

THE ELECTRICITY CONSUMER GRID

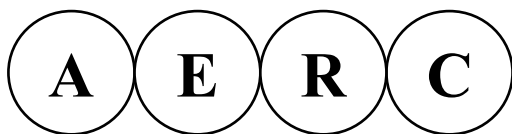
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PREFACE

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One of the important ways of promoting an effective regulatory regime is by creating consumer awareness about the new developments that are taking place in the power sector. Regulation also includes the important responsibility of looking after the interests of consumers. A regulator needs to effectively communicate with all stakeholders of the power sector particularly the consumers to ensure growth in the sector and improvement in the quality of service.

*The Assam Electricity Regulatory Commission, committed to power sector development in the state has created a Consumer Advocacy Cell to involve **consumers as effective partners** in the regulatory functions of the Commission.*

This bulletin aims not only to furnish information on various aspects of developments in the electricity sector but is also a humble attempt to provide a forum for discussion with the consumers. We will try to introduce an Assamese section from our next issue in January to ensure greater reach and participation.

We take this opportunity to celebrate our new partnership with the consumers.

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If all consumers in the state of Guwahati switched off one 60 W lamp (or a fan or a tube light), energy consumption will reduce by 6 MW and if this is done, load shedding during peak hours due to shortage of power can be overcome considerably.

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FROM THE CHAIRPERSON'S DESK

It is indeed a very happy occasion for us in the Assam Electricity Regulatory Commission that the first issue of the magazine "The Electricity Consumer Grid" is being brought out at the time of the meeting of the empanelled consumer groups, another first for the Commission. One of the guiding principles for the functioning of the Electricity Regulatory Commissions under the Electricity Act 2003 is safeguarding the interest of the consumers and at the same time seeing to recovery of the cost of electricity in a reasonable manner. It is in the attempt to forge a partnership with the consumers that the consumers groups have been empanelled and the magazine is being brought out. This publication will keep the consumers informed and connect the consumers to the Commission, hoping that such a partnership will go a long way to safeguard the interests of the consumers and at the same time contribute to proper development of the power sector in Assam.

I congratulate all those who have contributed to this magazine, and hope that in future we will have well informed contributions from the consumers and consumer groups also in this magazine.

(Bhaskar Barua)

CONSUMER PROTECTION AND CONSUMER ADVOCACY

A.K. Thakur

The History of Consumer Protection Legislation is not very old. However, measures meant for protection of consumer are continuing from old days. Prohibitions against adulterated food items and false weights and measure are thousands of years old as old, as those found a place in the Old Testament and the ancient laws of India. But essentially there was no law covering consumer transactions. With the passage of time, as industrialization and large scale commercialization have taken place, all sorts of abominable means and method of malpractices are being found adopted by producers, traders, and sellers to profit unfairly at the cost of consumers. Therefore, a growing necessity has been felt to protect the interest of the consumers at all levels of society. Law makers have been compelled to think of stringent laws to restrict the monopoly power and dubious attitude of the trader and as a result, legislative enactments became imperative.

In India, there are a number of Pre-Constitutional Laws and Post Constitutional Laws aiming at protection of consumers' interests. But these Laws were limited in scope and dealt with specific classes of consumers and that too with regard to only particular areas of consumer behavior. Fulfilling the need for a comprehensive legislation, the Consumer Protection Act, 1986 (Act No. 68 of 1986) was enacted. This act has been amended from time to time as per necessity, the last amendment being in 2002. This legislation is a general legislation which lays down a uniform set of laws, procedures and forum for protecting the rights of all kinds of consumers.

The Act of 1986 provides protection and remedy to the consumer for 'Deficiency' in 'Service'. The definitions of these two words as per the Act are

-
- (a) "Deficiency" means any fault, imperfection, short coming or inadequacy in the quality, nature and manner of performance which is required to be maintained by or under any law for the time being in force or has been undertaken to be performed by a person in pursuance of a contract or otherwise in relation to any service.

- (b) “Service” means — service of any description which is made available to potential (users and includes, but not limited to the Provisions of) facilities in connection with banking, financing, insurance, transport, processing, supply of electrical or other energy, board or lodging or both (housing construction) entertainment, amusement or the purveying of news or other information, but does not include the rendering of any service, free of charge or under a contract of personal service.

Specifically, in relation to laws governing the electricity sector in India with particular reference to the Consumer’s Rights, there have been some major legislative enactments in the past. The first legislation on this subject was the Electricity Act, 1887 which provided for the protection of person and property from any risk or injury consequent to the supply and sale of electricity. This Act was repealed by Indian Electricity Act, 1903 and which in turn was replaced by Electricity Act, 1910 which provided a basic legal framework for the electricity supply industry. The subsequent enactment, the Electrical (Supply) Act of 1948 dealt with statutory powers and functions of Central Electrical Authority, the State Electricity Boards and Generating Companies. The 1956 amendment to this Act saw an increase in the role of the State Government.

The Electricity Regulatory Commission Act, 1998 sought to distance the Government from the functioning of State Electricity Boards. Under this Act, independent regulatory bodies were provided for at the Central and State levels. The main objects of this Act were rationalisation of electricity tariff, transparency in policy formulation, promotion of efficient and environmentally benign policies as well as greater involvement of the private sector.

The Electricity Act, 2003 was enacted and may be termed as a part of the second generation reforms in the Power Sector. This Act repeals all previous Central Laws dealing with electricity. The Act seeks to establish a more competitive market in the electricity sector. Apart from steps taken to delicense the industry, this Act takes into consideration social interest as well. Various provisions exist in this legislation for the protection of consumer interests such as creation of Consumer Redressal fora and Ombudsman and adoption of policies consistent with the environment friendly objectives of the Act.

