Table 1.1: Review of Judgments

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
1.	Judgment of the Hon'ble Supreme Court of India, West Bengal Electricity Regulatory Commission Vs CESC Limited (2002) 8 SCC 715 https://indiankanoon.org/doc/1885523/ last accessed on February 4, 2017	• Recognition of the problem of cross-subsidy and considering abolition of the same (with reference to the average cost-of-supply). Judgment issued under the Electricity Regulatory Commissions Act, 1998 (and other erstwhile electricity laws, which have now been repealed under the Electricity Act, 2003 (2003 Act)).
2.	Judgment of the Hon'ble Supreme Court of India, Punjab State Power Corporation Limited Vs Punjab State Electricity Regulatory Commission & Others in Civil Appeal No. 4510 of 2006 dated February 10, 2015 available at http://judis.nic.in/supremecourt/imgs1.aspx?filename=42362 last accessed on May 22, 2016	• Cost of supply on voltage basis would provide a more accurate barometer for identification of the extent of cross-subsidies. • Continuance of cross-subsidies but reduction of the quantum thereof is the avowed legislative policy. • Approval of the directions issued by the Appellate Tribunal requiring the Commission to gradually move away from the principle of average cost-of-supply to a determination of voltage cost-of-supply.
3.	Judgment of the Hon'ble Supreme Court of India, Sesa Sterlite Limited Vs Orissa Electricity Regulatory Commission & Others in Civil Appeal No. 5479 of 2013 dated April 25, 2014 available at http://judis.nic.in/supremecourt/imgs1.aspx?filename=41475 last accessed on January 21, 2017	• Generally, the bulk consumers who pay at relatively higher rates will avail of open access. Their exit would necessarily have adverse effect on the finances of the existing licensee and its ability to cross-subsidise the vulnerable sections of the society would be affected. • Cross-subsidy surcharge is a compensation to the licensee irrespective of whether its line is used or not. In the absence of open access, the bulk consumer would have paid tariff including an element of cross-subsidy for certain categories of consumers. Such a bulk consumer situated in any area is bound to contribute towards subsidising a low-end consumer of that area. • Judicious determination of cross-subsidy surcharge is necessary.
4.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 79 of 2005 dated 2 March 2006, Union of India (South Central Railways) Vs Andhra Pradesh Electricity Regulatory Commission & Others, available at the website of the Tribunal at http://aptel.gov.in/judgements2.html	• The tariff for the Railway Traction should be gradually reduced to cost-to-serve, like cases of other subsidising categories.

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
5.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 3 of 2005 dated 14 March 2006, Indian Tea Association & Others Vs Assam State Electricity Regulatory Commission & Others, available at the website of the Tribunal at http://aptel.gov.in/judgements2.html	• Considering the average cost-of-supply rather than cost-of-supply for subsidising category of consumers is likely to hide the extent of cross-subsidy contribution by different categories of subsidising consumers. • Section 61 of the 2003 Act clearly provides that the appropriate Commission, while specifying the terms and conditions for determination of tariff, shall be guided by the consideration that the tariff progressively, reflects the cost of supply of electricity and also reduces cross-subsidies. • The cost of supply of electricity must be determined in accordance with the principles laid down in the Act. Since the relevant data was not available with the Commission, it was not possible for it to determine the cost of supply of electricity.
6.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 131 of 2005 dated 31 March 2006, Udyog Nagar Factory Owners Association Vs BSES Rajdhani Power Ltd. & Delhi Electricity Regulatory Commission, available at the website of the Tribunal at http://aptel.gov.in/judgements2.html	• The State Electricity Regulatory Commissions must notify roadmaps for achieving the objective that the tariff should progressively reflect the cost of supply of electricity, with a target that latest by the end of the year 2010-11, tariffs are to be within ±20% of the average cost-of-supply. • A gradual reduction of subsidies every tariff year will go a long way in achieving the balance as envisaged by the Act and the policies. • Cross-subsidies must be reduced progressively and gradually.
7.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 130 of 2005 dated 10 July 2006, South East Central Railways, Chhattisgarh Vs Chhattisgarh State Electricity Board, available at the website of the Tribunal at http://aptel.gov.in/judgements2.html	• It is not the intention of the legislation that the Commission should determine the tariff based on cost of supply from the date of the enforcement of the 2003 Act. • It envisages a gradual transition from the tariff loaded with cross-subsidies to a tariff reflective of cost of supply to various class and categories of energy.
8.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 154 of 2005 dated 24 July 2006, Binani Zinc Ltd. Vs Kerala State Electricity Board & Others, available at the website of the	• Cross-subsidy between the consumers has to be tolerated for some time and it has to be reduced step by step and by degrees.

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
	Tribunal at http://aptel.gov.in/judgements2.html	
9.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 224 of 2006 dated 22 January 2007, Western Railways Vs Gujarat Electricity Regulatory Commission & Others, available at the website of the Tribunal at http://aptel.gov.in/judgements2.html	• Gradual reduction of cross-subsidy is to be effected so as to achieve the National Tariff Policy target by 2010-11. While doing so the Commission should keep in view the guidelines of tariff fixation as stipulated in Section 61 of the 2003 Act and also the other provisions of the National Tariff Policy.
10.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 124 of 2005 & 18 of 2006 dated 2 June 2006, Kashi Vishwanath Steels Ltd. Vs Uttaranchal Electricity Regulatory Commission and Others and Appeal No. 125 & 177 of 2005 dated 2 June 2006, Poddar Alloys Pvt. Ltd. Vs Uttaranchal Electricity Regulatory Commission & Another, available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• Using the marginal cost of purchase of power for a particular category of consumers will perennially result in higher tariff for the category and is not justified. • There is no justification for the Commission for using the highest cost of purchase for a particular category of consumers. • Tariff is to be determined using average pooled cost of purchase.
11.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 269 of 2006 dated 23 May 2007, M/s. Poddar Alloys (P) Ltd., Uttaranchal Vs Uttaranchal Electricity Regulatory Commission & Uttaranchal Power Corporation Ltd. and Appeal No. 12 of 2007 dated 23 May 2007, Kashi Vishwanath Steels Ltd., Uttaranchal. Vs Uttaranchal Electricity Regulatory Commission and Uttaranchal Power Corporation Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• The Commission's approach to recover cross-subsidy element from Power Intensive Industries through back-door by using the highest rate of power purchase is discarded. • The Commission needs to notify the roadmap with the target milestones to ensure that latest by the end of the year 2010-11, tariffs are within ±20% of the average cost-of-supply. The roadmap is required to have the intermediate milestones based on the approach of a gradual reduction in cross-subsidy.
12.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 146 of 2007 dated 19 December 2007, Spencer's Retail Ltd. Vs Maharashtra Electricity Regulatory Commission and Maharashtra State Electricity Distribution Co. Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• Cross-subsidy computed as percentage deviation from the median or average cost-of-supply inclusive of the cost of costly supply should continue to be the same with new tariff if the cross-subsidy contribution is kept at the same level in percentage and may not be so in quantum. • Percentage deviation of tariff fixed for subsidising category of consumers with respect to average cost-of-supply should remain constant, if the cross-subsidy is not

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
		reduced.
13.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 16 of 2008 dated 18 February 2008, Spencer's Retail Ltd. Vs Maharashtra Electricity Regulatory Commission and Reliance Energy Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• Same as Judgment of the Appellate Tribunal for Electricity, Appeal No. 146 of 2007 dated 19 December 2007, Spencer's Retail Ltd. Vs Maharashtra Electricity Regulatory Commission and Maharashtra State Electricity Distribution Co. Ltd.
14.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 29, 30, 31, 32, 33 of 2008 dated 1 April 2008, Runwal Developers Pvt. Ltd. Vs Maharashtra Electricity Regulatory Commission and Maharashtra State Electricity Development Co. Ltd., Shoppers Stop Ltd. Vs Maharashtra Electricity Regulatory Commission and Reliance Energy Ltd., Hypercity Retail (India) Ltd. Vs Maharashtra Electricity Regulatory Commission and Reliance Energy Ltd., Shoppers Stop Ltd. Vs Maharashtra Electricity Regulatory Commission and Reliance Energy Ltd., Shoppers Stop Ltd. Vs Maharashtra Electricity Regulatory Commission and Maharashtra State Electricity Distribution Co. Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• Same as Judgment of the Appellate Tribunal for Electricity, Appeal No. 146 of 2007 dated 19 December 2007, Spencer's Retail Ltd. Vs Maharashtra Electricity Regulatory Commission and Maharashtra State Electricity Distribution Co. Ltd.
15.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 85 of 2008 dated 6 October 2009, Polyplex Corporation Ltd. Vs Uttarakhand Electricity Regulatory Commission and Others, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• The intention of the Tariff Policy is to ensure that those who are subsidised may pay nearly the same as the average cost-of-supply but in raising the tariff for this sector the Commission should go slow so as not to give a tariff shock. • Increasing cross-subsidy is not justified.
16.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 8 of 2008 dated 8 November 2010, Binani Zinc Ltd. Vs Kerala State Electricity Board and Others, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• As long as cross-subsidy is not increased and there is a roadmap for its gradual reduction in consonance with the 2003 Act and the Tariff Policy, the determination of tariff by the State Commission on account of existence of cross-subsidy in the tariff cannot be faulted. • Gradual reduction of cross-subsidy every year will go a long way in achieving the balance as envisaged by the Act and the

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
		policies.
17.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 135 of 2010 dated 25 February 2010 / 2011, Polyplex Corporation Ltd. Vs Uttarakhand Electricity Regulatory Commission and Others, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• The Commission's order is not interfered with as it has taken into account the totality of the situations and circumstances and re-determined the tariff by lowering down the continuous supply surcharge and such re-determination has impacted cross-subsidy within the permissible limit.
18.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 41, 42 and 43 of 2010 dated 31 January 2011, Polyplex Corporation Ltd., Vs Uttarakhand Electricity Regulatory Commission and Uttarakhand Power Corporation Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• The main object and reason of the reform legislation was to distance the role of the government in fixation of tariff and to allow tariff determination by an independent regulatory authority which will follow a transparent process. This is at the very core of the reform legislation. • There is no scope for the State Government to issue policy directions on tariff matters. • In the legislative scheme relating to tariff, the role of State Government is only envisaged on the issue of subsidy as provided under Section 65 of the 2003 Act. • The State Government, in order to ensure increase in tariff of industrial consumers without affecting the agricultural, domestic and government installations, devised a scheme of policy direction. • This was mainly intended to strengthen the position of the State Commission to insulate the order from any challenge since the same was purportedly based on the cost allocation principle. • The State Commission is not justified in allocating only high cost of power to the subsidising consumer category without adjusting the other costs which will be lower for them.
19.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 4, 13, 14, 23, 25, 26, 35, 36, 54 & 55 of 2005 dated 26 May 2006, Siel Ltd. Vs The Punjab State Electricity Regulatory Commission, Punjab State Electricity Board, State of Punjab through the Secretary , available at the website of the Tribunal at	• A situation cannot be allowed to develop where cost of electricity cannot be recovered in a reasonable manner and the tariff is not brought progressively to the level of cost of supply of electricity. • Though it is desirable that cross-subsidies are reduced through every tariff order but in a given situation, it may not be possible, as long as cross-subsidy is not increased and there is a roadmap for its gradual reduction in

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
	http://aptel.gov.in/judgements2.html	consonance with Section 61(g) of the 2003 Act and the National Tariff Policy. • Section 61(g) of the 2003 Act envisages a gradual transition from the tariff loaded with cross-subsidies to a tariff reflective of cost of supply to various class and categories of consumers. • Keeping in view the provisions of Section 61(g) of the 2003 Act, which requires tariff to ultimately reflect the cost of supply of electricity and the National Tariff Policy, which requires tariff to be within ±20% of the average cost-of-supply, the Commission must determine the cost of supply, as that is the goal set by the Act.
20.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 102, 103, 112 of 2010 dated 30 May 2011, Tata Steel Ltd. Vs Orissa Electricity Regulatory Commission, North Eastern Electricity Supply Company, Ferro Alloys Corporation Ltd. Vs Orissa Electricity Regulatory Commission, North Eastern Electricity Supply Company. Balasore Alloys Ltd. Vs Orissa Electricity Regulatory Commission, North Eastern Electricity Supply Company, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• If strict commercial principles are followed, then the tariffs have to be based on the cost to supply a consumer category. However, it is not the intent of the Act after the amendment in the year 2007 (Act 26 of 2007) that the tariff should be the mirror image of the cost of supply of electricity to a category of consumer. • The cross-subsidy for a consumer category is the difference between cost to serve that category of consumers and average tariff realization of that category of consumers. While the cross-subsidies have to be reduced progressively and gradually to avoid tariff shock to the subsidised categories, the cross-subsidies may not be eliminated. • The tariffs should be within ±20% of the average cost-of-supply by the end of 2010-11 to achieve the objective that the tariff progressively reflects the cost of supply of electricity. • The cross-subsidies may gradually be reduced but should not be increased for a category of subsidising consumer. • The cost to supply a consumer category is not the same as average cost-of-supply for the distribution system as a whole and average cost-of-supply cannot be used in calculation of cross-subsidy instead of cost-to-supply. • The word "average" preceding the words "cost of supply" is absent in Section 61(g) of the 2003 Act. The omission of the word

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
		"average" is significant. It indicates that the cost-of-supply means the actual cost of supply. • Cross-subsidy is the difference between the tariff fixed by the State Commission and the actual cost of supply. • It is not prudent to wait indefinitely for availability of entire data. A simple formulation should be initiated, which takes into account the major cost element to a great extent to reflect the cost-of-supply. • Voltage-wise cost-of-supply should be determined taking into account major cost elements which would be applicable to all categories of consumers connected to the same voltage level at different locations in the distribution system.
21.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 57, 67, 68, 69, 70, 71, 72, 73 of 2011 dated 2 September 2011, Vishal Ferro Alloys Ltd. & Others Vs Orissa Electricity Regulatory Commission, Western Electricity Supply Company, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• The State Commission is required to determine voltage wise cost-of-supply. • Cross-subsidy is to be calculated on the basis of cost of supply to the consumer category. • Cross-subsidy is not to be increased but reduced gradually. • Tariff of each of the consumer categories is to be within ±20% of the average cost-of-supply.
22.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 57 of 2008, 155 of 2007, 125 of 2008, 45 of 2010, 40 of 2010, 196 of 2009, 199 of 2009, 163 of 2010, 6 of 2011 and 144 of 2010 dated 11 January 2012, Siel Ltd. Vs The Punjab Electricity Regulatory Commission, Punjab State Electricity Board, State of Punjab, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Direction on category wise cost-of-supply and setting limit of consumption for subsidised consumers for which support through cross-subsidy may be provided.
23.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 11 of 2011, dated 17 January 2012, Northern Railway Vs Haryana Electricity Regulatory Commission, Uttar Haryana Bijli Vitran Nigam Ltd., Dakshin Haryana Bijli Vitran Nigam Ltd., available at the website of the Tribunal at	• The Commission is required to undertake a serious exercise for determination of cost of supply and since this has not been reportedly done, the Commission is again directed to go into the exercise.

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
	http://aptel.gov.in/judgementnew.html	
24.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos.52, 67, 68, 69 of 2011 dated 2 January 2013, Ferro Alloys Corporation Ltd. Vs Odisha Electricity Regulatory Commission, North Eastern Electricity Supply Company, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• The crux of the issue of this Appeal is whether the "cross-subsidy in tariff" is required to be determined based on "voltage wise cost of supply" or "average cost of supply". • Reference of the matter to the Full Bench of the Tribunal as there is apparently a judgment of Odisha which does not concur with the Appellate Tribunal's judgment.
25.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 14, 26 and 27 of 2011 dated 10 May 2012, Bihar Industries Association Vs Bihar Electricity Regulatory Commission, Bihar State Electricity Board, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• The State Commission is directed to determine cross-subsidy based on cost of supply at different voltage levels within next 6 months.
26.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 13 and 198 of 2010 and 42 of 2011 dated 26 July, 2012, Ispat Industries Ltd. Vs Maharashtra State Electricity Distribution Co. Ltd., Maharashtra Electricity Regulatory Commission, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• There is wide difference in cost of supply at 11 kV and 132/220 kV and keeping uniform tariff for all consumers of same category receiving supply at any voltage from 11 kV to 220 kV is not correct. • The State Commission should consider creation of separate category for Extra High Voltage consumers in future tariff order.
27.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 28 of 2005 dated 29 March, 2006, Kalyani Steels Ltd. Vs Karnataka Power Transmission Corporation Ltd. and Others, available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• As seen from the first proviso to Section 42(2) of the 2003 Act, surcharge is to be imposed for open access, in addition to the charges for wheeling. Therefore, even if wheeling charges are not payable, the open access consumer has to pay cross-subsidy surcharge. • Cross-subsidy surcharge is payable even when dedicated transmission lines are used.
28.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 20 of 2007 & 77 of 2007 and IA No.99/07 dated 22 August 2007, Universal Cables Ltd., Satna Cement Works Vs Madhya Pradesh Electricity Regulatory Commission, M.P. Poorva Kshetra Vidyut Vitaran Co. Ltd., available at	• Supply of electricity may be made from the captive power plants subject to the payment of charges under Section 42 of the 2003 Act. • Cross-subsidy surcharge is payable even when dedicated transmission lines are used.

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
	the website of the Tribunal at http://aptel.gov.in/judgements.html	
29.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 139 & 140 of 2007 dated 20 May 2009, Nalwa Steel and Power Ltd. Vs Chhattisgarh State Power Distribution Co. Ltd., Chhattisgarh State Electricity Regulatory Commission, Jindal Steel & Power Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• A dedicated transmission line can go from the captive generating station to a load centre and such load centre can also be a consumer.
30.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 20 of 2009 dated 3 September 2009, OCL India Ltd. Vs Orissa Electricity Regulatory Commission and Others, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Underlying philosophy behind levy of surcharge is that the consumer must compensate for the loss of cross-subsidy to the distribution licensee.
31.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 119 & 125 of 2009 dated 9 February 2010, Chhattisgarh State Power Distribution Co. Ltd. Vs Aryan Coal Benefications Pvt. Ltd., Aryan Coal Benefications Pvt. Ltd. Vs Chhattisgarh State Electricity Regulatory Commission, Chhattisgarh State Power Distribution Co. Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Cross-subsidy surcharge is a charge to be paid in compensation to the distribution licensee irrespective of whether its line is used or not in view of the fact that but for the open access the consumers would have taken the quantum of power from the licensee and in the result, the consumer would have paid tariff applicable for such supply which would include an element of cross-subsidy of certain other categories of consumers.
32.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 32, 33 & 118 of 2009 dated 28 April 2010, Chhattisgarh State Power Distribution Co. Ltd. Vs Salasar Steel & Power Ltd., Chhattisgarh State Electricity Regulatory Commission, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Cross-subsidy surcharge, which is referred to in the proviso to Section 42(2) of the 2003 Act, is a compensatory charge. It does not depend upon use of the distribution licensee's lines. • Cross-subsidy surcharge is payable irrespective of whether the lines of the distribution licensees are used or not.
33.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos., 193 of 2011 dated 3 October 2012, DLF Utilities Ltd. Vs Haryana Electricity Regulatory Commission, Dakshin Haryana Bijli Vitran Nigam Ltd., available at the	• The concept of open access is not necessarily limited to the usage of the licensee's network.

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
	website of the Tribunal at http://aptel.gov.in/judgementnew.html	
34.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos., 200 of 2011 dated 4 October 2012, Maruti Suzuki India Ltd. Vs Haryana Electricity Regulatory Commission, Dakshin Haryana Bijli Vitran Nigam Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Determination of category wise cost-of-supply is what is contemplated in the Act, and definitely this has not been done by the State Commission. • As per Regulations, cross-subsidy surcharge is computed as difference between category wise cost-of-supply and average revenue recovery rate from that particular category. The formula on calculation of cross-subsidy surcharge provided in the Tariff Policy need not necessarily be followed.
35.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 182 of 2011 dated 30 May 2012, Rajasthan Steel Chambers & Others Vs Rajasthan Electricity Regulatory Commission, Jaipur Vidyut Vitran Nigam Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Cross-subsidy for a particular category is to be calculated as difference between (i) the tariff applicable to the relevant category of consumers and (ii) the cost of the distribution licensee to supply electricity to the consumers of the applicable class.
36.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 39 of 2012 dated 20 August, 2012, Rajasthan Engineering College Society Vs Rajasthan Electricity Regulatory Commission, Jaipur Vidyut Vitran Nigam Ltd, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Same as Judgment of the Appellate Tribunal for Electricity, Appeal Nos., Appeal No. 182 of 2011 dated 30 May 2012, Rajasthan Steel Chambers & Others Vs Rajasthan Electricity Regulatory Commission, Jaipur Vidyut Vitran Nigam Ltd.
37.	Judgment of the Appellate Tribunal for Electricity, Appeal No. 171 of 2010 dated 5 August 2011, West Electric Supply Company Ltd. Vs Orissa Electricity Regulatory Commission, OCL Iron and Steel Ltd., Grid Corporation of India, OCL India Ltd., available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	• Judgment provides tariff break-up including cross-subsidy (as difference between average cost-of-supply and revenue expected from a category).
38.	Judgment of the Appellate Tribunal for Electricity, Appeal No.132, 133, 139, 144 and 164 of 2011 dated 21 December 2012, Tata Power Company Ltd. Vs Maharashtra Electricity	• Where a consumer requires supply from another distribution licensee other than the distribution licensee with whom the said consumer is currently connected, he is required to pay wheeling charge and

Sl. No.	List of Literature Referred for Judicial and Legal Background Study	Key Learnings
	Regulatory Commission and Others, available at the website of the Tribunal at http://aptel.gov.in/judgementnew.html	additional surcharge for the use of the network of the first distribution licensee to the said first distribution licensee. • The cross-subsidy surcharge is essentially a charge to allow the distribution licensee to recover some part of the loss of cross-subsidy that the subsidising change-over consumers would otherwise have contributed. Such recovery is essential not only for the finances of the wheeling distribution licensee but also for the protection of the remaining consumers of the wheeling distribution licensee, who otherwise would have to bear the loss of cross-subsidy. • Imposition of the cross-subsidy surcharge for the protection of the wheeling distribution licensee would show that the State Commission was constrained to do so to protect the interest of the consumers as well as the interest of the distribution licensees.
39.	Judgment of the Appellate Tribunal for Electricity, Appeal Nos. 169,170,171,172 of 2005 & 248 and 249 of 2006 dated 5 July 2007, RVK Energy Pvt. Ltd. Vs Central Power Distribution Co. of Andhra Pradesh Ltd., Southern Power Distribution Co. of Andhra Pradesh Ltd., Northern Power Distribution Co. of Andhra Pradesh Ltd., Eastern Power Distribution Co. of Andhra Pradesh Ltd., Andhra Pradesh Electricity Regulatory Commission, available at the website of the Tribunal at http://aptel.gov.in/judgements.html	• Cross-subsidy surcharge need not measure up to or be equal to the current level of cross-subsidy. • The Policies have been issued under Section 3 of the 2003 Act. It has a statutory flavor. The Regulatory Commission is required to abide by the National Electricity Policy and Tariff Policy issued by the Central Government as long as they are in consonance with the Act. • 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.

