filing of revised proposal for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17 in accordance with the Sections 38, 39, 40 and sub-section 2 of 42 of Electricity Act, 2003 by the EASTERN Power Distribution Company of Andhra Pradesh Limited ('APEPDCL' or 'the Company' or 'the Licensee') as the Distribution and Retail Supply Licensee.

In the matter of:

**EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED**

... Applicant

The Applicant respectfully submits as under: -

This filing is made by the EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED (APEPDCL) under Section 38, 39, 40 and Sub-section 2 of Section 42 of Electricity Act, 2003 for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17.

The licensee has submitted its proposals for determination of Cross Subsidy Surcharge along with the ARR & Retail Supply Tariff Proposal vide OP No. 1 of 2016. In the said filings, the proposal for determination of Cross Subsidy Surcharge was computed with reference to the provisions of the National Tariff Policy, 2006. The extract of the computations submitted at that point of time are furnished below:

The Distribution Licensee (Licensee), in the matter of determination of Cross Subsidy Surcharge (CSS) for FY 2016-17 under Sections 38,39,40 & 42(2) of the Electricity Act, 2003, as directed by the Hon'ble Commission, has submitted its proposal for determination of Cross Subsidy Surcharge along with the Aggregate Revenue Requirement (ARR)& Retail Tariff Proposal vide O.P No. 1 of 2016. In the said filings, the proposal for determination of Cross Subsidy Surcharge was computed with reference to the provisions of the National Tariff Policy 2006.

Subsequently, Ministry of Power published resolution dated 28-01-2016 in the Gazette of Govt. of India promulgating the new National Tariff Policy. The revised Tariff Policy so notified by

the Central Government is stated to take effect from the date of its publication of the resolution in the Gazette of India.

Subsequent to the above said resolution, the Honorable Commission in its letter dated 23-02-2016 has stated that,

- i) APSPDCL and APEPDCL are at liberty to file fresh proposals for determination of the Cross Subsidy Surcharge for FY 2016-17 in accordance with such methodology as they deem fit and proper, as the National Tariff Policy, 2006 which formed the basis of their earlier filings ceased to exist.
- ii) APSPDCL and APEPDCL are also informed that if they come up with fresh filings, the determination of the Cross Subsidy Surcharge for FY 2016-17 will be made in accordance with the prescribed procedure duly complying with all the necessary formalities independent of the other proposals made in the original filings.

In the aforesaid circumstances, the licensee has submitted its revised proposal for determination of the Cross Subsidy Surcharge for FY 2016-17 as per the provisions of the revised National Tariff Policy 2016 on 28-03-2016.

Subsequently the Hon'ble Commission, has directed the licensee to invite views / objections / suggestions of the stakeholders on or before 10-05-2016 and held public hearing in this matter on 10-06-2016.

Based on the objections / suggestions received the Hon'ble Commission has directed the licensees to file the revised computation of Cross Subsidy Surcharge based on the approved tariffs for the FY 2016-17 and extend the computation for each sub-category level.

In the aforesaid circumstances, the licensee humbly submits the revised CSS computation as directed by the Hon'ble Commission after considering the latest Tariff schedule ("Order on Tariff for Retail Sale of Electricity during FY 2016-17") and as per the methodology suggested in the National Tariff Policy, 2016.

The licensee has recomputed the Cross Subsidy Surcharge after incorporating the following changes

- Excluding Non-Tariff Income
- Separate CSS for each Sub-Category
- Different load factors – average category load factor, 60% and 80%

As per section 8.5 of NTP2016, Cross Subsidy Surcharge formula is as below:

$$S = T - [C / (1 - L / 100) + D + R], \text{ where}$$

*S* is the surcharge

*T* is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation

*C* is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation

*D* is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level

*L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level*

*R is the per unit cost of carrying regulatory assets*

*Above formula may not work for all distribution licensees, particularly for those having power deficit, the State Regulatory Commissions, while keeping overall objectives of the Electricity Act in view, may review and vary the same taking into consideration the different circumstances prevailing in the area of distribution licensee.*

*Provided that the surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking open access.*

In accordance with the above formula, the licensee recomputed Sub-category-wise Cross Subsidy Surcharge based on the approved tariffs, as applicable, for the FY 16-17

The licensee has computed CSS under three scenarios as shown below:

- 1) Scenario 1: Base Case - As per National Tariff Policy, 2016 where Average Tariffs at the Sub-Category level is evaluated.
- 2) Scenario 2: Load Factor of 60% for a typical consumer
- 3) Scenario 3: Load Factor of 80% for a typical consumer

The table below explains the impact of load factor on the various components of CSS computation in Rs. / kVAh (Unit) as per the above scenarios

Description	Tariff Applicable (T)	Weighted Average Power Purchase Cost (C)	Transmission and Distribution Losses (L)	Transmission and Wheeling Charge (D)
Scenario -1 ( Base Case)	Variable	Constant	Constant	Variable
Scenario-2	Variable	Constant	Constant	Variable
Scenario-2	Variable	Constant	Constant	Variable

a) Computation of "C"

Computation of "C" for APEPDCL is based on the approved average cost of power purchase by the licensee.

$C = \text{Average Power Purchase Cost} = \text{Total Cost of Power Purchase} / \text{Total Power Purchase MU}$

Particulars	Power Purchase (MU)	Total Cost (In Rs. Cr.)	Average Cost of power purchase (Rs. / Unit)
APEPDCL	19376.93	7124.2	3.68

b) Computation of "D"

Step 1: Applicable wheeling charge at various voltage levels as approved by the Hon'ble Commission

Network	(132kV and above) (Rs./kVA/month)	33kV (Rs./kVA/month)	11kV (33kV included) (Rs./kVA/month)
Transmission / Wheeling Charges	91.36	11.38	247.55

Step 2: Computation of wheeling charges and transmission charges at relevant voltage level based on the above values is

Network	(132kV and above) (a)	33kV (b)	11kV (c)	Wheeling Charge + Transmission Charge = "D" = (a+b+c)
Up to 11kV Level	91.36	0	247.55	338.91
Up to 33kV Level	91.36	11.38	0	102.74
Up to 132kV and above Level	91.36	0	0	91.36

c) Computation of "L"

Step 1: Applicable loss at various voltage levels as approved by the Hon'ble Commission

Network	PGCIL Loss	APTransco (132kV and above)	33kV	11kV
Losses %	3.57%	3.34%	3.22%	3.80%

Step 2: Computation of 132kV and above loss

	Units to be handled(MU)	Loss %	Loss in MU
PGCIL	4475.6	3.57%	159.78
AP Transco	19217.15	3.34%	641.85
Total EHV	19376.93		801.63
EHV Loss % = Total EHV Loss / Total PP Requirement			4.14%

Step 3: Computation of system losses at relevant voltage level based on the above values is

Network	132kV and above (a)	33kV (b)	11kV (c)	System Loss "L" = {1 - (1 - a)*(1 - b)*(1 - c)}
For 11kV Consumer	4.14%	3.22%	3.80%	10.75%
For 33kV Consumer	4.14%	3.22%	0.00%	7.22%
For EHT (132kV and above) Consumer	4.14%	0.00%	0.00%	4.14%



d) Computation of "R"

The cost of carrying regulatory asset is considered to be zero

e) Computation of "T"

As per NTP 2016, "T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation"

Tariff payable for each of the relevant category is a combination of Demand Charge, Energy Charge, Customer Charge, Minimum Charge, and Time of Day Tariff(excluding NTI).

In Scenario 1: Tariff Payable (T) = (Total Approved Revenue for the Sub-Category) / Total Approved Sales of the Sub-Category.

Where in Total Revenue is sum of Energy Charges, Demand Charges, Minimum Charges, and Customer Charges

In Scenario 2: The tariff payable is computed at 60% Load Factor for a typical consumer

In Scenario 3: The tariff payable is computed at 80% Load Factor for a typical consumer

Based on the above Tariff applicable for each of the Sub-Category is given below. The detailed computation is enclosed for reference in Annexure – I.