Section 181 of the Act empowers the State Commissions to make regulations and the AERC have notified a set of regulations consistent with the Act for furtherance of its objectives. The provisions of these regulations need to be reached to the consumers for their real benefit and for them to understand the intricacies of the provisions of the amended law.

The AERC started the Consumer Advocacy Cell to provide information to all the stakeholders about the steps taken by the regulator in furtherance of the object of protection and enhancement of the rights of consumers. The overall object is that consumers have to become partners in the process of power sector development. While we talk about rights here, there are obligations of the consumers also. Creating awareness about the rights and responsibilities through interaction with consumers is very important. Consumers have to organize themselves, so that they are in a better position to be reached, to be given all the information necessary to empower them to play a constructive role in the process.

In this context, it would be pertinent to refer to the United Nations Guidelines for Consumer Protection. The United Nations General Assembly passed a resolution adopting guidelines for consumer protection in 1985 emphasizing the need for consumer education which is reproduced below :—

Governments should develop or encourage the development of general consumer education and information programmes, bearing in mind the cultural traditions of the people concerned. The aim of such programmes should be to enable people to act as discriminating consumers, capable of making and informed choice of goods and services, and conscious of their rights and responsibilities. In developing such programmes, special attention should be given to the needs of disadvantaged consumers, in both rural and urban areas, including low income consumers and those with low or non-existent literacy levels.

The AERC's Consumer Advocacy Cell is a humble first step in the above direction.

Household Electrical Appliances – A Consumer Concern.

M.K.Adhikary

Uses of electricity in different household appliances have resulted in enhancing the standard of living and comfort. Household Electrical Appliances (HEA) play a major role in our day to day life. There has been a significant increase in volume of production of household electrical appliances. To meet the increasing demand for such appliances some manufacturers unfortunately cut corners and produce inferior quality products for sale at a lower price. Consumers have to bear losses in more than two ways because of such shoddy products, firstly by way of higher consumption of electricity and secondly the life of such equipments is less, in addition to exposure to electrical hazards. In order to maintain the quality of these appliances sold in the country, Government of India had issued an order namely Household Electrical Appliances Quality Control Order 1981, where forty (40) commonly used items are covered. Out of these forty items, seven items have to bear compulsory ISI mark by the Government of India Gazette Notification No 179 dated 8th April 1987. The enactment of The Energy Conservation Act 2001, make it mandatory to use standard equipment with ISI marked in all public buildings to ensure energy conservation and safety.

A typical value of energy consumed per day for an average family of 4 to 5 is shown in the table below.

Type of Appliances	Rating in KW	Average use per day (Hr)	Energy consumption per day (kwh)
Refrigerator of 165 litres	0.15	12	1.8
Electric Iron	0.75	0.5	0.375
Television set	0.1	4	0.4
Washing machine	0.3	0.5	0.15
Storage type Water Heater	3	1	3
1HP Water Pump	0.75	0.5	0.375
Food Mixer	0.6	0.5	0.3
Microwave	4	0.5	2
Total (Excluding light and fan)	9.65		8.4

- average monthly energy consumption with the above pattern will be in the range of 300 kwh to 350 kwh including light and fan.

Even a small variation of consumption of energy by the appliances may make wide variations in the monthly energy bill. While purchasing household electrical appliances, common trend of the people is to look at the price factor and not at the quality in terms of energy consumption of the appliances. This may keep the initial investment a little low but in long run, operating expenditure of the appliances would be much higher. As such, the economic operation of HEA has substantial bearing on the expenditure of common man, in addition to national energy saving which is one of the prime requirements today.

Quality of supply also has a major role in operating economy of household electrical appliances. Operation of equipments below normal voltage results in appliances taking longer time to do their job such as cooking food, washing clothe and lifting of water etc. Increase in voltage level above standard also has a negative influence on service life of the appliances due to deterioration of the insulation of motor and other associated parts as well as increase of electricity consumption.

Therefore, the consumers should always buy ISI marked products. Also, the consumers of electricity need to be cautious while handling electrical equipments to avoid accidents and derive maximum benefits from these products.

POWER CRACKERS

☺ A woman gave her address to a repair shop to send an electrician, but nobody turned up for next three days. The women then went to the shop and rebuked the owner.

“But Madam, I have been sending the electrician every evening and no one answered the door, so he has to come back.” The women got angrier and said in a loud tone: “that is exactly why I wanted your electrician - our door bell is not working”

☺ Two villagers came to visit Guwahati city. They had come from a village which was still to be electrified. Seeing the street lights they were wonder struck and one of them said: “Look, what fantastic lamps!”

The other one commented – “And such big poles of oil!”

☺ Budhuwa was invited for dinner by his best friend, Bhola. As the conditions of the roads were bad and the street lights didn’t work, he decided to carry the lantern with him. Both the friends had a good dinner and got drunk. By midnight Budhuwa returned home.

The next morning Budhuwa was woken up by Bhola’s servant. He was carrying a lantern in his hand. On seeing him, Budhuwa said – “Oh, so I forgot the lantern?” The servant said -“No Sir, you brought the bird cage instead.”

ASSAM POWER SECTOR AT A GLANCE

- ☞ The Assam State Electricity Board (ASEB) was set up in 1958 in undivided Assam as per Section 5 of the Electricity (Supply) Act, 1948.
- ☞ After bifurcation of Assam and the formation of Meghalaya, the ASEB started functioning from 1975 as an apex body in charge of generation, transmission and distribution of electricity for the state of Assam.
- ☞ The Electricity (Supply) Act 1948 had not provided the much needed regulatory framework necessary for the changed scenario which started unfolding from 1991-92. Therefore, the Electricity Regulatory Commissions Act 1998 was passed which provided for setting up of independent Regulatory Commissions in the states and the centre.