Exhibit 2

Table 2.1: Assessment of Cost-of-Supply Data Availability for 55 Distribution Licensees across Major Indian States

Sl. No.	State	Licensee[1]	Simple Cost of Supply Model	Voltage-wise Differen-tiation	Consumer Cost Allocation	Category-wise Differen-tiation	Intra-category-wise Differen-tiation	Remarks	Respective Commission's Orders dated
1.	Delhi	BYPL	Basic	Yes	No	No	No	Overall network cost allocated on the basis of energy supplied at different voltages	Delhi Electricity Regulatory Commission Orders dated 29.09.2015
2.	Delhi	BRPL	Basic	Yes	No	No	No	Overall network cost allocated on the basis of energy supplied at different voltages	Delhi Electricity Regulatory Commission Orders dated 29.09.2015
3.	Delhi	TPDDL	Basic	Yes	No	No	No	Overall network cost allocated on the basis of energy supplied at different voltages	Delhi Electricity Regulatory Commission Orders dated 29.09.2015
4.	Haryana	UHBVNL and DHBVNL	No						Haryana Electricity Regulatory Commission Order dated 31.03.2016
5.	Himachal Pradesh	HPSEBL	Basic	Yes	No	No	No	Voltage-wise network charges available	Himachal Pradesh Electricity Regulatory Commission Order dated 25.05.2016
6.	Punjab	PSPCL	Yes	Yes	Not clear	Yes	No	Intra-category segment-wise data not available	Punjab State Electricity Regulatory Commission Orders dated 05.05.2015
7.	Rajasthan	JdVVNL	No					Directed to submit voltage-wise study in next ARR Petition; voltage-wise network charges available	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015

[1] Full names of the distribution licensees are available in the List of Abbreviations of the thesis. Further details of the chosen licensees are in Table 2.1 and Table 3.1 of the thesis.

Exhibit 2

Sl. No.	State	Licensee[1]	Simple Cost of Supply Model	Voltage-wise Differen-tiation	Consumer Cost Allocation	Category-wise Differen-tiation	Intra-category-wise Differen-tiation	Remarks	Respective Commission's Orders dated
8.	Rajasthan	JVVNL	No					Directed to submit voltage-wise study in next ARR Petition; voltage-wise network charges available	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
9.	Rajasthan	AVVNL	No					Directed to submit voltage-wise study in next ARR Petition; voltage-wise network charges available	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
10.	Uttar Pradesh	PuVVNL	No					Rudimentary voltage-wise network charges available.	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
11.	Uttar Pradesh	DVVNL	No					Rudimentary voltage-wise network charges available.	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
12.	Uttar Pradesh	PVVNL	No					Rudimentary voltage-wise network charges available.	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
13.	Uttar Pradesh	MVVNL	No					Rudimentary voltage-wise network charges available.	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
14.	Uttar Pradesh	NPCL	No					Rudimentary voltage-wise network charges available.	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
15.	Uttara-khand	UPCL	No					Directed to submit status of metering at various voltage levels, distribution transformer and at consumer level to ascertain voltage-wise cost of supply	Uttarakhand Electricity Regulatory Commission Order dated 05.04.2016

Exhibit 2

Sl. No.	State	Licensee[1]	Simple Cost of Supply Model	Voltage-wise Differen-tiation	Consumer Cost Allocation	Category-wise Differen-tiation	Intra-category-wise Differen-tiation	Remarks	Respective Commission's Orders dated
16.	Chhattis-garh	CSPDCL	No					Directed to complete the study regarding voltage-wise cost of supply	Chhattisgarh State Electricity Regulatory Commission Order dated 30.04.2016
17.	Gujarat	UGVCL	No					Directed to submit cost of supply report	Gujarat Electricity Regulatory Commission Order dated 31.03.2016
18.	Gujarat	PGVCL	No					Directed to submit cost of supply report	Gujarat Electricity Regulatory Commission Order dated 31.03.2016
19.	Gujarat	MGVCL	No					Directed to submit cost of supply report	Gujarat Electricity Regulatory Commission Order dated 31.03.2016
20.	Gujarat	DGVCL	No					Directed to submit cost of supply report	Gujarat Electricity Regulatory Commission Order dated 31.03.2016
21.	Gujarat	TPL - Surat	No					Voltage-wise network charges available	Gujarat Electricity Regulatory Commission Order dated 31.03.2016
22.	Gujarat	TPL - Ahmedabad	No					Voltage-wise network charges available	Gujarat Electricity Regulatory Commission Order dated 31.03.2016
23.	Madhya Pradesh	East Discom	No					Rudimentary voltage-wise network charges available.	Madhya Pradesh Electricity Regulatory Commission Order dated 05.04.2016
24.	Madhya Pradesh	West Discom	No					Rudimentary voltage-wise network charges available.	Madhya Pradesh Electricity Regulatory Commission Order dated 05.04.2016
25.	Madhya Pradesh	Central Discom	No					Rudimentary voltage-wise network charges available.	Madhya Pradesh Electricity Regulatory Commission Order dated 05.04.2016
26.	Maha-rashtra	MSEDCL	No					Costs are allocated on the ratio of voltage-wise sales; voltage-wise network charges available	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015

Exhibit 2

Sl. No.	State	Licensee[1]	Simple Cost of Supply Model	Voltage-wise Differen-tiation	Consumer Cost Allocation	Category-wise Differen-tiation	Intra-category-wise Differen-tiation	Remarks	Respective Commission's Orders dated
27.	Maha-rashtra	RInfra	No					Voltage-wise network charges available	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015
28.	Maha-rashtra	TPC	No					Voltage-wise network charges available	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015
29.	Maha-rashtra	BEST	No						Maharashtra Electricity Regulatory Commission Order dated 28.08.2013
30.	Telangana	TSSPDCL	Yes	Yes	Yes	Yes	No	Demand, Energy, Network related cost segregation available for categories; voltage-wise network charges available.	Telangana State Electricity Regulatory Commission Order dated 23.06.2016
31.	Telangana	TSNPDCL	Yes	Yes	Yes	Yes	No	Demand, Energy, Network related cost segregation available for categories; voltage-wise network charges available.	Telangana State Electricity Regulatory Commission Order dated 23.06.2016
32.	Andhra Pradesh	APSPDCL	Yes	Yes	Yes	Yes	No	Demand, Energy, Network related cost segregation available for categories; voltage-wise network charges available.	Andhra Pradesh Electricity Regulatory Commission Order dated 31.03.2016
33.	Andhra Pradesh	APEPDCL	Yes	Yes	Yes	Yes	No	Demand, Energy, Network related cost segregation available for categories; voltage-wise network charges available.	Andhra Pradesh Electricity Regulatory Commission Order dated 31.03.2016
34.	Karnataka	BESCOM	No						Karnataka Electricity Regulatory Commission Orders dated 30.03.2016

Exhibit 2

Sl. No.	State	Licensee[1]	Simple Cost of Supply Model	Voltage-wise Differen-tiation	Consumer Cost Allocation	Category-wise Differen-tiation	Intra-category-wise Differen-tiation	Remarks	Respective Commission's Orders dated
35.	Karnataka	CESC - Karnataka	No						Karnataka Electricity Regulatory Commission Orders dated 30.03.2016
36.	Karnataka	GESCOM	No						Karnataka Electricity Regulatory Commission Orders dated 30.03.2016
37.	Karnataka	MESCOM	No						Karnataka Electricity Regulatory Commission Orders dated 30.03.2016
38.	Karnataka	HESCOM	No						Karnataka Electricity Regulatory Commission Orders dated 30.03.2016
39.	Kerala	KSEB	No						Kerala State Electricity Regulatory Commission Order dated 14.08.2014
40.	Tamil Nadu	TANGEDCO	No						Tamil Nadu Electricity Regulatory Commission Orders dated 11.12.2014
41.	Bihar	NBPDCL	Basic	Yes	No	No	No	Rudimentary voltage-wise network charges available; category-wise data not available	Bihar Electricity Regulatory Commission Order dated 21.03.2016
42.	Bihar	SBPDCL	Basic	Yes	No	No	No	Rudimentary voltage-wise network charges available; category-wise data not available	Bihar Electricity Regulatory Commission Order dated 21.03.2016
43.	Jharkhand	JBVNL	No						Jharkhand State Electricity Regulatory Commission Order dated 14.12.2015
44.	Jharkhand	TSL - Jamshedpur	No						Jharkhand State Electricity Regulatory Commission Order dated 31.05.2015
45.	Odisha	SOUTHCO	No						Odisha Electricity Regulatory Commission Order dated 21.03.2016

Exhibit 2

Sl. No.	State	Licensee[1]	Simple Cost of Supply Model	Voltage-wise Differen-tiation	Consumer Cost Allocation	Category-wise Differen-tiation	Intra-category-wise Differen-tiation	Remarks	Respective Commission's Orders dated
46.	Odisha	NESCO	No						Odisha Electricity Regulatory Commission Order dated 21.03.2016
47.	Odisha	WESCO	No						Odisha Electricity Regulatory Commission Order dated 21.03.2016
48.	Odisha	CESU	No						Odisha Electricity Regulatory Commission Order dated 21.03.2016
49.	West Bengal	DVC	No						West Bengal Electricity Regulatory Commission Order dated 25.05.2015
50.	West Bengal	DPL	No						West Bengal Electricity Regulatory Commission Order dated 26.06.2015
51.	West Bengal	WBSEDCL	No						West Bengal Electricity Regulatory Commission Order dated 10.08.2015
52.	West Bengal	IPCL	No						West Bengal Electricity Regulatory Commission Order dated 26.12.13
53.	West Bengal	CESC	No						West Bengal Electricity Regulatory Commission Order dated 10.08.2015
54.	Assam	APDCL	No					Directed to carry out study to ascertain voltage-wise and consumer category-wise cost of supply	Assam Electricity Regulatory Commission Order dated 24.07.2015
55.	Tripura	TSECL	No						Tripura State Electricity Regulatory Commission Order dated 22.11.2014

Comments:

1. Table 2.1 is developed from secondary data in public domain detailed above (Tariff order(s) / Multi-Year Tariff order(s) and true-up / Annual Performance Review / APR order(s)).
2. Intra-category-wise (segment-wise / consumption slab-wise) cost-of-supply has not been undertaken by any licensee. Consumer related cost allocation on the basis of consumer number is largely absent.
3. Punjab, Andhra Pradesh and Telangana have designed consumer category-wise as well as voltage-wise simple cost of supply. Andhra Pradesh and Telangana segregates cost into demand, energy and network related classes. No detailing is available on average loss and peak loss.
4. Delhi, Himachal Pradesh and Bihar have determined voltage-wise simple cost-of-supply models.
5. Licensees of remaining States have not determined any cost-of-supply model.
6. Regulatory Commissions of States like Gujarat, Chhattisgarh, Rajasthan and Assam have directed the distribution companies to submit details on cost of supply.

Table 3.1.1: BSES Rajdhani Power Limited (BRPL)

State Delhi

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Delhi Electricity Regulatory Commission Orders dated June 2004)	Index (2004-05)	2008-09 (Delhi Electricity Regulatory Commission Orders dated 23.02.2008)	Index (2008-09)	2015-16 (Delhi Electricity Regulatory Commission Orders dated 17.04.2014)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	287	73%	325	67%	576	70%
	100 units	240	61%	269	55%	475	58%
	300 units	273	70%	353	73%	517	63%
	500 units	318	81%	470	97%	596	73%
	1000 units	367	94%	471	97%	716	88%
LT Commercial	150 units	543	139%	573	118%	1022	125%
	500 units	541	138%	570	117%	1015	124%
	4000 units	560	143%	568	117%	1079	132%
LT Industrial	500 units	499	128%	525	108%	947	116%
	4000 units	496	127%	412	85%	982	120%
HT Residential		258	66%	338	69%	648	79%
HT Commercial							
Below 33 KV		475	121%	510	105%	1021	125%
33 KV		451	115%	499	103%	997	122%
HT Industrial							
Below 33 KV		490	125%	518	106%	896	110%
33 KV		479	123%	506	104%	874	107%
Gross Average Tariff		391	100%	486	100%	817	100%

Table 3.1.2: Haryana Distribution Companies - Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL) and Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)

State Haryana

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Haryana Electricity Regulatory Commission Order dated 18.04.2005 and 20.04.2005)	Index (2004-05)	2008-09 (Haryana Electricity Regulatory Commission Order dated 20.11.2008)	Index (2008-09)	2015-16 (Haryana Electricity Regulatory Commission Order dated 07.05.2015 and Notification of 31.08.2015 and 19.01.2016)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	263	74%	263	66%	387	50%
	100 units	323	91%	323	81%	494	64%
	300 units	350	99%	350	88%	661	86%
	500 units	381	108%	381	96%	701	91%
	1000 units	405	114%	405	102%	833	108%
LT Commercial	150 units	419	118%	419	106%	764	99%
	500 units	419	118%	419	106%	764	99%
	4000 units	419	118%	419	106%	835	108%
LT Industrial	500 units	428	121%	428	108%	822	107%
	4000 units	428	121%	428	108%	855	111%
HT Residential		428	121%	350	88%	782	101%
HT Commercial							
Below 33 KV		419	118%	419	106%	896	116%
33 KV		419	118%	419	106%	885	115%
HT Industrial							
Below 33 KV		409	115%	409	103%	899	117%
33 KV		409	115%	409	103%	899	117%
Gross Average Tariff		354	100%	396	100%	771	100%

Table 3.1.3: Himachal State Electricity Board Limited (HPSEBL)

State Himachal Pradesh

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Himachal Pradesh Electricity Regulatory Commission Order dated 02.07.2004)	Index (2004-05)	2008-09 (Himachal Pradesh Electricity Regulatory Commission Order dated 30.05.2008)	Index (2008-09)	2015-16 (Himachal Pradesh Electricity Regulatory Commission Order dated 10.04.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	60 units (Lifeline)	115	43%	185	52%	335	65%
	100 units	121	46%	235	66%	390	76%
	300 units	182	69%	271	76%	419	82%
	500 units	205	77%	289	81%	450	87%
	1000 units	223	84%	302	85%	472	92%
LT Commercial	150 units	383	145%	470	133%	542	105%
	500 units	360	136%	442	125%	509	99%
	4000 units	351	133%	432	122%	497	97%
LT Industrial	500 units	320	121%	518	146%	629	122%
	4000 units	311	117%	507	143%	613	119%
HT Residential		292	110%	335	95%	584	114%
HT Commercial							
Below 33 KV		369	139%	471	133%	715	139%
33 KV		369	139%	475	134%	715	139%
HT Industrial							
Below 33 KV		358	135%	451	127%	693	135%
33 KV		358	135%	455	128%	693	135%
Gross Average Tariff		265	100%	354	100%	514	100%

Table 3.1.4: Punjab State Power Corporation Limited (PSPCL)

State Punjab

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Punjab State Electricity Regulatory Commission Orders dated 30.11.2004)	Index (2004-05)	2008-09 (Punjab State Electricity Regulatory Commission Orders dated 03.07.2008)	Index (2008-09)	2015-16 (Punjab State Electricity Regulatory Commission Orders dated 05.05.2015 and 09.06.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	200 units (Lifeline)	267	104%	316	**93%**	**535**	93%
	100 units	200	78%	240	**71%**	**454**	79%
	300 units	289	112%	341	**101%**	**562**	97%
	500 units	315	122%	370	**109%**	**600**	104%
	1000 units	334	130%	391	**116%**	**629**	109%
LT Commercial	150 units	384	149%	449	**133%**	**662**	115%
	500 units	384	149%	449	**133%**	**673**	116%
	4000 units	384	149%	449	**133%**	**676**	117%
LT Industrial	500 units	306	119%	358	**106%**	**587**	102%
	4000 units	306	119%	358	**106%**	**587**	102%
HT Residential		346	134%	398	**118%**	**640**	111%
HT Commercial							
Below 33 KV		346	134%	398	**118%**	**640**	111%
33 KV		346	134%	398	**118%**	**635**	110%
HT Industrial							
Below 33 KV		337	131%	395	**117%**	**646**	112%
33 KV		337	131%	395	**117%**	**640**	111%
Gross Average Tariff		257	100%	338	100%	577	100%

Table 3.1.5: Jaipur Vidyut Vitran Nigam Limited (JVVNL)

State Rajasthan

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Rajasthan Electricity Regulatory Commission Order dated 17.12.2004)	Index (2004-05)	2008-09 (Rajasthan Electricity Regulatory Commission Order dated 31.03.2007)	Index (2008-09)	2014-15 (Rajasthan Electricity Regulatory Commission Order dated 20.02.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	50 units (Lifeline)	408	100%	408	**113%**	**504**	83%
	100 units	434	107%	434	**120%**	**537**	88%
	300 units	413	101%	413	**114%**	**591**	97%
	500 units	409	100%	409	**113%**	**602**	99%
	1000 units	405	100%	405	**112%**	**623**	102%
LT Commercial	150 units	625	154%	625	**172%**	**827**	136%
	500 units	582	143%	582	**160%**	**774**	127%
	4000 units	566	139%	566	**156%**	**784**	129%
LT Industrial	500 units	419	103%	419	**115%**	**559**	92%
	4000 units	419	103%	419	**115%**	**594**	98%
HT Residential		388	95%	388	**107%**	**612**	101%
HT Commercial							
Below 33 KV		465	114%	465	**128%**	**807**	133%
33 KV		465	114%	465	**128%**	**807**	133%
HT Industrial							
Below 33 KV		492	121%	492	**136%**	**700**	115%
33 KV		492	121%	492	**136%**	**700**	115%
Gross Average Tariff		407	100%	363	100%	608	100%

Table 3.1.6: Madhyanchal Vidyut Vitran Nigam Limited (MVVNL)

State Uttar Pradesh

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Uttar Pradesh Electricity Regulatory Commission Order dated 10.11.2004)	Index (2004-05)	2008-09 (Uttar Pradesh Electricity Regulatory Commission Order dated 15.04.2008)	Index (2008-09)	2015-16 (Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	150 units (Lifeline)	223	71%	257	66%	368	55%
	100 units	273	87%	318	82%	486	73%
	300 units	291	93%	328	85%	515	77%
	500 units	295	94%	336	87%	553	83%
	1000 units	297	95%	342	88%	613	92%
LT Commercial	150 units	423	135%	472	122%	794	119%
	500 units	423	135%	472	122%	811	121%
	4000 units	423	135%	472	122%	844	126%
LT Industrial	500 units	414	132%	460	119%	758	113%
	4000 units	414	132%	460	119%	758	113%
HT Residential		300	95%	292	75%	602	90%
HT Commercial							
Below 33 KV		447	142%	455	117%	907	135%
33 KV		427	136%	440	114%	877	131%
HT Industrial							
Below 33 KV		434	138%	497	128%	829	124%
33 KV		415	132%	424	109%	792	118%
Gross Average Tariff		315	100%	388	100%	670	100%

Table 3.1.7: Uttarakhand Power Corporation Limited (UPCL)

State Uttarakhand

Region Northern Region

Customer Category	Monthly Consumption	2004-05 (Uttarakhand Electricity Regulatory Commission dated 08.09.2003)	Index (2004-05)	2008-09 (Uttarakhand Electricity Regulatory Commission dated 18.03.2008)	Index (2008-09)	2015-16 (Uttarakhand Electricity Regulatory Commission Order dated 11.04.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	150	62%	150	49%	187	42%
	100 units	195	81%	215	70%	275	62%
	300 units	205	85%	205	67%	327	74%
	500 units	207	86%	203	66%	362	82%
	1000 units	209	87%	202	66%	384	87%
LT Commercial	150 units	350	145%	360	118%	450	102%
	500 units	350	145%	359	117%	512	116%
	4000 units	350	145%	356	117%	504	114%
LT Industrial	500 units	245	102%	303	99%	437	99%
	4000 units	245	102%	298	97%	429	97%
HT Residential		195	81%	186	61%	337	76%
HT Commercial							
Below 33 KV		333	138%	367	120%	507	115%
33 KV		324	135%	357	117%	520	118%
HT Industrial							
Below 33 KV		233	97%	293	96%	456	103%
33 KV		228	95%	286	94%	466	106%
Gross Average Tariff		241	100%	306	100%	441	100%

Table 3.1.8 Chhattisgarh State Power Distribution Company Limited (CSPDCL)

State Chhattisgarh

Region Western Region

Customer Category	Monthly Consumption	2005-06 (Chhattisgarh State Electricity Regulatory Commission Order dated 15.06.2005)	Index (2004-05)	2008-09 (Chhattisgarh State Electricity Regulatory Commission Order dated 22.10.2007)	Index (2008-09)	2015-16 (Chhattisgarh State Electricity Regulatory Commission Order dated 23.05.2015 and Notification of 09.12.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	40 units (Lifeline)	150	43%	150	51%	**327**	58%
	100 units	155	45%	160	54%	**339**	60%
	300 units	217	63%	195	66%	**445**	79%
	500 units	242	70%	195	66%	**465**	83%
	1000 units	261	76%	290	98%	**660**	117%
LT Commercial	150 units	393	114%	391	132%	**528**	94%
	500 units	390	113%	391	132%	**553**	98%
	4000 units	431	125%	421	142%	**709**	126%
LT Industrial	500 units	246	71%	270	91%	**465**	83%
	4000 units	246	71%	270	91%	**465**	83%
HT Residential		372	108%	364	123%	**585**	104%
HT Commercial							
Below 33 KV		505	146%	464	157%	**637**	113%
33 KV		481	139%	450	152%	**637**	113%
HT Industrial							
Below 33 KV		428	124%	314	106%	**578**	103%
33 KV		428	124%	314	106%	**578**	103%
Gross Average Tariff		345	100%	296	100%	562	100%

Table 3.1.9: Torrent Power Limited (TPL - Ahmedabad)

State Gujarat

Region Western Region

Customer Category	Monthly Consumption	2004-05 (Gujarat Electricity Regulatory Commission Order dated 05.09.2002)	Index (2004-05)	2008-09 (Gujarat Electricity Regulatory Commission Order dated 17.01.2009)	Index (2008-09)	2015-16 (Gujarat Electricity Regulatory Commission Order dated 31.03.2015 and Notification of 28.01.2016)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	278	74%	278	72%	361	50%
	100 units	286	76%	286	74%	572	80%
	300 units	318	85%	323	84%	612	85%
	500 units	564	150%	578	150%	640	89%
	1000 units	466	124%	481	125%	660	92%
LT Commercial	150 units	395	105%	320	83%	688	96%
	500 units	442	117%	357	93%	676	94%
	4000 units	471	125%	379	98%	679	95%
LT Industrial	500 units	366	97%	357	93%	669	93%
	4000 units	360	95%	345	90%	669	93%
HT Residential		366	97%	371	96%	747	104%
HT Commercial							
Below 33 KV		366	97%	393	102%	747	104%
33 KV		366	97%	393	102%	747	104%
HT Industrial							
Below 33 KV		378	100%	384	100%	729	102%
33 KV		378	100%	384	100%	729	102%
Gross Average Tariff		377	100%	385	100%	716	100%

Table 3.1.10: Madhya Gujarat Vij Company Limited (MGVCL)

State Gujarat

Region Western Region

Customer Category	Monthly Consumption	2004-05 (Gujarat Electricity Regulatory Commission Order dated 25.06.2004)	Index (2004-05)	2008-09 (Gujarat Electricity Regulatory Commission Order dated 17.01.2009)	Index (2008-09)	2015-16 (Gujarat Electricity Regulatory Commission Order dated 31.03.2015 and Notification of 04.02.2016)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	288	92%	150	37%	302	50%
	100 units	290	93%	290	72%	488	81%
	300 units	353	113%	357	88%	555	92%
	500 units	400	128%	402	99%	599	100%
	1000 units	435	139%	437	108%	633	105%
LT Commercial	150 units	432	138%	433	107%	591	98%
	500 units	458	147%	480	119%	591	98%
	4000 units	469	150%	491	121%	635	106%
LT Industrial	500 units	358	115%	369	91%	585	97%
	4000 units	389	125%	394	97%	626	104%
HT Residential		401	128%	421	104%	633	105%
HT Commercial							
Below 33 KV		466	149%	421	104%	618	103%
33 KV		464	149%	420	104%	616	103%
HT Industrial							
Below 33 KV		480	154%	414	102%	609	101%
33 KV		478	153%	412	102%	607	101%
Gross Average Tariff		312	100%	405	100%	601	100%