Category	Scenario 1 (Rs. per kWh)	Scenario 2 (Rs. per kWh)	Scenario 3 (Rs. per kWh)
<b>High Tension</b>			
<b>HT Category at 11 kv</b>			
HT I (A): General	8.45	7.15	6.93
HT I (B): Energy Intensive Industries	5.68	5.68	5.68
HT I (C): Aquaculture and Animal Husbandry	3.83	3.80	3.79
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	6.16	5.64	5.42
HT II: Others	11.37	8.48	8.26
HT II (B): Religious Places	4.97	4.94	4.93
HT II (C): Function Halls/Auditoriums	11.32	11.32	11.32

Category	Scenario - 1 (Base Case)	Scenario - 2	Scenario - 3
	Tariff Applicable (Rs. /kVAh)	Tariff Applicable (Rs. /kVAh) for 60% Load Factor	Tariff Applicable (Rs. /kVAh) for 80% Load Factor
HT III: Public Infrastructure and Tourism	8.03	8.01	7.79
HT IV Government LIS	5.62	5.60	5.60
HT IV Private Irrigation and Agriculture	5.60	5.60	5.60
HT IV CPWS	4.75	4.70	4.70
HT VI: Townships & Residential Colonies	6.38	6.21	6.18
HT VII: Green Power	11.32	11.32	11.32
HT VIII: Temporary	0.00	0.00	0.00
Category: RESCOs	1.09	0.24	0.24
HT Category at 33 kv			
HT I (A): General	7.16	6.62	6.40
HT I (B): Energy Intensive Industries	5.23	5.23	5.23
HT I (C) : Aquaculture and Animal Husbandry	3.81	3.80	3.79
HT I (D) : Poultry Hatcheries and Poultry Feed Mixing Plants	5.77	5.64	5.42
HT I: Others	9.78	7.71	7.49
HT II (B): Religious Places	5.00	4.94	4.93
HT II (C) : Function Halls / Auditoriums	11.32	11.32	11.32
HT III: Public Infrastructure and Tourism	8.66	7.43	7.21
HT IV Government LIS	5.60	5.60	5.60
HT IV Agriculture	5.60	5.60	5.60
HT IV CPWS	4.70	4.70	4.70
HT VI: Townships & Residential Colonies	6.25	6.21	6.18
HT VII: Green Power	11.32	11.32	11.32
HT VIII: Temporary	0.00	0.00	0.00
HT Category at 132 kv			
HT I (A): General	6.78	6.19	5.97
HT I (B): Energy Intensive	4.82	4.81	4.81

Category	Scenario - 1: Base Case	Scenario - 2	Scenario - 3
Industries			
HT I (C): Aquaculture and Animal Husbandry	3.81	3.80	3.79
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	5.91	5.64	5.42
HT II: Others	12.20	7.44	7.22
HT II (B): Religious Places	5.07	4.94	4.93
HT II (C): Function Halls / Auditoriums	11.32	11.32	11.32
HT III: Public Infrastructure and Tourism	7.30	7.02	6.80
HT IV Government LIS	5.60	5.60	5.60
HT IV Agriculture	5.60	5.60	5.60
HT IV CPWS	4.70	4.70	4.70
HT V: Railway Traction	6.68	6.68	6.68
HT VI: Townships & Residential Colonies	6.25	6.21	6.18
HT VII: Green Power	11.32	11.32	11.32
HT VIII: Temporary	0.00	0.00	0.00

\* Note: For Sub-Categories where there are no historical sales a load factor of 60% is considered for computing Tariff Applicable in the base case.

#### f) Computation of "20% Cap on Tariff Applicable"

As per National Tariff Policy "The surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking open access"

The licensee is of the view that this condition shall be made applicable only for Base Case (Scenario - 1).

Whereas, other two scenarios (Scenario - 2, Scenario - 3) where Tariff applicable is dependent on Load Factor, which act as a natural ceiling on CSS and hence no separate cap is required. .

Based on the above methodology the CSS computed under three Scenarios summarized in the below table (the detailed workings are enclosed in Annexure-2)

Category	Scenario - 1: Base Case	Scenario - 2	Scenario - 3

Category	Scenario A (Based on Actual NTP 2010)		Scenario B (Infrastructure Costs)	
	CSS without sub	CSS with CoP	CSS without sub	CSS without sub
<b>High Tension</b>				
<b>HT Category at 11 kv</b>				
HT I (A): General	3.09	1.69	2.25	2.22
HT I (B): Energy Intensive Industries	0.72	0.72	0.78	0.97
HT I (C): Aquaculture and Animal Husbandry	-	-	-	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	0.80	0.80	0.74	0.71
HT II: Others	5.13	2.27	3.58	3.55
HT II (B): Religious Places	-	-	0.04	0.22
HT II (C): Function Halls/Auditoriums	5.09	2.26	6.42	6.61
HT III: Public Infrastructure and Tourism	3.31	1.61	3.11	3.08
HT IV: Government LIS	-	-	0.70	0.89
HT IV Private Irrigation and Agriculture	0.70	0.70	0.70	0.89
HT IV CPWS	-	-	-	-
HT VI: Townships & Residential Colonies	0.60	0.60	1.30	1.47
HT VII: Green Power	6.42	2.26	6.42	6.61
HT VIII: Temporary	-	-	-	-
Category: RESCOs	-	-	-	-
<b>HT Category at 33 kv</b>				
HT I (A): General	2.92	1.43	2.42	2.26
HT I (B): Energy Intensive Industries	1.01	1.01	1.03	1.09
HT I (C): Aquaculture and Animal Husbandry	-	-	-	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	1.54	1.15	1.44	1.28
HT II: Others	5.29	1.96	3.51	3.34
HT II (B): Religious Places	0.51	0.51	0.74	0.79
HT II (C): Function Halls / Auditoriums	6.83	2.26	7.12	7.18

x

Category	Scenario - 1 (Base Case) As per NTP 2010		Scenario - 2 Load Factor of 60%	Scenario - 3 Load Factor of 80%
HT III: Public Infrastructure and Tourism	4.38	1.73	3.23	3.07
HT IV Government LIS	1.32	1.12	1.40	1.46
HT IV Agriculture	1.40	1.12	1.40	1.46
HT IV CPWS	0.50	0.50	0.50	0.56
HT VI: Townships & Residential Colonies	1.97	1.25	2.01	2.03
HT VII: Green Power	7.12	2.26	7.12	7.18
HT VIII: Temporary	-	-	-	-
HT Category at 132 kv				
HT I (A): General	2.67	1.36	2.15	1.98
HT I (B): Energy Intensive Industries	0.78	0.78	0.76	0.82
HT I (C): Aquaculture and Animal Husbandry	-	-	-	-
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	1.80	1.18	1.60	1.43
HT II: Others	7.61	2.44	3.39	3.22
HT II (B): Religious Places	0.48	0.48	0.89	0.93
HT II (C): Function Halls / Auditoriums	6.73	2.26	7.27	7.33
HT III: Public Infrastructure and Tourism	3.19	1.46	2.98	2.81
HT IV Government LIS	1.49	1.12	1.55	1.61
HT V: Railway Traction	2.50	1.34	2.63	2.69
HT VI: Townships & Residential Colonies	2.13	1.25	2.16	2.18
HT VII: Green Power	7.27	2.26	7.27	7.33
HT VIII: Temporary	-	-	-	-

As can be seen from the above table that the CSS varies with various load factor of a consumer. However, ceiling of 20% on tariff applicable sets a minimum load factor as a threshold to remove anomalies. Considering the above, the licensee is of the view that CSS should be one single value for each Sub-Category of consumer determined as Rs /kVAh (Unit) and cannot be determined separately for a different consumer.

Licensee computed CSS under various scenarios of load factor only to analyze the impact on a typical consumer. Hence, Licensee humbly requests Hon'ble Commission to take an appropriate decision considering interests of all stakeholders of the sector.

Moreover, Licensee strongly feels that Hon'ble Commission may take views from the public through consultative process and finalize a methodology to compute Cross Subsidy Surcharge and additional surcharge, as may be applicable. This will enable the Licensee to file as per the approved methodology from next tariff year.

