



Lesotho Electricity Authority

Rural Electricity Quality of Service and Supply Standards

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0 Abbreviations

IEC	-	International Electrotechnical Commission
LEA	-	Lesotho Electricity Authority
LV	-	Low Voltage

1 Definitions

1. 'Act' means the Lesotho Electricity Authority Act No. 12 of 2002;
2. 'assessed level' means the level of performance measured and statistically processed according to given rules;
3. 'compatibility level' (electromagnetic compatibility level) means the specified disturbance level at which an acceptable, high probability of electromagnetic compatibility exists (IEC 161-03-10/A). It is the level used for coordinating the utility network performance levels and the sensitivity of customers and electrical equipment;
4. 'customer' means a person (including a legal entity) who either has entered or is to enter into an electricity supply agreement with a licensee, or legally consumes electricity (as an end consumer) supplied by that licensee;
5. 'declared voltage' means the voltage declared by the licensee at the point of supply;
6. 'forced interruption' means an interruption that (a) occurs when a component is taken out of service immediately, either automatically or as soon as switching operations can be performed, as a direct result of emergency conditions, or (b) is caused by human error or by the improper operation of equipment;
7. 'frequency' means the frequency of alternating voltage generated by power system generators;
8. 'LEA' means the Lesotho Electricity Authority as established in terms of the Act;
9. 'licensee' means an entity licensed by the LEA to generate, transmit, import/export, distribute or supply electricity respectively;
10. 'low voltage' (LV) means a nominal phase-to-phase voltage not exceeding 400 Volts;
11. 'nominal voltage' means the system rated operating voltage;
12. 'planned interruption' means an interruption that occurs when a component is deliberately taken out of service (by the licensee or its agent) at a selected time, usually for the purpose of construction, preventative maintenance or repair;
13. 'rural area' means an area which is not an urban area;
14. 'standard voltage' means the phase voltage of 230V measured between a phase conductor and the neutral conductor, or a line voltage of $\sqrt{3} \times 230\text{V}$ measured between phase conductors;
15. 'urban area' means an area as defined in the Land Act 1979; and
16. 'written notice' includes a notice submitted in electronic format.

2 Background and Scope

These quality of service and supply standards are issued by the Lesotho Electricity Authority in terms of Sections 22(1) (c) and 22(1) (e) of the Lesotho Electricity Authority Act No. 12 of 2002 with the following conditions:

- For inclusion in electricity distribution and supply licences for rural grid-extension and mini-grid supplies;
- These quality of service and supply standards shall be reviewed periodically by the Lesotho Electricity Authority;
- It is not intended at this stage to impose a penalty regime on licensees who fail to meet these performance standards. However the LEA reserves the right to introduce such a system, after consultation with licensees, if licensee performance warrants this;
- A party (customer/licensee) aggrieved by any decision emanating from these standards may appeal to the LEA .Only unresolved disputes that the licensee has been given an opportunity to solve may be referred to the LEA.

3 Quality of Service Standards

1. *Service Activities for the Processing of Requests for Supply*

The service activities that determine the quality of service in processing requests for supply are provision of quotations and making the service connection. The measures of these services, minimum standards for the services as well as the targeted success in implementing the minimum standards are tabled in Table 1 below.

Table 1: Times for Provision of Quotations and Supply

Service activity	Measure of service standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Quotations to customers	Time taken to provide the customer with a quotation for the cost of providing a supply (once customer has completed relevant forms provided by a licensee and has provided all the necessary documentation)	a) Within 20 working days where existing infrastructure can be used. b) Within 40 working days where LV network extensions are required	Target percentage success is at least 95%
Provision of supply	Time taken to make a supply available (once all customer's obligations have been met, including payment of all monies due)	a) Within 30 working days where existing infrastructure can be used. b) Within 60 working days where LV network extensions are required	Target percentage success is at least 75%

3.2 *Service Activities for Credit Metering*

3.1 **Information Availability**

The following information shall be provided to credit meter customers by the licensee at the time of installation of the service connection and any changes subsequently introduced by the licensee shall be made available to customers for inspection at its Service Centers:

