

CHAPTER 1

PRELIMINARIES

1.1 AIMS AND OBJECTIVES OF CONSUMER SERVICE MANUAL

The Consumer Service Manual lays down the instructions in pursuance of Section 21 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with Rule 9 of the NEPRA Licensing (Distribution) Rules, 1999 which shall be administered by a distribution licensee to ensure safe, effective and reliable supply of electric power.

1.2 SCOPE OF CONSUMER SERVICE MANUAL

The Consumer Service Manual is applicable to all consumers served by the distribution licensee (**MEPCO**) including the Bulk Power Consumers (where applicable) and includes without limitation the following matters, namely:

- (a) Form and manner of application by the consumer for obtaining electric service connection, along with details of any documents to be submitted in support of the application.
- (b) Time frame for providing service connection to the consumer.
- (c) Procedure and manner for installation of meters and other facilities for connection.
- (d) The procedure and manner for billing, the time limit of payment of bills and procedure for collection of bills.
- (e) Fees and charges for connection, installation of meters, other facilities for connection and reconnection.
- (f) Procedure for issuing disconnection notice to consumer for non-payment of bills and the procedure thereof for disconnection of electric supply in case of non payment and reconnection after payment of outstanding dues.
- (g) Collection of arrears upon or following reconnection.
- (h) Procedure for disconnection and the charges and penalties for illegal abstraction / theft of electric power or for use of electric power for purposes other than those specified in the application for reconnection and service.
- (i) Requirement of safety and security.
- (j) Efficient use of electric power including with reference to characteristics of supply or usage such as time of day, week or season.
- (k) Procedure and the time frame for handling and redressal of different types of consumer complaints.

The Consumer Service Manual shall also act as the code of conduct of a distribution licensee and to be used in conjunction with the provisions of Distribution Code, Performance Standards (Distribution) Rules, 2005 (Annexure-I), Eligibility Criteria Regulation, 2003 (Annexure-II), Rules and regulations when and where applicable.

1.3 INTERFACES WITH CONSUMER FORUMS

(MEPCO) shall make efforts to have interface with the Consumer Forums / Councils and Associations, Efforts shall be made to improve MEPCO Consumer relationship and the consumer's awareness about utility's programs / activities / services. Consumer Services Centers and One-Window Operations shall be established for the convenience of the consumers operating around the clock.

- others, including a person who owns or occupies a premises where electric power is supplied;
21. **Consumer's Mailing Address:** means the address specified in the consumer's Application and Power Supply Contract form for the purpose;
 22. **Consumer Sub Station:** means a sub station furnished, installed, owned and maintained by the consumer;
 23. **Consumption:** means the amount of electricity used and measured over a given period of time;
 24. **Declared Voltage:** means the voltage required to be supplied at the consumers terminals with permissible variations according to Performance Standards (Distribution) Rules, 2005.
 25. **Dedicated Distribution System (DDS):** means that part of the distribution system required to supply power for the sole consumption of an applicant and not for supplying power to any other consumer and shall comprise of the distribution system from the connecting point up to the interconnection point of the applicant including the metering and service wire and such other connection arrangement;
 26. **Distribution Sub Station:** means a sub station furnished, installed, owned and maintained by the MEPCO (Licensee);
 27. **Distribution Lines:** mean overhead lines and / or underground facilities consisting of conduct and cable which are operated at nominal distribution voltages;
 28. **Distribution Facilities:** means electrical facilities operating at distribution voltage and used for movement or delivery of electric power;
 29. **DISCO:** means a utility / entity engaged in the business of distribution of electric power as licensed by NEPRA;
 30. **Drop-Out Fuse:** means a current interrupting device, the mechanism of which is so designed that on melting of a fuse link the fuse carrier drops out to exhibit an open gap in the primary circuit;
 31. **Earthing or Grounding:** means electrical connection to general mass of earth in such a manner as to ensure, at all times, an immediate discharge of energy;
 32. **Consumer Eligibility Criteria:** means criterion for a non discriminatory provision of distribution service and sale of electric power to all the consumers within the service territory of a distribution company ***prescribed by NEPRA vide SRO. 743(I)/2003 dated July 26, 2003, as amended from time to time.***
 33. **Energy Meter:** means a device that registers the quantity of electrical energy over a period of time;
 34. **Horsepower (HP):** means a practical unit of power representing the ability to do work by some kinds of electrical equipments. One HP is equivalent to 746 watts of electrical power;
 35. **Interconnection Point:** means the point where the metering installation and protection apparatus of the consumer is connected to the dedicated distribution system;
 36. **Interruption:** means loss of electric power to one or more consumers;
 37. **Load Factor:** means the ratio of average load over a designated period to the peak load in that period;
 38. **Nominal Voltage:** means a suitable approximate value of voltage used to designate or identify a system;
 39. **Overloading:** means a condition under which part of the system is subject to a electric power / current in excess of the normal design rating of that part of system and not due directly to system fault current;

40. **NTDC:** means National Transmission and Dispatch Company as licenses by NEPRA.
41. **Power Factor:** means the ratio of kVAh recorded during the month or the ratio of kWh to the square root of sum of square of kWh and kVARh.
42. **Premises:** means the building / site / location where Electric Power is required / consumed;
43. **Primary Service Connection:** means any connection which is provided at 11-KV or above;
44. **Public Lighting Supply:** means a supply given to a Government Department / Agency or a Housing Society charged with public lighting, for the purpose of illuminating public lamps within the area of its jurisdiction;
45. **Reliability:** means the degree of performance of the elements of the electric power system that results in electricity being delivered to consumers within specified standards
46. **Rural Area:** means the area falling within the jurisdiction of all rural local bodies including without limitation Union Councils, Tehsil Councils and Zila Councils;
47. **Sanctioned Load:** means the load in kilowatts sanctioned by the MEPCO.
48. **Service Drop:** means the cable of appropriate current carrying capacity to connect the CDS / DDS to the Premises at the inter connection point. The maximum length of this cable shall be such that the voltage at the inter connection point does not fall below the specified limits;
49. **Secondary Service Connection:** means a connection which is provided at 400 volts or below;
50. **Service Wires or Connection:** means the group of cables / conductors, whether overhead or underground, necessary to connect the service entrance conductors of the consumer to the MEPCO's supply line, regardless of the location of the MEPCO's meters or Transformers;
51. **Sponsored Dedicated Distribution System:** means where a Common Distribution System (CDS) doesn't exist and is required to be developed for provision of service on behalf of expected applicants by any person / agency other than the applicants (s) such person / agency shall be called the Developer / Sponsor (D/S) and such a system for the purpose of ECR, 2003 will be referred as the "Sponsored Dedicated Distribution System (SDDS)".
52. **Tariff Schedules:** means the rates, charges, terms and conditions for generation of electric power, transmission, distribution services and sales of electric power to consumers by MEPCO as approved by NEPRA and notified by the Government of Pakistan;
53. **Underground Distribution System:** means an electric distribution system with all wires installed underground except those wires within surface-mounted equipment enclosures;
54. **Urban Area:** means the area falling within the jurisdiction of all urban local bodies or development authorities including without limitation Town Committees, Municipal Committees, Municipal Corporations, Metropolitan Corporations and Cantonment Boards;
55. **Voltage:** means difference of potential or "electric pressure" in an electrical circuit measured in volts;
56. **Voltage Drop:** means the reduction in the voltage between two reference points;
57. **Voltage Fluctuation:** means a series of voltages changes or a cyclic variation of voltage;

