

## SCHEDULE J. PERFORMANCE INCENTIVE SCHEME DETAILS

### J.1. PRICE-LINKED INCENTIVE SCHEME

#### J.1.1 Details of Scheme Proposed

##### **Network Performance Measures**

For the Second Regulatory Period, CEPALCO proposed to adopt the following network performance indices prescribed in the *Framework for the Performance Incentive Scheme to apply from the Third Regulatory Period* (the PIS Framework) issued by the Commission on March 1, 2006:

- a. SAIFI
- b. CAIDI
- c. Planned SAIDI
- d. Voltage Variation
- e. System Loss

CEPALCO will also adopt the descriptions and the definitions as well as the formulas of the above performance indices in the PIS Framework.

Despite some concerns on the accuracy of historical data, CEPALCO decided to include SAIFI, CAIDI, and Planned SAIDI in its proposed PIS due to the following reasons:

- To be able to measure reliability based on prescribed indices in the RDWR, the PIS Framework and that of the Philippine Distribution Code.
- To prepare our personnel for the next regulatory period, update the customer database and to use SAIFI, CAIDI and Planned SAIDI as basis for reliability improvement projects.
- SAIFI, CAIDI and Planned SAIDI are customer-based indices hence could provide more meaningful data to our customers.
- SAIFI, CAIDI, and Planned SAIDI are the indices normally used by many utilities worldwide. Hence, using these indices will easily allow CEPALCO to compare its distribution reliability performance with that of other electric utilities.

CEPALCO further proposes that the voltage variation of  $\pm 10\%$  of the nominal voltage shall be net of grid voltage variation. CEPALCO has no control of the grid's voltage variation and the grid should be accountable for voltage variation beyond the standard level.

##### **Service Performance Measures**

As an overview, for PIS purposes, CEPALCO's Customer Service Department (CSD) and District Service Department (DSD), two departments whose respective Service Section personnel attend to service applications for regulated distribution service and connection both

in the City proper and in the outlying Municipalities shall be referred to as the Customer Service Group (CSG).

The Service Section of the said Group is composed of the following personnel and their respective functions:

- **Service Staff:** handles customer queries and the processing of service applications.
- **Field Inspector:** conducts site inspection of new applicants to determine if the service location is within serviceable distance and service entrance facilities follow company and government policies and regulation. He also specifies the needed service materials and provides technical assistance to ensure a safe connection of service.
- **Service crew:** installs the Watt-hour meter and service drop to the customer's premises.
- **Service Application Supervisor:** oversees the operations of the Service Section
- **Project Coordinator:** processes customer's requests for line extension or transformer installation and service applications that are beyond the serviceable distance or where the proposed connected load is more than the existing transformer or line capacity.

The objective of the Service Section is to provide service connection to new regulated distribution service applicants in the quickest possible time and in the safest manner in accordance with the Philippine Electrical Code, CEPALCO's Service Standards and the Distribution Service and Open Access Rules (DSOAR) and all other related government laws and rules.

In attending to a Service Connection application, the following important technical factors are considered:

1. Serviceable distance or the distance between the company's facilities and the proposed service location
2. Line road right-of-way and customer property boundaries
3. Service line and metering elevation clearances
4. Line and transformer capacity and loading
5. Complete service entrance connection facilities and the proper orientation to the company's existing facilities. These must be in a safe location and should be free of vibration
6. Metering and service drop phasing
7. Vegetation clearances
8. Approved service connection permit from Local Government Building Office or the appropriate government agency.

Due to some concerns regarding the above-mentioned factors, the company's service application's historical performance have resulted to long processing time. Some of which were caused by:

- Multiple site inspections

- Increase in the volume of re-inspection resulting to longer processing time.
- Constraints on manpower availability

If the application for regulated service requires additional or a new line extension and/or the installation of transformer facilities, the applicant will be notified correspondingly of this requirement and processing of application will proceed following the applicable provisions in the Distribution Service and Open Access Rules (DSOAR) .