1. the scheduled frequency of meter readings;
2. the method used to estimate electricity consumption during periods when no meter readings are taken;
3. the amount of the security deposit required for the supply;
4. the format of the electricity account;
5. the methods of payment of the account and the period allowed for payment before punitive measures are applied;
6. the location of payment venues and the hours of business;

7. the penalties for late payment, for non-payment and for the disconnection/reconnection process;
8. the process to initiate an account query;
9. the process that the licensee will follow when it is not possible to gain access to the customer's premises or electricity meter;
10. the process for dealing with special meter accuracy queries and the fees charged for accuracy audits;
11. the penalties applied in the case of tampering, by-passing of meters or any other method employed to procure electricity illegally;
12. where applicable, the process for recovering any electricity account arrears;

Table 2 below shows the service standards for frequency of meter readings, disconnections for non-payment & reconnections after payment, account queries and meter accuracy queries.

Table 2: Minimum Standards for Credit Metering

Service activity	Measure of service standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Meter reading	Frequency of meter reading for various customers	Customer's meter should be read at least once in every 3 months	Target average percentage success is 95%
Disconnections/Reconnections for/after non-payment	Periods and time frame for disconnections and reconnections	<p>a) No disconnection shall be effected until at least 5 working days after the due date for payment stipulated on the account</p> <p>b) Commercial customers shall be given at least 48 hours written notice of an impending disconnection</p> <p>c) Disconnections shall only be carried out up to 2 hours before normal closing time of the payment venue</p> <p>d) Disconnections shall not be carried out over weekends, public holidays or Fridays (unless normal payment and reconnection facilities are available on Saturday mornings) or on the day before a public holiday</p>	Target average percentage success is at least 75%

		e) Reconnections shall be effected as promptly as possible; and no later than the first working day after the account has been settled and the reconnection fee has been paid.	
Disconnection s/Reconnections for/after tampering and illegal connection	Periods and time frame for disconnections and reconnections	<p>a) Disconnection shall be effected immediately without prior notice</p> <p>b) Reconnections shall be effected as promptly as possible; and no later than the two working days after applicable fees have been settled and necessary rectification of installation have been done to standards.</p>	
Disconnection s/Reconnections for/after non adherence to standards	Periods and time frame for disconnections and reconnections	<p>a) Disconnection may be effected to the premises depending on the nature of non-adherence.</p> <p>b) Reconnections shall be effected as promptly as possible; and no later than the first working day after the situation has been certified to have been rectified accordingly.</p>	
Account queries	Time to respond to account queries	An account query shall be acted upon and be responded to within 10 working days.	Target average percentage success is at least 90%
Credit meter accuracy queries	Response time to check meter accuracy	A request for meter accuracy checking shall be acted upon and be responded to within 2 months.	Target average percentage success is at least 75%

The following notes supplement the table above:

- a) The licensee shall, on request, provide meter reading accuracy checking as a service to customers.
- b) Information on how to obtain the service and any associated costs shall be readily available to customers.

c) Where applicable, any fee charged for checking the accuracy of a meter shall be refunded if the meter accuracy should prove to be outside the declared limits specified in the supply agreement, or if no such limit is stipulated, then outside the manufacturer's declared limit. The licensee shall also compensate the customer the excess units consumed by the latter due to the inaccuracy of the meter. The compensation will be calculated from the day the inaccuracy was reported.

3.2 Payment Venues

Licensee shall ensure that a facility is provided at its Service Center within the licensed service territory to afford customers a reasonable opportunity to pay their accounts and to resolve account queries

3.3 Service Activities for Prepayment Metering

3.1 Information Availability

The following information shall be provided to prepayment meter customers by the licensee at the time of installation of the service connection and any changes subsequently introduced by the licensee shall be made available to customers for inspection at its Service Centers:

1. the type of electricity token to be used and how to purchase and use the token;
2. the applicable tariff (which shall also be displayed at the vending station);
3. the location of points of sale of tokens and the hours of business;
4. the contact telephone numbers and addresses of the licensee's service centers, where service queries and queries concerning the meter can be handled;
5. the process for dealing with special meter accuracy queries and the fees charged for accuracy audits;
6. the applicable penalties in the case of tampering, by-passing of meters or any other method employed to procure electricity illegally; and
7. the process for disconnecting/reconnecting of service.