**Prayer:**

The licensee requests that this Honourable Commission may be pleased to:

1. Take the above revised proposal for determination of the Cross Subsidy Surcharge and additional surcharge for FY 2016-17 on record and treat it as complete;
2. Consider and approve APEPDCL's revised proposal for determination of the Cross Subsidy Surcharge and additional surcharge for FY 2016-17;
3. Pass such order as the Honourable Commission may deem fit and proper in the facts and circumstances of the case.

**EASTERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED**

**(APPLICANT)**

Through

**Chief General Manager/Comml., RA & Civil**

**Place: Visakhapatnam**

**Dated: -07-2016**

## SPDCL FILING

BEFORE THE

HONOURABLE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION  
AT ITS OFFICE AT 4<sup>th</sup> FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD

IA No. \_\_\_\_\_ of 2016 in OP.No.15 of 2016

In the matter of:

Filing of revised proposal for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17 in accordance with the Sections 38, 39, 40 and sub-section 2 of 42 of Electricity Act, 2003 by the Southern Power Distribution Company of Andhra Pradesh Limited ('APSPDCL' or 'the Company' or 'the Licensee') as Distribution and Retail Supply Licensee.

In the matter of:

SOUTHERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED

... Applicant

AFFIDAVIT OF APPLICANT VERIFYING THE APPLICATION ACCOMPANYING  
FILING of revised proposal for determination of Cross Subsidy Surcharge and additional  
surcharge for the FY 2016-17

I, Sri N.Narasimhulu, S/o. Sri Guravaiah, aged 46 years working for gain at the Southern Power Distribution Company of Andhra Pradesh Limited do solemnly affirm and say as follows:

- 1) I am the Chief General Manager/Operation of APSPDCL and I am competent and duly authorised by APSPDCL to affirm, swear, execute and file this affidavit in the present proceedings.
- 2) As such, I submit that I have been duly authorised by the Board of Directors of APSPDCL to submit the revised application for determination of Cross Subsidy Surcharge and additional surcharge for FY 2016-17, as per Section 38, 39, 40 and Sub-section 2 of Section 42 of Electricity Act, 2003 to the Honourable Commission.
- 3) I submit that I have read and understood the contents of the appended application of APSPDCL. The facts stated in the application are true to the best of my knowledge, which are derived from the official records made available and certain facts stated are based on information and advice which, I believe to be true and correct.

I submit that for the reasons, and facts stated in the appended application this Applicant pray that the Honourable Commission may be pleased to

- Take the accompanying revised proposals for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17 on record and treat it as complete;
- Consider and approve APSPDCL's revised proposals for determination of Cross Subsidy Surcharge and additional surcharge for FY 2016-17 including all requested regulatory treatments in the filing;
- Pass such order as the Honourable Commission may deem fit and proper in the facts and circumstances of the case.

DEPONENT

**VERIFICATION:**

I, the above named Deponent solemnly affirm at Tirupati on this fifteenth day of July, 2016 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

DEPONENT

Solemnly affirmed and signed before me.



**BEFORE THE  
HONOURABLE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION  
AT ITS OFFICE AT 4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004**

IA No. \_\_\_\_\_ of 2016 In OP.No.15 of 2016

In the matter of:

Filing of revised proposal for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17 in accordance with the Sections 38, 39, 40 and sub-section 2 of 42 of Electricity Act, 2003 by the Southern Power Distribution Company of Andhra Pradesh Limited ('APSPDCL' or 'the Company' or 'the Licensee') as the Distribution and Retail Supply Licensee.

In the matter of:

**SOUTHERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED**

... Applicant

The Applicant respectfully submits as under: -

This filing is made by the SOUTHERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED (APEPDCL) under Section 38, 39, 40 and Sub-section 2 of Section 42 of Electricity Act, 2003 for determination of Cross Subsidy Surcharge and additional surcharge for the FY 2016-17.

The Distribution Licensee (Licensee), in the matter of determination of Cross Subsidy Surcharge (CSS) and Additional Surcharge for FY 2016-17 under Sections 38, 39, 40 & 42(2) of the Electricity Act, 2003, as directed by the Hon'ble Commission, has submitted its proposal for determination of Cross Subsidy Surcharge along with the Aggregate Revenue Requirement (ARR) & Retail Tariff Proposal vide O.P No. 1 of 2016. In the said filings, the proposal for determination of cross subsidy surcharge was computed with reference to the provisions of the National Tariff Policy 2006.

Subsequently, Ministry of Power published resolution dated 28-01-2016 in the Gazette of Govt. of India promulgating the new National Tariff Policy. The revised Tariff Policy so notified by the Central Government is stated to take effect from the date of its publication of the resolution in the Gazette of India.

Subsequent to the above said resolution, the Honorable Commission in its letter dated 23-02-2016 has stated that,

- i) APSPDCL and APEPDCL are at liberty to file fresh proposals for determination of the Cross Subsidy Surcharge for FY 2016-17 in accordance with such methodology as they deem fit and proper, as the National Tariff Policy, 2006 which formed the basis of their earlier filings ceased to exist.
- ii) APSPDCL and APEPDCL are also informed that if they come up with fresh filings, the determination of the Cross Subsidy Surcharge for FY 2016-17 will be made in accordance with the prescribed procedure duly complying with all the necessary formalities independent of the other proposals made in the original filings.

In the aforesaid circumstances, the licensee has submitted its revised proposal for determination of the Cross Subsidy Surcharge for FY 2016-17 as per the provisions of the revised National Tariff Policy 2016 on 04-03-2016.

Subsequently the Hon'ble Commission, has directed the licensee to invite views / objections / suggestions of the stakeholders on or before 10-05-2016 and held public hearing in this matter on 10-06-2016.

Based on the objections / suggestions received the Hon'ble Commission has directed the licensees to file the revised computation of Cross Subsidy Surcharge based on the approved tariffs for the FY 2016-17 and extend the computation for each sub-category level.

In the aforesaid circumstances, the licensee humbly submits the revised CSS computation as directed by the Hon'ble Commission after considering the latest Tariff schedule ("Order on Tariff for Retail Sale of Electricity during FY 2016-17") and as per the methodology suggested in the National Tariff Policy, 2016.

The licensee has recomputed the Cross Subsidy Surcharge after incorporating the following changes

- Excluding Non-Tariff Income
- Separate CSS for each Sub-Category
- Different load factors – average category load factor, 60% and 80%

As per section 8.5 of NTP2016, Cross Subsidy Surcharge formula is as below:

$$S = T - [C / (1 - I / 100) + D + R], \text{ where}$$

*S is the surcharge*

*T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation*

*C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation*

*D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level*

*L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level*

*R is the per unit cost of carrying regulatory assets*

*Above formula may not work for all distribution licensees, particularly for those having power deficit, the State Regulatory Commissions, while keeping overall objectives of the Electricity Act in view, may review and vary the same taking into consideration the different circumstances prevailing in the area of distribution licensee.*

*Provided that the surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking open access.*

In accordance with the above formula, the licensee recomputed Sub-category-wise Cross Subsidy Surcharge based on the approved tariffs, as applicable, for the FY 16-17

The licensee has computed CSS under three scenarios as shown below.

- 1) Scenario 1: Base Case - As per National Tariff Policy, 2016 where Average Tariffs at the Sub-Category level is evaluated.
- 2) Scenario 2: Load Factor of 60% for a typical consumer
- 3) Scenario 3: Load Factor of 80% for a typical consumer

The table below explains the Impact of load factor on the various components of CSS computation in Rs. / kVAh (Unit) as per the above scenarios

Description	Tariff Applicable (T)	Weighted Average Power Purchase Cost (C)	Transmission and Distribution Losses (L)	Transmission and Wheeling Charge (D)
Scenario -1 ( Base Case)	Variable	Constant	Constant	Variable
Scenario-2	Variable	Constant	Constant	Variable
Scenario-2	Variable	Constant	Constant	Variable

a) Computation of "C"

Computation of "C" for APSPDCL is based on the approved average cost of power purchase by the licensee.