Table 3.1.11: Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited (Central Discom)

State Madhya Pradesh

Region Western Region

Customer Category	Monthly Consumption	2004-05 (Madhya Pradesh Electricity Regulatory Commission Order dated 10.12.2004)	Index (2004-05)	2008-09 (Madhya Pradesh Electricity Regulatory Commission Order dated 29.03.2008)	Index (2008-09)	2015-16 (Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	209	61%	262	69%	289	54%
	100 units	289	84%	293	77%	441	83%
	300 units	335	97%	352	93%	576	108%
	500 units	358	104%	362	96%	628	118%
	1000 units	361	105%	368	97%	658	123%
LT Commercial	150 units	577	167%	532	141%	688	129%
	500 units	577	167%	532	141%	688	129%
	4000 units	577	167%	532	141%	688	129%
LT Industrial	500 units	353	102%	335	89%	468	88%
	4000 units	353	102%	335	89%	468	88%
HT Residential		349	101%	383	101%	398	75%
HT Commercial							
Below 33 KV		478	139%	470	124%	696	130%
33 KV		451	131%	470	124%	726	136%
HT Industrial							
Below 33 KV		460	133%	439	116%	657	123%
33 KV		434	126%	447	118%	693	130%
Gross Average Tariff		345	100%	378	100%	534	100%

Table 3.1.12: Reliance Infrastructure Limited (RInfra)

State Maharashtra

Region Western Region

Customer Category	Monthly Consumption	2004-05 (Maharashtra Electricity Regulatory Commission Order dated 01.07.2004)	Index (2004-05)	2008-09 (Maharashtra Electricity Regulatory Commission Order dated 04.06.2008)	Index (2008-09)	2015-16 (Maharashtra Electricity Regulatory Commission Order dated 26.06.2015 and Notification of March 2016)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	196	56%	50	8%	316	37%
	100 units	139	39%	200	34%	538	64%
	300 units	262	74%	339	58%	633	75%
	500 units	332	94%	481	82%	717	85%
	1000 units	384	109%	655	112%	875	103%
LT Commercial	150 units	495	140%	777	133%	1005	119%
	500 units	460	130%	685	117%	878	104%
	4000 units	534	151%	650	111%	830	98%
LT Industrial	500 units	475	134%	665	114%	956	113%
	4000 units	396	112%	631	108%	909	107%
HT Residential		404	114%	435	74%	930	110%
HT Commercial							
Below 33 KV		400	113%	919	157%	1156	137%
33 KV		400	113%	919	157%	1139	135%
HT Industrial							
Below 33 KV		373	105%	665	114%	1003	118%
33 KV		373	105%	665	114%	988	117%
Gross Average Tariff		353	100%	585	100%	846	100%

Table 3.1.13: Maharashtra State Electricity Distribution Company Limited (MSEDCL)

State Maharashtra

Region Western Region

Customer Category	Monthly Consumption	2004-05 (Maharashtra Electricity Regulatory Commission Order dated 10.03.2004)	Index (2004-05)	2008-09 (Maharashtra Electricity Regulatory Commission Order dated 20.06.2008)	Index (2008-09)	2015-16 (Maharashtra Electricity Regulatory Commission Order dated 26.06.2015 and Notification of March 2016)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	190	62%	50	14%	133	21%
	100 units	278	91%	233	64%	452	70%
	300 units	284	93%	335	93%	666	104%
	500 units	329	107%	411	114%	839	130%
	1000 units	362	118%	512	142%	1035	161%
LT Commercial	150 units	378	123%	436	120%	855	133%
	500 units	423	138%	476	132%	772	120%
	4000 units	451	147%	514	142%	1007	156%
LT Industrial	500 units	289	94%	327	90%	631	98%
	4000 units	296	97%	301	83%	593	92%
HT Residential		264	86%	343	95%	692	108%
HT Commercial							
Below 33 KV		386	126%	751	208%	1224	190%
33 KV		386	126%	751	208%	1191	185%
HT Industrial							
Below 33 KV		359	117%	473	131%	820	127%
33 KV		359	117%	473	131%	798	124%
Gross Average Tariff		307	100%	362	100%	643	100%

Table 3.1.14: Southern Power Distribution Company of Telangana Limited (TSSPDCL)

State Telangana

Region Southern Region

Customer Category	Monthly Consumption	2004-05 (Telangana State Electricity Regulatory Commission dated 23.03.2004)	Index (2004-05)	2008-09 (Telangana State Electricity Regulatory Commission dated 20.03.2008)	Index (2008-09)	2015-16 (Telangana State Electricity Regulatory Commission dated 27.03.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	270	97%	243	89%	269	50%
	100 units	295	106%	260	95%	274	50%
	300 units	386	138%	347	127%	563	104%
	500 units	462	165%	428	157%	681	125%
	1000 units	518	186%	489	180%	786	145%
LT Commercial	150 units	562	201%	555	204%	815	150%
	500 units	606	217%	601	221%	882	162%
	4000 units	623	223%	618	227%	978	180%
LT Industrial	500 units	394	141%	394	145%	666	123%
	4000 units	391	140%	391	144%	657	121%
HT Residential		321	115%	401	148%	674	124%
HT Commercial							
Below 33 KV		524	188%	504	185%	933	172%
33 KV		524	188%	467	172%	858	158%
HT Industrial							
Below 33 KV		419	150%	384	141%	763	141%
33 KV		419	150%	369	136%	721	133%
Gross Average Tariff		279	100%	272	100%	543	100%

Table 3.1.15: Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)

State Andhra Pradesh

Region Southern Region

Customer Category	Monthly Consumption	2004-05 (Andhra Pradesh Electricity Regulatory Commission dated 23.03.2004)	Index (2004-05)	2008-09 (Andhra Pradesh Electricity Regulatory Commission dated 20.03.2008)	Index (2008-09)	2015-16 (Andhra Pradesh Electricity Regulatory Commission dated 23.03.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	270	100%	243	90%	228	43%
	100 units	295	109%	260	96%	233	44%
	300 units	386	143%	347	129%	518	97%
	500 units	462	171%	428	159%	632	119%
	1000 units	518	192%	489	182%	756	142%
LT Commercial	150 units	562	208%	555	206%	800	150%
	500 units	606	224%	601	223%	874	164%
	4000 units	623	230%	618	229%	968	182%
LT Industrial	500 units	394	146%	394	146%	664	125%
	4000 units	391	144%	391	145%	655	123%
HT Residential		321	119%	401	149%	669	126%
HT Commercial							
Below 33 KV		524	194%	504	187%	928	174%
33 KV		524	194%	467	173%	858	161%
HT Industrial							
Below 33 KV		419	155%	384	143%	766	144%
33 KV		419	155%	369	137%	718	135%
Gross Average Tariff		270	100%	269	100%	533	100%

Table 3.1.16: Bangalore Electricity Supply Company Limited (BESCOM)

State Karnataka

Region Southern Region

Customer Category	Monthly Consumption	2004-05 (Karnataka Electricity Regulatory Commission Orders dated 10.03.2003)	Index (2004-05)	2008-09 (Karnataka Electricity Regulatory Commission Orders dated 11.01.2008)	Index (2008-09)	2015-16 (Karnataka Electricity Regulatory Commission Orders dated 02.03.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	196	54%	195	59%	287	51%
	100 units	265	73%	265	81%	372	66%
	300 units	349	96%	339	103%	524	93%
	500 units	395	109%	384	117%	579	102%
	1000 units	433	120%	422	128%	618	109%
LT Commercial	150 units	583	161%	546	166%	780	138%
	500 units	605	167%	565	172%	804	142%
	4000 units	613	169%	572	174%	808	143%
LT Industrial	500 units	340	94%	317	96%	505	89%
	4000 units	405	112%	374	113%	601	106%
HT Residential		447	123%	366	111%	590	104%
HT Commercial							
Below 33 KV		567	157%	543	165%	831	147%
33 KV		566	156%	541	164%	829	147%
HT Industrial							
Below 33 KV		434	120%	359	109%	646	114%
33 KV		433	119%	357	108%	644	114%
Gross Average Tariff		362	100%	329	100%	565	100%

Table 3.1.17: Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)

State Tamil Nadu

Region Southern Region

Customer Category	Monthly Consumption	2004-05 (Tamil Nadu Electricity Regulatory Commission Order dated 15.03.2003)	Index (2004-05)	2008-09 (Tamil Nadu Electricity Regulatory Commission Order dated 15.03.2003 and 13.03.2008)	Index (2008-09)	2015-16 (Tamil Nadu Electricity Regulatory Commission Orders dated 11.12.2014 and 14.10.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	113	38%	113	38%	350	61%
	100 units	193	64%	193	64%	340	59%
	300 units	298	98%	298	98%	465	81%
	500 units	369	122%	369	122%	543	95%
	1000 units	422	140%	422	140%	602	105%
LT Commercial	150 units	567	188%	567	188%	732	128%
	500 units	576	191%	576	191%	804	140%
	4000 units	580	192%	580	192%	830	145%
LT Industrial	500 units	406	134%	406	134%	646	112%
	4000 units	487	161%	487	161%	646	112%
HT Residential		424	140%	424	140%	765	133%
HT Commercial							
Below 33 KV		612	202%	612	202%	930	162%
33 KV		612	202%	612	202%	930	162%
HT Industrial							
Below 33 KV		439	145%	439	145%	739	129%
33 KV		439	145%	439	145%	739	129%
Gross Average Tariff		302	100%	302	100%	574	100%

Table 3.1.18: North Bihar Power Distribution Company Limited (NBPDCL)

State Bihar

Region Eastern Region

Customer Category	Monthly Consumption	2006-07 (Bihar Electricity Regulatory Commission Order dated 29.11.2006)	Index (2004-05)	2008-09 (Bihar Electricity Regulatory Commission Order dated 26.08.2008)	Index (2008-09)	2015-16 (Bihar Electricity Regulatory Commission Order dated 16.03.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	224	44%	190	40%	222	45%
	100 units	349	69%	310	66%	393	80%
	300 units	455	90%	389	83%	443	90%
	500 units	650	128%	522	111%	548	112%
	1000 units	793	157%	612	130%	619	126%
LT Commercial	150 units	808	160%	688	146%	635	130%
	500 units	957	189%	775	165%	661	135%
	4000 units	922	182%	759	161%	657	134%
LT Industrial	500 units	699	138%	595	127%	591	121%
	4000 units	682	135%	580	123%	576	117%
HT Residential		679	134%	551	117%	678	138%
HT Commercial							
Below 33 KV		760	150%	659	140%	678	138%
33 KV		760	150%	659	140%	678	138%
HT Industrial							
Below 33 KV		739	146%	637	136%	658	134%
33 KV		739	146%	637	136%	658	134%
Gross Average Tariff		506	100%	470	100%	490	100%

Table 3.1.19: South Bihar Power Distribution Company Limited (SBPDCL)

State Bihar

Region Eastern Region

Customer Category	Monthly Consumption	2006-07 (Bihar Electricity Regulatory Commission Order dated 29.11.2006)	Index (2004-05)	2008-09 (Bihar Electricity Regulatory Commission Order dated 26.08.2008)	Index (2008-09)	2015-16 (Bihar Electricity Regulatory Commission Order dated 16.03.2015)	Index (2015-16)
		Tariff (Paise/Unit)		Tariff (Paise/Unit)		Tariff (Paise/Unit)	
LT Residential	30 units (Lifeline)	224	44%	190	40%	222	43%
	100 units	349	69%	310	66%	368	71%
	300 units	455	90%	389	83%	406	78%
	500 units	650	128%	522	111%	490	95%
	1000 units	793	157%	612	130%	548	106%
LT Commercial	150 units	808	160%	688	146%	635	123%
	500 units	957	189%	775	165%	661	128%
	4000 units	922	182%	759	161%	657	127%
LT Industrial	500 units	699	138%	595	127%	591	114%
	4000 units	682	135%	580	123%	576	111%
HT Residential		679	134%	551	117%	678	131%
HT Commercial							
Below 33 KV		760	150%	659	140%	678	131%
33 KV		760	150%	659	140%	678	131%
HT Industrial							
Below 33 KV		739	146%	637	136%	658	127%
33 KV		739	146%	637	136%	658	127%
Gross Average Tariff		506	100%	470	100%	518	100%

Table 3.1.20: Jharkhand Bijli Vitran Nigam Limited (JBVNL)

State Jharkhand

Region Southern Region

Customer Category	Monthly Consumption	2004-05 (Jharkhand State Electricity Regulatory Commission Order dated 27.12.2003)	Index (2004-05)	2008-09 (Jharkhand State Electricity Regulatory Commission Order dated 31.08.2007)	Index (2008-09)	2015-16 (Jharkhand State Electricity Regulatory Commission Order dated 14.12.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	94	25%	100	31%	189	41%
	100 units	161	44%	155	49%	336	73%
	300 units	160	43%	155	49%	331	72%
	500 units	170	46%	166	52%	356	77%
	1000 units	177	48%	178	56%	369	80%
LT Commercial	150 units	418	113%	407	127%	714	154%
	500 units	418	113%	360	113%	714	154%
	4000 units	418	113%	343	107%	714	154%
LT Industrial	500 units	390	106%	364	114%	651	141%
	4000 units	390	106%	364	114%	651	141%
HT Residential		340	92%	215	67%	340	74%
HT Commercial							
Below 33 KV		748	203%	432	135%	748	162%
33 KV		728	197%	413	129%	728	157%
HT Industrial							
Below 33 KV		726	197%	422	132%	726	157%
33 KV		707	192%	403	126%	707	153%
Gross Average Tariff		369	100%	319	100%	463	100%

Table 3.1.21: Central Electricity Supply Utility of Odisha Limited (CESU)

State Odisha

Region Southern Region

Customer Category	Monthly Consumption	2004-05 (Odisha Electricity Regulatory Commission Order dated 28.06.2003)	Index (2004-05)	2008-09 (Odisha Electricity Regulatory Commission Order dated 20.03.2008)	Index (2008-09)	2015-16 (Odisha Electricity Regulatory Commission Order dated 23.03.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	99	35%	160	55%	264	55%
	100 units	190	67%	144	49%	345	72%
	300 units	250	88%	225	77%	422	87%
	500 units	276	97%	262	89%	469	97%
	1000 units	295	104%	293	100%	514	107%
LT Commercial	150 units	360	126%	349	119%	577	120%
	500 units	408	143%	415	142%	638	132%
	4000 units	440	154%	513	176%	694	144%
LT Industrial	500 units	324	114%	332	114%	577	120%
	4000 units	320	112%	435	149%	567	118%
HT Residential		223	78%	364	125%	428	89%
HT Commercial							
Below 33 KV		315	111%	371	127%	612	127%
33 KV		315	111%	371	127%	612	127%
HT Industrial							
Below 33 KV		356	125%	356	122%	599	124%
33 KV		356	125%	356	122%	599	124%
Gross Average Tariff		285	100%	292	100%	482	100%

Table 3.1.22: West Bengal State Electricity Distribution Company Limited (WBSEDCL)

State West Bengal

Region Eastern Region

Customer Category	Monthly Consumption	2004-05 (West Bengal Electricity Regulatory Commission Order dated 09.06.2004)	Index (2004-05)	2008-09 (West Bengal Electricity Regulatory Commission Order dated 30.09.2008)	Index (2008-09)	2015-16 (West Bengal Electricity Regulatory Commission Order dated 10.08.2015 and Notification of 15.12.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	25 units (Lifeline)	237	74%	210	63%	353	54%
	100 units	248	77%	271	81%	581	89%
	300 units	301	94%	332	99%	659	101%
	500 units	396	123%	432	129%	737	112%
	1000 units	408	127%	507	151%	795	121%
LT Commercial	150 units	359	112%	379	113%	687	105%
	500 units	458	143%	487	145%	799	122%
	4000 units	456	142%	564	168%	932	142%
LT Industrial	500 units	293	91%	308	92%	614	94%
	4000 units	411	128%	419	125%	737	113%
HT Residential		409	127%	375	112%	692	106%
HT Commercial							
Below 33 KV		433	135%	469	140%	779	119%
33 KV		433	135%	449	134%	774	118%
HT Industrial							
Below 33 KV		420	131%	432	129%	773	118%
33 KV		405	126%	397	118%	755	115%
Gross Average Tariff		321	100%	335	100%	655	100%

Table 3.1.23: CESC Limited (CESC)

State West Bengal

Region Eastern Region

Customer Category	Monthly Consumption	2004-05 (West Bengal Electricity Regulatory Commission Order dated 24.05.2004)	Index (2004-05)	2008-09 (West Bengal Electricity Regulatory Commission Order dated 30.09.2008)	Index (2008-09)	2015-16 (West Bengal Electricity Regulatory Commission Order dated 10.08.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	25 units (Lifeline)	206	51%	206	53%	394	56%
	100 units	257	64%	292	75%	572	82%
	300 units	329	82%	399	102%	672	96%
	500 units	380	94%	459	118%	758	109%
	1000 units	418	104%	504	129%	822	118%
LT Commercial	150 units	397	98%	377	97%	690	99%
	500 units	446	111%	475	122%	810	116%
	4000 units	476	118%	543	139%	883	127%
LT Industrial	500 units	372	92%	371	95%	650	93%
	4000 units	640	159%	421	108%	733	105%
HT Residential		398	99%	395	101%	711	102%
HT Commercial							
Below 33 KV		441	110%	434	111%	812	116%
33 KV		441	110%	434	111%	763	109%
HT Industrial							
Below 33 KV		430	107%	415	106%	741	106%
33 KV		415	103%	390	100%	718	103%
Gross Average Tariff		403	100%	391	100%	698	100%

Table 3.1.24: Assam Power Distribution Company Limited (APDCL)

State West Bengal

Region North Eastern Region

Customer Category	Monthly Consumption	2004-05 (Assam Electricity Regulatory Commission Order dated 21.07.2004)	Index (2004-05)	2008-09 (Assam Electricity Regulatory Commission Order dated 12.09.2007)	Index (2008-09)	2015-16 (Assam Electricity Regulatory Commission Order dated 24.07.2015)	Index (2015-16)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	30 units (Lifeline)	238	54%	285	64%	460	67%
	100 units	275	62%	289	65%	504	73%
	300 units	366	83%	366	83%	602	88%
	500 units	414	94%	405	92%	655	95%
	1000 units	450	102%	435	98%	688	100%
LT Commercial	150 units	544	123%	528	119%	828	121%
	500 units	570	129%	521	118%	821	119%
	4000 units	561	127%	502	113%	802	117%
LT Industrial	500 units	344	78%	276	62%	554	81%
	4000 units	339	77%	273	62%	551	80%
HT Residential		460	104%	402	91%	684	100%
HT Commercial							
Below 33 KV		527	119%	464	105%	790	115%
33 KV		527	119%	464	105%	790	115%
HT Industrial							
Below 33 KV		414	94%	403	91%	720	105%
33 KV		414	94%	403	91%	720	105%
Gross Average Tariff		441	100%	442	100%	687	100%

Table 3.1.25: Tripura State Electricity Corporation Limited (TSECL)

State West Bengal

Region North Eastern Region

Customer Category	Monthly Consumption	2008-09	Index (2008-09)	2014-15 (Tripura State Electricity Regulatory Commission Order dated 22.11.2014)	Index (2014-15)
		Tariff (Paise/kWh)		Tariff (Paise/kWh)	
LT Residential	15 units (Lifeline)	257	64%	405	62%
	100 units	359	90%	569	88%
	300 units	414	103%	593	91%
	500 units	464	116%	638	98%
	1000 units	502	125%	672	103%
LT Commercial	150 units	432	108%	685	105%
	500 units	514	128%	706	109%
	4000 units	545	136%	710	109%
LT Industrial	500 units	445	111%	632	97%
	4000 units	498	125%	709	109%
HT Residential		548	137%	722	111%
HT Commercial					
Below 33 KV		653	163%	747	115%
33 KV		650	162%	744	114%
HT Industrial					
Below 33 KV		583	146%	731	112%
33 KV		583	146%	731	112%
Gross Average Tariff		400	100%	650	100%

Table 3.2: Tariff Deviation in Indexed Format

Vis-à-vis Interim Milestone of 80% to 120% Band				2004-05 Focus Customer Segments					
Sl.No.	**Region**	**State**	**Licensee**	**Residential with 100 kWh monthly consumption**	**Residential 300 kWh monthly consumption**	**Commercial 150 kWh monthly consumption**	**Commercial 4000 kWh monthly consumption**	**Commercial High Voltage**	**Industrial High Voltage**
1.	**Northern Region**	Delhi	BRPL	-19	-10	19	23	1	5
2.		Haryana	DHBVNL	11	19	-2	-2	-2	-5
3.		Himachal Pradesh	HPSEBL	-34	-11	25	13	19	15
4.		Punjab	PSPCL	-2	32	29	29	14	11
5.		Rajasthan	JVVNL	27	21	34	19	-6	1
6.		Uttar Pradesh	MVVNL	7	13	15	15	22	18
7.		Uttarakhand	UPCL	1	5	25	25	18	-23
8.	**Western Region**	Chhattisgarh	CSPDCL	-35	-17	-6	5	26	4
9.		Gujarat	TPL - Ahmedabad	-4	5	-15	5	-23	-20
10.			MGVCL	13	33	18	30	29	34
11.		Madhya Pradesh	Central Discom	4	17	47	47	19	13
12.		Maharashtra	RInfra	-41	-6	20	31	-7	-15
13.			MSEDCL	11	13	3	27	6	-3
14.	**Southern Region**	Telangana	TSSPDCL	26	58	81	103	68	30
15.		Andhra Pradesh	APSPDCL	29	63	88	110	74	35
16.		Karnataka	BESCOM	-7	16	41	49	37	0
17.		Tamil Nadu	TANGEDCO	-16	18	68	72	82	25
18.	**Eastern Region**	Bihar	NBPDCL	-11	10	40	62	30	26
19.			SBPDCL	-11	10	40	62	30	26
20.		Jharkhand	JBVNL	-36	-37	-7	-7	83	77
21.		Odisha	CESU	-13	8	6	34	-9	5
22.		West Bengal	WBSEDCL	-3	14	-8	22	15	11
23.			CESC	-16	2	-22	-2	-10	-13
24.	**North-Eastern Region**	Assam	APDCL	-18	3	3	7	-1	-26
25.		Tripura	TSECL						
Note:									
Cross-Subsidised (Getting Subsidy) (-) = Below Band of 80% = Non-compliant (Shaded) / (+) = Above Band of 80% = Compliant				**-6**	**12**				
Cross-Subsidisers (Giving Subsidy) (-) = Below Band of 120% = Compliant / (+) = Above Band of 120% = Non-compliant (Shaded)						**23**	**33**	**22**	**10**