Further, with the increasing number of unpaid accounts, the company made it mandatory to have all new service applicants undergo accounts verification before his application is finally approved. Hence, CEPALCO added the following application criteria:

1. New applicants should have no past due accounts with CEPALCO
2. Applicant should have proper credentials

Based on the foregoing, CEPALCO proposed to adopt the following Service Performance Measures provided in the PIS Framework with some modifications:

**(F) TIME TO PROCESS APPLICATION FOR REGULATED DISTRIBUTION SERVICES**

**DEFINITION:** The average elapsed time between **(a)** receiving an application for regulated services of CEPALCO, including the processing of the application for Distribution Connection Services and **(b)** approval of the application.

**Calculation Formula:**

$$TA = \frac{\sum ( DatN_i - DL_i - DatA_i - Dnw )}{ApICom}$$

Where:

TA = Average Time to process application in working days. This is calculated to determine the completion of the processing time during the measurement period.

DatA<sub>i</sub> = Date when application i was received by CEPALCO and converted to a numerical index allowing the calculation of working days elapsed between this date and another period.

DatN<sub>i</sub> = Date when the customer was notified that his Regulated Distribution Service application was approved (or finally disapproved), converted to a numerical index that allows the calculation of working days\* elapsed between this date and another period.

DL<sub>i</sub> = Time lost in processing application i due to factors beyond the control of CEPALCO (measured in working days). Any event lasting less than 4 hours shall be counted as a half (0.5) day.

Dnw = Holidays or special non-working days, including half-day during Saturday and whole of Sunday

AplCom = number of approved applications processed and completed during the measurement period.

**Notes:**

1. Working days is used for the calculations instead of calendar days.
2. Completed processing means the time applicant was notified that his application for a regulated distribution service was approved.
3. Time lost due to factors beyond the control of CEPALCO are as follows:
  - 3a) Time spent to obtain licenses, permissions or approvals from parties external to CEPALCO (i.e. OBO) from the date such applications are lodged up to when the required response or information was obtained by the company.
  - 3b) Time spent waiting for the applicant to provide information or requirements needed to process his service application, without, which the processing of the application cannot proceed. This is reckoned from the notification date for the needed information or requirement until an answer or commitment is received thereby allowing the application processing to proceed.
  - 3c) Time spent for the re-inspection due to non-compliance by the applicant of CEPALCO's technical policies and other requirements.
4. Processing of applications for regulated service whose service location is beyond the serviceable distance and/or requires additional/upgrading of line or transformer capacity shall be processed following the DSOAR.

**(G) TIME TO CONNECT PREMISES TO THE REGULATED DISTRIBUTION SYSTEM AFTER COMPLIANCE WITH ALL GOVERNMENT AND REGULATED ENTITY REQUIREMENTS**

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**DEFINITION:** The average time spent to provide a connection to a Regulated Distribution Service after all government (local and national) approvals have been obtained and the service applicant has met CEPALCO requirements.

**Calculation Formula:**

$$TC = \frac{\sum (Dat Ci - DLi - DatRi - Dnw)}{Con Com}$$

Where:

TC = the average time to complete a connection to the Regulated Distribution System (in working days). This is calculated to determine the connections completed during the measurement period.

Dat C<sub>i</sub> = Date when a connection i was completed, converted to a numerical index that allows the calculation of working days elapsed between this date and another period.

Dat R<sub>i</sub> = Date when the connection i was ready to commence after the company has received all necessary approvals and the applicant has met all requirements for the connection to proceed. This is converted to a numerical index that allows the calculation of calendar elapsed between this date and another period.

DL<sub>i</sub> = Time lost in connecting premises due to factors beyond the control of CEPALCO (measured in working days). Any such event lasting less than 4 hours shall be counted as a half (0.5) day.

Dnw = Holidays or special non-working days including half-day during Saturdays and whole of Sunday .