The Assam Electricity Regulatory Commission was set up in February 2001 and started functioning from August 2001.
- ☞ With the coming into effect of the Electricity Act 2003, ASEB was unbundled into five different entities in December 2004.
 - Generation functions are vested in one corporate entity comprising of generating units of ASEB, namely the Assam Power Generation Corporation Limited (APGCL).
 - Transmission, and State Load Dispatch functions are vested in a separate corporate entity called the Assam Electricity Grid Corporation Limited (AEGCL).
 - The distribution functions are vested in three separate corporate entities based on identified area of supply namely the Lower Assam Electricity Distribution Company Limited (LAEDCL), the Central Assam Electricity Distribution Company Limited (CAEDCL) and the Upper Assam Electricity Distribution Company Limited (UAEDCL).

- LAEDCL carries out the functions of electricity distribution and retail distribution in the areas of Guwahati, Mangaldoi, Rangia, Bongaigaon and Kokrajhar circles of the erstwhile ASEB
- CAEDCL carries out the functions of electricity distribution and retail distribution in the areas of Tezpur, Nagaon, KANCH, and Cachar circles of the erstwhile ASEB
- UAEDCL carries out the functions of electricity distribution and retail distribution in the areas of Dibrugarh, Jorhat, Lakhimpur, and Sibsagar circles of the erstwhile ASEB

☞ As an Interim measure, the ASEB will continue to function as a bulk power supplier and trading company.

A glance at the following tables gives an indication of the present power scenario in Assam, along with the activities and projects that are underway in generation, transmission and distribution.

I. GENERATION – PRESENT STATUS

A. State Sector Generating Capacity

Sl No	Station Name	Installed Capacity	Present Status
1.	Namrup Thermal Power Station (NTPS) (3x23 +1x12.5+1x30+1x22) MW	133.5 MW	Running with maximum capacity 90 MW
2	Lakwa Thermal Power Station (LTPS) (4x15+3x20) MW	120 MW	Running with maximum capacity 60 MW due to constraints in Gas Supply.
3	Chandrapur Thermal Power Station (CTPS) (2x 30) MW	60 MW	Out of operation due to high cost of fuel oil.
4.	Bongaigaon Thermal Power Station (BTPS) (4x60) MW	240 MW	Out of Operation due to requirement of major restoration.
5.	Mobile Gas Turbine (7x2.7) mw	18.9 MW	Out of operation and in process of disposal of machineries.
6.	Bordikharu Mini Hydel Station (4x 0.5) MW	2 MW	Out of operation requiring restoration works.
	Total Installed Capacity	574.5 mw	150 MW Effective Capacity.

B. Share from Central Sector Generating Stations Located in North Eastern Region.

SI No	Name Agency, Type and Capacity	% Share of Assam	MW Allocated
1	AGBPP, NEEPCO, Thermal (Gas) 291 MW	52.85	155.72
2	AGTPP, NEEPCO, Thermal (Gas) 84 MW	41.8	35.11
3	Kopili, NEEPCO, Hydro (storage) 200 MW	49.83	99.66
4	Khangdong, NEEPCO, Hydro (storage) 50 MW	52.67	26.33
5	Kopili Extn , NEEPCO, Hydro (storage) 25 MW	44	11
6	Doyang, NEEPCO, Hydro (RoR*) 75 MW	40.22	30.16
7.	Loktak, NHPC, Hydro (Storage) 105 MW	25.97	27.26
8.	Ronganadi, NEEPCO, Hydro (RoR*) 405 MW	39.75	161
	Total		546.24

- ROR- Run On River

Assam is also purchasing power from an Independent Power Producer (IPP) of capacity 9 MW and 15.5 MW located at Adamtilla and Banskandi in Barak Valley of Assam.

C. GENERATION : Future Capacity Addition & Revival Plan

SI No	Name & Capacity	Status
1.	2x 50 MW Karbi Langpi Hydro Electric Project (Hydro)	Expected month of Commissioning June'06
2.	1x 38 MW Waste Heat Recovery Project	Tender floated, expected year of commissioning 2008-09
3.	Revival of 4x 60 MW BTPS	Proposed to be revived in collaboration with NTPC.
4.	Revival of 2x30 MW CTPS	Proposed to be operated as a standby station.
5.	Revival of 4x 0.5 MW Bardikharu (Hydro) project	Proposed to be revived with assistance from Ministry of Non conventional Energy Source, GOI.
6.	100 MW Amguri Gas Based Combined Cycle Project	Proposed to be implemented during 11 th plan.
7.	200 MW NTPS extension	-do-
8.	60 MW Borgolai Thermal Project (Coal Based)	-do-

SI No	Name & Capacity	Status
9.	6 MW Lungit HEP	-do-
10.	3x 50 MW Lower Kopili HEP	-do-
11.	9 MW Myntriang HE Project	-do-
12.	Total	525 MW

HIGHLIGHTS

- Total Hydro Potential of the country 84044 MW
- Total Hydro Potential in North Eastern Region is 31857 MW
- Percentage of potential in NER is 38%.
- Hydro Potential already utilized in NER is 3.2 %.