Table 3.2: Tariff Deviation in Indexed Format

Vis-à-vis Interim Milestone of 80% to 120% Band				2008-09 Focus Customer Segments					
Sl.No.	**Region**	**State**	**Licensee**	**Residential with 100 kWh monthly consumption**	**Residential 300 kWh monthly consumption**	**Commercial 150 kWh monthly consumption**	**Commercial 4000 kWh monthly consumption**	**Commercial High Voltage**	**Industrial High Voltage**
1.	**Northern Region**	Delhi	BRPL	-25	-7	-2	-3	-15	-14
2.		Haryana	DHBVNL	1	8	-14	-14	-14	-17
3.		Himachal Pradesh	HPSEBL	-14	-4	13	2	13	7
4.		Punjab	PSPCL	-9	21	13	13	-2	-3
5.		Rajasthan	JVVNL	40	34	52	36	8	16
6.		Uttar Pradesh	MVVNL	2	5	2	2	-3	8
7.		Uttarakhand	UPCL	-10	-13	-2	-3	0	-24
8.	**Western Region**	Chhattisgarh	CSPDCL	-26	-14	12	22	37	-14
9.		Gujarat	TPL - Ahmedabad	-6	4	-37	-22	-18	-20
10.			MGVCL	-8	8	-13	1	-16	-18
11.		Madhya Pradesh	Central Discom	-3	13	21	21	4	-4
12.		Maharashtra	RInfra	-46	-22	13	-9	37	-6
13.			MSEDCL	-16	13	0	22	88	11
14.	**Southern Region**	Telangana	TSSPDCL	15	47	84	107	65	21
15.		Andhra Pradesh	APSPDCL	16	49	86	109	67	23
16.		Karnataka	BESCOM	1	23	46	54	45	-11
17.		Tamil Nadu	TANGEDCO	-16	18	68	72	82	25
18.	**Eastern Region**	Bihar	NBPDCL	-14	3	26	41	20	16
19.			SBPDCL	-14	3	26	41	20	16
20.		Jharkhand	JBVNL	-31	-31	7	-13	15	12
21.		Odisha	CESU	-31	-3	-1	56	7	2
22.		West Bengal	WBSEDCL	1	19	-7	48	20	9
23.			CESC	-5	22	-23	19	-9	-14
24.	**North-Eastern Region**	Assam	APDCL	-15	3	-1	-7	-15	-29
25.		Tripura	TSECL	10	23	-12	16	43	26
Note:									
Cross-Subsidised (Getting Subsidy) (-) = Below Band of 80% = Non-compliant (Shaded) / (+) = Above Band of 80% = Compliant				**-8**	**9**				
Cross-Subsidisers (Giving Subsidy) (-) = Below Band of 120% = Compliant / (+) = Above Band of 120% = Non-compliant (Shaded)						**14**	**24**	**19**	**1**

Table 3.2: Tariff Deviation in Indexed Format

Vis-à-vis Interim Milestone of 80% to 120% Band				2015-16 Focus Customer Segments					
Sl.No.	**Region**	**State**	**Licensee**	**Residential with 100 kWh monthly consumption**	**Residential 300 kWh monthly consumption**	**Commercial 150 kWh monthly consumption**	**Commercial 4000 kWh monthly consumption**	**Commercial High Voltage**	**Industrial High Voltage**
1.	**Northern Region**	Delhi	BRPL	-22	-17	5	12	5	-10
2.		Haryana	DHBVNL	-16	6	-21	-12	-4	-3
3.		Himachal Pradesh	HPSEBL	-4	2	-15	-23	19	15
4.		Punjab	PSPCL	-1	17	-5	-3	-9	-8
5.		Rajasthan	JVVNL	8	17	16	9	13	-5
6.		Uttar Pradesh	MVVNL	-7	-3	-1	6	15	4
7.		Uttarakhand	UPCL	-18	-6	-18	-6	-5	-17
8.	**Western Region**	Chhattisgarh	CSPDCL	-20	-1	-26	6	-7	-17
9.		Gujarat	TPL - Ahmedabad	0	5	-24	-25	-16	-18
10.			MGVCL	1	12	-22	-14	-17	-19
11.		Madhya Pradesh	Central Discom	3	28	9	9	10	3
12.		Maharashtra	RInfra	-16	-5	-1	-22	17	-2
13.			MSEDCL	-10	24	13	36	70	7
14.	**Southern Region**	Telangana	TSSPDCL	-30	24	30	60	52	21
15.		Andhra Pradesh	APSPDCL	-36	17	30	62	54	24
16.		Karnataka	BESCOM	-14	13	18	23	27	-6
17.		Tamil Nadu	TANGEDCO	-21	1	8	25	42	9
18.	**Eastern Region**	Bihar	NBPDCL	0	10	10	14	18	14
19.			SBPDCL	-9	-2	3	7	11	7
20.		Jharkhand	JBVNL	-7	-8	34	34	42	37
21.		Odisha	CESU	-8	7	0	24	7	4
22.		West Bengal	WBSEDCL	9	21	-15	22	-1	-2
23.			CESC	2	16	-21	7	-4	-14
24.	**North-Eastern Region**	Assam	APDCL	-7	8	1	-3	-5	-15
25.		Tripura	TSECL	8	11	-15	-11	-5	-8
Note:									
Cross-Subsidised (Getting Subsidy) (-) = Below Band of 80% = Non-compliant (Shaded) / (+) = Above Band of 80% = Compliant				**-9**	**8**				
Cross-Subsidisers (Giving Subsidy) (-) = Below Band of 120% = Compliant / (+) = Above Band of 120% = Non-compliant (Shaded)						**0**	**9**	**13**	**0**

Table 3.3: Industrial and Commercial (High Voltage) Comparison with Specified Segments for 25 utilities for 2015-16

Sl.No.	Region	State	Licensee	Industrial vis-à-vis Residential 100 kWh Monthly Consumption (Residential = 100)	Industrial vis-à-vis Residential 300 kWh Monthly Consumption (Residential = 100)	Commercial vis-à-vis Residential 100 kWh Monthly Consumption (Residential = 100)	Commercial vis-à-vis Residential 300 kWh Monthly Consumption (Residential = 100)	Sales
1.	Northern Region	Delhi	BRPL	189	173	215	197	10683
2.		Haryana	DHBVNL	182	136	181	136	21471
3.		Himachal Pradesh	HPSEBL	178	165	183	171	8438
4.		Punjab	PSPCL	142	115	141	114	43200
5.		Rajasthan	JVVNL	130	118	150	137	21145
6.		Uttar Pradesh	MVVNL	171	161	187	176	14435
7.		Uttarakhand	UPCL	166	139	184	155	10422
8.	Western Region	Chhattisgarh	CSPDCL	171	130	188	143	18735
9.		Gujarat	TPL- Ahmedabad	127	119	131	122	7483
10.			MGVCL	125	110	127	111	8001
11.		Madhya Pradesh	Central Discom	149	114	158	121	16535
12.		Maharashtra	RInfra	186	158	215	183	7767
13.			MSEDCL	181	123	271	184	93261
14.	Southern Region	Telangana	TSSPDCL	278	136	341	166	30019
15.		Andhra Pradesh	APSPDCL	329	148	398	179	30876
16.		Karnataka	BESCOM	174	123	223	159	25342
17.		Tamil Nadu	TANGEDCO	217	159	274	200	64844
18.	Eastern Region	Bihar	NBPDCL	167	149	173	153	4926
19.			SBPDCL	179	162	184	167	6287
20.		Jharkhand	JBVNL	216	219	223	226	8246
21.		Odisha	CESU	174	142	177	145	6761
22.		West Bengal	WBSEDCL	133	117	134	118	27232
23.			CESC	130	110	142	121	9424
24.	North-Eastern Region	Assam	APDCL	143	120	157	131	6383
25.		Tripura	TSECL	128	123	131	126	784

Table 3.3.1: Industrial and Commercial (High Voltage) Comparison with Specified Segments for Regions (from Table 4.3)

Sl.No.	Region	Region-wise Industrial vis-à-vis Residential 100 kWh Monthly Consumption (Residential = 100)	Region-wise Industrial vis-à-vis Residential 300 kWh Monthly Consumption (Residential = 100)	Region-wise Commercial vis-à-vis Residential 100 kWh Monthly Consumption (Residential = 100)	Region-wise Commercial vis-à-vis Residential 300 kWh Monthly Consumption (Residential = 100)
1.	North India	158	134	167	142
2.	West India	171	124	231	165
3.	South India	245	146	304	182
4.	East India	155	139	160	143
5.	North-East India	141	120	154	131

Load Curves for Cost of Supply Study

High Tension / High Voltage (HT)

4.1. HT Supply at 33 KV excluding Metro Railways

Figure 4.1.1: Daily Load Curves for HT Supply at 33 KV excluding Metro Railways

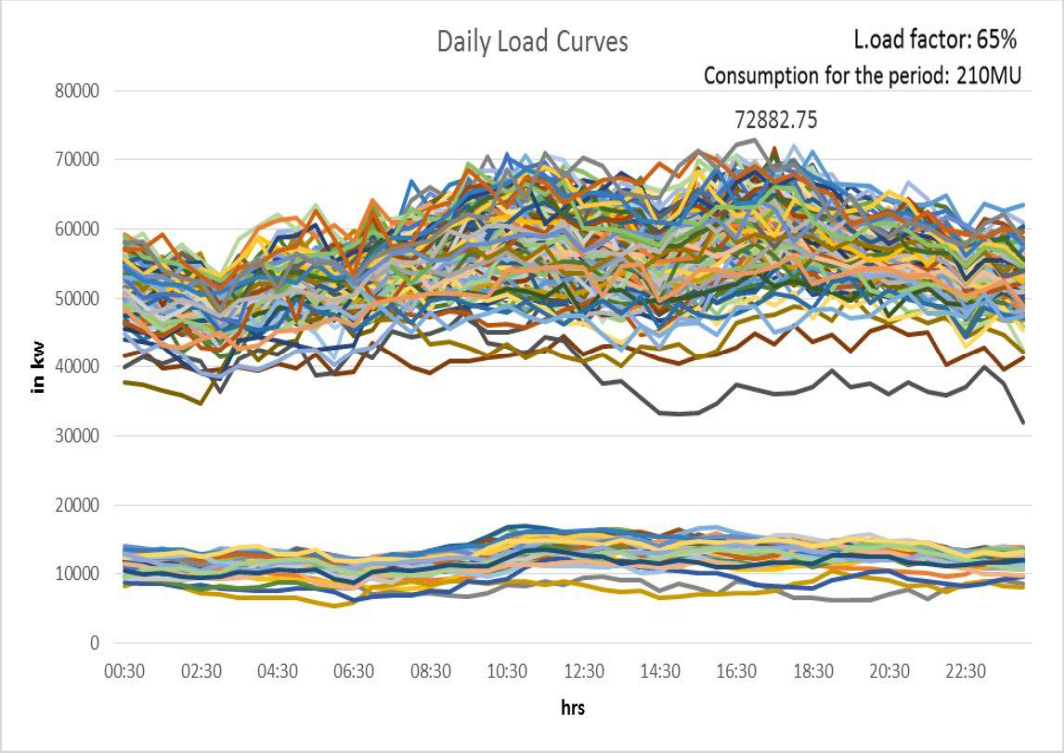
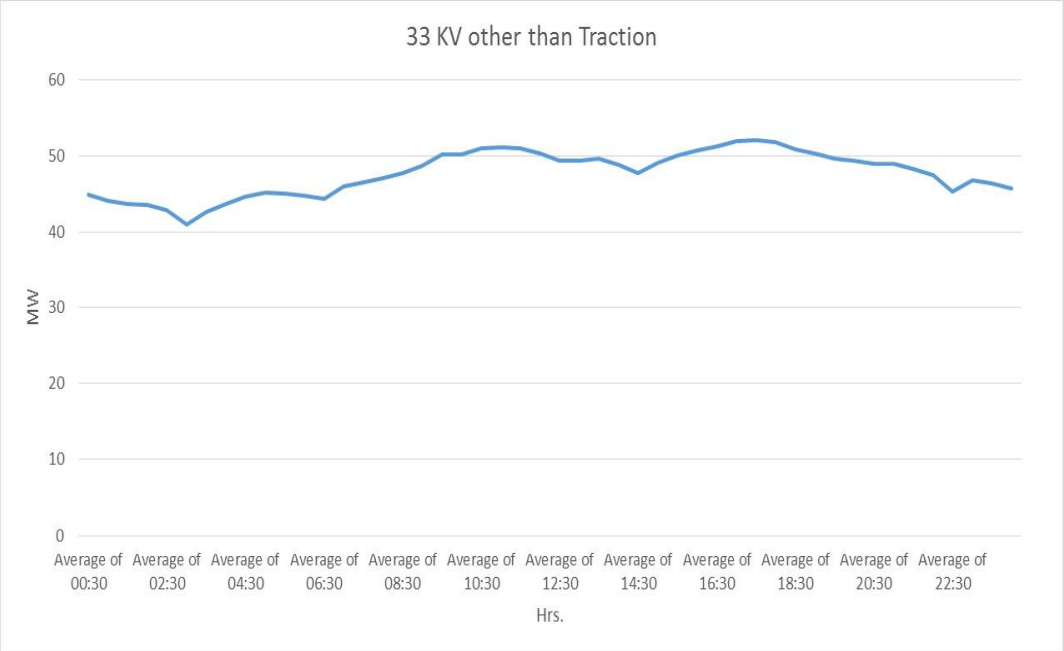


Figure 4.1.2: Derived Curve for HT Supply at 33 KV excluding Metro Railways



4.2. HT Supply at 33 KV for Metro Railways

Figure 4.2.1: Daily Load Curves for HT Supply at 33 KV for Metro Railways

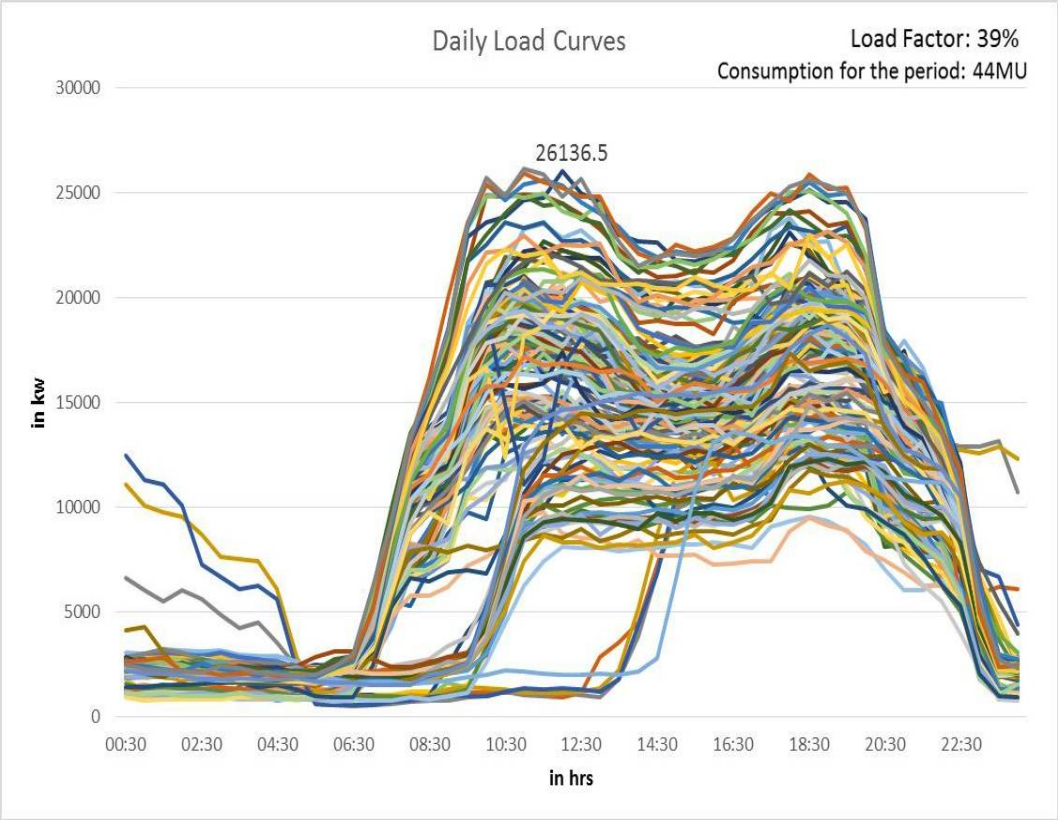
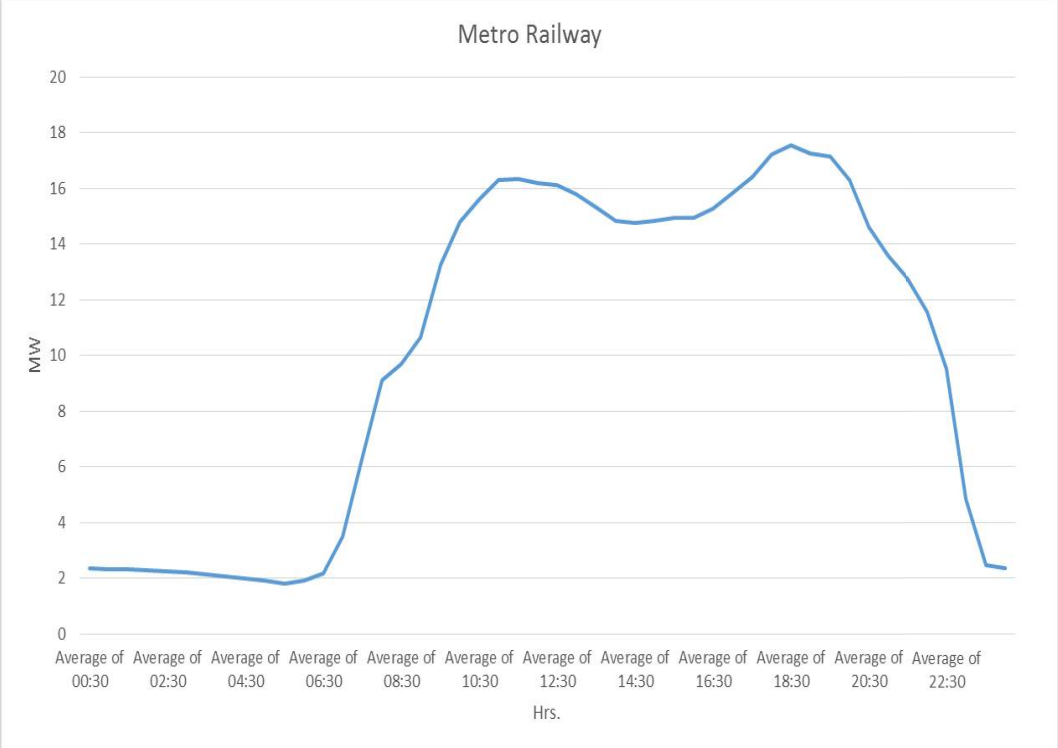


Figure 4.2.2: Derived Curve for HT Supply at 33 KV for Metro Railways



4.3. HT Industrial Supply below 33 KV (11 KV and 6 KV)

Figure 4.3.1: Daily Load Curves for HT Industrial Supply below 33 KV (11 KV and 6 KV)

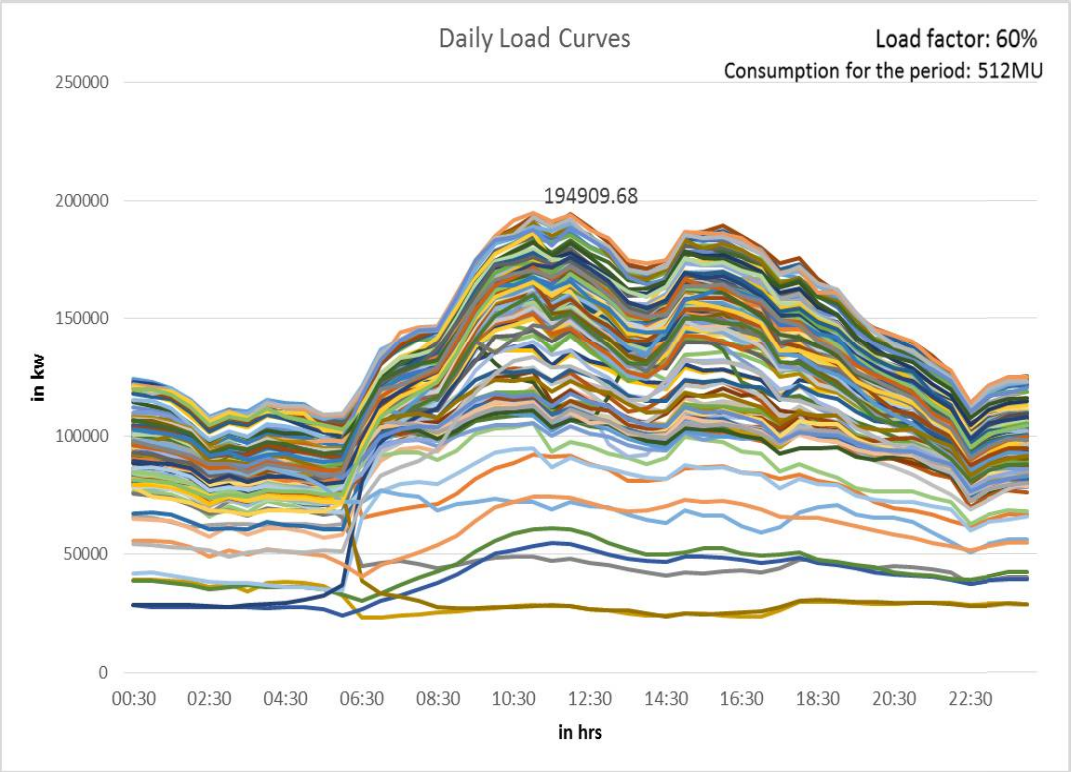
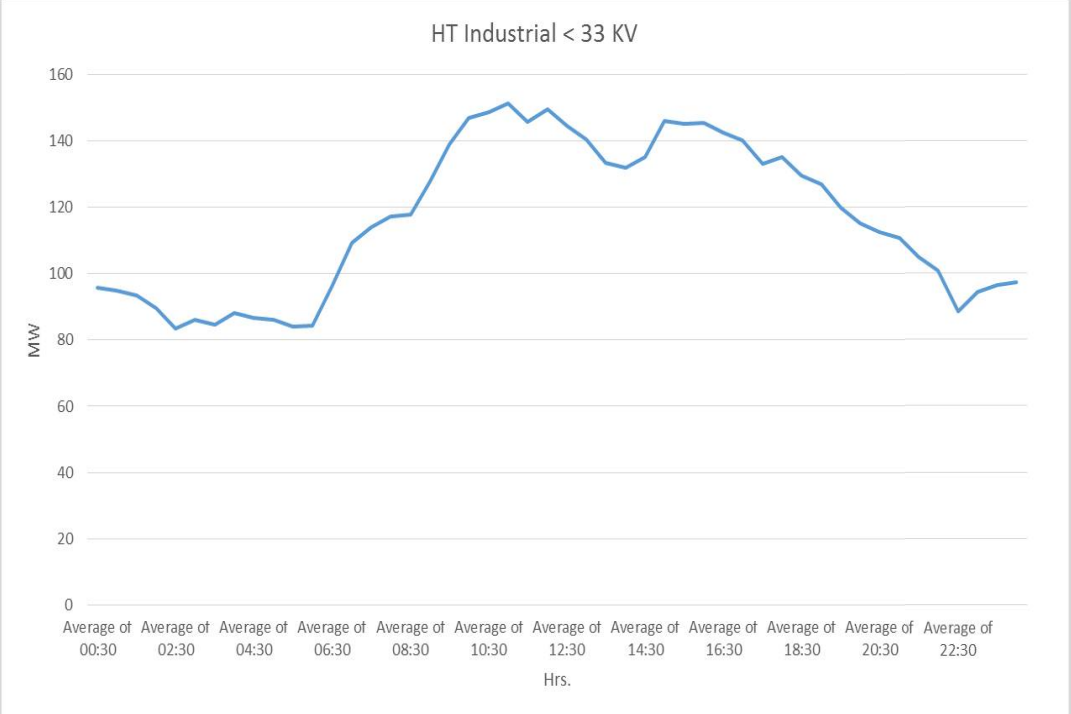