$C = \text{Average Power Purchase Cost} = \text{Total Cost of Power Purchase} / \text{Total Power Purchase MU}$

Particulars	Power Purchase (MU)	Total Cost (In Rs. Cr.)	Average Cost of power purchase (Rs. / Unit)
APSPDCL	37427.73	14026.57	3.75

b) Computation of "D"

Step 1: Applicable wheeling charge at various voltage levels as approved by the Hon'ble Commission

Network	(132kV and above) (Rs./kVA/month)	33kV (Rs./kVA/month)	11kV (33kV Included) (Rs./kVA/month)
Transmission / Wheeling Charges	91.36	15.39	227.14

Step 2: Computation of wheeling charges and transmission charges at relevant voltage level based on the above values is

Network	(132kV and above) (a)	33kV (b)	11kV (c)	Wheeling Charge + Transmission Charge = "D" = (a+b+c)
Up to 11kV Level	91.36	0	227.14	318.50
Up to 33kV Level	91.36	15.39	0	106.75
Up to 132kV and above Level	91.36	0	0	91.36

c) Computation of "L"

Step 1: Applicable loss at various voltage levels as approved by the Hon'ble Commission

Network	PGCIL Loss	APTransco (132kV and above)	33kV	11kV
Losses %	3.57%	3.34%	3.61%	3.65%

Step 2: Computation of 132kV and above loss

	Units to be handled(MU)	Loss %	Loss in MU
PGCIL	8584.23	3.57%	306.46
AP Transco	37121.2	3.34%	1239.85
Total EHV			1546.31
EHV Loss % = Total EHV Loss / Total PP requirement			4.13%

Step 3: Computation of system losses at relevant voltage level based on the above values is

Network	132kV and above (a)	33kV (b)	11kV (c)	System Loss "L" = $\{1 - (1-a)*(1-b)*(1-c)\}$
For 11kV Consumer	4.13%	3.61%	3.65%	10.97%
For 33kV Consumer	4.13%	3.61%	0.00%	7.59%
For EHT (132kV and above) Consumer	4.13%	0.00%	0.00%	4.13%

d) Computation of "R"

The cost of carrying regulatory asset is considered to be zero

e) Computation of "T"

As per NTP 2016, "T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation"

Tariff payable for each of the relevant category is a combination of Demand Charge, Energy Charge, Customer Charge, Minimum Charge, and Time of Day Tariff(excluding NTI).

In Scenario 1: Tariff Payable (T) = (Total Approved Revenue for the Sub-Category) / Total Approved Sales of the Sub-Category.

Where In Total Revenue is sum of Energy Charges, Demand Charges, Minimum Charges, and Customer Charges

In Scenario 2: The tariff payable is computed at 60% Load Factor for a typical consumer

In Scenario 3: The tariff payable is computed at 80% Load Factor for a typical consumer

Based on the above Tariff applicable for each of the Sub-Category is given below. The detailed computation is enclosed for reference in Annexure – 1.

Category	Scenario-1	Scenario-2	Scenario-3
	Tariff Applicable (Rs. kWh) in Base Case	Tariff Applicable (Rs. kWh) for 60% Load Factor	Tariff Applicable (Rs. kWh) for 80% Load Factor
<b>High Tension</b>			
<b>HT Category at 11 kv</b>			
HT I (A): General	8.17	7.17	6.95
HT I (B): Energy Intensive Industries	5.68	5.68	5.68
HT I (C): Aquaculture and Animal Husbandry	3.90	3.80	3.79
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	6.49	5.64	5.42
HT II: Others	9.50	8.49	8.26
HT II (B): Religious Places	5.04	4.94	4.93
HT II (C): Function Halls/Auditoriums	11.32	11.32	11.32
HT III: Public Infrastructure and Tourism	7.99	8.05	7.83
HT IV: Government LIS	5.68	5.60	5.60
HT IV Private Irrigation and	5.60	5.60	5.60

Category	Scenario - 1	Scenario - 2	Scenario - 3
	Tariff Applicable (Rs./kWh) in Base Case	Tariff Applicable (Rs./kWh) for 60% Load Factor	Tariff Applicable (Rs./kWh) for 80% Load Factor
Agriculture			
HT IV CPWS	4.73	4.70	4.70
HT VI: Townships & Residential Colonies	6.23	6.21	6.18
HT VII: Green Power	11.32	11.32	11.32
HT VIII: Temporary	0.00	0.00	0.00
Category: RESCOs	0.24	0.24	0.24
HT Category at 33 kv			
HT I (A): General	6.79	6.73	6.50
HT I (B): Energy Intensive Industries	5.23	5.23	5.23
HT I (C) : Aquaculture and Animal Husbandry	3.80	3.80	3.79
HT I (D) : Poultry Hatcheries and Poultry Feed Mixing Plants	5.69	5.64	5.42
HT II: Others	9.16	7.79	7.57
HT II (B): Religious Places	5.02	4.94	4.93
HT II (C) : Function Halls / Auditoriums	11.32	11.32	11.32
HT III: Public Infrastructure and Tourism	8.50	7.39	7.17
HT IV Government LIS	5.62	5.60	5.60
HT IV Agriculture	5.60	5.60	5.60
HT IV CPWS	4.71	4.70	4.70
HT VI: Townships & Residential Colonies	6.33	6.21	6.18
HT VII: Green Power	11.32	11.32	11.32
HT VIII: Temporary	0.00	0.00	0.00
HT Category at 132 kv			
HT I (A): General	6.50	6.30	6.08
HT I (B): Energy Intensive Industries	4.81	4.81	4.81
HT I (C) : Aquaculture and Animal Husbandry	3.81	3.80	3.79

Category	Scenario - 1	Scenario - 2	Scenario - 3
	Tariff Applicable (Rs./kWh) in Base Case	Tariff Applicable (Rs./kWh) for 60% Load Factor	Tariff Applicable (Rs./kWh) for 60% Load Factor
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	5.84	5.64	5.42
HT II: Others	7.73	7.51	7.29
HT II (B): Religious Places	4.95	4.94	4.93
HT II (C): Function Halls / Auditoriums	11.32	11.32	11.32
HT III: Public Infrastructure and Tourism	8.16	7.02	6.80
HT IV Government LIS	5.60	5.60	5.60
HT IV Agriculture	5.60	5.60	5.60
HT IV CPWS	4.70	4.70	4.70
HT V: Railway Traction	6.68	6.68	6.68
HT VI: Townships & Residential Colonies	6.26	6.21	6.18
HT VII: Green Power	11.32	11.32	11.32
HT VIII: Temporary	0.00	0.00	0.00

\* Note: For Sub-Categories where there are no historical sales a load factor of 60% is considered for computing Tariff Applicable in the base case.

f) Computation of "20% Cap on Tariff Applicable"

g)

As per National Tariff Policy "The surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking open access"

The licensee is of the view that this condition shall be made applicable only for Base Case (Scenario - 1).

Whereas, other two scenarios (Scenario - 2, Scenario - 3) where Tariff applicable is dependent on Load Factor, which act as a natural ceiling on CSS and hence no separate cap is required. .

Based on the above methodology the CSS computed under three Scenarios summarized in the below table (the detailed workings are enclosed in Annexure-2)

Category	Base Case - As per NDP - 2010		Scenario - 1 Load Factor of 60%	Scenario - 2 Load Factor of 80%
	CSS without cap	CSS with Cap	CSS without cap	CSS without cap
<b>High Tension</b>				
HT Category at 11 kv				
HT I (A): General	2.53	1.63	2.23	2.19
HT I (B): Energy Intensive Industries	0.88	0.88	0.73	0.92
HT I (C): Aquaculture and Animal Husbandry	-	-	-	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	0.84	0.84	0.70	0.66
HT II: Others	3.75	1.90	3.54	3.50
HT II (B): Religious Places	-	-	-	0.17
HT II (C): Function Halls/Auditoriums	5.58	2.26	6.37	6.56
HT III: Public Infrastructure and Tourism	3.10	1.60	3.11	3.07
HT IV Government LIS	-	-	0.65	0.84
HT IV Private Irrigation and Agriculture	0.65	0.65	0.65	0.84
HT IV CPWS	-	-	-	-
HT VI: Townships & Residential Colonies	1.21	1.21	1.26	1.41
HT VII: Green Power	6.37	2.26	6.37	6.56
HT VIII: Temporary	-	-	-	-
Category: RESCOs	-	-	-	-
HT Category at 33 kv				
HT I (A): General	2.47	1.36	2.42	2.26
HT I (B): Energy Intensive Industries	0.92	0.92	0.93	0.99
HT I (C): Aquaculture and Animal Husbandry	-	-	-	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	1.38	1.14	1.34	1.18
HT II: Others	4.47	1.83	3.49	3.33
HT II (B): Religious Places	0.33	0.33	0.64	0.69