D. Central Sector Generation Projects proposed to be implemented in NER

SI No	Capacity & Name of The Project	Location/ State	Implementing Agency
1.	1000 MW Subansiri (Lower) HEP	Arunachal Pradesh	NHPC
2.	1600 MW Subansiri (Central) HEP	Arunachal Pradesh	NHPC
3.	2000 MW Subansiri (Upper) HEP	Arunachal Pradesh	NHPC
4.	600 MW Kameng HEP	Arunachal Pradesh	NHPC
5.	1500 MW Tipaimukh HEP	Manipur	NEEPCO
6.	280 MW Morarchouk Thermal (Gas) Based Project	Tripura	NEEPCO

II. TRANSMISSION

E. State Transmission System – Present Status

SI No	Assets	Ckt Length/ Capacity
1	220 KV Transmission lines	1259 km
2.	132 KV Transmission lines	1954 km
3.	66 KV Transmission lines	797 km
4.	220/132/66 KV sub Station	460 MVA

SI No	Assets	Ckt Length/ Capacity
4.	132/66 KV Sub station	904 MVA
5.	88/33 KV Sub Station	244 MVA

F. Transmission Schemes Under Implementation

➤ Under Plan Works:

- ✓ 132 KV Transmission lines 314 km
- ✓ 220/132 KV sub Station 75 MVA
- ✓ 132/33 KV sub station 144 MVA
- ✓ 132/66 KV sub Station 96 MVA

➤ Under Non Lapsable Central Pool of Recourses:

- ✓ 220 KV Transmission line 50 km
- ✓ R&M Of BTPS Sarusajai line 397 km
- ✓ 220/132 KV sub station 100 MVA.
- ✓ 132/33 KV Sub station 63 MVA
- ✓ Augmentation of Sub station From 213 MVA
To 400 MVA.

➤ Under Asian development Bank Finance:

- ✓ New Sub stations 12,426 MVA
- ✓ Augmentation of Sub station 14,292 MVA
- ✓ New 220 KV Transmission line 44 km
- ✓ New 132 kv Transmission line 504 km

➤ Under North eastern Council (NEC)

- ✓ New 132 KV transmission line 60 km
- ✓ New 132/33 KV sub station 50 MVA

III. DISTRIBUTION**G. Distribution System: Present Status**

Sl No	Assets	Ckt Km/ Numbers
1.	33 KV Lines	4766.54 km
2.	11 KV Lines	28190.5 km
3.	Low Tension Lines	42693.96 km
4.	33/11 KV substation	291
5.	11/0.4 KV Substation	19064 km

H. Distribution Schemes: Under Implementation

➤ **Under Accelerated Power Development and Reform Programme(APDRP)**

- ✓ New Sub-Station 48 , 33/11 KV
- ✓ Augmentation of Sub station 108
- ✓ New Distribution Transformer(DTR)1847
- ✓ Augmentation of DTR 8720
- ✓ Revamping of feeders 3571 km, 11 KV
- ✓ LT Feeder Augmentation 7561 km
- ✓ 33 KV Feeder Augmentation 652 km
- ✓ New 33 KV Lines 41 km

➤ **Under Non Lapsable Central Pool of Resources (NLCPR)**

- ✓ New 33 KV Line 278.5 km
- ✓ New 11/0.4 KV DTR 46300 KVA
- ✓ New Substation 40 MVA, 33/11 KV
- ✓ Augmentation of 33/11 KV Sub-station From 69.48 MVA To 125 MVA
- ✓ Installation of Auto Recloser 40
- ✓ Replacement of old 11KV Minimum Oil Circuit Breaker (MOCB) By Vacuum Circuit Breaker (VCB) 21
- ✓ Reconductoring of 33 KV Feeder From Raccon to Wolf 5 km

➤ **Under ADB Finance**

✓ Augmentation of Substation From 99.10 MVA
 Against RE Schemes To 157.92 MVA

IV. CONSUMER PROFILE

SI No	Category	Number of Consumers
1	Domestic	835953
2	Commercial	127382
3	General Purpose	18269
4.	Public Lighting	542
5.	Public water works	1459
6.	Irrigation	1999
7.	Small Industry (Rural)	5064
8.	Small Industry (Urban)	3445
9.	HT-1 Industry	908
10.	HT-II Industry	279
11.	Bulk supply (Education)	82
12.	Bulk Supply (Others)	371
14	Tea, Coffee & Rubber	1291
15	Oil & coal	119
16	Single Point Rural Supply	1618
17.	Rural Unmetered (D/L)	103224
18.	Rural Unmetered (C/L)	2844
19.	Board's Employees	6735
20.	Board's Establishment	358
21.	TOTAL	1112074

HIGHLIGHTS.

- Assam Per Capita consumption of electricity 104 kwh. in 2003-04
- National Per Capita consumption of electricity 359 kwh in 2003-04
- Assam's Expected Per Capita consumption of electricity is 180 kwh in 2006-07.
- Assam's Projected Per Capita consumption of electricity is 400 kwh by 2020.
- Present Peak Demand is 690 MW.
- Monthly Energy Requirement is 320 MU.

V. FUTURE DEMAND

Year	2006-07	2011-12	2016-17	2020
Energy Demand(MU)	5294	7604	10870	11370
Peak Demand (MW)	991	1423	2034	2573

(Most of the figures have been collected from the Assam VISION 2020 document for power sector)

Compiled By: Consumer Advocacy Cell, AERC

AERC Guidelines for Redressal of Consumer Grievances – A Discussion

In accordance with Section 181 (2) (r) read with Sub section (5), (6) and (7) of Section 42 of the Electricity Act 2003, the Assam Electricity Regulatory Commission has notified the 'AERC Guidelines for Redressal of Consumer Grievances'. The important features of these guidelines are discussed in question and answer format for convenience of consumers.

1. Why were these guidelines framed?

- To protect the interests of electricity consumers.
- To streamline and simplify the process for registration and resolution of complaints.
- To provide an additional Forum for redressal of grievances expeditiously.

2. What are the issues covered in the guidelines?

- Duties of Distribution licensee regarding nature of complaints.
- Establishment and composition of Consumer Grievance Redressal Forum
- Jurisdiction of the Forum
- Provision relating to Ombudsman
- Powers of the Ombudsman
- Procedure for lodging complaints with Ombudsman
- Procedure for complaint resolution and time limits for rendering the service

3. Who is a consumer under these guidelines?

“Consumer” under these guidelines means any person who is supplied with electricity or who has applied for a connection for his own use by a licensee or the government or by any other person engaged in the business of supplying electricity to the public under the Act or any other law for the time being in force and includes any person whose

premises are for the time being connected for the purpose of receiving electricity with a network of a licensee, the Government or such other person, as the case may be; or whose electricity supply has been disconnected.