Figure 4.3.2: Derived Curve for HT Industrial Supply below 33 KV (11 KV and 6 KV)



4.4. HT Commercial Supply below 33 KV

Figure 4.4.1: Daily Load Curves for HT Commercial Supply below 33 KV

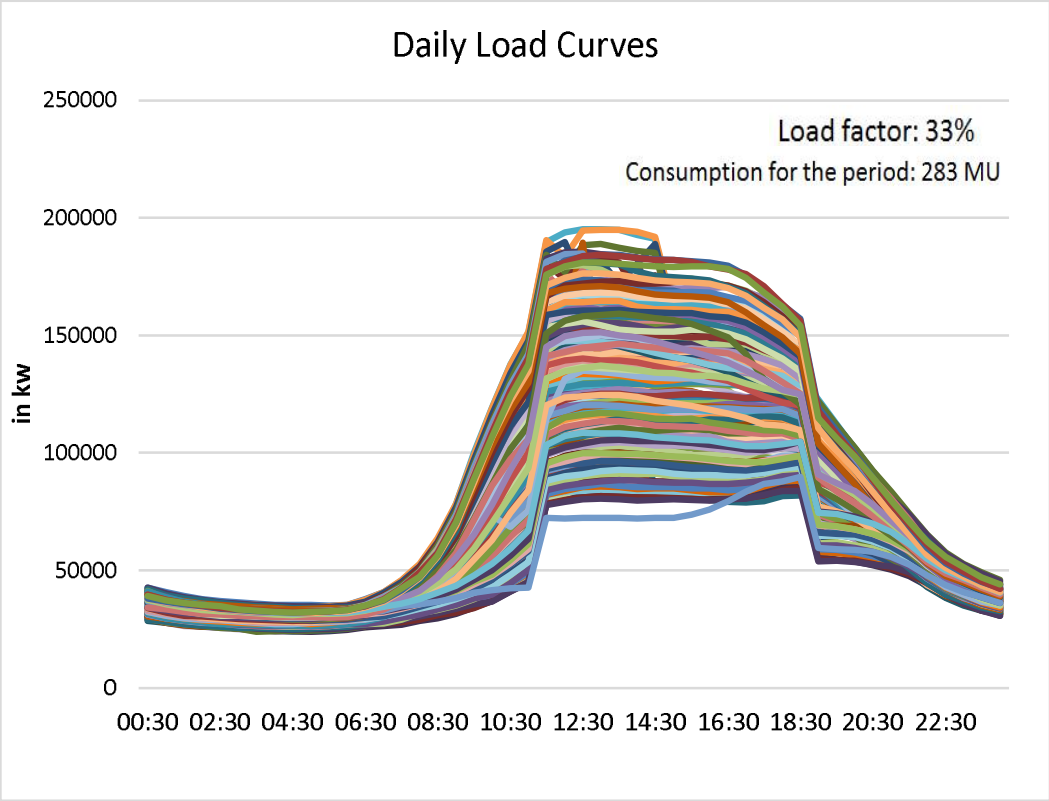
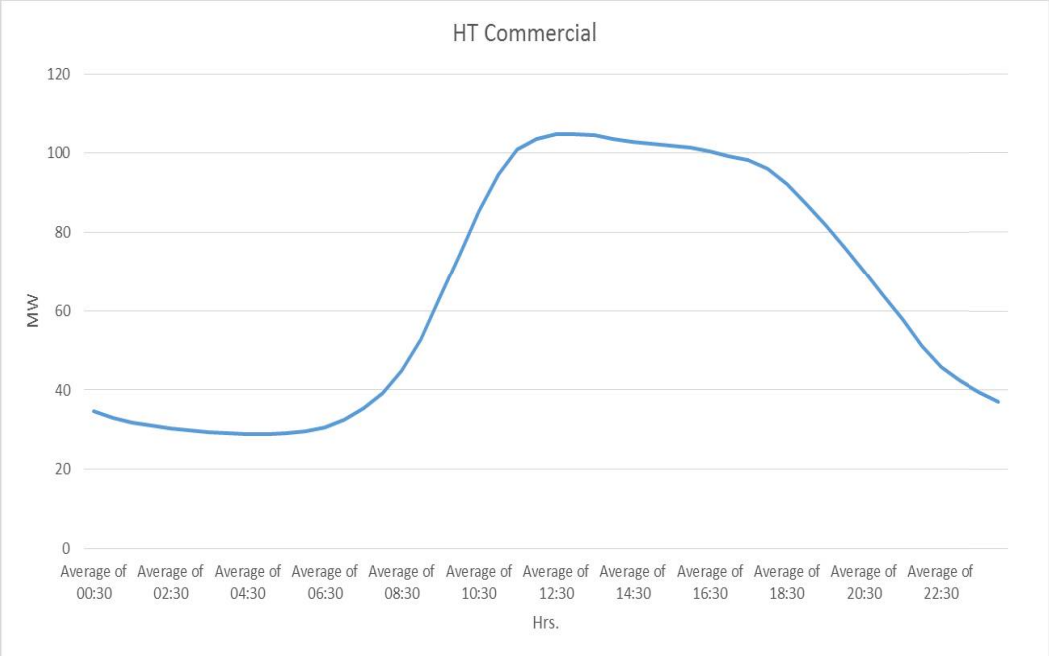


Figure 4.4.2: Derived Curve for HT Commercial Supply below 33 KV



4.5. HT Public Water Works Supply below 33 KV

Figure 4.5.1: Daily Load Curves for HT Public Water Works Supply below 33 KV

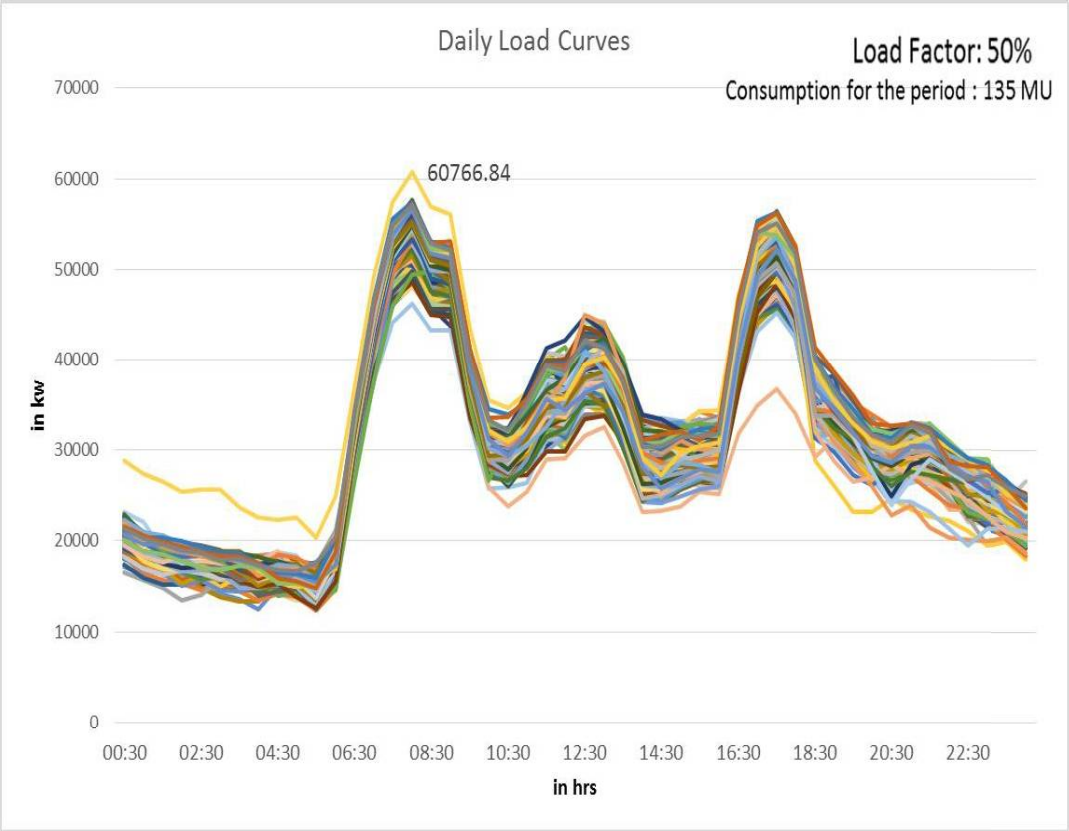
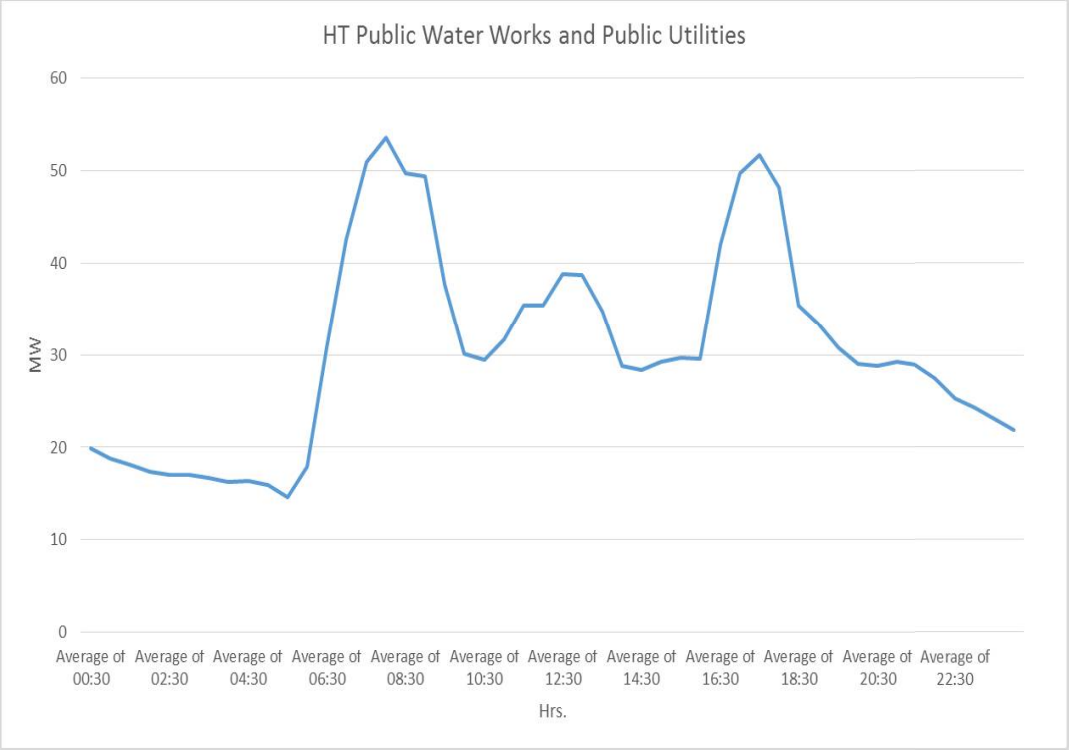


Figure 4.5.2: Derived Curve for HT Public Water Works Supply below 33 KV



4.6. HT Domestic and Co-operative Supply below 33 KV

Figure 4.6.1: Daily Load Curves for HT Domestic and Co-operative Supply below 33 KV

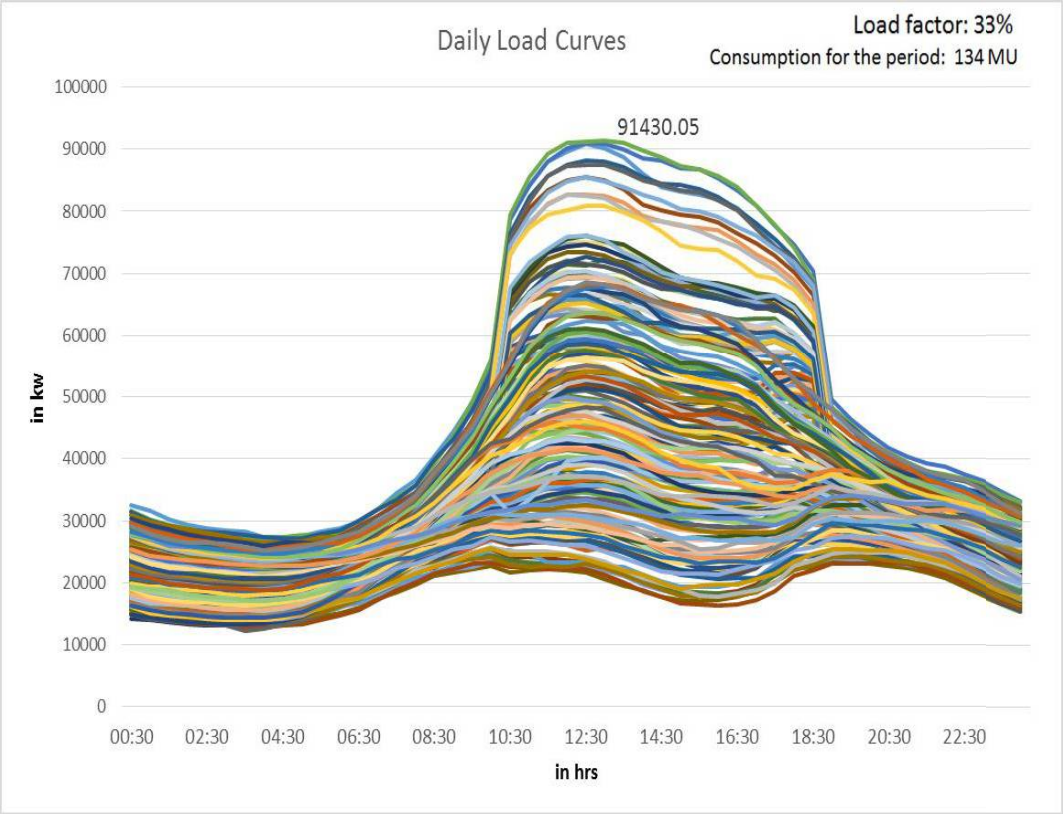
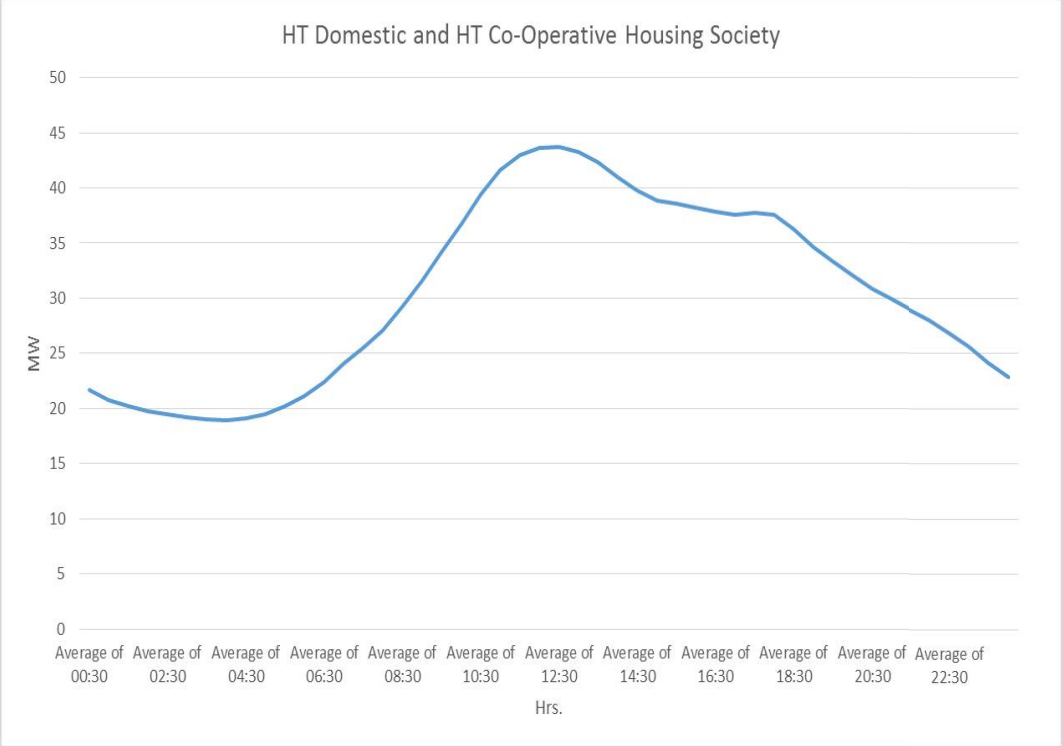


Figure 4.6.2: Derived Curve for HT Domestic and Co-operative Supply below 33 KV



4.7. HT Supply below 33 KV for Tramways

Figure 4.7.1: HT Supply below 33 KV for Tramways

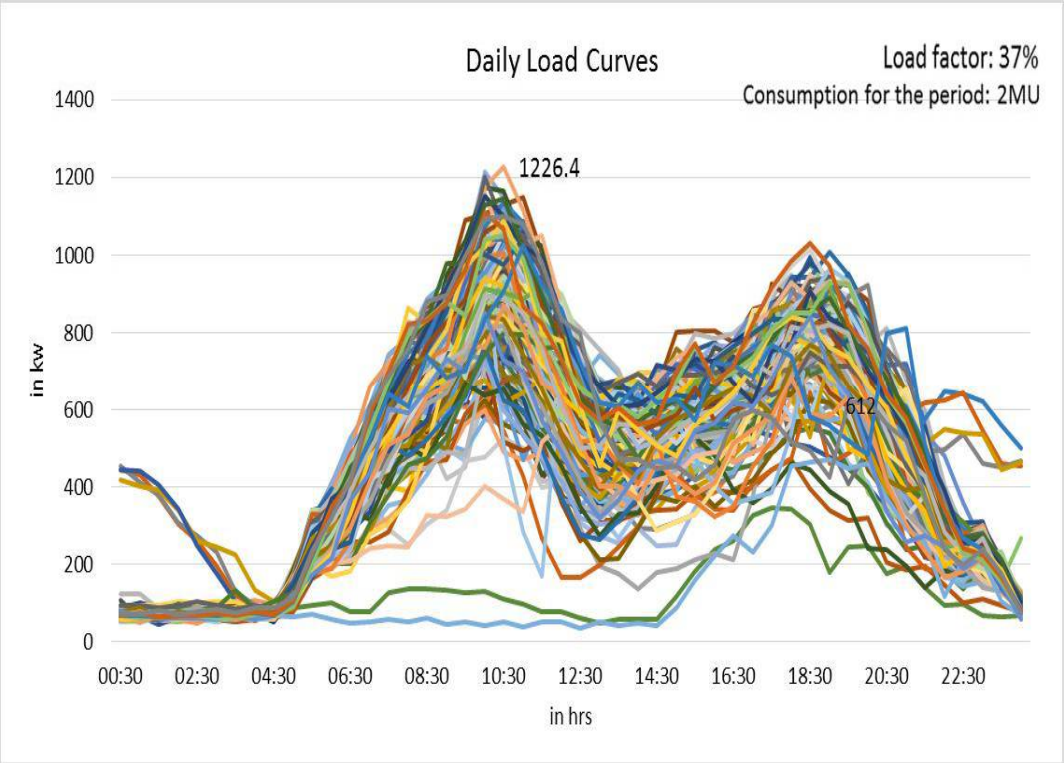
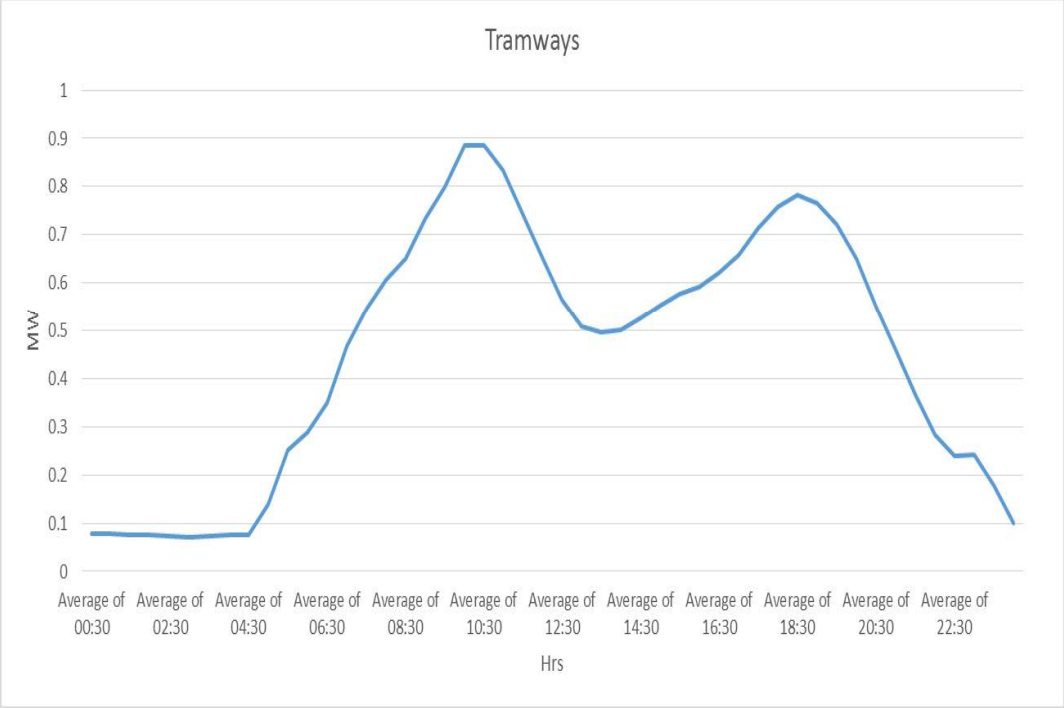


Figure 4.7.2: Derived Curve for HT Supply below 33 KV for Tramways



4.8. HT Supply below 33 KV for Construction Power, Sports Complex and Educational Institutions

Figure 4.8.1: Daily Load Curves for HT Supply below 33 KV for Construction Power, Sports Complex, Auditorium and Educational Institutions