58. **ACRONYMS ABBREVIATIONS**

A&PSC – Application and Power Supply Contract
AMO or SDO – Assistant Manager Operations or Sub Divisional Officer
CE – Chief Engineer
CEO – Chief Executive Officer
CP Form – Commercial Procedure Form
DCC – DISCO Computer Center
DCM – Deputy Commercial Manager
DCO – Disconnection Order
DG (COM) – Director General, Commercial
DISCO – Distribution Company
DM or XEN – Divisional Manager or Executive Engineer (Division)
DN – Demand Notice
ERO - Equipment Removal Order
GM (CS) – General Manager, Customer Services
GM(R&CO) – General Manager Recovery
kWh – Kilo Watt Hour
LP – Late Payment
LS-I – Line Superintendent, Grade-i
LS-II – Line Superintendent, Grade-II
M (Com) – Manager Commercial
MCO – Meter Change Order
MDI – Maximum Demand Indicator
MO or SE – Manager Operations or Superintending Engineer (Circle)
MS-I – Meter Supervisor, Grade-I
MS-II – Meter Supervisor, Grade-II
MSB – Meter Security Box
NEPRA – National Electric Power Regulatory Authority
PEPCO – Pakistan Electric power Company
RCO – Reconnection Order
RO – Revenue Officer / AM(CS)
SCO – Service Connection Order
SR – Store Requisition
TD – Technical Director

- (c) “No Objection Certificate” from the landlord (if the applicant is a tenant along with landlord’s proof of ownership and affidavit mentioned above).
- (d) Attested copies of CNIC of the applicant and two witnesses.
- (e) The power of attorney (in case of a Company), in favor of the applicant to the effect that the applicant is authorized to sign the application and execute agreement on behalf of the Company.
- (f) If the connection is applied in the name of a company, duly incorporated under the law, then following additional documents shall be attached:-
 - i) Certificate of incorporation;
 - ii) Resolution of Board of Directors authorizing a person to sign and execute the application and agreement form;
 - iii) Charge creation certificate issued by the Securities and Exchange Commission of Pakistan equivalent to the amount of security;
 - iv) List of directors with complete addresses and copies of their computerized national identity cards.
- (g) Available site plan of Industry/premises where connection is required.
- (h) In case of change of name/extension or reduction of load, a certificate from the Revenue Office, **MEPCO** to the effect that no arrears are outstanding against the premises along with proof of owner ship/NOC. Wiring test report would be required in case of extension/reduction of load.

2.4 DESIGN, COST ESTIMATE AND DEMAND NOTICE

- (a) After the receipt of Application Form along with the required documents the **MEPCO’s** Office shall issue an acknowledgement receipt and a serial number to the applicant for further reference / processing etc. Based on the site inspection, the application will be evaluated / processed and approved as per the provisions of Consumer Eligibility Criteria, Grid Code and Distribution Code (where applicable). A demand notice of cost estimate and security amount shall subsequently be issued by the **MEPCO** office for payment by the applicant.
- (b) Demand Notices for Service Connection cost technical criteria given at Annexure___ and Security Deposit shall be sent under registered post or courier to ensure their delivery to the applicant may receive it personally, for that receipt may be obtained from applicant for record.
 - i) For payment, branches of designated banks authorized to receive the Demand Notice charges etc. shall be intimated to the applicant. The

bank shall receive payment as per demand notice and issue an acknowledgement receipts etc.

- ii) Subsequent to the deposit of payment mentioned in the demand notices the applicant shall execute the power supply contract with the **MEPCO** in triplicate.
- iii) **MEPCO** shall determine new final priority number of connection to each application after the demand notices have been paid and wiring test report submitted subject to the exemption granted under the policy of **MEPCO**.

2.5 APPROVAL OF APPLICANT'S INSTALLATION

Before any electrical wiring or energy consuming apparatus is connected to the **MEPCO** distribution system, the same shall be subject to inspection and testing by the **MEPCO** and no connection shall be made to the **MEPCO** system without the prior Inspection/satisfaction of **MEPCO**.

2.6 CATEGORIES OF APPLICANTS

Categories of applicants are indicated at Annexure V.

2.7 TIME FRAME FOR A NEW CONNECTION

Time schedule for all categories of new connections is indicated at Annexure VI.

3.3.1 Procedure for Application

- (a) The applicant shall apply for temporary connection to the competent load sanctioning Authority as per corresponding regular category of connection.
- (b) The applicant shall attach NOC/Authorization from the local Authority (where applicable) along with the documents as mentioned in the application form.
- (c) The sanctioning authority shall approve in accordance with the Eligibility Criteria Regulations, 2003.
- (d) The applicant, shall be served with Demand Notice for the cost relating to the Dedicated Distribution System and security which will be deposited with the designated bank. For capital contribution, the terms of Eligibility Criteria regarding payments shall be applicable.
The amount against the security shall include:
The amount as per applicable tariff and load equal to the cost of expected consumption of electricity during the approved temporary connection period.
- (e) The MEPCO, after the receipt of necessary payment and certificate, shall provide the electric power connection immediately as per priority maintained for temporary connections.

3.3.2

- (a) The MEPCO shall provide temporary electric connection to the **applicant** on his demand for a specified period and disconnect the same after the expiry of this period unless extended further on the request of the consumer and confirmation by the **MEPCO** that the purpose for which temporary connection is required, still exists.
- (b) The consumer shall apply for extension in the sanctioned period at least one week before the expiry of the sanctioned period. The consumer shall pay in advance as security an amount equal to the expected consumption of the period applied for extension.
- (c) The **MEPCO** shall discontinue service without notice whenever it is no longer temporary in character, or it is used for unauthorized purposes.
- (d) After the expiry of the contracted period or after the period when connection is no more required and is disconnected, the cost of equipment installed for temporary connection shall be reimbursed to the consumer at depreciated rates, if it is dismantled and taken over by the **MEPCO** or if it is not dismantled and is taken over by the **MEPCO**.

- (c) When metering equipment is installed in a multiple-occupancy building (two or more occupants), the meter connection devices shall be labeled, tagged, or stenciled showing the complete address and location of the area served such as the apartment, office, or store in the building and account no of the consumer for which the metering equipment is being installed.
- (d) Conduit or wire connections to a meter connection device other than that for a single-phase 230 Volt self-contained meter shall be made below the meter terminal block.
- (e) The metering equipment shall be installed with permanent attachment to a rigid, vibration-free wall or structure. When such facilities are installed indoors, the consumer shall provide and install a mounting board in accordance with the **MEPCO's** specification.
- (f) In the case of multiple-position or grouped meter connections, conductors from the source of supply shall be continuous to the last meter and connected to the meter connection terminals in accordance with the **MEPCO's** requirements.