4. What are the types of complaints that are registered?

Complaints may be filed against the licensee on the following grounds

- Any unfair /restrictive trade practice adopted by the distribution licensee
- Any defect or deficiency in service by the licensee like frequent interruptions in power supply, low voltage, meter related complaints, billing and collection related complaints, etc.
- Tariff charged by the distribution licensee is in excess of the tariff/price determined by the Commission under the Act
- Violations of provisions of law by the licensee in regard to standard and or performance or safety or security for the time being in force
- Violations of provisions of law requiring the distribution licensee to display information in regard to the use of such supply or services.

5. Who can file a complaint?

- A Consumer as defined by these guidelines
- Occupier or user of the premises
- Any registered voluntary consumer organization
- The Central/ State Government or any local authority.
- One or more consumers, representing a group of consumers having same interests

6. What are the duties of a licensee?

- Maintain a register at the office of the Assistant Engineer/concerned officer
- Register complaint within two hours of receipt
- Complaint to be dealt with by the concerned officer in the manner laid down in Schedule I and Schedule II of these Guidelines

7. What does Schedule I and Schedule II specify?

- Schedule I lays down the time limits for resolution of different categories of complaints
- Schedule II lays down the implementation steps to be followed by the licensee for complaint resolution

(These schedules are given in detail in the Guidelines)

8. When does a consumer approach the Consumer Grievance Redressal Forum?

The consumer should approach the Forum when

- there is no response from the licensee or
- after expiry of the period specified in Schedule I or
- in case the consumer is not satisfied with the decision of the licensee.

9. Where the Forum should be constituted by the licensee?

- The Forum should be constituted by each distribution licensee in the area under its jurisdiction within 6 months of its obtaining the license.
- The Forum shall have sittings in the Principal Office and also at any other place in the area of supply of the licensee as may be decided by the Forum or the Commission from time to time.

10. What is the composition of the Consumer Grievance Redressal Forum?

The Forum should consist of three members. These are

- A Chairman who will be a serving officer of the distribution licensee or a retired person having at least fifteen years of experience in the distribution of electricity and served not below the rank of Superintendent Engineer.
- One member shall be a serving or retired person having at least ten years experience in accounting out of which at least five years in revenue matters and not below the rank of Deputy Manager (Accounts).
- One member shall be a representative of a consumer association/non-governmental organisation actively engaged in

protecting the interests of electricity consumers. He may be a representative from the members of the Advisory Committee of the Assam Electricity Regulatory Commission to be nominated by the distribution licensee.

11. What is the term of the members?

- Every member of the Forum shall hold office for a term of two years
- The term may be extended by not more than a year and shall not be reappointed after the expiry of his term of appointment.
- No person can be appointed as member after attaining 62 years of age.

12. How to file complaints in the Forum?

- In writing
- No particular format has been specified.
- The Forum may however seek further information from the complainant for redressal of the complaint.
- No fee is to be paid for filing complaints.

13. How does the Forum address the complaints?

- The Forum shall decide the complaints expeditiously and shall communicate its decision to the complainant within a period not exceeding 30 days of the receipt of complaint
- The Forum shall give reasons in support of its decisions
- The Forum shall maintain true and correct records of the complaints received
- Such records shall also be open for inspection by consumers and others who are complainants as defined in the Act

14. How to get information about the Forum and its functioning?

- The distribution licensee shall give publicity of the constitution and existence of the Forum in the bills raised

- It is obligatory on the part of the distribution licensee to display the names and other information regarding the members of the Forum at all the offices of the distribution licensee.

15. When does a consumer approach the Ombudsman?

Any consumer if aggrieved by non redressal of the grievance by the Forum may approach the Ombudsman

- within 30 days from the date of the decision of the Forum or
- within 30 days from the date of the expiry of the period within which the Forum was required to take decision
- Beyond 30 days with sufficient cause of delay

16. What is Ombudsman?

The Commission shall establish an authority to be called as Ombudsman to deal with electricity related complaints for the entire state of Assam.

17. What are the powers and functions of the Ombudsman?

- The Ombudsman may receive and consider all representations filed by the complainant for non-redressal of the grievance by the Forum.
- The Ombudsman shall act as a conciliator in subject matters of representations filed.
- The Ombudsman shall adopt a procedure ensuring transparency and due compliance of the principals of natural justice and due process of law.
- The Ombudsman shall dispose of the case fairly and equitably.
- Once a complaint is settled, the Ombudsman shall make a recommendation and send copies of the same to the consumer and distribution licensee.
- After receipt of unconditional acceptance by both the consumer and licensee, it is recorded at the office of the Ombudsman and the case is disposed of.
- If the case is not settled by agreement, The Ombudsman shall pass a speaking award with detailed reasoning in writing which is binding on the licensee to implement.

18. What is the time limit for the Ombudsman to pass orders?

- The Ombudsman shall decide the representation finally within three months from the date of the receipt of the representation
- In the event the representation is not decided within three months the Ombudsman shall record the reasons in writing
- If the delay is for reasons attributable to the licensee, the licensee is required to pay the cost as will be decided by the Ombudsman.
- If the delay is for reasons attributable to the complainant, the Ombudsman may reject the representation.

Prepared by: Consultant,
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VIEWPOINTS:

- “Profit is the applause you get for taking care of your customers and creating a motivating environment for your people.”
- “In a competitive environment, if you do not take care of your customers, somebody else will”.
- “The most powerful way to produce desired change in an organization is to impact its culture”.
- “People with humility don’t think less of themselves, they just think of themselves less”.
- “In business you get traction by winning, not just by doing things nice”.