Category	Base Case - As per NTP-2010		Scenario-2 Load Factor of 60%	Scenario-3 Load Factor of 80%
HT II (C) : Function Halls / Auditoriums	6.63	2.26	7.02	7.08
HT III: Public Infrastructure and Tourism	3.89	1.70	3.09	2.93
HT IV Government LIS	-	-	1.30	1.36
HT IV Agriculture	1.30	1.12	1.30	1.36
HT IV CPWS	0.16	0.16	0.40	0.46
HT VI: Townships & Residential Colonies	1.93	1.27	1.90	1.93
HT VII: Green Power	7.02	2.26	7.02	7.08
HT VIII: Temporary	-	-	-	-
HT Category at 132 kv				
HT I (A): General	2.34	1.30	2.18	2.01
HT I (B): Energy Intensive Industries	0.69	0.69	0.69	0.74
HT I (C): Aquaculture and Animal Husbandry	-	-	-	-
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	1.67	1.17	1.52	1.35
HT II: Others	3.55	1.55	3.39	3.22
HT-II (B): Religious Places	0.78	0.78	0.82	0.86
HT II (C) : Function Halls / Auditoriums	7.15	2.26	7.20	7.25
HT III: Public Infrastructure and Tourism	3.77	1.63	2.90	2.73
HT IV Government LIS	1.33	1.12	1.48	1.53
HT V: Railway Traction	1.48	1.12	1.48	1.53
HT VI: Townships & Residential Colonies	0.37	0.37	0.58	0.63
HT VII: Green Power	2.46	1.34	2.56	2.61
HT VIII: Temporary	2.05	1.25	2.09	2.11

As can be seen from the above table that the CSS varies with various load factor of a consumer. However, ceiling of 20% on tariff applicable sets a minimum load factor as a threshold to remove anomalies. Considering the above, the licensee is of the view that CSS should be one single value for each Sub-Category of consumer determined as Rs /kVAh (Unit) and cannot be determined separately for a different consumer.

Licensee computed CSS under various scenarios of load factor only to analyze the impact on a typical consumer. Hence, Licensee humbly requests Hon'ble Commission to take an appropriate decision considering interests of all stakeholders of the sector.

Moreover, Licensee strongly feels that Hon'ble Commission may take views from the public through consultative process and finalize a methodology to compute Cross Subsidy Surcharge and additional surcharge, as may be applicable. This will enable the Licensee to file as per the approved methodology from next tariff year.

**Prayer:**

The licensee requests that this Honourable Commission may be pleased to:

1. Take the above revised proposal for determination of the Cross Subsidy Surcharge and additional surcharge for FY 2016-17 on record and treat it as complete;
2. Consider and approve APSPDCL's revised proposal for determination of the Cross Subsidy Surcharge and additional surcharge for FY 2016-17;
3. Pass such order as the Honourable Commission may deem fit and proper in the facts and circumstances of the case.

**SOUTHERN POWER DISTRIBUTION COMPANY OF ANDHRA PRADESH LIMITED**

**(APPLICANT)**

Through

**Chief General Manager/Operation**

**Place: Tirupati  
Dated: 15-07-2016**

**1 Annexure - 1**  
**1.1 Computation of Tariff Applicable In Base Case - (Scenario - 1)**

Category	Contracte Demand (MW)	Size (MW)	Load Factor	Energy Charge (Rs./Kwh)	Demand Charge (Rs./Kwh)	Minimum Charge (Rs./Kwh)	Customer Charge (Rs./Kwh)	Total Charge (Rs./Kwh)	Tariff Applicable (Rs./Kwh) In Base Case
High Tension	a	b	c=b/(a*24*305)	d	e	f	g	h=d+e+g	i=h/b
HT Category at 11 kv									
HT I (A): General	650.14	1754.92	31%	1111.41	301.02	17.86	4.06	1434.36	8.17
HT I (B): Energy Intensive Industries	0.00	0.00	75%	0.00	0.00	0.00	0.00	0.00	5.68
HT I (C): Aquaculture and Animal Husbandry	29.16	49.48	19%	18.56	0.73	0.00	0.00	19.29	3.90
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants		0.00	31%	0.00	0.00	0.00	0.00	0.00	6.49
HT II: Others	228.37	577.45	29%	438.19	105.74	2.58	1.83	548.34	9.50
HT II (B): Religious Places	18.75	32.53	20%	15.90	0.49	0.00	0.00	16.39	5.04
HT II (C): Function Halls/Auditoriums		0.00	29%	0.00	0.00	0.00	0.00	0.00	11.32
HT III: Public Infrastructure and Tourism	5.98	33.97	65%	24.32	2.77	0.00	0.05	27.13	7.99
HT IV Government LIS	73.31	55.27	9%	30.95	0.00	0.00	0.44	31.39	5.68
HT IV Private Irrigation and Agriculture	0.00	17.90	60%	10.02	0.00	0.00	0.00	10.02	5.60
HT IV CPWS	17.50	47.41	31%	22.29	0.00	0.00	0.13	22.42	4.73
HT VI: Townships & Residential Colonies	8.24	39.60	55%	24.07	0.55	0.00	0.05	24.67	6.23
HT VII: Green Power	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	11.32
HT VIII: Temporary	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	0.00
Category: RESCOs	0.00	329.48	60%	7.91	0.00	0.00	0.00	7.91	0.24
HT Category at 33 kv									
HT I (A): General	768.19	3821.59	57%	2235.50	355.68	3.66	0.42	2595.26	6.70
HT I (B): Energy Intensive Industries	47.19	237.75	58%	124.34	0.00	0.00	0.01	124.36	5.23
HT I (C): Aquaculture and		0.00	57%	0.00	0.00	0.00	0.00	0.00	3.80

Category	Category & Demand (MVA)	Value (MVA)	Load Factor	Energy Charges (Rs/Cu)	Demand Charges (Rs/Cu)	Minimum Charges (Rs/Cu)	Category Charges (Rs/Cu)	Total Charges (Rs/Cu)	Total Applicable (Rs/kWh) in Base Case
High Tension	a	b	CEI/ (CPEP %)	d	e	f	g	h= d+e+f+g	ced/h
Animal Husbandry									
HT I (D) : Poultry Hatcheries and Poultry Feed Mixing Plants		0.00	57%	0.00	0.00	0.00	0.00	0.00	5.69
HT II: Others	52.40	107.57	23%	74.20	24.26	0.02	0.06	98.54	9.16
HT II (B): Religious Places		0.00	23%	0.00	0.00	0.00	0.00	0.00	5.02
HT II (C): Function Halls / Auditoriums		0.00	23%	0.00	0.00	0.00	0.00	0.00	11.32
HT III: Public Infrastructure and Tourism	0.45	1.04	26%	0.68	0.21	0.00	0.00	0.89	8.50
HT IV Government LIS	56.33	25.12	5%	14.07	0.00	0.00	0.05	14.11	5.02
HT IV Agriculture	0.00	10.00	60%	5.60	0.00	0.00	0.00	5.60	5.60
HT IV CPWS	13.36	35.40	30%	16.04	0.00	0.00	0.02	16.66	4.71
HT VI: Townships & Residential Colonies	0.58	2.17	43%	1.32	0.04	0.01	0.01	1.37	6.33
HT VII: Green Power	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	11.32
HT VIII: Temporary	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	0.00
HT Category at 132 kv									
HT I (A): General	670.93	2894.24	49%	1568.10	310.65	3.14	0.11	1881.99	6.50
HT I (B): Energy Intensive Industries	29.16	156.55	61%	75.30	0.00	0.00	0.01	75.31	4.81
HT I (C): Aquaculture and Animal Husbandry		0.00	49%	0.00	0.00	0.00	0.00	0.00	3.81
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants		0.00	49%	0.00	0.00	0.00	0.00	0.00	5.84
HT II: Others	6.05	25.40	48%	16.80	2.80	0.00	0.02	19.63	7.73
HT II (B): Religious Places		0.00	48%	0.00	0.00	0.00	0.00	0.00	4.95
HT II (C): Function Halls / Auditoriums		0.00	48%	0.00	0.00	0.00	0.00	0.00	11.32