4.4 Meter Replacement

- (a) In case of replacement of a meter, the consumer's account shall not be liable to any adjustment on the basis of any discrepancy detected in the impugned metering equipment where the discrepancy is not attributable to any act or omission of the consumer.
- (b) Should the **MEPCO** at any time, doubt the accuracy of any metering equipment, the **MEPCO** may after informing the consumer, install another duly calibrated and tested metering equipment (check metering equipment) in series with the impugned metering equipment to determine the difference in consumption or maximum demand recorded by the check metering equipment and that recorded by the impugned metering equipment during a fixed period. If on such comparative test being made the impugned metering equipment should prove to be in-correct, the impugned metering equipment shall be removed from the premises with the written consent of the consumer, and the **MEPCO** in the absence of any interference or alteration in the mechanism of the impugned metering equipment being detected by the **MEPCO**, shall install a "correct meter" without any further delay.
- (c) Where it is not possible for the **MEPCO** to install check metering equipment of appropriate capacity (due to non availability of such equipment or otherwise) in

series with the impugned metering equipment, to check the accuracy of the impugned metering equipment as described above, the **MEPCO** shall, after informing (in writing) the consumer, test the accuracy of the impugned metering equipment at site by means of Rotary Sub-Standard or digital power analyzer. If on such test being made, the impugned metering equipment should prove to be in-correct, the impugned metering equipment shall be removed and immediately replaced with a correct meter. The impugned metering equipment shall be removed upon settlement / payment of assessed amount. In case if a correct meter is not available then the multiplying factor shall be charged accordingly till the replacement with correct meter.

- (d) Where a consumer is not satisfied with the accuracy of the meter, he may inform the **MEPCO** of his desire for the said metering apparatus be checked at site in his presence. Upon receiving such a request, the **MEPCO** will issue a demand notice as meter challenge fees for the checking of the said meter and will check the accuracy of the said meter within SEVEN working days from the date of receipt of payment of such challenge fees by installing a duly calibrated check meter in series with the impugned meter or in the absence of a check meter, through a Rotary Sub Standard or digital power analyzer accompanied by an engineer of the **MEPCO's** metering and testing laboratory. If upon checking the meter is found to be recording beyond the permissible limits, the meter shall be changed immediately and due credit be given for excessive units charged by **MEPCO** w.e.f. date of request filed by the consumer with **MEPCO**.
- (e) The charging of consumers on the basis of defective code, where the meter has become defective and is not recording the actual consumption will not be more than TWO billing cycles. The basis of charging will be 100% of the consumption recorded in the same month of previous year or average of the last 11 months which ever is higher. Only Authorized employee of the **MEPCO** will have the power to declare a meter defective. However the consumer has a right to challenge the defective status of the energy meter and the **MEPCO** will get the meter checked at site with a check meter or a Rotary Sub Standard or digital power analyzer accompanied, by an engineer of the metering and testing laboratory free of cost.

Where any consumer gives a notice in writing to the **MEPCO** and informs of having requested the Electric Inspector/(POI) to check the accuracy of the

MEPCO's metering equipment installed at his premises or the status of the meter regarding it being defective or otherwise, the **MEPCO** shall not remove or take off the impugned metering equipment from the consumer's premises until the Electric Inspector has conducted a test of the impugned metering equipment at site, in the presence of **MEPCO's** authorized representative, by means of a duly calibrated check meter installed in series with the impugned meter or through a Rotary Sub-Standard or digital power analyzer and has given the result of his test.

The charging of consumers on the basis of type of defect or fault, where the meter has become defective and is not recording the actual consumption, will be as per table below:

| Type of Fault/defect | Cost of replacement of meter | Mode of Determination of consumption | Competent Authority | Appellate Authority | Period of Loss | Remarks |
|---|----------------------------------|--|--|--|--|---|
| Defective / damaged/burnt meter not due to consumer fault | Cost to be borne by MEPCO | As given above at 4.4(e) | The competent Authority to determine type of fault/defect shall be the respective load sanctioning authority | On meter being declared as defective—Next higher office, Review Committee, POI, NEPRA in the order of appearance | Defective charging to a maximum of two billing cycles for regular bills. No previous charging on defective code. | ----NIL---- |
| Slowness owing to age / other reasons not related to illegal abstraction / stealing. | Cost to be borne by MEPCO | Through previous consumption data- Check, meter-Slowness through check/Rotary Substandard, Grid meter/power analyzer | -do- | -do- | -do- | Test check Performa to be got signed by the consumer / his authorized representative or POI at the time of inspection |
| Meter defective / damaged / burnt due to Consumer's fault including over loading, internal wiring defect. | Consumer To pay | Verification of load, Check meter, Rotary Substandard, another meter in Series, OR at Grid meter / power analyzer. | -do- | -do- | -do- | -do- |

NOTE: See the matrix at Annexure-VIII

- (d) The security amount deposited by the consumer at the time of getting connection shall be refunded at the time of permanent disconnection after getting approval for the refund from the load sanctioning authority. (Provided there is no other amount outstanding against the consumer) The security deposit amount can also be adjusted in the final bill, if applied by the consumer.

| | |
|--------------------------------|--|
| Billing Period | The period for which bill is being issued. |
| Reference No. | A dedicated number allotted to a consumer for identification. |
| Tariff | The applicable rates and charges approved by NEPRA for the category of connection. |
| Load | The load sanctioned load for the connection. |
| Reading Date | The date on which meter reading is taken. |
| Issue Date | The date on which bill is issued to the Consumer. |
| Due Date | The date by which amount of the bill is to be paid. However, if the due date falls on a holiday, the due date shall be the next working day. |
| ED | Electricity Duty levied by the Provincial Government. |
| Total units Consumed | The units consumer during a Billing Period or estimated consumption in case of defective meters. |
| Total cost of Electricity | The cost as per applicable tariff of total units consumed or estimated consumption in case of defective meter. |
| Installments | Any amount to be paid as per installments allowed by Competent Authority. |
| GST | The General Sales Tax levied by the Government of Pakistan. |
| Amount Payable Within due date | Total current amount of all the payment items as mentioned in the bill including arrears amount, if any |
| Late Payment Surcharge (LPS) | The amount levied on account of non-payment of bill within due date, |
| Amount Payable After due date | Total of amount payable within due date and Late Payment surcharge. |
| Fixed Charges | As defined in Tariff Terms & Conditions. |
| Variable Charges | As defined in Tariff Terms & Conditions. |
| Billing Demand | As defined in Tariff Terms & Conditions. |
| Other Charges | These charges include Fuel Adjustment charge, PTV Fee, Withholding Tax, any other charge/surcharge levied by the Federal Government etc. |

- (b) In cases where accumulated readings are recorded, segregated bills shall be prepared keeping in view the number of months for which the readings have been accumulated to give relief to the consumers.
- (c) The consumers are advised to read the “INSTRUCTIONS FOR THE PAYMENT OF BILLS” given on the back of Electricity bill and Monthly Electricity consumption charges bill of general consumers and bill for Industrial (MDI)/Bulk supply consumers for their knowledge and guidance. The monthly bill can also be downloaded from **MEPCO’s** website in case of non receipt of bill on usual delivery dates.

6.3 TIME PERIOD FOR PAYMENT OF BILLS

The due date for payment of bills shall be within 15 days from the issue date of the bills. However the consumers will have clear 7 days from the date of actual delivery of the bill for the purpose of payment.