(Extracted from the book titled ‘Consumer Mania’ by Ken Blanchard)

DEMAND SIDE MANAGEMENT IN ELECTRICITY SECTOR

The demand for electricity has increased manifold during the last century. The traditional approach to meet increased demand has been to create additional generation capacity based on increased supply of conventional energy resources such as coal, gas or oil. These natural resources are fast depleting and needs conservation. Moreover it is a costly process. It is estimated that to make power available to use one additional lamp of 60 W the additions required to generating plants and strengthening supply lines entails an upfront investment of Rs. 4000/-. On the other hand, a far more economical and environment friendly way is to contain the demand for electricity is by efficient utilization. By using an energy efficient lamp of 15 W (which provides the same amount of light as a standard 60 W incandescent bulb) sufficient power can be made available to light three more efficient lamps of same wattage. The upfront investment per lamp also reduces to Rs 1000/-.

Demand Side Management (DSM) consists of a wide range of actions to reduce demand for electricity. The concept of DSM has changed from the early days of development of electricity. In those early days to boost sale of energy, some utilities leased electrical appliances such as electric toasters to consumers and the cost of these were recovered through the electricity bills. Similar initiatives are now becoming necessary to reduce electricity consumption by promoting use of energy efficient equipments to reduce energy consumption.

DSM programs may be used to achieve the following broad objectives.

DSM for reducing energy consumption: The fundamental concept of DSM is ***“Energy Saved is Energy Generated”***. The main stress of the DSM initiative is on the saving of energy. Use of energy efficient equipment is the primary need to save energy consumption. A saving of one kWh energy at the consumer end is equivalent to saving of at least 1.36 kWh at the generation points. This saving is equivalent to $850 \times 1.36 \text{ kcal} = 1156 \text{ kcal}$ of heat energy. To produce this electrical equivalent energy approx 1 kg of coal is required. ***In***

other words, one unit of energy saved at the consumer's end actually saves one kg of coal.

DSM for load management: The basic parameter in planning an electrical system is the peak load of the system. The supplier system must be able to support the combined consumer's peak demand at the rated parameters. As such any initiative to reduce the peak demand of the system will indirectly get reflected in the investment requirement which is a major component of cost of service. All electricity users do not need power supply equally during all periods of a day. Demand even varies with different seasons during the year. By introduction of suitable tariff mechanism, consumer load can be shifted from one period of a day of high system demand to another period when system demand is less. Industrial loads other than process industries can be shifted by introduction of suitable tariff. ***The 'three tier TOD Tariff' with reduced energy charge during the night hours (10 pm to 6 am) has been introduced for the first time in the Tariff Order of 2005-06 by the Assam Electricity Regulatory Commission with similar objective. It has succeeded in shifting of the daytime demand by 60 MW to night hours.*** However there is scope to extend this tariff even to domestic categories. For example a domestic consumer may have different appliances in his house ranging from light & fan, refrigerator, water pump, air conditioner, cooking appliances, water heater etc. The load of some of these appliances, such as light and fan essentially required during the system peak hours (5pm to 10 pm) may be very little. However unless prohibited due to low system parameters such as low voltage, there is no restriction on use of other appliances either during the system peak hours. A modest program to educate consumers not to use such appliances during peak hours may result in significant reduction in the peak demand. Alternatively, introduction of Time of Day (ToD) tariff for consumers using such a wide range of household appliances with a higher rate of tariff during system peak hours and comparatively lower tariff during other periods may also help in moderating peak demand to an extent.

DSM for reduction of system loss: The technical loss associated with an electrical system is directly linked to the current flowing through different circuits of the network. The shorter the path of the current, lower the loss in the system. Higher current flow through a conductor results in higher temperature,

leads to higher resistance which contributes higher loss. The loss in a circuit is represented as I^2R , where I represent current of the circuit and R represent resistance of the conductor in the circuit at normal temperature. Therefore, by reducing the demand for current during peak hours, system loss can be reduced.

DSM may contribute for higher recovery of revenue with cross subsidized tariff prevailing in Indian power sector. Almost all public utilities in India design retail tariff with an element of cross subsidy among different categories of consumers. Generally domestic and agricultural groups are subsidized by keeping the tariff of these groups lower than the average cost/ actual cost of service. On the other hand some groups are charged higher rates by tariff fixation at a level above average rate or above cost of supply. This is done to create a balance between the groups perceived as having different capacities to pay. Even adhering to these objectives, which are termed as 'social' objectives as against economic ones, there is many scope to introduce DSM program amongst subsidized categories to reduce consumption of subsidized energy so that more energy will be available to the consumers paying higher tariffs . In a supply shortage situation this approach may give maximum benefit to the supplier without hampering consumer interest.

DSM measures in electricity sector have found wide international acceptance. In Argentina, public lighting upgrades have helped to provide expansion of public lighting without increasing energy use. New South Wales, Australia's largest state has introduced a system of granting licence for supply and distribution of electricity to utilities that develop and implement DSM and environmental strategies. In Brazil, legislation calls for utilities to invest one percent of net revenues in energy efficiency projects. The government established a separate agency to administer DSM programs including pilot projects with utilities. The Directorate General of Electricity and Energy Utilization of Indonesia is now implementing programs to install efficient lamps in homes, streets and improve public awareness of DSM. The national electric utility of Mexico executed a successful efficient lighting program by setting up an independent trust fund to purchase high quality CFLs(Compact Flourescent

Lamps) at a significant discount and selling them directly to consumers at an attractive price.