Category	Constant Demand (AWA)	Sales (MW)	Load Factor	Energy Charges (Rs./AWA)	Demand Charges (Rs./MW)	Minimum Charges (Rs./MW)	Customer Charges (Rs./MW)	Total Charges (Rs./MW)	Tariff Applicable (Rs./AWA) in base case
High Tension	a	b	$\frac{c \times b}{(d \times 24 \times 30)}$	d	e	f	g	$h = d + e + f + g$	$c = d/a$
HT III: Public Infrastructure and Tourism	0.00	0.00	26%	0.00	0.00	0.00	0.00	0.00	8.16
HT IV Government LIS	355.32	1108.20	36%	620.59	0.00	0.00	0.02	620.61	5.60
HT IV Agriculture	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	5.60
HT IV CPWS	0.00	0.00	30%	0.00	0.00	0.00	0.00	0.00	4.70
HT V: Railway Traction	229.50	830.88	41%	555.02	0.00	0.00	0.05	555.08	6.68
HT VI: Townships & Residential Colonies	0.00	0.00	43%	0.00	0.00	0.00	0.00	0.00	6.26
HT VII: Green Power	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	11.32
HT VIII: Temporary	0.00	0.00	60%	0.00	0.00	0.00	0.00	0.00	0.00

#### 1.2 Computation of Tariff Applicable at 60% Load Factor- (Scenario - 2)

Category	Energy Charges (Rs./AWA)	Demand charges (Rs./MW/monthly)	Load Factor	Tariff Applicable (Rs./AWA) for 60% Load Factor
High Tension	a	b	c	$d = a + b / (c \times 24 \times 30)$
<b>HT Category at 11 Kv</b>				
HT I (A): General	6.14	385.84	60%	7.17
HT I (B): Energy Intensive Industries	5.68	-	60%	5.68
HT I (C): Aquaculture and Animal Husbandry	3.75	21.00	60%	3.80
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	4.75	385.84	60%	5.64
HT II: Others	7.40	385.84	60%	8.49
HT II (B): Religious Places	4.89	21.84	60%	4.94
HT II (C): Function Halls/Auditoriums	11.32	-	60%	11.32
HT III: Public Infrastructure and Tourism	7.05	385.84	60%	8.05
HT IV Government LIS	5.60	-	60%	5.60
HT IV Private Irrigation and Agriculture	5.60	-	60%	5.60
HT IV CPWS	4.70	-	60%	4.70
HT VI: Townships & Residential Colonies	6.08	55.12	60%	6.21
HT VII: Green Power	11.32	-	60%	11.32
HT VIII: Temporary	-	-	60%	0.00

Category	Energy charges (Rs/kVAh)	Demand Charges (Rs/kVA/month)	Load Factor	Tariff Applicable (Rs/kVAh) for 60% Load Factor
<b>(High Tension)</b>	<b>a</b>	<b>b</b>	<b>c</b>	<b><math>d = a + b / (c \times 24 \times 30)</math></b>
Category: RESCOs	0.24	-	60%	0.24
HT Category at 33 kv				
HT I (A): General	5.60	385.84	60%	6.73
HT I (B): Energy Intensive Industries	5.23	-	60%	5.23
HT I (C): Aquaculture and Animal Husbandry	3.75	21.00	60%	3.80
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	4.75	385.84	60%	5.64
HT II: Others	6.72	385.84	60%	7.79
HT II (B): Religious Places	4.89	21.84	60%	4.94
HT II (C): Function Halls / Auditoriums	11.32	-	60%	11.32
HT III: Public Infrastructure and Tourism	6.44	385.84	60%	7.39
HT IV: Government US	5.60	-	60%	5.60
HT IV Agriculture	5.60	-	60%	5.60
HT IV CPWS	4.70	-	60%	4.70
HT VI: Townships & Residential Colonies	6.08	55.12	60%	6.21
HT VII: Green Power	11.32	-	60%	11.32
HT VIII: Temporary	-	-	60%	0.00
HT Category at 132 kv				
HT I (A): General	5.25	385.84	60%	6.30
HT I (B): Energy Intensive Industries	4.81	-	60%	4.81
HT I (C): Aquaculture and Animal Husbandry	3.75	21.00	60%	3.80
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	4.75	385.84	60%	5.64
HT II: Others	6.46	385.84	60%	7.51
HT II (B): Religious Places	4.89	21.84	60%	4.94
HT II (C): Function Halls / Auditoriums	11.32	-	60%	11.32
HT III: Public Infrastructure and Tourism	6.13	385.84	60%	7.02
HT IV: Government IIS	5.60	-	60%	5.60
HT IV Agriculture	5.60	-	60%	5.60
HT IV CPWS	4.70	-	60%	4.70
HT V: Railway Traction	6.68	-	60%	6.68
HT VI: Townships & Residential Colonies	6.08	55.12	60%	6.21

Category	Energy charges (Rs/kVAh)	Demand charges (Rs/kVA/month)	Load Factor	Tariff Applicable (Rs/kWh) for 60% Load Factor
High Tension	a	b	c	$d = a + b / (c \times 24 \times 30)$
HT VII: Green Power	11.32	-	60%	11.32
HT VIII: Temporary	-	-	60%	0.00

1.3 Computation of Tariff Applicable at 80% Load Factor-- (Scenario - 3)

Category	Energy charges (Rs/kVAh)	Demand charges (Rs/kVA/month)	Load Factor	Tariff Applicable (Rs/kWh) for 80% Load Factor
High Tension	a	b	c	$d = a + b / (c \times 24 \times 30)$
<b>HT Category at 11 kv</b>				
HT I (A): General	6.14	385.84	80%	6.95
HT I (B): Energy Intensive Industries	5.68	-	80%	5.68
HT I (C): Aquaculture and Animal Husbandry	3.75	21.00	80%	3.79
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	4.75	385.84	80%	5.42
HT II: Others	7.40	385.84	80%	8.26
HT II (B): Religious Places	4.89	21.84	80%	4.93
HT II (C): Function Halls/Auditoriums	11.32	-	80%	11.32
HT III: Public Infrastructure and Tourism	7.05	385.84	80%	7.83
HT IV: Government LIS	5.60	-	80%	5.60
HT IV Private Irrigation and Agriculture	5.60	-	80%	5.60
HT IV CPWS	4.70	-	80%	4.70
HT VI: Townships & Residential Colonies	6.08	55.12	80%	6.18
HT VII: Green Power	11.32	-	80%	11.32
HT VIII: Temporary	-	-	80%	0.00
Category: RESCOs	0.24	-	80%	0.24
<b>HT Category at 33 kv</b>				
HT I (A): General	5.68	385.84	80%	6.50
HT I (B): Energy Intensive Industries	5.23	-	80%	5.23
HT I (C): Aquaculture and Animal Husbandry	3.75	21.00	80%	3.79
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	4.75	385.84	80%	5.42
HT II: Others	6.72	385.84	80%	7.57
HT II (B): Religious Places	4.89	21.84	80%	4.93