Table 3 below shows the service standards for provision of vending stations, business hours of vending stations, meter accuracy queries and reconnection of meters.

Table 3: Minimum Standards for Prepayment Metering

Service activity	Measure of service standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Provision of vending stations	Number of customers per vending station	The licensee shall provide at least one vending station or vending agent for a maximum of 1000 customers.	Target average percentage success is 100%
Business hours of	List of vending stations and the actual hours of	a) List of vending stations and vending agents must be made	Target average percentage success is

vending stations	business of each	available to customers at every vending station and vending agent and periodically by publication in the local media. b) Vending stations and vending agents should sell tokens at least during normal working hours on working days, and from 09:00 to 13:00 on weekends and public holidays.	100%
Prepayment meter accuracy queries	Response time to check meter reading accuracy	A request for meter reading accuracy checking shall be acted upon and be responded to within 20 working days.	Target average percentage success is at least 75%
Reconnection of prepayment meters	Time taken to reconnect prepayment meters	Prepayment meters should be reconnected within 48 hours of receiving a request and the payment of the reconnection fee (except in the case of service removals after tampering has taken place)	Target average percentage success is at least 75%

The following notes supplement the table above:

- a) The licensee shall, on request, provide meter reading accuracy checking as a service to customers.
- b) Information on how to obtain the service and any associated costs shall be readily available to customers.
- c) Where applicable, any fee charged for checking the accuracy of a meter shall be refunded in the form of units if the meter accuracy should prove to be outside the declared limits specified in the supply agreement, or if no such limit is stipulated, then outside the manufacturer's declared limit. The licensee shall also compensate the customer the excess units consumed by the latter due to the inaccuracy of the meter. The compensation will be calculated from the day the inaccuracy was reported.
- d) The licensee shall provide the means to read, to transfer or refund, as appropriate, the amount of unexpended credit due to a customer when a prepayment meter is replaced or removed. If the credit cannot be transferred, the refund shall be paid within 30 days of the replacement or removal of the meter.
- e) The licensee shall have the right to inspect a prepayment meter at the customer's premises.
- f) Meters shall be inspected if tampering is detected or suspected.

g) Where reasonable but unsuccessful attempts have been made to gain access to the prepayment meter, the licensee may disconnect the supply after having delivered 24 hours written notice to the customer.

h) Where access to the premises is unreasonably denied by the customer, immediate disconnection shall be effected.

3.4 Network Faults

The service activities and standards for the management of network faults are tabled below.

Table 4: Minimum Standards for Handling Network Faults

Service activity	Measure of service standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Fault reporting centers	Provision of information on Fault Reporting Centres	Customers to be informed about location and hours of business of fault reporting center(s) by notice at the Licensee's Service Centers or vending stations (as applicable) and periodically in the local media	Target average percentage success is 100%
Fault reporting process	<p>a) Information to be supplied to the customer</p> <p>b) Information to be requested from the customer</p>	<p>Licensee shall give the reporting customer a fault reference number</p> <p>The customer reporting a fault shall provide the following information: customer's name, telephone number (if any), physical address, nature of fault, time fault occurred and meter number.</p>	Target average percentage success is 100%
Forced interruptions	Magnitude of supply restored and time to restore the supply after a forced interruption	<p>a) 30% of interrupted supply within 6 hours</p> <p>b) 75% of interrupted supply within 12 hours</p> <p>c) 100% of interrupted supply within 48 hours</p>	Target average percentage success is at least 95%

Planned interruptions	a) Notification Period	a) Where possible, at least 24 hours advance notice should be given of any planned interruption b) In the case of large commercial customers, wherever possible, the licensee and customer should mutually agree on planned interruptions	Target average percentage success is at least 90%
	b) Duration of Interruptions	Duration of planned interruptions not to exceed 8 hours for all voltage levels and network types.	Target average percentage success is at least 90%

The following notes supplement the table above:

- a) Licensee shall supply the customer with the telephone number of the fault reporting center
- b) Licensee must classify each fault/customer in an Emergency Priority List (EPL) which dictates the order in which supply after each forced interruption shall be restored.
- c) Licensee may choose to give certain customers on the EPL more than 24 hours notification.
- d) Service standard applies to normal operating conditions. Where abnormal conditions exist, such as adverse weather conditions, then the licensee shall endeavour to keep supply interruptions to an absolute minimum in the circumstances.
- e) The Licensee shall endeavor to keep supply interruptions to an absolute minimum in all cases.