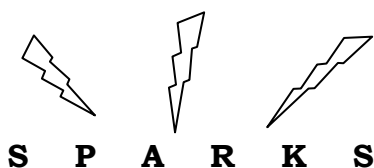
Over the past two decades, China has made tremendous progress in improving its energy efficiency. Energy Consumption per unit of production decreased from 7.89 tons of coal equivalent(tce)/ 10,000 RMB(Chinese dollar) in 1981 to 3.14 tce/ 10,000 RMB in 1998, a 60.2 percent decrease. In accordance with its 1997 Law on Energy Conservation, China is developing a wide range of programs, regulations and incentives designed to transform the market for efficient technologies, with a goal of reaching zero annual growth in energy consumption by 2040. These include promulgation of efficiency codes and standards, product certification and labeling programs, training courses and public education programs, formulation of tax, financial and bank lending incentives, etc.

India currently faces a peak power shortage of about 13 percent and approximately 10 percent of total electricity demand is left unserved. Chronic power shortages have resulted in low voltage supply, involuntary load shedding, and installation of captive generation by consumers. Although a few electric utilities have begun some DSM activities, the experience is very limited. India's electricity action plan includes near term capacity building activities and feasibility studies, implementation of identified DSM projects and eventual coverage to all electric utilities in the country. The expected savings in five years are 955 million units/year, equivalent to 160 MW avoided capacity (BEE-India, 2003). The scope of DSM in India is tremendous. A recent report by Prayas, an NGO from Pune have made similar observations. ***It states that if all consumers in the state of Maharashtra switched off one 60 W lamp (or a fan or a tube light), then two power plants of 500 MW can be switched off! In Delhi, the amount of saving will be nearly 240 MW! This is significant saving compared to the total peak shortage. A similar approach in Guwahati city can help reduce energy consumption by 6 MW provided all consumers cooperate. If this is done, load shedding during peak hours due to shortage of power can be overcome considerably.***

A number of barriers stand in the way of implementing effective DSM programs in India. Traditional equipment designs and huge capital investments

to replace these provide a built-in disincentive, the lack of sustainable mechanism to generate necessary funding, lack of positive incentives that would motivate utilities to maximize energy savings and lack of public awareness in this regard are the chief barriers in implementing DSM programs. Yet as India restructures its power industry, it has a valuable opportunity to develop market rules and regulatory structures that would make DSM profitable for the companies provided adequate funding is available. It is possible to take advantage of the experience in other countries to harness the benefits of DSM in a manner that will suit India's particular circumstances and fulfill its economic objectives. Power supply companies are the implementing entity for DSM promotion. They should be encouraged to establish instruments and mechanisms for DSM promotion by providing suitable tax and financial incentives.

Contributed By: Consumer Advocacy Cell, AERC



Convert Bill Counters to a Counter cum Shop for Power Saving Products

- The proposed Customer Care Centres (i.e more consumer friendly bill counters) of Discoms may be converted to Care Centres cum DSM Shops containing power saving consumer appliances.
- Interested entrepreneurs may be allowed to open stalls consisting of power saving electrical equipments with a condition that only ISI marked, good quality products can be sold in these counters.
- Since most of these power saving equipments like the Compact Fluorescent Lamps (CFLs) are expensive compared to the incandescent lamps, therefore an arrangement may be made between the licensee and stall owners to provide these equipments to the consumer (belonging to that particular sub-division) at nominal monthly instalments. The amount may be adjusted every month in the subsequent bills of the consumers from that subdivision.

- Such initiatives may help reduce demand for power substantially.

SOME ELECTRICITY TERMS EXPLAINED

1. **Voltage:** Voltage is the potential difference or electromotive force which forces current between two points. The flow of current between two points can be compared with the flow of water between two points situated at different heights.

The unit of potential difference is volt (V). However, in high voltage system, the practical unit used is KV, which is 1000 V.

Voltages are classified according to their magnitudes as follows:

- Low Voltage: Voltages upto 250V
- Medium Voltage: Voltages above 250V, but not exceeding 650 V
- High Voltage: Voltages above 650V, but not exceeding 33,000 V
- Extra High Voltage: Voltages exceeding 33,000 V

2. **EHT Consumer:** “Extra High Tension Consumer (EHT Consumer)” is a consumer who obtains supply from a licensee at extra high voltage.
3. **HT Consumer:** “High Tension Consumer (HT Consumer)” is a consumer who obtains supply from a licensee at high voltage.
4. **LT Consumer:** “Low Tension Consumer (LT Consumer)” is a consumer who obtains supply from a licensee at low or medium voltage.
5. **Connected Load:** It means aggregate of the manufacturer’s rated capacities of all energy consuming devices, connected with the distribution licensee mains in the consumer’s installation and which can be simultaneously used. This shall be expressed in KW, kVA or HP units.
6. **Fixed Charge:** It means charges payable by a consumer every month on the basis of KW/kVA as per provisions of Tariff Order in force.
7. **Energy Charge:** It refers to a charge levied on the consumer based on the quantity of electricity (units in KWh) supplied to the consumer.

Rural Electrification : Lesson from Bangladesh

-A. Goswami

The Electrification program in (RE) in Bangladesh is one of the most successful R E programme in the world. It is exemplified by better quality of power supply in the villages, expansion of the programme to 84 per cent of the areas of the country, system losses of around 16 per cent and collection rate exceeding 95 per cent. It is achieved by formation of Rural Electrification Board (REB) and Rural Electricity Co-operatives called Palli Bidyut Sammittees (PBS). There are 67 PBSs in Bangladesh. Out of these, around 20 are earning profit, they can pay all operating expenses and repayment of loan; another 30 can pay operating costs and interest on loan but not the principal and the balance 17 are not able to pay full operating costs

Rural Electricity Co operatives are. functioning successfully in several countries.

- These were started in the USA in 1935. The USA has about 1000 such co-operatives,
- . Argentina has about 400 cooperatives
- Philippines around 190 and
- Bolivia around 200.
- India has few co-operatives operating in West Bengal, Madhya Pradesh, Andhra Pradesh.