Category	Energy Charges (Rs./kVAh)	Demand Charges (Rs./kVA/month)	Load Factor	Tariff Applicable (Rs./kVAh) (for 60% Load Factor)
<b>High Tension</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00/0.425*100</b>
HT II (C): Function Halls / Auditoriums	11.32	-	80%	11.32
HT III: Public Infrastructure and Tourism	0.44	385.84	80%	7.17
HT IV: Government US	5.60	-	80%	5.60
HT IV: Agriculture	5.60	-	80%	5.60
HT IV: CPWS	4.70	-	80%	4.70
HT VI: Townships & Residential Colonies	0.08	55.12	80%	6.18
HT VII: Green Power	11.32	-	80%	11.32
HT VIII: Temporary	-	-	80%	0.00
HT Category at 132 kv				
HT I (A): General	5.25	385.84	80%	6.08
HT I (B): Energy Intensive Industries	4.81	-	80%	4.81
HT I (C): Aquaculture and Animal Husbandry	3.75	21.00	80%	3.79
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	4.75	385.84	80%	5.42
HT II: Others	0.40	385.84	80%	7.29
HT II (B): Religious Places	4.89	21.64	80%	4.93
HT II (C): Function Halls / Auditoriums	11.32	-	80%	11.32
HT III: Public Infrastructure and Tourism	0.13	385.84	80%	6.80
HT IV: Government US	5.60	-	80%	5.60
HT IV: Agriculture	5.60	-	80%	5.60
HT IV: CPWS	4.70	-	80%	4.70
HT V: Railway Traction	0.68	-	80%	0.68
HT VI: Townships & Residential Colonies	0.08	55.12	80%	6.18
HT VII: Green Power	11.32	-	80%	11.32
HT VIII: Temporary	-	-	80%	0.00

## 2 Annexure - 2

Cross Subsidy Surcharge Computation in Base Case (Scenario - 1)

Category	Tariff Applicable C	CC Average Power Purchase Cost (Rs./unit) 1	DC (Voltage Charging Transformer Charge) (Rs./kVA/month) 2	LC Applicable Classes	Load Factor (Base Case)	Category VCS without cap	20% of Tariff Applicable C	Final CS (Base Case)
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Sub-Location	U	G	Q	L		CS-7- (7/14) CO-4	20m/dt	Max CS-7- (7/14) CO-4
HT Category at 11 kv								0
HT I (A): General	0.17	3.75	318.50	10.97%	30.31%	2.53	1.03	1.03
HT I (B): Energy Intensive Industries	3.03	3.75	318.50	10.97%	75.00%	0.82	1.14	0.82
HT I (C): Aquaculture and Animal Husbandry	3.90	3.75	318.50	10.97%	19.37%	-	0.78	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	0.49	3.75	318.50	10.97%	30.31%	0.44	1.30	0.44
HT II: Others	0.30	3.75	318.50	10.97%	73.50%	3.75	1.90	1.90
HT II (B): Religious Places	3.04	3.75	318.50	10.97%	19.31%	-	1.01	-
HT II (C): Function Halls/Auditoriums	11.32	3.75	318.50	10.97%	28.80%	5.58	2.26	2.26
HT III: Public Infrastructure and Tourism	7.99	3.75	318.50	10.97%	64.59%	3.10	1.50	1.60
HT IV: Government LUS	3.08	3.75	318.50	10.97%	8.01%	-	1.14	-
HT IV Private Irrigation and Agriculture	3.00	3.75	318.50	10.97%	60.00%	0.05	1.12	0.05
HT IV CPWS	4.73	3.75	318.50	10.97%	30.93%	-	0.95	-
HT VI: Townships & Residential Colonies	0.23	3.75	318.50	10.97%	54.80%	1.21	1.25	1.21
HT VII: Green Power	11.32	3.75	318.50	10.97%	60.00%	0.37	2.20	2.20
HT VIII: Temporary	0.00	3.75	318.50	10.97%	60.00%	-	-	-
Category: RESCOs	0.24	3.75	318.50	10.97%	60.00%	-	0.05	-
HT Category at 33 kv								
HT I (A): General	0.79	3.75	100.75	7.59%	50.79%	2.07	1.36	1.36
HT I (B): Energy Intensive Industries	3.23	3.75	100.75	7.59%	57.51%	0.92	1.05	0.92
HT I (C): Aquaculture and Animal Husbandry	3.80	3.75	100.75	7.59%	50.79%	-	0.70	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	3.09	3.75	100.75	7.59%	50.79%	1.38	1.14	1.14
HT II: Others	0.10	3.75	100.75	7.59%	23.41%	4.07	1.83	1.33
HT II (B): Religious Places	3.02	3.75	100.75	7.59%	23.41%	0.33	1.00	0.33
HT II (C): Function Halls / Auditoriums	11.32	3.75	100.75	7.59%	23.41%	0.03	2.26	2.26
HT III: Public Infrastructure and Tourism	8.30	3.75	100.75	7.59%	20.45%	3.89	1.70	1.70

XIX

Category	1. Staff Applicable C	2. Average Power Purchase Cost (Rs./kWh) C1	3. (Wholesale Category - Transmission Charge) (Rs./kWh) C2	4. Applicable Category C3	5. Load Factor (Base Case) C4	6. Category VCS with Load Factor C5	7. Power Factor Applicable C6	8. Final CST (Base Case) C7
High Tension	T	C	D	E		C5 = C4 - (C4 x E) (100 - F)	100% or F	C7 = C3 + C6 + C5 + C2 + C1
HT IV: Government LIS	5.62	3.75	100.75	7.59%	5.09%	-	1.12	-
HT IV: Agriculture	5.60	3.75	100.75	7.59%	60.00%	1.30	1.12	1.12
HT IV: CPWS	4.71	3.75	100.75	7.59%	30.25%	0.16	0.94	0.16
HT VI: Townships & Residential Colonies	6.33	3.75	100.75	7.59%	43.14%	1.93	1.27	1.27
HT VII: Green Power	11.32	3.75	100.75	7.59%	60.00%	7.02	2.26	2.26
HT VIII: Temporary	0.00	3.75	100.75	7.59%	60.00%	-	-	-
HT Category at 132 kv								
HT I (A): General	6.50	3.75	91.30	4.13%	49.24%	2.34	1.30	1.30
HT I (B): Energy Intensive Industries	4.81	3.75	91.30	4.13%	61.29%	0.09	0.96	0.09
HT I (C): Aquaculture and Animal Husbandry	3.81	3.75	91.30	4.13%	49.24%	-	0.76	-
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	5.84	3.75	91.30	4.13%	49.24%	1.07	1.17	1.17
HT II: Others	7.73	3.75	91.30	4.13%	47.92%	3.55	1.55	1.55
HT II (B): Religious Places	4.95	3.75	91.30	4.13%	47.92%	0.78	0.99	0.78
HT II (C): Function Halls / Auditoriums	11.32	3.75	91.30	4.13%	47.92%	7.15	2.26	2.26
HT III: Public Infrastructure and Tourism	8.16	3.75	91.30	4.13%	26.45%	3.77	1.63	1.63
HT IV: Government LIS	5.60	3.75	91.30	4.13%	35.00%	1.33	1.12	1.12
HT IV: Agriculture	5.60	3.75	91.30	4.13%	60.00%	1.48	1.12	1.12
HT IV: CPWS	4.70	3.75	91.30	4.13%	30.25%	0.37	0.94	0.37
HT V: Railway Traction	6.68	3.75	91.30	4.13%	41.33%	2.46	1.34	1.34
HT VI: Townships & Residential Colonies	6.20	3.75	91.30	4.13%	43.14%	2.05	1.25	1.25
HT VII: Green Power	11.32	3.75	91.30	4.13%	60.00%	7.20	2.26	2.26
HT VIII: Temporary	0.00	3.75	91.30	4.13%	60.00%	-	-	-

Cross Subsidy Surcharge Computation with 60% Load Factor (Scenario - 2)