Notes:

1. Working days are used for the calculations instead of calendar days.
2. Completed connection means the date that the applicant was notified that it can start drawing or consuming electricity through the connection point, after all testing, commissioning work and the necessary certification had been completed.
3. Time lost due to factors beyond the control of CEPALCO as follows:
  - 3a) Time spent to access the connection site which was not possible due to the action or inaction of the connection applicant or where severe weather condition, natural or manmade disasters prevent the access to the site; and

3b) Time spent waiting for further information or requirements from the applicant after he has been notified of a problem or constraint that prevents or hinders the construction of the connection point. This is reckoned from the time the applicant was notified until the time an answer or commitment was received from the applicant that finally will allow the installation of the connection to proceed.

3c) Other conditions beyond the control of CEPALCO

### J.1.2 PROPOSED TARGET LEVELS

CEPALCO will adopt the following scheme in determining the target performance values:

#### (1) For SAIFI, CAIDI and Planned SAIDI

As prescribed in the PIS Framework, the target performance values for these indices will be set at the average value based on historical data. However, since CEPALCO is committed to further improve its network performance to attain the reliability levels prescribed in the DWRG, it is projected that numerous extensive system maintenance and upgrading works will be carried-out on its lines and substations during the Second Regulatory Period. Hence, in order not to be constrained to perform these additional system maintenance and upgrading works during the second regulatory period, the target performance value should not be based on historical data alone.

CEPALCO proposed that a factor should be added to the average historical value to consider these projected planned interruptions resulting from the system upgrading works that are beyond the normal maintenance works in the past. This factor will be called the upgrading factor and will be set based on the estimated duration and frequency of projected maintenance and upgrading works.

Based on the foregoing, the following are the proposed target levels for SAIFI, CAIDI and Planned SAIDI:

INDICES	2007	2008	2009	2010
System Average Interruption Frequency Index, SAIFI	27.38	27.21	27.38	27.21
Customer Average Interruption Duration Index, CAIDI (Minutes)	84.95	82.38	86.98	84.23
System Average Interruption Duration Index, Planned SAIDI (Minutes)	1,502.47	1,405.18	1,502.46	1,405.19

#### (2) For Voltage Violation

The PIS Framework set the target probability of voltage violation at 4%. Considering that CEPALCO has not yet installed voltage regulators in its distribution system, we find this target too tight.

Based on the measured voltage at various points of the distribution system, CEPALCO proposed a target probability of voltage violation of 20%.

From the calculation provided by ERC on its comments on the submitted performance incentive scheme of CEPALCO, initially a total of 97 samples will be provided as basis for the computation of voltage violation. These sample points will be measured on a random basis and only one measurement for every month will be conducted. Once the actual variation is known the number of samples will be adjusted accordingly.

At present CEPALCO distribution substations draw its power supply from three supply points of National Transmission Corporation namely, M1-Lugait Substation, M2-Aplaya Substation and M3-Tagoloan Substation. The voltage readings will be rotated monthly in three areas served by the said supply points and will be taken at various positions of the distribution system, including at substation terminals and consumer connection points. Also, the times at which readings are taken will be specified as low, medium and high demand periods. Furthermore, other information will be provided for each voltage reading. Specifically the following information will be included in the submission of voltage readings.

- Time and date that the reading was taken;
- Position where the reading was taken – physical address and “electrical position” (identifying the bulk supply zone, the substation, feeder and position on the feeder);
- The nominal voltage level at the reading position;
- The actual long-duration voltage level recorded;
- The metering equipment used, including serial number and latest calibration date;
- Identification of the person taking the reading; and  
If relevant, a demonstration that the bulk supply voltage for the part of the network in question fell outside the allowed transmission voltage regulation boundaries at the time the reading was taken.

### **(3) For System Loss**

CEPALCO will adopt the measurement scheme and the target levels prescribed in the PIS Framework. Hence, for the Second Regulatory Period, System Loss target would be 9.5%.