6.4 PROCEDURE FOR BILLS DISTRIBUTION

- (a) Batch wise computerized bills for consumers having load up to 20-KW shall be received by the sub division from the revenue offices. The same shall then be handed over to the Bill Distributors on the same day for distribution to respective consumers.
- (b) The Bill Distributors shall deliver the bills at the premises of the consumers within a day of receipt of the bills by them for distribution.
- (c) Bills for industrial consumers and MDI connections above 20-kW load shall also be distributed to the respective consumers through Bill Distributors who shall obtain the acknowledgements of such bills from the consumers in the Bills Delivery books.

6.5 COLLECTION /PAYMENT OF ELECTRICITY BILLS

- (a) All Commercial Bank Branches and Post Offices of the respective City / District where connection exists shall be collecting Electricity Bills from consumers who have been given option to deposit their Electricity Bills in any designated bank branch / post office. On line payment and payment through Credit Cards or through cheques at designated bank branches can also be made where possible. NADRA KIOSK are also authorized to collect electricity bills.
- (b) Procedure in brief regarding payment of bills in Banks / Post Offices is as under:
 - i) In order to avoid late payment surcharge, consumers shall pay their bills and demand notices in bank branches in cash or through Pay orders/Bank. Drafts/Crossed Cheques. Consumers can also make payments to Revenue offices through Crossed Cheques or Bank Drafts.(For payments to avoid levy of late payment surcharge made through cheques a grace period of at least three days be given for the realization of payment and these days are included in the fifteen 15 days grace period).
 - ii) The Banks/Post Offices shall receive bills, acknowledge the receipt of payment by stamping the bills and the counterfoils as "PAID" indicating

the amounts received. Authorized officer of Bank/Post Office shall sign bills and counter foils in order to authenticate the transaction.

iii) The Bank branches/Post offices shall retain counter-foils and return the acknowledged bills to payers/consumers.

(c) **MEPCO** may develop and offer to consumers an option to receive bills and make payments via Internet or in such other manner as may be possible, convenient and effective.

any documentary proof the maximum period of such charges shall not be more than TWO billing cycles.

7.6 **TOD TARIFF**

TIME OF DAY (TOD) metering for various classes has been introduced. The advantage of TOD metering is that the rates are less with in off peak hours as per the schedules of TOD. In addition it also helps in reducing the Peak Demand on the system. Consumers are advised to avail the facility of TOD metering.

- c) That no reconnection fees shall be charged if the consumer gets the connection restored immediately after the expiry of the period of disconnection allowed to him / her
- d) A seasonal consumer or a consumer whose connection is laying disconnected shall not be eligible to the allowance given in the temporary disconnection.
- e) After the expiry of period allowed for disconnection as per clause (b) above, the connection shall be deemed to have been restored for payment of minimum / fixed charges even if the consumer does not request for reconnection and does not use electricity. In case the consumer defaults in making the future bills, his / her connection may be disconnected and equipment installed at his premises to supply every be removed after service of notice as per disconnection procedure. Restoration of supply to such a premises shall also be regulated as per the reconnection policy as given in section 8.3

A consumer who intends to get his / her premises disconnected shall apply to the load sanctioning Authority of the connection concerned, who will arrange the final bill from the Revenue officer concerned. After payment of final bill, the respective load sanctioning Authority will approve the disconnection. Disconnection for consumer supply shall be effected through removal of, such facilities to avoid misuse of electricity during the period of disconnection.

NOTE: In all case of reconnection / MCOs or any case where meter is changed for any other reason. Part II and part IV of the application form will be filled out and a copy sent to the consumer for his information duly signed by the office in charge.

8.3 RECONNECTION

The disconnected premises shall be reconnected at the request of the consumer if all outstanding electricity charges are paid and subject to following policy.

(a) RECONNECTION POLICY

A disconnected premises shall only be reconnected after recovery of all outstanding energy consumption charges and minimum / fixed charges as follow

| | | |
|-----|---|--|
| (A) | For General Supply Tariff A-I & A-II (single phase only) | Minimum / fixed charges of Rs.100/- only for any period |
| (B) | For General Supply –Tariff A-I & A-II 3-Phase Connections For Industrial Supply | a. Minimum / Fixed charges for actual period of disconnection of supply if period of disconnection is upto ninety days (+ amount of arrear due up to date of permanent disconnection). |
| (C) | Tariff (B-1, B-2, B-3, B-4) | b. In case he period of disconnection of supply is ore that ninety days and upto three years then the minimum / fixed charges will be recovered @ one month for |
| (D) | For Agriculture Tubewell and lift irrigation pumps Tariff –D | |

| | | |
|-----|--|--|
| (E) | For Flat Rate Tariff – D-1 | <p>every quarter in addition to the minimum / fixed charges or ninety days. Period less than a quarter will be ignored for the purpose of recovery of minimum/ fixed charges (+ amount of arrears due up to date of permanent disconnection).</p> <p>c. If the period of disconnection more than three years from the date of disconnection, minimum fixed charges for the disconnected period beyond three years from the date of disconnection upto the date of reconnection shall be recovered in addition to the charges laid down in (a) & (b) above. The minimum /fixed charges for period beyond three year shall be @ one month for every year. Period less than a year shall be ignored in calculations.</p> |
| (F) | For Bulk Supply Tariff (C-1, C-2, C-3) | NIL |
| (G) | For public Lighting Tariff G | NIL |
| (H) | For ONE Point supply to Residential colonies attached to the premises of industrial supply consumer, who have their own distribution facility. Tariff-H | NIL |
| (I) | For Seasonal Industrial Supply Tariff-F (As specified in Tariff Terms and condition an as amended from time to time. | Where a “Seasonal Supply” consumer does not come forward to have his seasonal Industry re-connected with the company’s Supply System in any ensuing season, the service line and equipment belonging to the Company and installed at his premises shall be removed after expiry of 60-days of the date of commencement of the season previously specified by the consumer at the time of his obtaining new connection / reconnection However, at least ten clear das notice in writing under registered post shall be necessary to be given to the consume before removal of service line and equipment from his premises as aforesaid, to enable him to decide about the retention of connection or otherwise. No Supply Charges shall be recovered from as disconnected seasonal consumer for any season during which he does not come forward to have his seasonal Industry re- |

| | | |
|--|--|---|
| | | connected with the Company's Supply System. |
|--|--|---|

Note: For disconnected period, Meter **Rent** / Service rent shall be charged (where applicable) for the entire period of disconnection up to the date of reconnection.