3.5 Customer Complaints, Enquiries and Requests

The service standards for handling customer complaints, enquiries and requests are tabled in Table 5.

Table 5: Minimum Standards for Managing Customer Complaints, Enquiries and Requests

Service activity	Measure of service standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Customer complaints	Time to respond and resolve	a) General complaints received telephonically, or in person should be handled on a one-	Target average percentage success is at least 90%

		stop basis without referral within 1 day. b) Written customer complaints should be responded to in writing within five working days and the problem should be resolved within 10 working days	
Customer enquiries	Time to respond and resolve	a) Enquiries for information and advice received telephonically or in person should be handled on a one-stop basis without referral within 1 day. b) Where investigative work is required, at least 95% of telephonic enquiries, or queries received in person should be responded to in writing within ten working days, and resolved within 20 working days	Target average percentage success is at least 90%
Customer requests	Time to respond and resolve	All general customer requests (moving of meters, changing of meters, switching of tariffs etc) should be responded to in writing within 10 working days of receipt of the written request	Target average percentage success is at least 75%

3.6 Communications Services

Communication services are integral to the business of electricity supply. Table 6 gives the minimum standards for communication services.

Table 6: Minimum Standards for Communication Services

Service activity	Measure of service standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Essential communication services	Provision of essential communication services	A telephone service for reporting of faults, emergencies, complaints, requests and queries shall be available during normal working hours	Target average percentage success is at least 90%
Call	Response Time	All incoming calls to be	Target average

Handling		answered within a reasonable time	percentage success is 100%
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3.7 Customer Education

General customer education about electricity supply is encouraged. A licensee must endeavor to educate and inform its customers about:

- Safety issues
- Ethos of paying for electricity
- Protecting against over voltages and harmonics
- Management of disconnections
- Efficient Use of Electricity

4 Quality of Supply Standards

4.1 Frequency

The standard frequency of supply voltage shall be 50Hz.

The limits within which the frequency of supply voltage must be regulated are given in Table 7 below.

Table 7: Minimum Standards for Frequency Regulation

Supply parameter	Measure of supply standards	Minimum standard	Target Success Rate of Meeting Minimum Standard
Compatibility levels	Compatibility levels for the frequency of supply voltage	$\pm 3.0\%$ (± 1.5 Hz)	For grid networks, the frequency deviation for 99.5% of one year shall be retained For island networks, the frequency deviation for 95% of one year shall be retained

The following notes supplement the above table:

The assessed levels, to be compared with the compatibility levels shall be the instantaneous measured values of frequency.

4.2 Voltage Regulation

The limits within which the supply voltage must be regulated are given in Table 8 below.

Table 8: Minimum Standards for Voltage Regulation

Supply parameter	Measure of supply standards	Minimum standard		Target Success Rate of Meeting Minimum Standard
Declared voltages	Declared voltage to be supplied to customers	<p>For customers supplied at LV, the declared supply voltage shall be the standard voltage.</p> <p>For customers supplied at other voltage levels, the magnitude of the declared voltage shall be as specified in the supply agreement.</p> <p>Unless otherwise specified in the supply agreement, the declared voltage shall be the nominal voltage.</p>		<p>For grid networks, the voltage level shall be retained for 99.5% of one year</p> <p>For island networks, the voltage level shall be retained for 95% of one year.</p>
Compatibility levels	Compatibility levels for the magnitude of supply	Voltage level (V)	Compatibility level (%)	<p>For grid networks, the voltage deviation for 99.5% of one year shall be retained</p> <p>For island networks, the voltage deviation for 95% of one year shall be retained</p>
		≤400	±10	
		>400	± 5	

The following notes supplement the above table:

- The assessment period is a minimum of 7 continuous days.
- Measurements shall be taken at the extremities (near and far ends) of feeders.
- The assessed levels, which are to be compared with the compatibility levels, are the highest and lowest daily values over the full assessment period.

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