### **(4) Time to Process Application**

CEPALCO’s proposed target for time to process application is 5.5 working days

### **(5) Time to Connect Premises**

CEPALCO’s proposed target for time to connect premises is 5 working days

### **Proposed Weights for the S-component**

CEPALCO proposed weights of the S-component are shown below with comparison of the weight prescribed in the PIS Framework and the justification for the proposed revision of weights.

Performance Indices	Weight		Justification on the Revision of Weight
	CEPALCO Proposal	Per PIS Framework	
SAIFI	0.20	0.20	
CAIDI	0.20	0.20	
Planned SAIDI	0.15	0.15	
Voltage Violation	0.10	0.10	
System Loss	0.05	0.05	
Time to Process	0.15	0.10	The 0.10 weight for Call Center was equally distributed to the remaining service performance indices
Time to Connect	0.15	0.10	
Call Center	0	0.10	

### **Proposed Performance Bands**

CEPALCO will adopt the performance assessment bands and performance value prescribed in the PIS Framework, as follows:

Performance Band	Description	Performance Value
1	Performance greatly below target	-1.0
2	Target not achieved	-0.5
3	Performance as per expectation	0
4	Target exceeded	+0.5
5	Target greatly exceeded	+1.0

However, on the performance bandwidth of more than 2 standard deviations from the average value, CEPALCO proposed to lower this to more than 1.5 standard deviations. Found in [Schedule J.1.2.1](#) is the details of the computation of the Performance Bands for each Performance Index.

### **J.1.3 Supporting Information and Calculations**

The following Schedules contain the information and calculations to support our proposed target levels:

1. Schedule J.1.3.1. Calculation of the proposed targets for network performance
2. Schedule J.1.3.2. Calculation of the proposed targets for service performance.
3. Schedules J.1.3.3 Calculation of monthly SAIFI, CAIDI and Planned SAIDI for the years 2002 – 2005

## **J.2 GUARANTEED SERVICE LEVELS (GSL)**

### **J.2.1 Details of Scheme Proposed**

CEPALCO will adopt all GSL Schemes prescribed in the PIS Framework with the following variations:

#### **2.1 GSL1. Duration of Sustained Interruptions Above Annual Threshold Level**

CEPALCO proposed to separate the target levels for duration of planned and unplanned sustained interruptions. Hence, it is proposed that GSL-1 be further categorized as follows:

2.1.1 **GSL1-a**. Duration of unplanned sustained interruptions above annual threshold level

2.1.2 **GSL1-b** Duration of planned sustained interruptions above annual threshold level

#### **2.2 GSL2. Number of Sustained Interruptions Above Annual Threshold Level**

Similar to GSL1, CEPALCO proposed to separate the target levels for the number of planned and unplanned sustained interruptions, as follows:

2.2.1 **GSL2-a** Number of Unplanned Sustained Interruptions above annual threshold level

2.2.2 **GSL2-b** Number of Planned Sustained Interruptions above annual threshold level

#### **2.3 GSL3. Restoration of service to a customer after a fault in the secondary system of a Regulated distribution system**

CEPALCO intends to segregate the Guaranteed Service Levels on Restoration Time after a Fault in the Secondary Side of a Regulated Distribution System under GSL3 of the PIS Framework. The main reason for the further segregation is due to different restoration time for faults at the secondary lines, distribution transformer and connection facilities. Hence, CEPALCO proposed three (3) GSL schemes under GSL 3. These are:

2.3.1 **GSL3-a**. Restoration of service to a customer after a fault in the Secondary Line of a Regulated distribution system

2.3.2 **GSL3-b**. Restoration of service to a customer after a fault in the Distribution Transformer of a Regulated distribution system

2.3.3 **GSL3-c**. Restoration of service to a customer after a fault in the Customer Connection Point (Service Drop)

#### **2.4 GSL4. Service Connection on Time**

CEPALCO is currently using the Customer Information Management System (CIMS) for the following service transactions:

- Service Application
- Service Connection
- Complaints
- Billing
- Collection
- Deficiency Billing

Each customer transaction is issued a Service Memorandum (SM) that contains the details of the service to be rendered within a self-imposed response time. The customer is provided a copy of the SM, which also indicates the type of work done, service crew's findings and other pertinent information.