- (b) Cost of material to be recovered at the time of reconnection.
- a) The material and equipment which is removed from the site as a result of disconnection shall be kept in the sub divisional office (AMO's office) for 365 days from the date of disconnection and an entry to this effect shall be made in a register to be kept for this purpose. It shall be re-installed after payment of reconnection charges without recovering cost thereof on application for reconnection within 365 days to be reckoned from the date of disconnection. If a disconnected consumer does not come forward for reconnection within 365 from the date of disconnection, then the removed material and equipment shall be returned to the store. Removed material and equipment shall be taken on stock and it shall be issued **as stock material** by the concerned office.
 - b) In case a disconnected consumer supplied for reconnection after the expiry of 365 days of disconnection but within three years from the date of disconnection, credit on depreciated value of the removed material shall be given in the estimate for reconnection provided cost for the removed material was originally borne by the consumer or it was wholly subsidized by an external agency out side the **MEPCO** or if such cost had not element of subsidy by the **MEPCO**. No credit of the cost of removed material will be accorded where it was partially subsidized by the **MEPCO** under any approved package. (Cost of such material and equipment under any partial scheme will be treated as if cost of the removed material was originally borne by **MEPCO** and as such no credit for depreciated value of subsidized cost will be provided.)
 - c) In case a disconnected consumer applied for reconnection after a period of three years from the date of disconnection, no credit of the cost of the removed material shall be accorded, even if he had originally paid the entire cost of material and equipment at time for obtaining connection.
 - d) In case of reconnection of a disconnected premises where no arrears are outstanding against the premises and due to some reason serviceable equipment is available at site, **MEPCO** may utilized such equipment and cost of such material will not be recovered from the consumer subject to the such satisfaction of the **MEPCO** that the material is genuine, operationally safe and the equipment has a reasonable serviceable life.

On receipt of payment the **MEPCO** shall issue reconnection orders for implementation by the field office after fulfilling the formalities as per reconnection

policy mentioned above and immediately regularize the billing after execution of reconnection.

8.4 SECURITY DEPOSIT AND CHARGES FOR RECONNECTION

- (a) Once a consumer applies for reconnection, he shall be charged security deposit as per the following policy:
- i. For consumers whose security has not been adjusted against the outstanding arrears and their disconnected period is also less than or equal to 365 days no additional security deposit shall be charged.
 - ii. For consumer whose security has been adjusted against the arrears and their disconnected period is within 365 days or less only the amount of adjusted security shall be charged.
 - iii. For consumer whose security has not been adjusted against arrears but their disconnected period is more than 365 days, for such consumer the difference in amount between the security deposit already available with the **MEPCO** and the prevailing rate at the time of reconnection shall be charged.
 - iv. For consumer whose security has been adjusted against the arrears and their disconnected period is also more than 365 days, for such consumers the security at the prevailing rate shall be charged.
- (b) Reconnection fee shall be recovered as per following rates for the amount of the arrears on the basis of which DCO/ERO was affected:
- | | | |
|------|--|------------|
| i. | For arrears upto Rs.1000/- | Rs.100/- |
| ii. | For Arrears between Rs.1001/- and Rs.5000/- | Rs.300/- |
| iii. | For arrears between Rs.5001/- and Rs.15000/- | Rs.900/- |
| iv. | For arrears between Rs.15001/- and Rs.1 Lac | Rs.2000/- |
| v. | For arrears between Rs.1 Lac and Rs.5 Lac | Rs.2000/- |
| vi. | For arrears above 5 Lac | Rs.10000/- |
| vii. | For connection disconnected due to other reasons Nil | |
- i.e. disconnected on technical grounds, for unauthorized Extension in load, or seasonal consumers disconnected due to season off or disconnected due to misuse of Applicable Tariff, no reconnection fees shall be charged.
- (c) All the disconnected consumers, having disconnected period of more than three years shall have the option to apply for new connection in the same premises subject to clearance of all dues outstanding against previously disconnected connection. In such cases nothing on account of fixed charges / minimum charges for disconnected period shall be debited against the premises previously disconnected, if new connection sought instead of "Reconnection". For this purpose the security amount originally deposited by the consumer shall be adjusted against the arrears of the previous account number and the arrear bill of balance amount served to the consumer. Upon payment of the balance amount, the consumer can apply for a new connection as per new connection policy given in Consumer Service Manual. If any material is available at site or is lying with the **MEPCO** against the consumers premises, the same shall be considered and will be accounted for in preparing the estimate for the dedicated system of the consumer.
- (d) Relief to Industrial as well as agricultural Tubewell consumers shall be given as per **incentive** package introduced from time to time. Consumers are advised in contact their local **MEPCO** office for further detail.
- (e) The disconnected consumer whose arrears have partially or totally been set aside by Courts, Electric Inspectors /POI, NEPRA or **MEPCO's** Competent Authorities or have

been allowed part payments shall be allowed reconnections on deposit of remaining arrears or their first installment.

8.5 **COLLECTION OF ARRERS UPON OR FOLLOWING RECOVERY ON**

(a) **Causes of Increase of amounts in Arrears**

- i. The consumer who default in making payments by due dates shall be issued Disconnection Notices printed on monthly Electricity Consumer Bills. The connection of consumers who still do not make payment of their arrears shall be disconnected on the maturity of disconnection notice after expiry of the stipulated period.
- ii. In case of the consumers, who shift sites of their tube wells, poultry farms, cattle farms and industries to other locations without clearing the pending electricity bills, **MEPCO** shall take legal action to recover the arrears.
- iii. The consumer who sell their houses, shops, industries, seasonal factories, etc without making payment of electricity bills, **MEPCO** shall recover the arrears from the new occupants of the defaulting premises.

(b) **Recovery of Arrears Amount**

Recovery of arrears from the consumers shall be made through their regular monthly bills, if the monthly bills are not paid in time necessary action for disconnection of such consumer shall be taken according to the procedure as described in Chapter No.8 "DISCONNECTION AND RECONNECTION".

(c) **Proceedings against disconnected Defaulting consumers.**

In case consumer fail to pay the arrears amount, all legal measures / action shall be initiated against such consumers for recovery of outstanding dues.

- xv- Any other means which can cause interference in true recording of
- xvi- quantum of energy (units) by the metering equipment.

(c) **Procedure for establishing illegal abstraction shall be as under:**

- 1) Upon knowledge of any of the items in 9.1(b), the concerned office of the **MEPCO** will act as follows:
 - i- Secure meter without removing it in the presence of the owner / occupier or his authorized representative /respectable person of the locality.
 - ii- Install check meter and declare it as billing meter.
 - iii- Shall constitute a raiding team including Magistrate, POL/E.I, Officer of **MEPCO** (in case of residential / commercial consumes not below the rank of SDO and in case of other consumers not below the rank of XEN) and an officer of the metering and testing division of the **MEPCO** (who should be an Electrical Engineer) inspect the meter secured at site and declare that illegal abstraction of electricity has, and / or is being carried out.
 - iv- Once confirmed that illegal abstraction is being done, serve notice to the consumer informing him of the allegations and the findings and the requirement of a written reply from the consumer.
 - v- Should wait for seven working days for receipt of reply.
 - vi- The reply to the notice shall be examined by the office higher in grade than the inspecting officer. If the reply is not convincing or if no reply is received or if the allegations as levied are proved, the inspecting office with the approval of the next higher office will immediately serve a detection bill for unclaimed energy limited to the period of three billing months or six months with the approval of CEO previous from the date of establishment of illegal abstraction as elaborated at 9.1(c) (3).
 - vii- The detection bill along with a disconnection notice for payment within seven days will be issued by the inspecting office.
 - viii- Upon payment of the detection bill, the tampered meter shall be replaced by the **MEPCO** at the cost of consumer and no further action will be taken by the **MEPCO**
 - ix- In case the consumer does not make payment and also does not dispute over the quantum of energy assessed, then after the expiry of the stipulated period his premises be disconnected and procedure for disconnection and reconnection as per Chapter 8 be followed thereafter.
- 2) The maximum period for charging in such cases shall be restricted to three billing cycles for general supply consumers i.e. A-I & A-II. For period beyond three billing cycles up to a maximum of six months is subject to approval of the Chief Executive of the **MEPCO**. Also for such cases action will also be initiated against the officer in charge for not being vigilant enough. For other consumer classes, the period of charging can be more than three billing cycles upto a maximum of six billing cycles.
- 3) If the consumer objects payment or disputes over the quantum of the units detected by the **MEPCO**, the appellant authority for revision of detection bill would be the review committee of the **MEPCO** headed by the next higher

officer. The consumer will also be given personal hearing by the review committee.