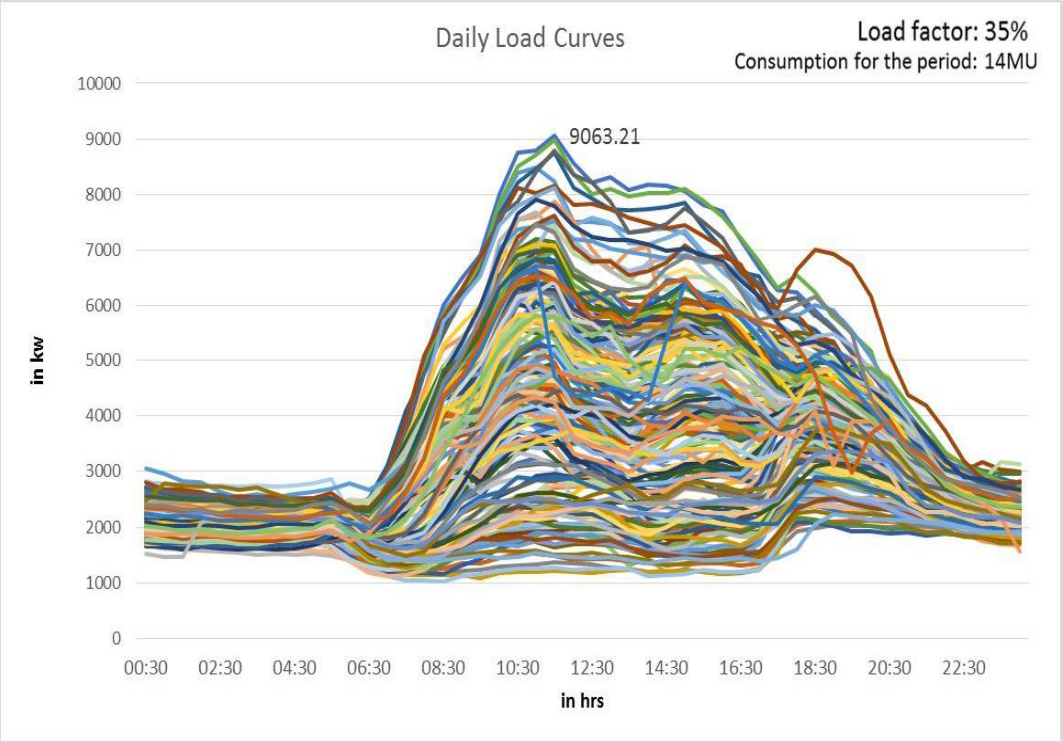
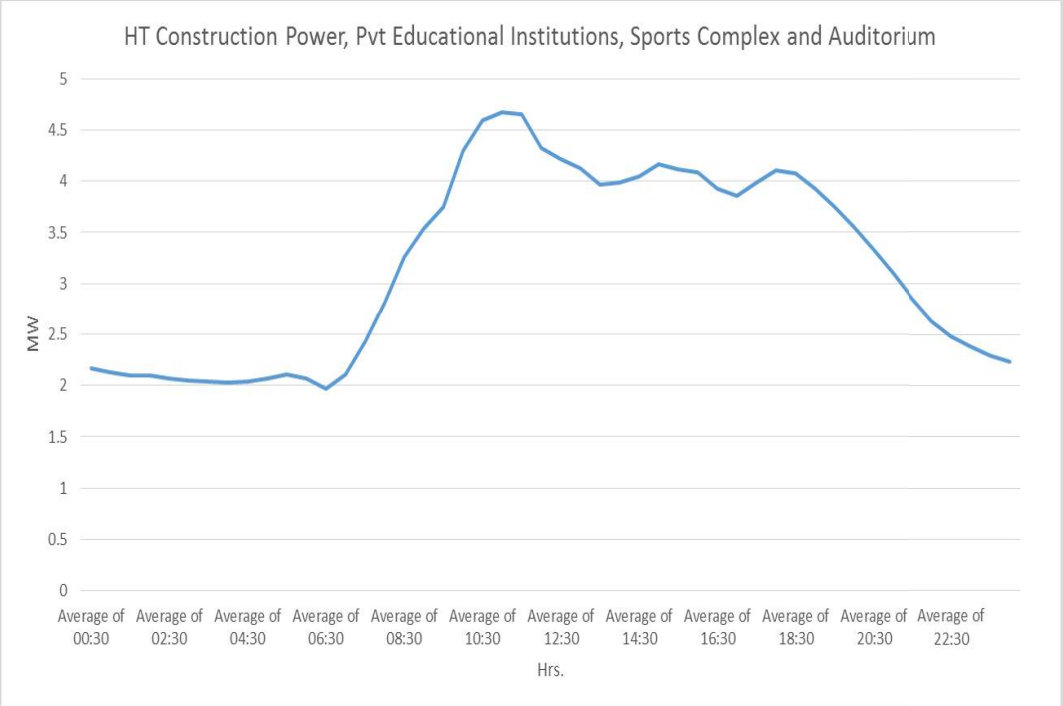


Figure 4.8.2: Derived Curve for HT Supply below 33 KV for Construction Power, Sports Complex, Auditorium and Educational Institutions



4.9. HT Supply to a Licensee

Figure 4.9.1: Daily Load Curves for HT Supply to a Licensee

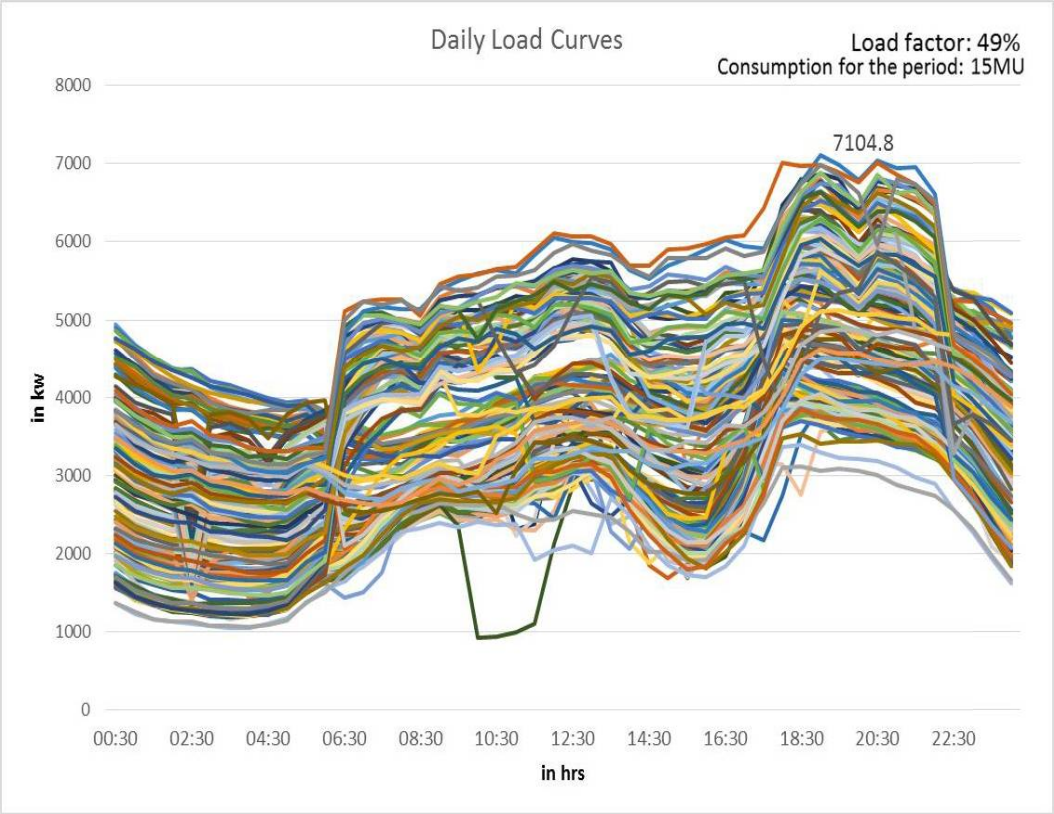
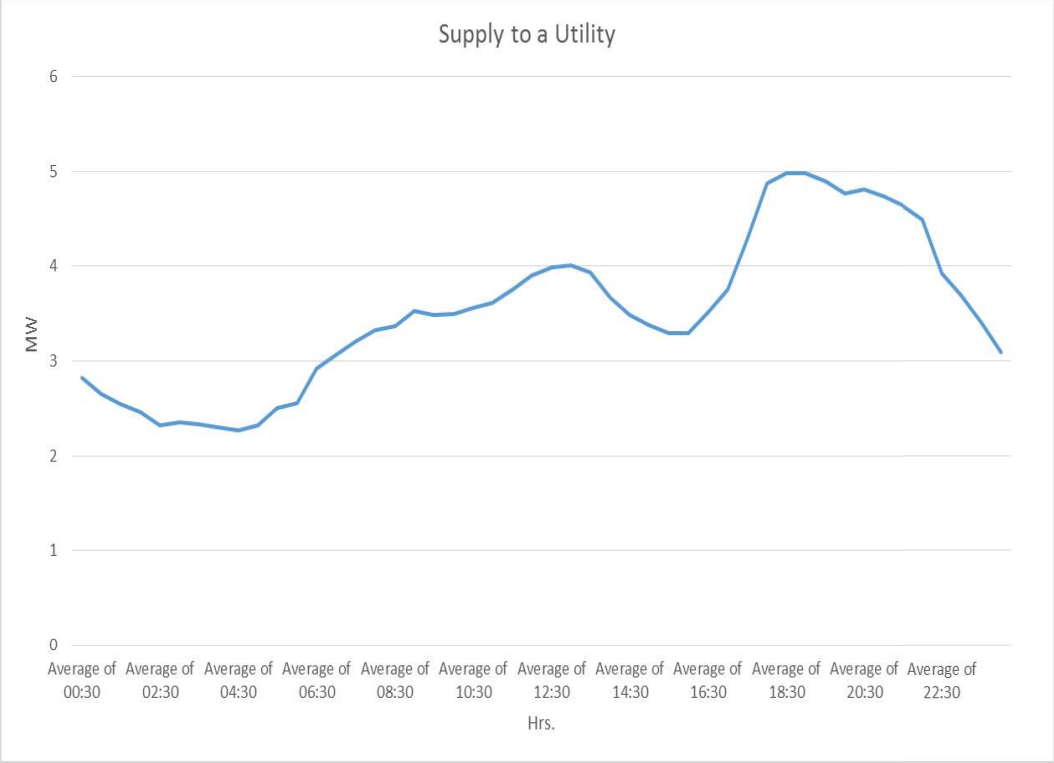


Figure 4.9.2: Derived Curve for HT Supply to a Licensee



Low Tension / Low Voltage (LT)

4.10. LT Supply to Lifeline Consumers

Figure 4.10.1: Daily Load Curves for LT Supply to Lifeline Consumers

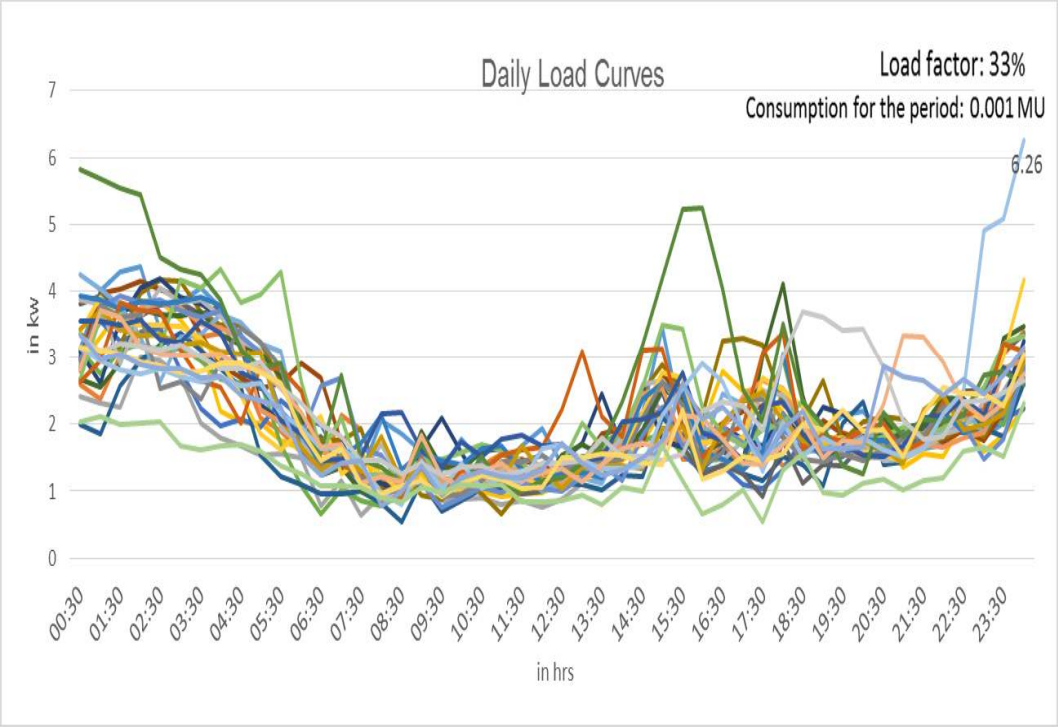
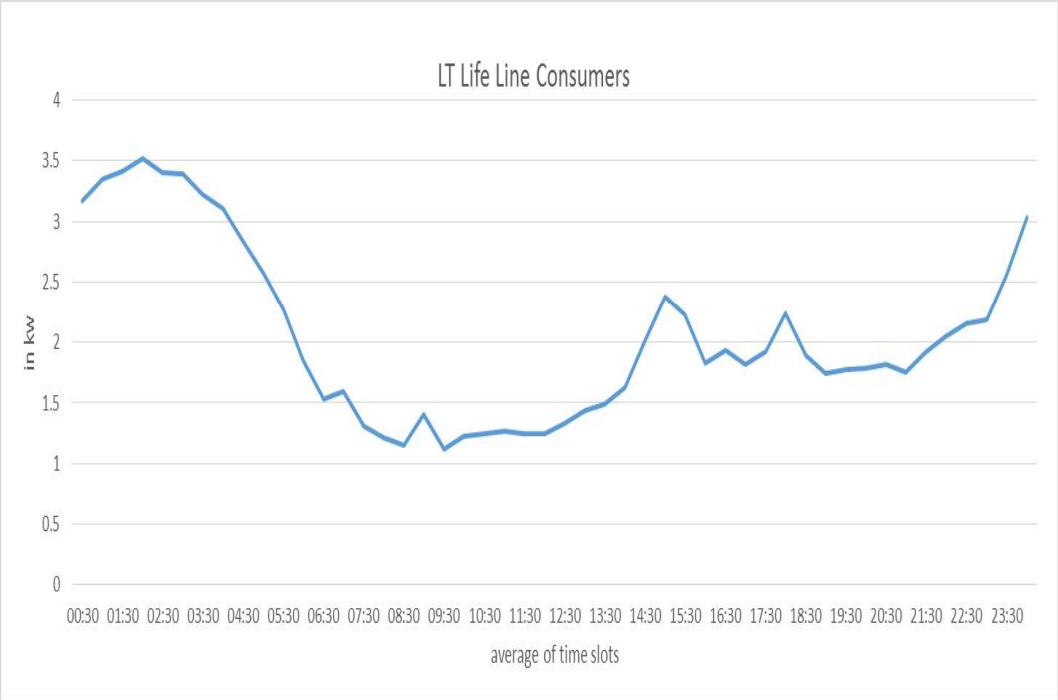


Figure 4.10.2: Derived Curve for LT Supply to Lifeline Consumers



4.11. LT Domestic Supply

Figure 4.11.1: Daily Load Curves for LT Domestic Supply

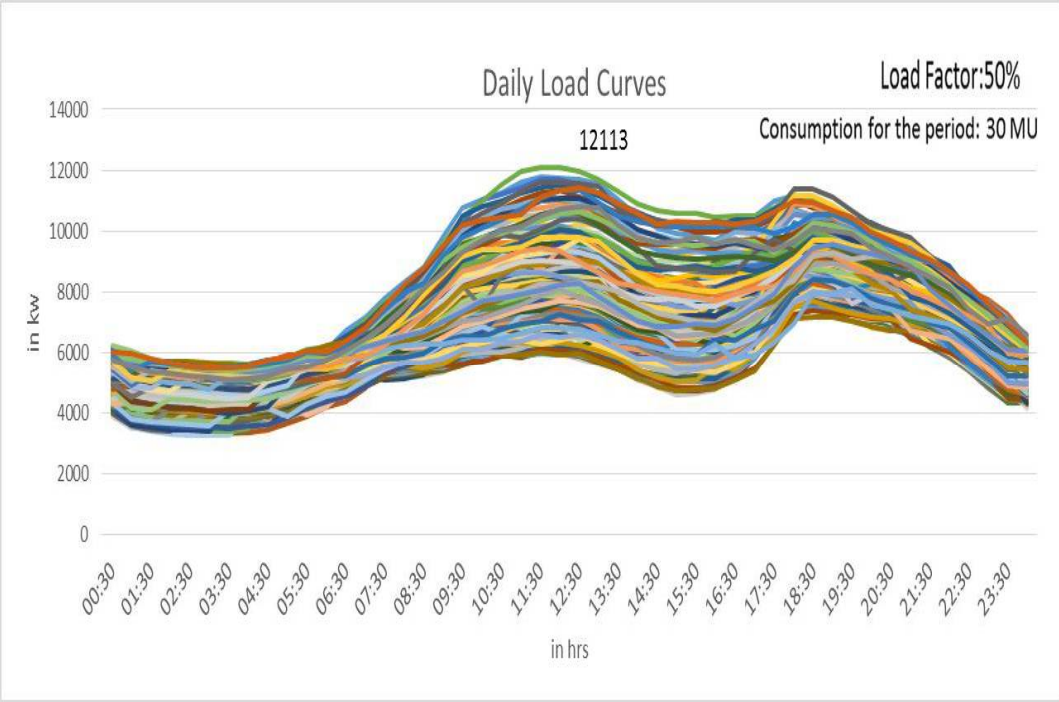
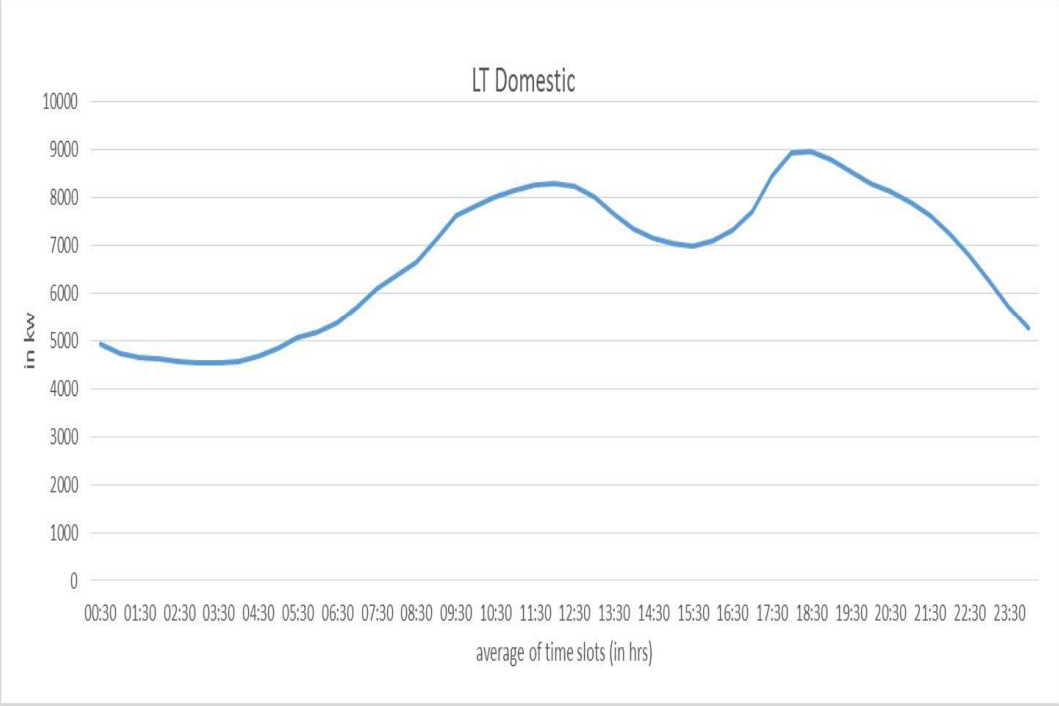


Figure 4.11.2: Derived Curve for LT Domestic Supply



4.12. LT Commercial Supply

Figure 4.12.1: Daily Load Curves for LT Commercial Supply

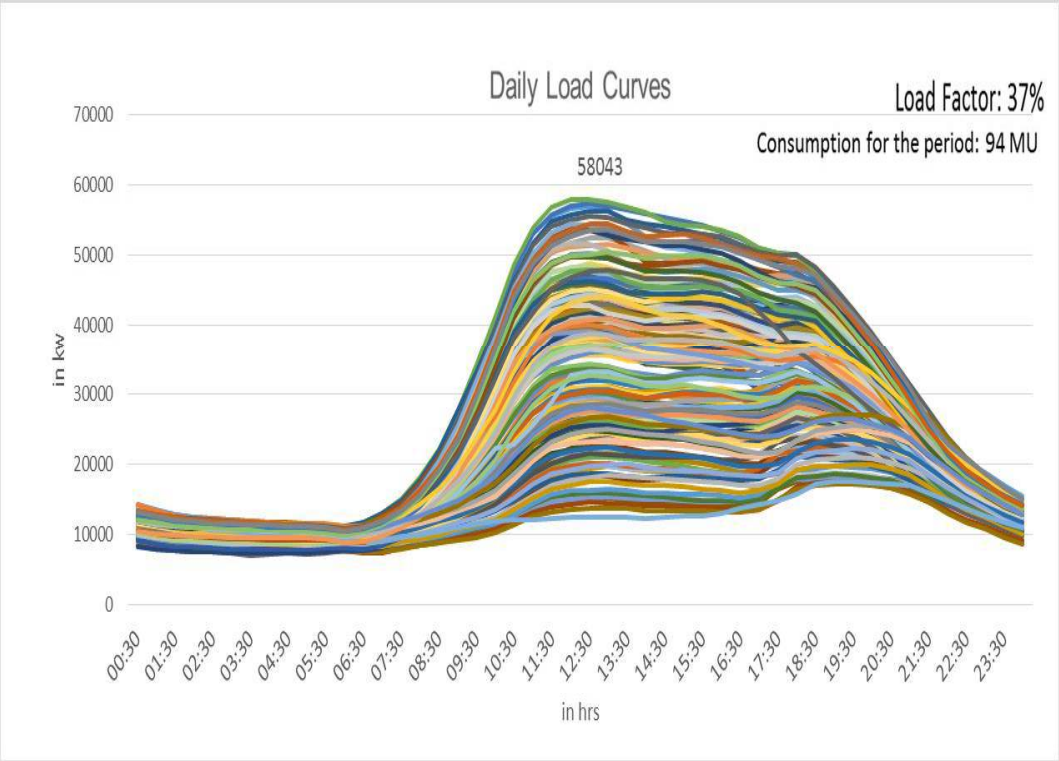
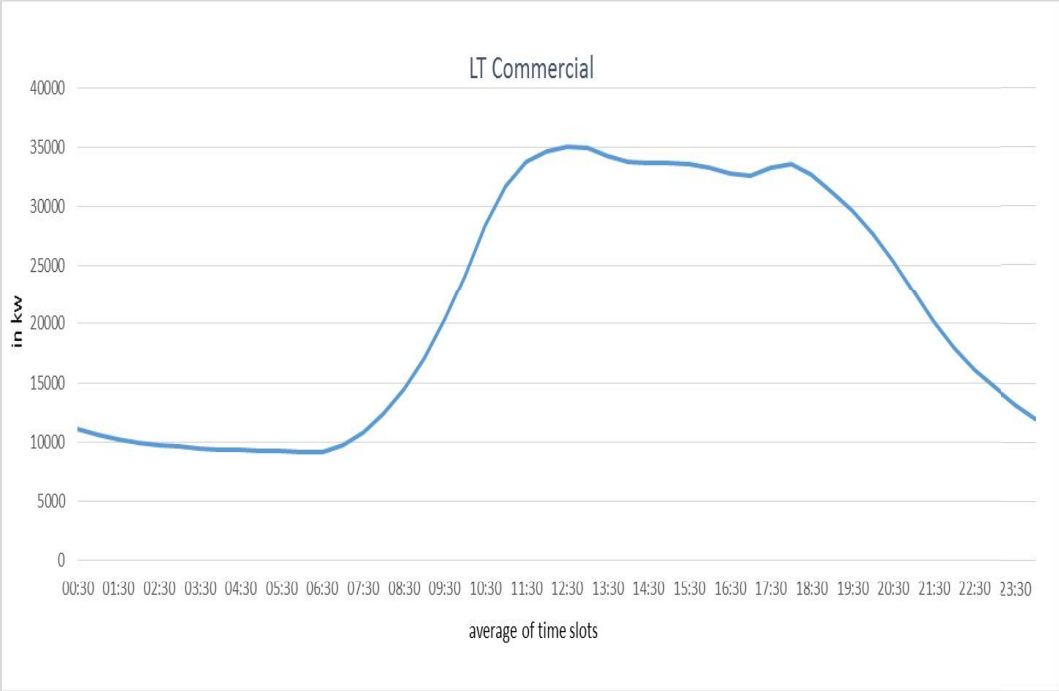