Category	Rate/Unit Applicable	CP Average Power Purchase Cost (Rs/kWh)	DP (Winning Bids) + Transmission Charge) (Rs/kWh/month)	LT Applicable Losses	Load Factor - 60%	Category CS without cap
<b>High Tension</b>	<b>T</b>	<b>C</b>	<b>D</b>	<b>L</b>		<b>CSST- (C/L+Q+ O+R)</b>
HT Category at 11 kv						
HT I (A): General	7.17	3.75	318.50	10.97%	60%	2.23
HT I (B): Energy Intensive Industries	5.68	3.75	318.50	10.97%	60%	0.73
HT I (C): Aquaculture and Animal Husbandry	3.80	3.75	318.50	10.97%	60%	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	5.64	3.75	318.50	10.97%	60%	0.70
HT II: Others	8.49	3.75	318.50	10.97%	60%	3.54
HT II (B): Religious Places	4.94	3.75	318.50	10.97%	60%	-
HT II (C): Function Halls/Auditoriums	11.32	3.75	318.50	10.97%	60%	6.37
HT III: Public Infrastructure and Tourism	8.05	3.75	318.50	10.97%	60%	3.11
HT IV: Government US	5.60	3.75	318.50	10.97%	60%	0.65
HT IV Private Irrigation and Agriculture	5.60	3.75	318.50	10.97%	60%	0.65
HT IV CPWS	4.70	3.75	318.50	10.97%	60%	-
HT VI: Townships & Residential Colonies	6.21	3.75	318.50	10.97%	60%	1.26
HT VII: Green Power	11.32	3.75	318.50	10.97%	60%	6.37
HT VIII: Temporary	0.00	3.75	318.50	10.97%	60%	-
Category: RESCOs	0.24	3.75	318.50	10.97%	60%	-
HT Category at 33 kv						
HT I (A): General	6.73	3.75	106.75	7.59%	60%	2.42
HT I (B): Energy Intensive Industries	5.23	3.75	106.75	7.59%	60%	0.93
HT I (C): Aquaculture and Animal Husbandry	3.80	3.75	106.75	7.59%	60%	-
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	5.64	3.75	106.75	7.59%	60%	1.34
HT II: Others	7.79	3.75	106.75	7.59%	60%	3.49
HT II (B): Religious Places	4.94	3.75	106.75	7.59%	60%	0.64
HT II (C): Function Halls / Auditoriums	11.32	3.75	106.75	7.59%	60%	7.02

HT III: Public Infrastructure and Tourism	7.39	3.75	106.75	7.59%	60%	3.09
HT IV: Government US	5.60	3.75	106.75	7.59%	60%	1.30
HT IV: Agriculture	5.60	3.75	106.75	7.59%	60%	1.30
HT IV: CPWS	4.70	3.75	106.75	7.59%	60%	0.40
HT VI: Townships & Residential Colonies	6.21	3.75	106.75	7.59%	60%	1.90
HT VII: Green Power	11.32	3.75	106.75	7.59%	60%	7.02
HT VIII: Temporary	0.00	3.75	106.75	7.59%	60%	-
HT Category at 132 kv						
HT I (A): General	6.30	3.75	91.36	4.13%	60%	2.18
HT I (B): Energy Intensive Industries	4.81	3.75	91.36	4.13%	60%	0.69
HT I (C): Aquaculture and Animal Husbandry	3.80	3.75	91.36	4.13%	60%	-
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	5.64	3.75	91.36	4.13%	60%	1.52
HT II: Others	7.51	3.75	91.36	4.13%	60%	3.39
HT II (B): Religious Places	4.94	3.75	91.36	4.13%	60%	0.82
HT II (C): Function Halls / Auditoriums	11.32	3.75	91.36	4.13%	60%	7.20
HT III: Public Infrastructure and Tourism	7.02	3.75	91.36	4.13%	60%	2.90
HT IV: Government US	5.60	3.75	91.36	4.13%	60%	1.48
HT IV: Agriculture	5.60	3.75	91.36	4.13%	60%	1.48
HT IV: CPWS	4.70	3.75	91.36	4.13%	60%	0.58
HT V: Railway Traction	6.68	3.75	91.36	4.13%	60%	2.56
HT VI: Townships & Residential Colonies	6.21	3.75	91.36	4.13%	60%	2.09
HT VII: Green Power	11.32	3.75	91.36	4.13%	60%	7.20
HT VIII: Temporary	0.00	3.75	91.36	4.13%	60%	-

Note : ToD charges are considered in the above computations.

**Cross Subsidy Surcharge Computation with 80% Load Factor (Scenario - 3)**

Category	T-Twill Available	C3 Average Power Purchase Cost (Rs./unit)	D3 (Wholesale Charges + Transmission Charge) (Rs./kVA/month)	L3 Applicable Loss%	Load Factor 80%	Category CS without CSD
<b>High Tension</b>	<b>T</b>	<b>C</b>	<b>D</b>	<b>L</b>		<b>CS = T - (C/(L-1) - D x R)</b>
HT Category at 11 kv						
HT I (A): General	6.05	3.75	318.50	10.97%	80%	2.19
HT I (B): Energy Intensive Industries	5.68	3.75	318.50	10.97%	80%	0.92
HT I (C): Aquaculture and Animal Husbandry	3.79	3.75	318.50	10.97%	80%	
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	5.42	3.75	318.50	10.97%	80%	0.66
HT II: Others	8.26	3.75	318.50	10.97%	80%	3.50
HT II (B): Religious Places	4.93	3.75	318.50	10.97%	80%	0.17
HT II (C): Function Halls/Auditoriums	11.32	3.75	318.50	10.97%	80%	6.56
HT III: Public Infrastructure and Tourism	7.83	3.75	318.50	10.97%	80%	3.07
HT IV: Government LIS	5.60	3.75	318.50	10.97%	80%	0.84
HT IV Private Irrigation and Agriculture	5.60	3.75	318.50	10.97%	80%	0.84
HT IV CPWS	4.70	3.75	318.50	10.97%	80%	
HT VI: Townships & Residential Colonies	6.18	3.75	318.50	10.97%	80%	1.41
HT VII: Green Power	11.32	3.75	318.50	10.97%	80%	6.56
HT VII: Temporary	0.00	3.75	318.50	10.97%	80%	
Category: RESCOs	0.24	3.75	318.50	10.97%	80%	
HT Category at 33 kv						
HT I (A): General	6.50	3.75	106.75	7.59%	80%	2.26
HT I (B): Energy Intensive Industries	5.23	3.75	106.75	7.59%	80%	0.99
HT I (C): Aquaculture and Animal Husbandry	3.79	3.75	106.75	7.59%	80%	
HT I (D): Poultry Hatcheries and Poultry Feed Mixing Plants	5.42	3.75	106.75	7.59%	80%	1.18
HT II: Others	7.57	3.75	106.75	7.59%	80%	3.33
HT II (B): Religious Places	4.93	3.75	106.75	7.59%	80%	0.69

HT II (C) : Function Halls / Auditoriums	11.32	3.75	106.75	7.59%	80%	7.08
HT III: Public Infrastructure and Tourism	7.17	3.75	106.75	7.59%	80%	2.93
HT IV Government LIS	5.60	3.75	106.75	7.59%	80%	1.36
HT IV Agriculture	5.60	3.75	106.75	7.59%	80%	1.36
HT IV CPWS	4.70	3.75	106.75	7.59%	80%	0.46
HT VI: Townships & Residential Colonies	6.18	3.75	106.75	7.59%	80%	1.93
HT VII: Green Power	11.32	3.75	106.75	7.59%	80%	7.08
HT VIII: Temporary	0.00	3.75	106.75	7.59%	80%	-
HT Category at 132 kv						
HT I (A): General	6.08	3.75	91.36	4.13%	80%	2.01
HT I (B): Energy Intensive Industries	4.81	3.75	91.36	4.13%	80%	0.74
HT I (C): Aquaculture and Animal Husbandry	3.79	3.75	91.36	4.13%	80%	-
HT I (D): Poultry and Hatcheries and Poultry Feed Mixing Plants	5.42	3.75	91.36	4.13%	80%	1.35
HT II: Others	7.29	3.75	91.36	4.13%	80%	3.22
HT II (B): Religious Places	4.93	3.75	91.36	4.13%	80%	0.86
HT II (C) : Function Halls / Auditoriums	11.32	3.75	91.36	4.13%	80%	7.25
HT III: Public Infrastructure and Tourism	6.80	3.75	91.36	4.13%	80%	2.73
HT IV Government LIS	5.60	3.75	91.36	4.13%	80%	1.53
HT IV Agriculture	5.60	3.75	91.36	4.13%	80%	1.53
HT IV CPWS	4.70	3.75	91.36	4.13%	80%	0.63
HT V: Railway Traction	6.68	3.75	91.36	4.13%	80%	2.61
HT VI: Townships & Residential Colonies	6.18	3.75	91.36	4.13%	80%	2.11
HT VII: Green Power	11.32	3.75	91.36	4.13%	80%	7.25
HT VIII: Temporary	0.00	3.75	91.36	4.13%	80%	-

Note : ToD charges are considered in the above computations.