- 4) In case, the dispute remains unresolved even after exhaustive review, the **MEPCO** after getting approval of the Chief Executive Officer may lodge the F.I.R. The consumer may also approach a competent court of law under the relevant provisions of Electricity Act 1910.

Note: Mere occurrence of any the above defects in a meter does not warrant illegal abstraction of electricity. In cases sometimes, weathering effects and atmospheric conditions also wear out the postal orders, seals and other parts of the metering equipment. The detecting authority must be reasonable sure regarding the illegal abstraction happening before it actually decides to charge a consumer for the same. The same is true for the appellat forum as well. In addition in places where the meters are out side the premises, the prime responsibility of the maintenance of its healthy state of the meter rests with the **MEPCO**. A consumer shall not be charged if the meter wears out through normal atmospheric effects or through some internal fault in a meter for which a consumer be held responsible. For such cases the normal course of action on part of **MEPCO** should be to replace the meter with healthy meter. However, if the **MEPCO** feels that the quantum of energy lost because of malfunctioning of the metering equipment is more than ONE billing cycle then in such as case the **MEPCO** shall install a check meter in series with the impugned meter and declare the check meter as the billing meter. Difference between the consumption of the two meters to be recorded and the same may be charged to the consumer for a maximum of two billing cycles. However, it must be ensured that this would not be a DETECTION BILL.

See the Matrix at annexure-VIII

- ix) Detection bills issued on mere assumptions or reasons which cannot be attributed to consumers involvement in illegal act/ theft of energy (if referred to **MEPCO** decision within 7 days from the date of receipt of the complaint).
- x) Wrong billing due to wrong meter reading (within 3 days from receipt of complaint)
- xi) Delay in issue of 1st Bill against New Connections (Maximum of Two billing cycles). The consumer should receive his 1st bill within 2 months of the date of connection. The bill should have appropriate slab for the period. If delivered later, it should have appropriate slab corresponding to the number of months for which the accumulated reading bill delivered).
- xii) Inclusion of paid amounts in next month bills. Revenue Officers (ROs) as well Bank Managers, In charge Post Office where the last bills were paid are competent to amend the bills (same day) upon production of previous paid bill.
- xiii) Arithmetical Errors: ROs and SDOs are both competent to correct such bills forth with upon receipt of the complaint.
- xiv) Late delivery of Bills: As printed on the reverse of the monthly bills, in such cases the officer of **MEPCO** can extend the date in accordance with powers delegated to them.
- xv) Issuance of Duplicate Bill: SDOs and ROs and In-charge Customer Service Centers are competent to issue the duplicate bills. (Same day). Consumers having internet facility can also download their electricity bill from the **MEPCO**'s web site.
- xvi) Change of Tariff: Decisions are taken by Executive Engineers (XENs) in cases of tariffs A1 and A2. In all other cases next higher load sanctioning authorities are competent to change the tariff. (Within 30 days from the date of receipt of complaint).
- xvii) Late intimation of input date after the implementation of Meter Change Orders (MCO), delayed implementation of MCOs even after replacement of meters (Suitable number of installments to pay the outstanding amounts are allowed by the load sanctioning authority proportionate to the delay).

- (b) All the above complaints regarding billing shall be registered in the Sub-Divisional Office or Consumer Service Center or One Window Operation in **MEPCO** offices wherein dates for their rectification shall be given to the complainants as per procedure and time frame for handling and redressal of complaints. All these complaints shall also be monitored by **MEPCO** Complaint Cells.

Time Frame for the redressal of each category of the above complaint is given in the various Chapters of this Manual and above also. A performance appraisal of all such complaints shall be carried out at the end of each financial year of the **MEPCO**. The consumers are encouraged to approach NEPRA in case their complaints are not handled by the **MEPCO** according to this Manual.

10.4 COMPLAINTS REGARDING FAILURE OF ELECTRIC SUPPLY

- (a) Common complaints regarding failure of electric supply are mentioned as below:
- i) Individual complaints of consumers regarding failure/fluctuation of supply voltage other complaints of technical nature which can be rectified locally.
 - ii) Collective complaint due to fault on 11-KV feeder.
 - iii) Collective complaints due to fuse blown up on 11-KV side of distribution transformer.
 - iv) Collective complaints due to damage of distribution transformer.
 - v) Frequent Tripping of 11-KV feeder.
 - vi) Touching of branches of trees with the 11-KV/LT conductors.
 - vii) Defect in 11KV/LT jumpers, insulation, etc.
 - viii) Entangling of string used for kite flying with 11-KV / LT Lines
 - ix) Leakage of current in poles / structures / other equipment installed on the system.
 - x) Low Voltage at consumer's premises.
 - xi) Fluctuations in the system due to deposit on joints of copper / aluminum conductor.
 - xii) Substandard quality of supply / maintenance.
 - xiii) Any other technical complaint.
 - xiv) For technical complaints, the time frame is specified in the NEPRA Performance Standards (Distribution) Rules, 2005. Abstract of the standards are given in Annexure – I of this Manual.
 - xv) The complaints shall normally be attended to in the following order of priority:
 - xvi) Attend leakage of current immediately on receipt of such complaints.
 - xvii) Attend collective complaints of consumer.
 - xviii) In case of damage of transformer, this should be replaced with trolley mounted transformer if available in the sub division or after arranging from some other sub division to meet with the emergency till proper transformer is arranged for replacement.
 - xix) Trimming of braches of trees touching the electric lines as well as other preventive maintenance work shall be carried out in order to avoid unnecessary tripping/ damage to electric installations as per well advertised programme.
 - i) Attend individual complaints of consumers.
 - ii) The complaints regarding low voltage at consumer's premises shall be investigated by sub –Divisional Officer and remedial measures taken so as to improve the voltage thereby reducing the chances of damage to electric gadgets of the consumers.
 - iii) The complaints regarding sub-standard quality of supply shall also be investigated by the Sub-Divisional Officer and remedial measures adopted so as to improve the same.