Figure 4.12.2: Derived Curve for LT Commercial Supply



4.13. LT Industrial Supply

Figure 4.13.1: Daily Load Curves for LT Industrial Supply

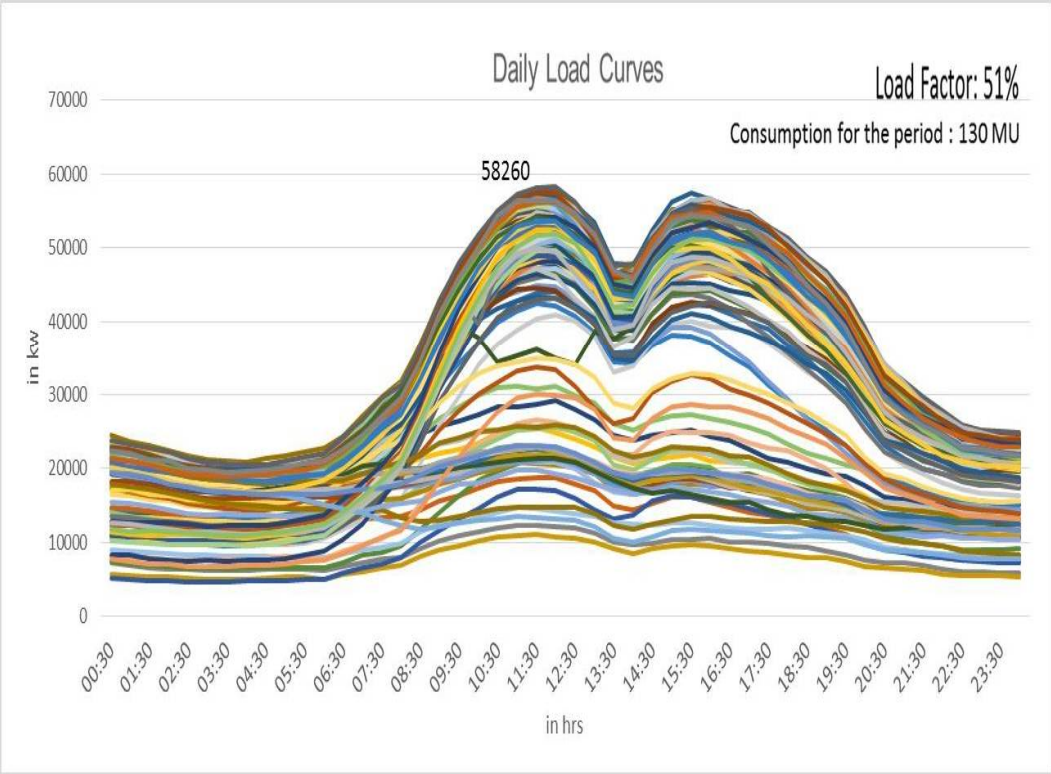
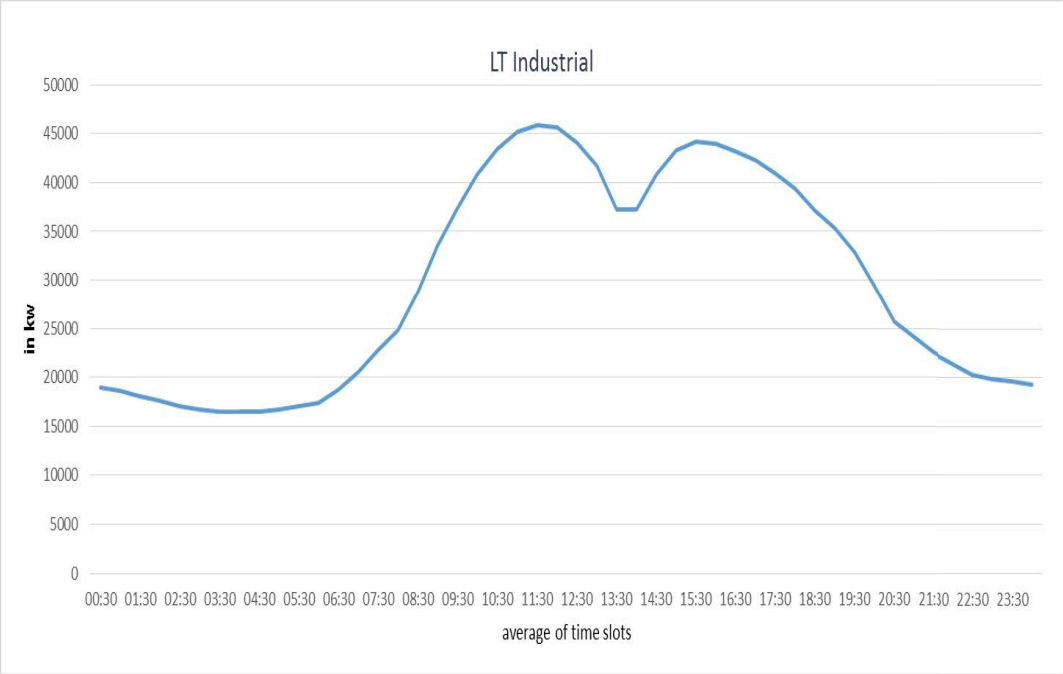


Figure 4.13.2: Derived Curve for LT Industrial Supply



4.14. LT Supply to Public Waterworks, Government Hospitals and Educational Institutions

Figure 4.14.1: Daily Load Curves for LT Supply to Public Waterworks, Government Hospitals and Educational Institutions

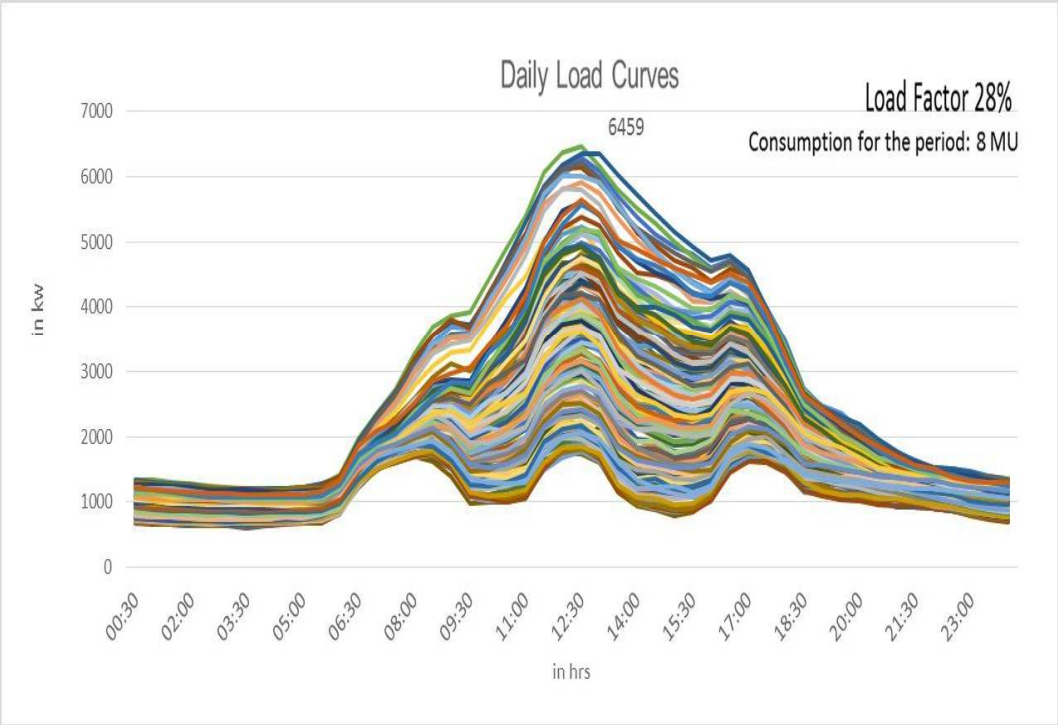
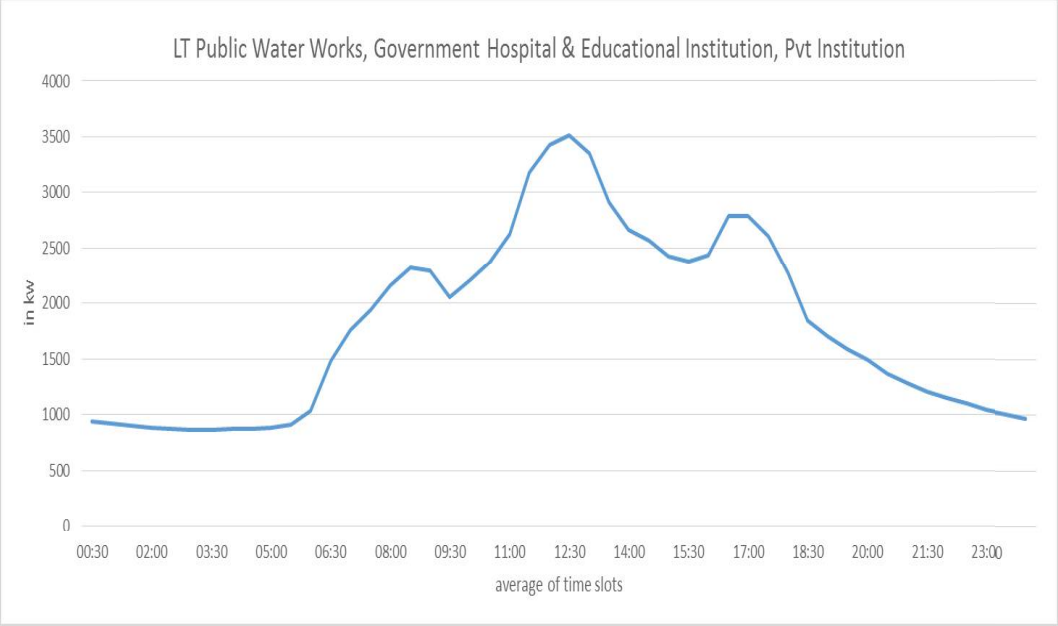


Figure 4.14.2: Derived Curve for LT Supply to Public Waterworks, Government Hospitals and Educational Institutions



4.15. LT Supply to Public Bodies

Figure 4.15.1: Daily Load Curves for LT Supply to Public Bodies

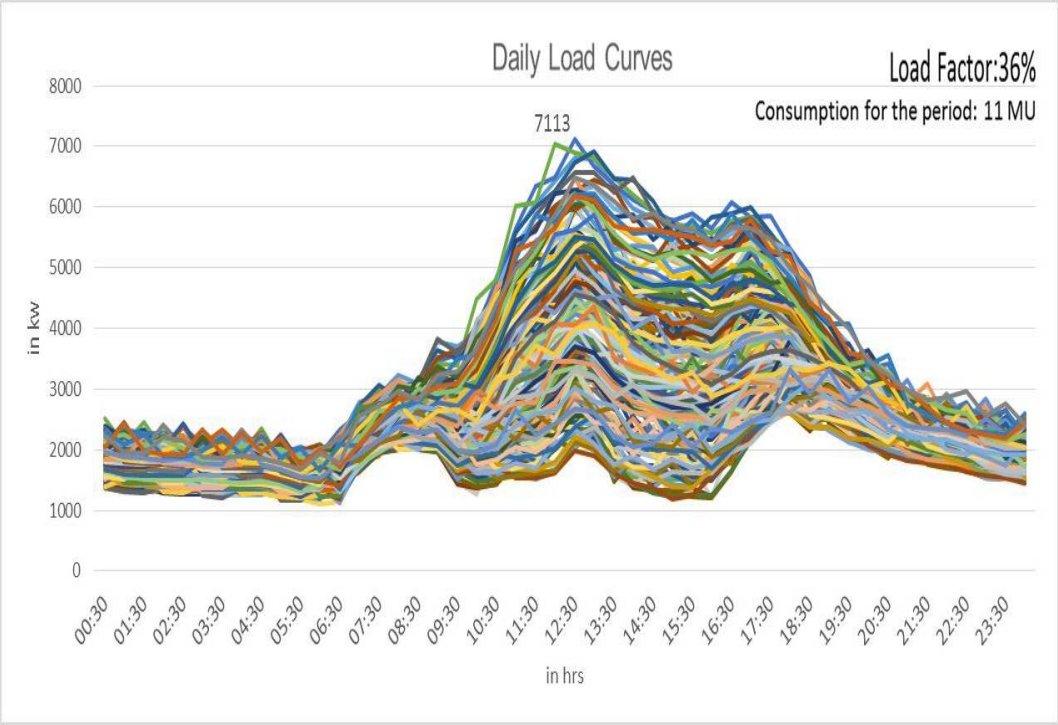
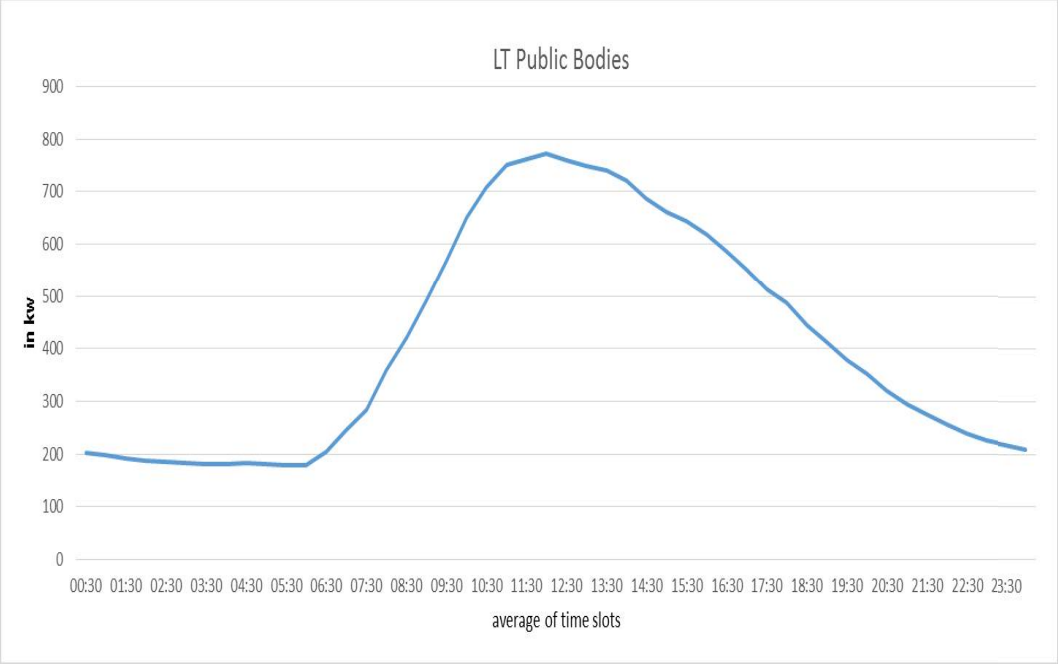


Figure 4.15.2: Derived Curve for LT Supply to Public Bodies



4.16. LT Short Term Supply

Figure 4.16.1: Daily Load Curves for LT Short Term Supply

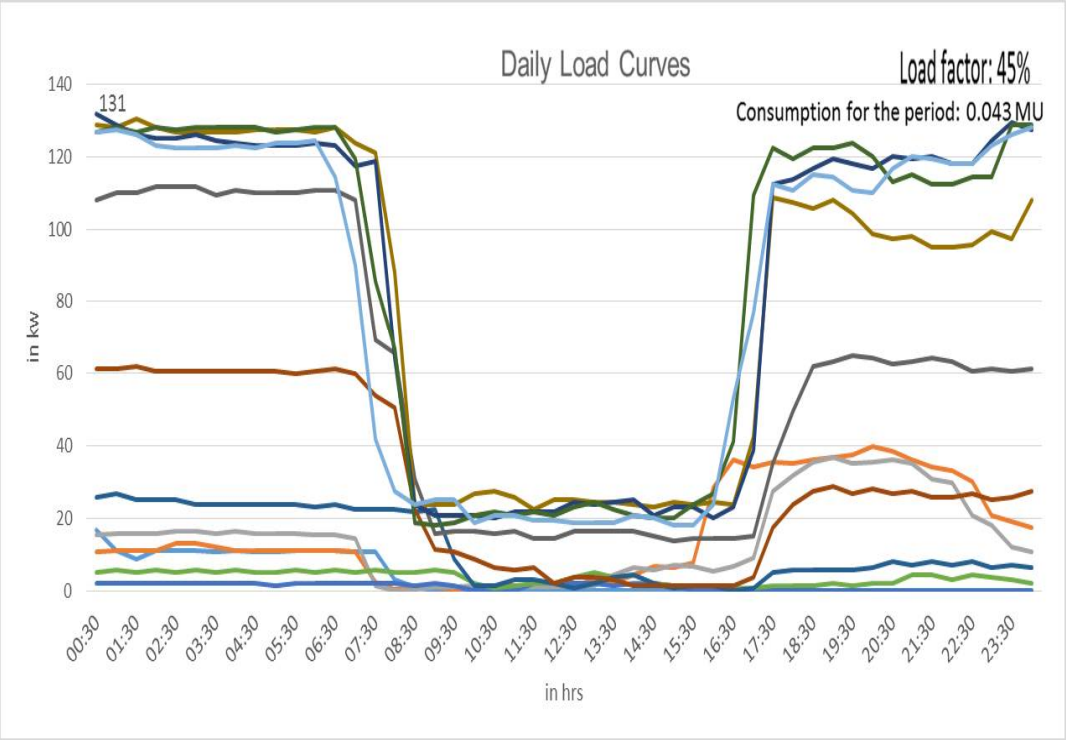
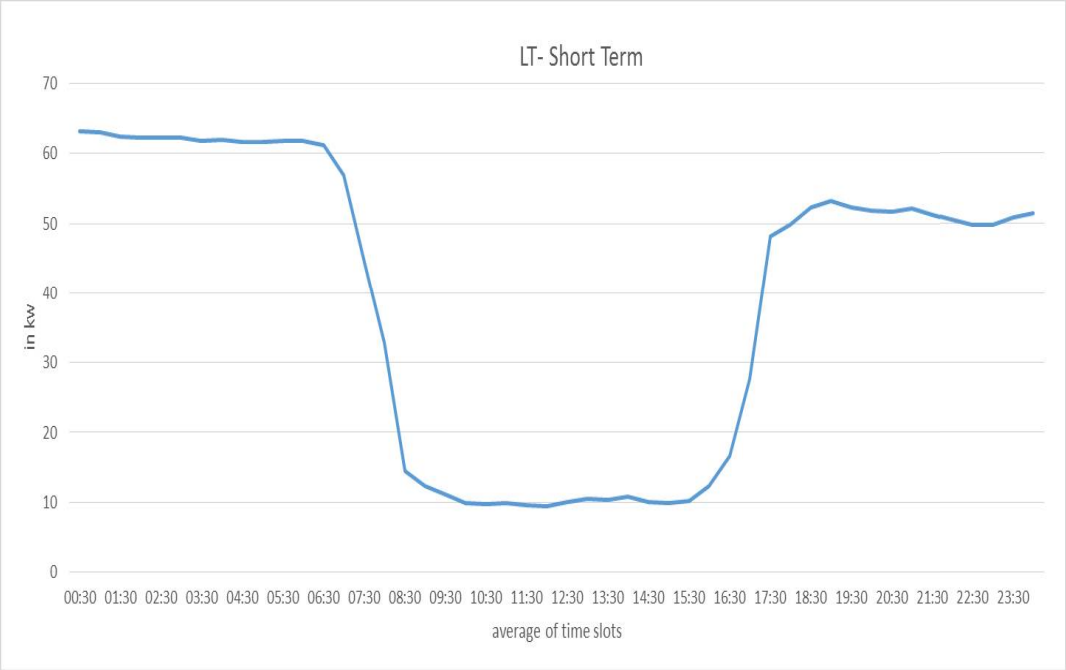


Figure 4.16.2: Derived Curve for LT Short Term Supply



From: Rakesh Nath, Former Chairperson,

CEA & Ex-officio Secretary to GOI

and Member, APTEL

To: Ms. Gargi Chatterjea, F.C.A.
Chief, Corporate Regulatory Affairs
CESC Limited
CESC House
Chowringhee Square
Kolkata 700001

17th July, 2016

Dear Ms Chatterjea,

Thank you for sending me a copy of your Cost-of-Supply model which you have developed in connection with your research work under the University of Petroleum and Energy Studies, Dehradun as a PhD scholar.

I have since examined the model and consider the same to be an effective tool for determination of cost-of-supply of electricity for various types of consumers namely domestic, commercial and industrial etc., both for High Tension and Low Tension categories. I have noted that following important relevant factors have been taken into account.

- Voltage wise classification
- Independent load curves for all important categories, with due consideration of class peak and co-incident peak demands
- Fair allocation matrix
- Segregation of various functional costs

You may like to build to your thesis around this model.

With best wishes,

Yours sincerely

(RAKESH NATH)

asci
Leadership through Learning

K. BALARAMA REDDI
FORMER CHAIRMAN, APSEB
SENIOR CONSULTANT, ASCI

asci 50 GOLDEN JUBILEE YEAR

22nd July, 2016

Smt. Gargi Chatterjea
Chief, Corporate Regulatory Affairs
CESC Limited, CESC House
Chowringhee Square
Kolkata 700001

Email ID: gargi.chatterjea@rp-sg.in

Madam,

Sub: Model on Cost of Supply – Reg.

The worksheet containing the cost-of-supply model developed by you, in connection with your research work as a PhD scholar, has been examined at our end.

We find that the model to be comprehensive. The following features are improvements over available cost-of-supply studies in India.

a) A detailed cost of supply study has been attempted across both categories and segments i.e. consumption slabs.
b) The study is based upon independent load curves of all important tariff categories. Load data is extensively covered over a 6-month period.
c) Data for peak load is also available and appropriately factored in.
d) Due consideration has been given to class peak and co-incident peak demands.
e) Voltage wise classification is based on metered data.
f) Sound principles have been adopted for cost allocation, including segregation of various functional costs.

We are of the opinion that there is a high likelihood of utilities across India benefitting from this cost-of-supply model, in case they choose to adopt the basis / principles developed through your study.

Yours sincerely,

K. BALARAMA REDDI

Electricity Tariff in India: Development of a Suggested Approach
Determination based on Cost of Supply

The existence of cross-subsidy in the fixation of consumer electricity tariffs has stood in the way of Distribution and Retail Supply Licenses becoming efficient in their operations. The problem arises largely on account of improper allocation of costs by these licensees to their customers and accordingly in fixing the tariffs. As a public utility these licensees often had inappropriate tariff structures that did not cover costs and functioned on the centrality of cross-subsidy between high voltage consumers and low voltage consumers, the latter consisting of the life-line and domestic consumers and the former of industries and large consumers.