The USA has developed an impressive expertise on execution of RE programme through co-operatives. The National Rural Electricity Co- operative Association (NRECA) of USA is such an expert body. The NRECA has prepared a Master Plan for Bangladesh to establish 72 co-operatives. The Master Plan resulted in the establishment of REB in 1978. The REB is the apex agency entrusted with planning and implementing all investments in the

PBS besides monitoring and regulating the performance and prices of electricity of the PBSs..

The PBSs are full fledged utilities like our SEBs. These are formed according to the master plan prepared by REB, which prioritises system investment according to revenue generation. In the feasibility study, REB analyses the ability of the new PBS to meet the revenue criteria that each km of the line constructed is able to generate revenue equal to \$400 (US) per month to cover operating costs. The area may be around 1200 sq km encompassing a consumer base of around 25000 consumers. The area of the co-operative is divided into 15 divisions, from which one Director is elected. A Board of Directors for each co-operative is formed which is responsible for its functioning. The backbone 11 kilovolt (KV) line network is handed over to the co-operative. It takes power from the 33 KV sub-stations of Bangladesh Power Development Board (BPDB).

The REB provides cashflow support (subsidy) as well as loan support to the PBS. Loans are provided to them at 3 per cent interest with a repayment period of 30 years. The REB receives the loans from a group of sixteen international donors. Loans are given to the PBS in the form of equipment, materials and construction contracts. A subsidy is given for PBS operations to mature through the first five years after energisation of the lines. After this period of developing load, the PBSs are expected to reach financial stability and pay for purchase of power, operation and maintenance etc from its operation.

A PBS is a kind of empowerment of consumers of electricity. Each consumer is a member of the cooperative and participates in its formation by electing the Board of Directors. As the process of building up a PBS is started, members' education proceeds in a parallel fashion to advise the future consumers about their rights and responsibilities as member owners. Afterwards, members are kept aware of the key issues by providing

information in the form of customer information bulletins sent along with the monthly bills

The billing and collection of revenue have been decentralised in the PBS. Meter reading is performed by contract employees of each PBS, energy bills are prepared by PBS staff and delivered by local PBS employees. Payments may be made either to rural banks in close proximity to members villages or to PBS offices. Members are given 30 days to pay bills and if payment is not received within 30 days, their service is disconnected.

The pattern of consumers in Bangladesh is similar to Assam. Out of 5 million consumers of PBS, 84% is domestic, 11.3 % commercial, 2.4% irrigation and 1.79% industry.

As each PBS is a stand alone utility, price of power of each PBS is different. It is in the range of .TK 2 to TK 3/50 for domestic consumers(TK- Bangladeshi Taka). But commercial and industrial tariffs are slightly more so that the residential and agricultural tariffs can be kept low .Sales to residential and agriculture consumers are higher than others. The co operatives have energised around 1.2 lakh irrigation pump sets through electricity which had made it possible for the to go for 3 crops in a year This is a lesson for us where we had gone for energisation of shallow tubes wells through diesel in Assam Energisation of these tube wells through electricity will help in keeping electricity low as well as raising demand for electricity in rural areas which will lead to a viable electricity sector in the rural areas.

The REB has established a variety of programmes whose purpose has been to assist the PBS in organizing financial and technical information and thereafter to monitor the effectiveness of PBS commercial functions through a monthly reporting process. Collection rates, system losses, construction performance, debt service coverage, PBS expenses etc are collected as part of Management Information System and monitored in monthly database. The MIS is reviewed periodically by REB management to ensure that key performance indicators are in line with targets for the year.

The factors that most dramatically contributed to the success of PBS are as follows. The REB programme is characterised by centralized planning, design and construction co-ordination while concurrently establishing a decentralised responsibility through the PBS. Another element of the REB process was application of a clearly stated standardized planning, engineering, administrative and business process to all aspects of development and operation of an electric distribution system. In order to measure performance and assure quality control, a system of performance based evaluation of management was established that links pay and promotion to measured compliance with clearly stated expectations in regard to loss reduction, collection performance and other business goals. The most important element that has contributed to the success of the programme has been the implementation of day to day commercial practices, including billing and collection procedures.. The programme established a clearly defined master planning process that prioritises system investment according to revenue generation. This ensures that each PBS can be self sustaining in the long nan.

Such a system of rural eletrification in Assam will ensure the viability of the electricity sector in rural areas. The problems facing the sector in rural areas are : poor quality and quantity-of supply, frequent breakdown of lines and transformers, low demand, poor recovery from consumers, large scale theft and hence large losses and non-coverage of all rural areas etc. These problems -can be tackled by forming rural co operatives in the State. The socio-economic condition of rural areas in Assam is very similar to that of Bangladesh .If the system has worked in Bangladesh, there is no question why it will not work in Assam with suitable modifications. In fact, this programme of rural electrification may lead to regeneration of the rural economy in the State.

AN APPEAL

- Beginning with our next issue in January, we are planning to introduce an Assamese section called “Grahak Abhimat”. This section will consist of articles and opinions contributed by consumers. If you have any opinion on any subject of relevance to the power sector, please sent it to us at: “GRAHAK ABHIMAT”, Consumer Advocacy Cell, Assam Electricity Regulatory Commission, ASEB Complex, Dwarandhar, Six Mile, Guwahati-22.
- Feedbacks on the issues covered in this bulletin may be sent to: “THE INBOX”, Consumer Advocacy Cell, Assam Electricity Regulatory Commission, ASEB Complex, Dwarandhar, Six Mile, Guwahati-22.
- We seek advertisements from interested parties for the subsequent issues of this bulletin. For further details please contact: Consultant, Consumer Advocacy Cell, Assam Electricity Regulatory Commission, ASEB Complex, Dwarandhar, Six Mile, Guwahati-22.

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