- (b) At the end of each shift in the complaint office an abstract shall be prepared as follows:
- i) Number of complaints received
 - ii) Number of complaint attended.
 - iii) Number of complaints lying un attended with Sr. Nos. and reasons.
- (c) The **MEPCO** shall have independent Complaint Offices to attend such complaints. These complaint offices shall work on 24-hours basis even during holidays. The working of these complaint offices is to be supervised by higher officers as well as **MEPCO**'s Complaint Cells
- (d) **SPECIAL ARRANGEMENTS FOR HANDLING SPECIAL REQUESTS FROM ELDERLY AND HANDICAPPED CONSUMERS.**
MEPCO shall make special arrangements for handling requests from elderly and handicapped consumers with regard to consumer related issue.
- (e) **DEVELOPMENT OF WEBSITE FOR CONSUMERS SERVICES**
The **MEPCO** shall develop a Website for Consumer Service. The consumer service can also be part of the **MEPCO** main Website. The site shall contain following information / facilities:
- i) Consumer billing status
 - ii) Consumers billing record / historical data:
 - iii) Distribution Code, NEPRA Eligibility Criteria, NEPRA Performance Standards (Distribution) Rules, 2005 and Consumer Service Manual.
 - iv) Tariff information
 - v) Network information in GIS Format, indicating the loading of feeders:
 - vi) Payment of bills through credit cards, if possible and
 - vii) All kinds of forms required by a consumer.
- (f) The manual shall contain the telephone numbers of all the important officers of the **MEPCO** and the complaint centers. The **MEPCO** shall also place a soft copy of approved manual on its website for down loading.

- d) The design of the station shall conform to **MEPCO** / NTDC design practices, guidelines and applicable safety codes.

11.5 **Metering Equipment and Installation Requirement**

- a) Meter installation shall comply with Pakistan Standard Institute (PSI) or International Electric Technical Commission (IEC) standard or Standards developed / adopted by **MEPCO**.
- b) The **MEPCO** shall determine the location and method of installation for all metering equipment as provided in the distribution code, Grid Code and related manuals.
- c) Whenever any electrical wiring is modified, new metering equipment complying with these service requirement shall be used, except when in the opinion of the **MEPCO** the existing metering equipment is satisfactory and adequate to register all energy to be supplied.
- d) Line side (unmetered) conductors and load side (metered) conductors are prohibited from occupying the same enclosure.

11.6 **GROUNDING SYSTEM**

As defined in Distribution Code, Grid Station, Grid Code and the PSI wiring Regulations, proper neutral and protective earthing / grounding system shall be installed by the consumer and checked by authorized representative of **MEPCO** and NTDC.

11.7 **FIRE EXTINGUISHERS**

Suitable fire extinguishers shall be provided and maintained by the owner of agency to meet with any hazardous situation.

fittings as in no way alter the capacity and the character of the installation), shall **be** carried out within a consumer's premises, except by a licensed electrical contractor.

- e) In case of fatal electrical accident to a person, an immediate report shall also be made to the nearest police station and to the **MEPCO's** Complaint Centre/ NTDC.
- f) Any consumer committing a breach of procedures / rules outlined above shall render himself liable for disconnection of his electric power and punishment with punitive damages.

12.4 **SOME USEFUL SAFETY TIPS**

Electricity, while being a very useful and convenient form of energy, has a number of hazards, and consumers would be wise to treat electrical installation with respect.

The following tips shall be kept in mind:

- a) Hazardous conditions on utility systems shall be monitored and immediately reported to the **MEPCO**:
 - i) Damaged or faulty insulators.
 - ii) Burns on conductors, insulator pins, or metal-work.
 - iii) Damaged cross – arms on poles / structures / towers.
 - iv) Broken strands or wires on overhead conductors, or fallen wires.
 - v) Uneven sagging of lines.
 - vi) Leaning or damage to poles / structures / towers.
 - vii) Branches of trees interfering with overhead conductors
 - viii) Loose stay – wires
 - ix) Construction of new roads, buildings, or other structures near the line.
 - x) Damaged or faulty transformer structures, including oil leakages
 - xi) Leakage of currents in poles and other structures / tower.
 - xii) Unsafe working practices by employees.
- b) RCDs (Residual Current Devices), also called Earth-Leakage Circuit Breakers (ELCBs), Ground-Fault Circuit Interrupters (GFCIs) are extremely sensitive circuit breakers that can prevent fires and shocks in electrical installations. Obtain specialist advice on their installation at appropriate locations in your electrical system.
- c) Electricity is more dangerous in the presence of water. During rains, near swimming pools, tanks or other water bodies, in laboratories, on construction site, for temporary functions/weddings, etc., special care must be taken to use proper wiring and protective equipment, especially RCDs. Such installation needs to be inspected on a regular basis.
- d) Use proper circuit-breakers in preference to re-wireable fuse cut-outs.
- e) Metallic and chemical string must not be used for kite flying as it poses serious danger to life and damages electricity installation.
- f) Safety clearance from electricity conductors and equipment (e.g. hazardous extension of balconies at the upper of houses in mohallas which comes close proximity of electric lines) must be maintained to avoid electrocution.
- g) Animals must not be tied to poles/structures/ towers of electricity lines in order to avoid accidents / electrocutions.

- vi) **Do them – with outside help if needed.** The sooner a start is made, the better savings are made.
- vii) **Keep a record of savings.** See if what has been done is working and how much being saved.

13.3 LIGHTING

Lighting energy can be wasted in several ways, such as;

- a) **Inefficient light sources** – when the lamp or fixture is inefficient in converting electricity to light, using more watts (units of electric power) than necessary to produce the lumens (units of light output):
- b) **Illumination losses** – when dirt or some other obstruction blocks some of the light; or when the light source is too far away from what **you** want illuminated;
- c) **Over lighting** – when more light is used than is needed; when a “free” source such as day light is not used; and when lights are on, for no reason (e.g. when no one is present).
- d) **Three major ways to save.**
 - i) Turning lights off when they are not needed.
 - ii) Reducing light levels wherever you have more light than you need;
 - iii) Installing more efficient lighting or controls.

13.4 INFORMATION ABOUT BENEFITS OF SAVING ELECTRIC POWER

MEPCO shall provide sufficient information to the consumers to make them aware of the benefit of efficient use and saving of electric power which in turn would result in savings to the utility. **MEPCO** shall publish pamphlets or make advertisements or issue handbills from time to time for the education of consumers with regard to efficient use and saving of electric power.

MEPCO shall inform consumers about energy efficiency opportunities by way of “information inserts” included in monthly bills.

13.5 MONITORING USE OF ENERGY

The consumer shall be educated and encouraged to prepare the figures of months energy bills for the last calendar year and this year by collecting from the monthly bills and recording in the table given below. Comparison of these figures on monthly basis shall give the “baseline” for making efforts for potential savings. In this way, keeping in view all the suggestions for saving and keeping a strict watch on the energy consumption, some fruitful results are achievable and it will be observed that energy management efforts actually do pay off.