The study of estimating cross-subsidy is imminent if the reforms in the power sector has to progress. As the term suggests cross-subsidy is the recovery of costs of one category of consumers from another. Two important dimensions such a study would help is: i) identification of the cost and measurement of cross –subsidy and ii) ways to rationalize if not eliminate cross-subsidy.

Basic to an analysis of cross-subsidy is to allocate the costs of power purchase by distribution licensees, their transmission and distribution to customers in proportion to the costs a customer inflicts on the company. Public utilities normally prefer to use the average cost of supply. This would be averaging of costs at the three or four levels that power traverses before reaching the end consumer by the number of units consumed in the several categories HT-level and LT-level. While easy to calculate it does not capture the cost of supply to each consumer category. The CoS model is based on the simple concept that a distribution licensee purchases power to meet requirements of coincident peak demand. The customer category whose demand has the maximum contribution to coincident peak demand is the most important category in terms of cost recovery. Prices to this category must reflect the contribution of the consumer category. Other costs including losses, billing and maintenance are then distributed.

The Cos Model depends on the availability of load curves and the estimation of coincident demand. Metering and billing data for each customer is equally important. The costs so allocated are scientific and the tariffs so arrived are known as the full-cost tariffs. The decision to charge a customer full cost tariffs or to take into consideration capacity-to-pay is a separate exercise.

The Model developed by Ms. Gargi Chatterjee has been put to test in several countries and in Andhra Pradesh. The methodology of: Functionalization of costs; Classification of costs; and Metered data to arrive at cross-subsidy is appropriate. The significance of the model lies not only in the methodology but the use of accurate date based on load curve studies. No such study on a pure cost to supply has been undertaken in India. Her robust data base further adds credence to the model. Another improvement over the models available in India lies in the fact that apart from segmentation on the basis of nature of supply (i.e. category-wise segregation), it has also done a consumption-level wise segregation, thereby capturing both the Lifeline and low-domestic segment as well higher consumption domestic segments.

I have looked at the model and validate the methodology on the basis of my experience with the power sector.

Dr. Geeta Gouri

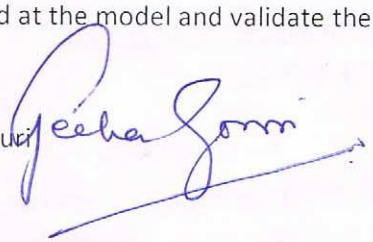


Table 6.1: Tariff and Lifeline Data for 55 Distribution Licensees across Major Indian States

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
1.	1.	Odisha	SOUTHCO	4.15	2.64	2.64	2548	36	Odisha Electricity Regulatory Commission Order dated 23.03.2015
2.	2.	Uttara-khand	UPCL	4.41	1.87	1.87	10422	124	Uttarakhand Electricity Regulatory Commission Order dated 11.04.2015
3.	3.	Jharkhand	JBVNL	4.63	1.89 *	1.70	8246	207	Jharkhand State Electricity Regulatory Commission Order dated 14.12.2015
4.	4.	West Bengal	DVC	4.74	2.52	2.52	9127	130	West Bengal Electricity Regulatory Commission Order dated 25.05.2015
5.	1.	Odisha	NESCO	4.76	2.64	2.64	4287	61	Odisha Electricity Regulatory Commission Order dated 23.03.2015
6.	1.	Odisha	WESCO	4.81	2.64	2.64	5909	84	Odisha Electricity Regulatory Commission Order dated 23.03.2015
7.	1.	Odisha	CESU	4.82	2.64	2.64	6761	96	Odisha Electricity Regulatory Commission Order dated 23.03.2015

[1] Full names of the distribution licensees are available in the List of Abbreviations of the thesis. Further details of the chosen licensees are in Table 2.1 and Table 3.1 of the thesis.

Exhibit 6

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
8.	4.	West Bengal	DPL	4.90	3.08	3.08	2940	5	West Bengal Electricity Regulatory Commission Order dated 26.06.2015 (and Notification of 01.04.2016)
9.	5.	Bihar	NBPDCL	4.90	2.22 *	1.95	4926	592	Bihar Electricity Regulatory Commission Order dated 16.03.2015
10.	6.	Gujarat	UGVCL	5.05	3.02	3.02	16848	98	Gujarat Electricity Regulatory Commission Order dated 31.03.2015 (and Notification of 04.02.2016)
11.	7.	Himachal Pradesh	HPSEBL	5.14	3.35	1.50	8438	104	Himachal Pradesh Electricity Regulatory Commission Order dated 10.04.2015
12.	5.	Bihar	SBPDCL	5.18	2.22 *	1.95	6287	265	Bihar Electricity Regulatory Commission Order dated 16.03.2015
13.	8.	Uttar Pradesh	PuVVNL	5.19	3.68	3.68	17244	384	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
14.	9.	Kerala	KSEB	5.21	1.50	1.50	18494	469	Kerala State Electricity Regulatory Commission Order dated 14.08.2014
15.	10.	Madhya Pradesh	East Discom	5.21	2.89	2.89	15897	229	Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015

Exhibit 6

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
16.	10.	Madhya Pradesh	West Discom	5.30	2.89	2.89	17805	236	Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015
17.	11.	Karnataka	CESC - Karnataka	5.31	2.87	2.87	5745	50	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015 and 15.12.2015
18.	12.	Andhra Pradesh	APSPDCL	5.33	2.28	2.28	30876	340	Andhra Pradesh Electricity Regulatory Commission Order dated 23.03.2015
19.	10.	Madhya Pradesh	Central Discom	5.34	2.89	2.89	16535	249	Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015
20.	11.	Karnataka	GESCOM	5.40	2.88	2.88	6436	56	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015 and 15.12.2015
21.	13.	Telangana	TSSPDCL	5.43	2.69	2.28	30019	334	Telangana State Electricity Regulatory Commission Order dated 27.03.2015
22.	6.	Gujarat	PGVCL	5.45	3.02	3.02	20028	178	Gujarat Electricity Regulatory Commission Order dated 31.03.2015 (and Notification of 04.02.2016)
23.	3.	Jharkhand	TSL - Jamshedpur	5.45	2.50	2.50	2869	12	Jharkhand State Electricity Regulatory Commission Order dated 31.05.2015

Exhibit 6

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
24.	11.	Karnataka	MESCOM	5.46	2.86	2.86	4524	68	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015 and 15.12.2015
25.	12.	Andhra Pradesh	APEPDCL	5.49	2.28	2.28	16510	217	Andhra Pradesh Electricity Regulatory Commission Order dated 23.03.2015
26.	11.	Karnataka	HESCOM	5.58	2.88	2.88	9469	79	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015 and 15.12.2015
27.	14.	Chhattis-garh	CSPDCL	5.62	3.27 *	3.13	18735	262	Chhattisgarh State Electricity Regulatory Commission Order dated 23.05.2015 (and Notification of 09.12.2015)
28.	15.	Rajasthan	JdVVNL	5.63	5.05	2.55	16776	142	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
29.	8.	Uttar Pradesh	DVVNL	5.64	3.68	3.68	17985	408	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
30.	11.	Karnataka	BESCOM	5.65	2.87	2.87	25342	295	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015 and 15.12.2015
31.	16.	Tamil Nadu	TANGEDCO	5.74	3.50	1.33	64844	1147	Tamil Nadu Electricity Regulatory Commission Orders dated 11.12.2014 and 14.10.2015

Exhibit 6

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
32.	17.	Punjab	PSPCL	5.77	5.35	0	43200	644	Punjab State Electricity Regulatory Commission Orders dated 05.05.2015 and 09.06.2015
33.	8.	Uttar Pradesh	PVVNL	5.90	3.68	3.68	24337	470	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
34.	6.	Gujarat	MGVCL	6.01	3.02	3.02	8001	116	Gujarat Electricity Regulatory Commission Order dated 31.03.2015 (and Notification of 04.02.2016)
35.	15.	Rajasthan	JVVNL	6.08	5.05	2.55	21145	235	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
36.	15.	Rajasthan	AVVNL	6.08	5.05	2.55	14487	158	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
37.	13.	Telangana	TSNPDCL	6.19	7.02	2.28	11583	140	Telangana State Electricity Regulatory Commission Order dated 27.03.2015
38.	18.	Maha-rashtra	MSEDCL	6.43	1.33	1.33	93261	113	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015 (and Notification of 29.01.2016 and 05.04.2016)
39.	4.	West Bengal	IPCL	6.44	3.67	3.67	854	12	West Bengal Electricity Regulatory Commission Order

Exhibit 6

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
									dated 26.12.13 (and Notification of 02.01.2016)
40.	6.	Gujarat	DGVCL	6.46	3.02	3.02	13910	126	Gujarat Electricity Regulatory Commission Order dated 31.03.2015 (and Notification of 04.02.2016)
41.	19.	Tripura	TSECL	6.50	4.05	3.79	784	27	Tripura State Electricity Regulatory Commission Order dated 22.11.2014
42.	4.	West Bengal	WBSEDCL	6.55	3.53	3.44	27232	1193	West Bengal Electricity Regulatory Commission Order dated 10.08.2015 and (Notification of 15.12.2015)
43.	8.	Uttar Pradesh	MVVNL	6.70	3.68	3.68	14435	317	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
44.	20.	Assam	APDCL	6.87	4.60	3.29	6383	91	Assam Electricity Regulatory Commission Order dated 24.07.2015
45.	4.	West Bengal	CESC	6.98	3.94	3.94	9424	31	West Bengal Electricity Regulatory Commission Order dated 10.08.2015
46.	6.	Gujarat	TPL - Surat	7.00	3.65	3.65	3247	0.01	Gujarat Electricity Regulatory Commission Order dated 31.03.2015 (and Notification of 28.01.2016)

Exhibit 6

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
47.	6.	Gujarat	TPL – Ahmedabad	7.16	3.61	3.61	7483	10	Gujarat Electricity Regulatory Commission Order dated 31.03.2015 (and Notification of 28.01.2016)
48.	21.	Haryana	UHBVNL and DHBVNL	7.71	3.87	3.87	35985	400	Haryana Electricity Regulatory Commission Order dated 07.05.2015 (and Notification of 31.08.2015 and 19.01.2016)
49.	8.	Uttar Pradesh	NPCL	7.72	3.17	3.17	1551	14	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
50.	22.	Delhi	BYPL	8.09	5.76	3.60	5629	153	Delhi Electricity Regulatory Commission Orders dated 29.09.2015 and 12.06.2015
51.	22.	Delhi	BRPL	8.17	5.76	3.60	10683	306	Delhi Electricity Regulatory Commission Orders dated 29.09.2015 and 12.06.2015
52.	22.	Delhi	TPDDL	8.43	5.76	3.60	7988	174	Delhi Electricity Regulatory Commission Orders dated 29.09.2015 and 12.06.2015
53.	18.	Maha-rashtra	RInfra	8.46	3.16	3.16	7767	0.02	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015 (and Notification of March 2016)

Sl. No.	State No.	State	Licensee[1]	Gross Average Tariff (Rs. / kWh)	Gross Lifeline Tariff (Rs. / kWh)	Net Lifeline Tariff Charged (Rs. / kWh)	Overall Sales (Million kWh)	Lifeline Sales (Smoothened) (Million kWh)	Respective State Electricity Regulatory Commission's Order Reference
54.	18.	Maha-rashtra	Tata Power Company Limited (TPC)	8.62	1.62	1.62	4169	0	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015 (and Notification of March 2016)
55.	18.	Maha-rashtra	BEST	11.22	1.23	1.23	5735	1	Maharashtra Electricity Regulatory Commission Order dated 28.08.2013 (and Notification of March 2016)
		Total /Average		**5.98**	**3.44**	**2.57**	**822144**	**11688**	BPL Sales = 1.4% of Overall Sales in Million kWh

* In the absence of Gross BPL Tariff in the schedule, the same has been arrived by grossing up the Net BPL Tariff by Subsidy % of Gross ARR

Comments:

1. Table 6.1 is developed from secondary data in public domain detailed above (Tariff / true-up (APR) Order(s) and applicable Notifications) and other government / utility sources, primarily for subsidy information. Data was scrutinised and smoothened, as outlined below.
2. Varied BPL definitions have been noted in the Tariff Schedule. While some have gone by the definition of the National Policy instruments and fixed 30 kWh monthly consumption as BPL, there are outliers (Tripura – 15 kWh monthly consumption, Punjab – 200 kWh monthly consumption). Some others (Uttarakhand, West Bengal, Bihar) additionally have connected load built in definition. BPL category is not separately defined in the Tariff Schedules of Andhra Pradesh, Haryana, Madhya Pradesh, Tamil Nadu, Telangana, Jharkhand, Delhi.
   a) Where separate BPL Tariff has not been specified, Domestic tariff has been selected (lowest slab)
   b) BPL Sales smoothened to 30 kWh a month (National Electricity Policy)

3. Gross average tariff is Rs.5.98 per kWh. BPL cost-to-serve, at 193% of average cost (through cost-of-supply model, refer paragraph 4.4.1 of thesis), works out to Rs.11.55 per kWh. **Subsidy need with respect to cost-to-serve tariff** is ascertained.

   a) Subsidy need for 11688 MU of BPL sales is Rs.98.1 billion (considering Rs.3.44 per kWh gross tariff will be paid by BPL / the governments will bear the same subsidy at present). Works out to 12 paise per kWh universal charge on all customers except BPL. This figure is only 0.07% of Indian GDP.

   b) The subsidy need is Rs.108.6 billion, to compensate at Rs. 2.57 per kWh subsidised tariff. Works out to 13 paise per kWh universal charge on all customers except BPL. This figure is only 0.08% of Indian GDP.

4. **Subsidy need to reach average tariff** is also determined (gross average tariff is Rs.5.98 per kWh).

   a) Subsidy need for 11688 MU of BPL sales is Rs.30.8 billion (considering Rs.3.44 per kWh gross tariff will be paid by BPL / the governments will bear the same subsidy at present). Works out to 4 paise per kWh universal charge on all customers except BPL. This figure is only 0.02% of Indian GDP.

   b) The subsidy need is Rs.41.3 billion, to compensate at Rs. 2.57 per kWh subsidised tariff. Works out to 5 paise per kWh universal charge on all customers except BPL. This figure is only 0.03% of Indian GDP.

Table 7.1: Definition of Lifeline Category for 55 Distribution Licensees across Major Indian States

Sl. No.	State No.	State	Licensee[1]	Definition of Lifeline or BPL Customer		Respective State Electricity Regulatory Commission's Order Reference
				Maximum Monthly Consumption Unit	Maximum Connected Load	
1.	1.	Odisha	SOUTHCO	30 kWh	Not defined	Odisha Electricity Regulatory Commission Order dated 23.03.2015
2.	2.	Uttara-khand	UPCL	30 kWh	1 KW	Uttarakhand Electricity Regulatory Commission Order dated 11.04.2015
3.	3.	Jharkhand	JBVNL	Not separately defined		Jharkhand State Electricity Regulatory Commission Order dated 14.12.2015
4.	4.	West Bengal	(DVC	Not separately defined		West Bengal Electricity Regulatory Commission Order dated 25.05.2015
5.	1.	Odisha	NESCO	30 kWh	Not defined	Odisha Electricity Regulatory Commission Order dated 23.03.2015
6.	1.	Odisha	WESCO	30 kWh	Not defined	Odisha Electricity Regulatory Commission Order dated 23.03.2015
7.	1.	Odisha	CESU	30 kWh	Not defined	Odisha Electricity Regulatory Commission Order dated 23.03.2015
8.	4.	West Bengal	DPL	25 kWh	0.3 KW	West Bengal Electricity Regulatory Commission Order dated 26.06.2015
9.	5.	Bihar	NBPDCL	30 kWh	0.1 KW	Bihar Electricity Regulatory Commission Order dated 16.03.2015
10.	6.	Gujarat	UGVCL	30 kWh	Not defined	Gujarat Electricity Regulatory Commission Order dated 31.03.2015

[1] Full names of the distribution licensees are available in the List of Abbreviations of the thesis. Further details of the chosen licensees are in Table 2.1 and Table 3.1 of the thesis.

Sl. No.	State No.	State	Licensee[1]	Definition of Lifeline or BPL Customer		Respective State Electricity Regulatory Commission's Order Reference
				Maximum Monthly Consumption Unit	Maximum Connected Load	
11.	7.	Himachal Pradesh	HPSEBL	60 kwh	Not defined	Himachal Pradesh Electricity Regulatory Commission Order dated 10.04.2015
12.	5.	Bihar	SBPDCL	30 kWh	0.1 KW	Bihar Electricity Regulatory Commission Order dated 16.03.2015
13.	8.	Uttar Pradesh	PuVVNL	150 kWh	Not defined	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
14.	9.	Kerala	KSEB	40 kWh	1 KW	Kerala State Electricity Regulatory Commission Order dated 14.08.2014
15.	10.	Madhya Pradesh	East Discom	Not separately defined		Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015
16.	10.	Madhya Pradesh	West Discom	Not separately defined		Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015
17.	11.	Karnataka	CESC - Karnataka	30 kWh	Not defined	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015
18.	12.	Andhra Pradesh	APSPDCL	Not separately defined		Andhra Pradesh Electricity Regulatory Commission Order dated 23.03.2015
19.	10.	Madhya Pradesh	Central Discom	Not separately defined		Madhya Pradesh Electricity Regulatory Commission Order dated 17.04.2015
20.	11.	Karnataka	GESCOM	30 kWh	Not defined	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015
21.	13.	Telangana	TSSPDCL	Not separately defined		Telangana State Electricity Regulatory Commission Order dated 27.03.2015

Sl. No.	State No.	State	Licensee[1]	Definition of Lifeline or BPL Customer		Respective State Electricity Regulatory Commission's Order Reference
				Maximum Monthly Consumption Unit	Maximum Connected Load	
22.	6.	Gujarat	PGVCL	30 kWh	Not defined	Gujarat Electricity Regulatory Commission Order dated 31.03.2015
23.	3.	Jharkhand	TSL - Jamshedpu	Not separately defined		Jharkhand State Electricity Regulatory Commission Order dated 31.05.2015
24.	11.	Karnataka	MESCOM	30 kWh	Not defined	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015
25.	12.	Andhra Pradesh	APEPDCL	Not separately defined		Andhra Pradesh Electricity Regulatory Commission Order dated 23.03.2015
26.	11.	Karnataka	HESCOM	30 kWh	Not defined	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015
27.	14.	Chhattis-garh	CSPDCL	40 kWh	Not defined	Chhattisgarh State Electricity Regulatory Commission Order dated 23.05.2015
28.	15.	Rajasthan	JdVVNL	50 kWh	Not defined	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
29.	8.	Uttar Pradesh	DVVNL	150 kWh	1 KW	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
30.	11.	Karnataka	BESCOM	30 kWh	Not defined	Karnataka Electricity Regulatory Commission Orders dated 02.03.2015
31.	16.	Tamil Nadu	TANGEDCO	Not separately defined		Tamil Nadu Electricity Regulatory Commission Orders dated 11.12.2014
32.	17.	Punjab	PSPCL	200 kWh	1 KW	Punjab State Electricity Regulatory Commission Orders dated 05.05.2015
33.	8.	Uttar Pradesh	PVVNL	150 kWh	1 KW	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015

Sl. No.	State No.	State	Licensee[1]	Definition of Lifeline or BPL Customer		Respective State Electricity Regulatory Commission's Order Reference
				Maximum Monthly Consumption Unit	Maximum Connected Load	
34.	6.	Gujarat	MGVCL	30 kWh	Not defined	Gujarat Electricity Regulatory Commission Order dated 31.03.2015
35.	15.	Rajasthan	JVVNL	50 kWh	Not defined	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
36.	15.	Rajasthan	AVVNL	50 kWh	Not defined	Rajasthan Electricity Regulatory Commission Order dated 20.02.2015
37.	13.	Telangana	TSNPDCL	Not separately defined		Telangana State Electricity Regulatory Commission Order dated 27.03.2015
38.	18.	Maha-rashtra	MSEDCL	30 kWh	0.1 KW	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015
39.	4.	West Bengal	IPCL	25 kWh	0.3 KW	West Bengal Electricity Regulatory Commission Order dated 26.12.13
40.	6.	Gujarat	DGVCL	30 kWh	Not defined	Gujarat Electricity Regulatory Commission Order dated 31.03.2015
41.	19.	Tripura	TSECL	15 kWh	0.12 KW	Tripura State Electricity Regulatory Commission Order dated 22.11.2014
42.	4.	West Bengal	WBSEDCL	25 kWh	0.3 KW	West Bengal Electricity Regulatory Commission Order dated 10.08.2015
43.	8.	Uttar Pradesh	MVVNL	150 kWh	1 KW	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
44.	20.	Assam	APDCL	30 kWh	0.5 KW	Assam Electricity Regulatory Commission Order dated 24.07.2015
45.	4.	West Bengal	CESC	25 kWh	0.3 KW	West Bengal Electricity Regulatory Commission Order dated 10.08.2015
46.	6.	Gujarat	TPL – Surat	30 kWh	Not defined	Gujarat Electricity Regulatory Commission Order dated 31.03.2015

Sl. No.	State No.	State	Licensee[1]	Definition of Lifeline or BPL Customer		Respective State Electricity Regulatory Commission's Order Reference
				Maximum Monthly Consumption Unit	Maximum Connected Load	
47.	6.	Gujarat	TPL – Ahmedabad	30 kWh	Not defined	Gujarat Electricity Regulatory Commission Order dated 31.03.2015
48.	21.	Haryana	UHBVNL and DHBVNL	Not separately defined		Haryana Electricity Regulatory Commission Order dated 07.05.2015
49.	8.	Uttar Pradesh	NPCL	150 kWh	1 KW	Uttar Pradesh Electricity Regulatory Commission Order dated 18.06.2015
50.	22.	Delhi	BYPL	Not separately defined		Delhi Electricity Regulatory Commission Orders dated 29.09.2015
51.	22.	Delhi	BRPL	Not separately defined		Delhi Electricity Regulatory Commission Orders dated 29.09.2015
52.	22.	Delhi	TPDDL	Not separately defined		Delhi Electricity Regulatory Commission Orders dated 29.09.2015
53.	18.	Maha-rashtra	RInfra	30 kWh	0.1 KW	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015
54.	18.	Maha-rashtra	TPC	30 kWh	0.1 KW	Maharashtra Electricity Regulatory Commission Order dated 26.06.2015
55.	18.	Maha-rashtra	BEST	30 kWh	0.1 KW	Maharashtra Electricity Regulatory Commission Order dated 28.08.2013

Comment:

Table 7.1 is developed from secondary data in public domain detailed above (Tariff / true-up (APR) Order(s) and relevant notifications) and other government / licensee sources. Detailed information of relevant websites are available in Table 2.1 of the thesis. Varied lifeline definitions have been observed in the tariff schedules of the licensees. While some have gone by the definition of the National Policy instruments and fixed 30 kWh monthly consumption as lifeline, there are outliers (Tripura – 15 kWh monthly consumption, Punjab – 200 kWh monthly consumption). Some others (Uttarakhand, West Bengal and Bihar) additionally have connected load built in definition. Lifeline category is not separately defined in the tariff schedules of Andhra Pradesh, Haryana, Madhya Pradesh, Tamil Nadu, Telangana, Jharkhand and Delhi.