TABLE FOR CONSUMPTION OF ELECTRICITY

| MONTH | ELECTRICITY USE | | | ELECTRICITY COST | | |
|----------|-----------------|-----------|---------------|------------------|-----------|---------------|
| | LAST YEAR | THIS YEAR | % DIFF-ERENCE | LAST YEAR | THIS YEAR | % DIFF-ERENCE |
| January | | | | | | |
| February | | | | | | |

| | | | | | | |
|------------------|--|--|--|--|--|--|
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |
| July | | | | | | |
| August | | | | | | |
| September | | | | | | |
| October | | | | | | |
| November | | | | | | |
| December | | | | | | |
| Total | | | | | | |

13.6 GENERAL TIPS-INDUSTRIAL OPERATIONS

2) Saving energy makes good business sense

Many companies think of energy as a fixed overhead but saving energy is actually one of the easiest ways to reduce costs and improve your reputation.

a) **Save money**

Simply by switching machines off after use , or turning the cooling / heating down as per weather requirement, you can make real savings on your energy bill. And just reducing it by 20% could add the same amount to your profits as a 5% increase in sales.

b) **Office better value to your customers**

Cutting your overheads means production costs will go down making your products and services more competitive.

c) **Here are some tips specifically for manufacturing / or industrial processes, to help you save energy in key areas:**

(i) **Motors**

Keep you motor maintained / extend your motors operating life.

If motor is not working at its most efficient, it can add 5% or more to your energy costs. So make sure your motors are always well maintained. Also check that voltage is balanced on all phases.

Use high efficiency motors

When you next change your motor, replace it with a Higher Efficiency Motor. Also consider the induction of Variable Speed Drive if favorable.

Don't keep motors running with an empty load

Always check that motors are switched off when don't need them, as even an empty motor uses 40% of the full load power.

(ii) **Compressed air**

Find and fix leaks

Most business using compressed air can save upto 30% simply by fixing any leaks.

Try to lower the operating pressure

Reducing it by just 1 bar (15psi) will save about 7% the energy.

Ensure there is a good supply of cool air around the compressor

This will ensure it does' get overheated and use more energy than necessary.

iii) Refrigeration

Keep freezer doors closed

On an average, it will cost you Rs.1/= every day a freezer door stays open.

Ensure your system is at the right temperature

If it's even 1°C lower than needed, your costs could rise by 2 to 4%

Don't let the condensers get overheated

Make sure they are located in a place with sufficient airflow

Don't put too much refrigerant charge in

If it leaks it can increase your energy costs by over 10%

iv) Improve heating operation systems

By checking burner air to fuel ratios and the heat transfer surfaces.

v) Improve pumping operation systems

By matching the pumps to system requirements.

13. SUGGESTION AND RECOMMENDATIONS

a) Form an Energy Team

Energy teams in manufacturing facilities track and report energy use, identify energy saving opportunities, develop an energy plan, and implement cost-saving measures. Energy teams typically include members from plant and process engineering, maintenance engineering, procurement and production. Any energy team will enjoy greater success with support and involvement from senior managers, who can remove barriers and commit resources to projects.

b) Objective of energy team:

Performing a formal energy assessment is one of the best ways that your team can develop a cost-effective plan to lower plant energy costs.

The energy assessment team (which sometimes include experts in energy management and troubleshooting) works both during and after the assessment process to

- i) Evaluate all of the industrial systems to calculate how and where your plant uses energy
- ii) Help find opportunities to increase efficiency,

- iii) Determine potential upgrades and emerging technologies that might work or your plan, and
- iv) Implement cost-saving measures.

c) Employee Involvement

Emphasis will be given on the employee's involvement by educating and encouraging them to follow the tips like:

- i) Turn off lights, when leaving work areas
- ii) Report leaking faucets, lavatory fixtures, piping etc.
- iii) Keep windows and outside doors closed, if air conditions are in use.
- iv) Leave thermostats at a constant setting to avoid forcing the system OFF on ON.
- v) Turn off all tools and portable appliances when not in use,
- vi) Assign responsibility for turning off designate items to specific employees

d) RECOMMENDATIONS

- i) Install power factor correction capacitors
- ii) Turn OFF equipment when not in use
- iii) Begin a practice of monitoring electric demand
- iv) Repair compressed air leaks
- v) Redirect air compressor intake to use outside air
- vi) Lower air pressure in compressors
- vii) Repair steam valve leakages
- viii) Install water cooled chillers instead of replacing air cooled chillers
- ix) Installed Speed controllers on twisting machines
- x) Replace standard fluorescent lighting with energy efficient tubes
- xi) Reduce luminance to minimum required levels via delamping.
- xii) Install timers on lighting systems, where necessary

facilities on consumer's premises, including but not limited to damage caused by electricity, steam, hot water or chemicals.

- c) If a consumer, new applicant, developer or other person is found to be responsible for any damage done to the **MEPCO** property; such damages shall be reimbursed to the **MEPCO**.

14.4 **Liability of The Consumer for Damage to the MEPCO Apparatus**

- a) The consumer shall be solely responsible for and shall pay for any loss of, or damage to, any electric supply lines, meters and/or other apparatus belonging to the **MEPCO** and in use of the consumer for supply of energy purpose, whether caused maliciously or through negligence or default on the part of the consumer or any of his employees, or whether arising out of fire, theft or any other cause beyond the control of the **MEPCO**, always excepting reasonable wear and tear and loss or damages arising out of defects in the aforesaid electric supply lines, main fuses, meters and / or other apparatus belonging to the **MEPCO** on the consumer's premises.
- b) Provided that the liability of the consumer for the cost of resealing any metering equipment or other apparatus belonging to **MEPCO** on the consumer's premises shall be as prescribed in the **MEPCO** Schedule of General Charges in force time to time.

14.5 **Right of way**

The right of way shall be as per the terms and conditions set in the Eligibility

Criteria

14.6 **Failure of Supply Due to Force Majeure**

The **MEPCO** shall not be liable for any claims for loss, damages or compensation whatsoever, arising out of failure of supply when such failure is due to force majeure, as defined in the Performance Standards (Distribution) Rules, 2005.

14.7 **OBLIGATIONS OF CONSUMERS**

a) **Interference with Service**

- i) Consumer who operate equipment which causes detrimental voltage fluctuations (such as but not limited to, hoists, welders, x-ray apparatus, radio transmitter, elevator motors, compressors and furnaces) must reasonably limit such fluctuations upon request by the **MEPCO**. The Consumer will be required to comply with the necessary corrective measures.
- ii) Separate service is required for x-ray units over 5 KVA, welder units over 3 KVA, radio transmitter and resistance welders.
- iii) The **MEPCO** may require the consumers to provide, at their own expense, special furnace type transformers and reactors and capacitors sufficient to limit secondary short circuit current values to 200% of full load value. In such cases, the **MEPCO** shall furnish energy at 11 KV

- iv) The consumer should also make arrangement to filter out or prevent harmonic distortions traveling onto/interfering with the **MEPCO**'s system.

14.8 **POWER FACTOR**

The **MEPCO** encourages consumer to maintain a power factor of at least 90% to avoid penalties.

14.9 **Consumer Obligation To Remedy**

Consumer must use their best endeavors to abide any non-compliance of this Manual within the time period specified in any notice of not compliance sent by **MEPCO**.

14.10 **Disconnection of Supply for Non Compliance**

- a) **MEPCO** may disconnect supply to a consumer if,
- b) The consumer has not fulfilled an obligations to comply with this manual
- c) The **MEPCO** has given the consumer 7 business days' written notice of disconnection (such notice to be in addition to the notice already given); and
- d) The consumer fails to comply with the notice.