Historical performance data are based on SM response time.

The current method of performance measurement and collation of customer response time data is different from the method prescribed under the PIS Framework and the DWRG, which also to be collated on a per applicant basis.

With this constraint, CEPALCO proposes an interim scheme under GSL4 that shall be based on the number of days service connection is rendered starting from the time of signing the Service Contract and payment of pertinent connection fees.

## J.2.2 Proposed Target Levels for GSL

### GSL1. Duration of sustained interruptions above annual threshold level, Hours

Sub-Category	Threshold Level, Hours
GSL1-a. Unplanned Interruptions	22
GSL1-b. Planned Interruptions	34

### GSL2. Number of sustained interruptions above annual threshold level, Hours

Sub-Category	Threshold Level, Frequency
GSL2-a. Unplanned Interruptions	46
GSL2-b. Planned Interruptions	23

### GSL3. Restoration Time, Hours

Sub-Category	Threshold Level, Hours
GSL3-a. Fault on Secondary Distribution Lines	11

<b>GSL3-b. Fault on Distribution Transformer</b>	12
<b>GSL3-c. Fault on Customer Connection Point</b>	Within 12 hours

**GSL4. Time to Connect Premises, Days**

	<b>Threshold Level, Hours</b>
<b>GSL4. Time to Connect Premises</b>	Within 5 working days

**J.2.3 Penalty Levels**

CEPALCO will adopt the methodology prescribed in the PIS Framework and in the Position Paper. However, in order to ensure fairness in the allocation of penalty levels and to avoid possible abuse by customers, CEPALCO will design an allocation scheme such that the total revenue allocation will be allocated to the four GSL schemes in a manner that will result to more or less equal penalty levels for all customers.

To do this, CEPALCO may use the estimated number of customers who will likely receive the penalty payment for every GSL scheme, as basis to equitably allocate the total revenue allocation. Based on historical data, these are:

**1. GSL1**

Based on historical data the number of customers likely to have unplanned and planned sustained interruptions exceeding 22 hours duration (GSL1a) and 34 hours duration (GSL1b) respectively during any Regulatory Year of the second regulatory period is equivalent to the total number of customers to a feeder which had the worst historical performance. This is because the historical data did not include interruptions involving sections and transformer stations.

**For nGSL1a: 20,850 customers**

**For nGSL1b: 25,347 customers**

**nGSL1 (Total): 46, 197 customers**

**2. GSL2**

Based on historical data the number of customers likely to have unplanned and planned sustained interruptions exceeding 16 (GSL2-a) and 26 (GSL2-b) respectively during any Regulatory Year of the second regulatory period is equivalent to the total number of customers to a feeder which had the worst historical performance. This is because the historical data did not include interruptions involving sections and transformer stations.

**For nGSL2a: 25,347 customers**

**For nGSL2b: 25,347 customers**

**nGSL2 (Total): 50,694 customers**

### **3. GSL3**

Based on historical data, there were 5 instances that GSL3-a were exceeded, 3 instances GSL3-b were exceeded in a year. The average number of connected customers for a secondary line is assumed at 30 and 50 for distribution transformer. The number of customers likely to have faults exceeding GSL3-a and GSL3-b during any regulatory year would be:

**nGSL3-a = 150 customers**

**nGSL3-b = 150 customers**

**nGSL3-c = 219 customers**

**nGSL3 (total) = 519 customers**

### **4. GSL4**

Basing from the sample period from January to April 2006, there is an average of 5 customers per month whose service connections were completed beyond the proposed Guaranteed Service Level. With this, for a Regulatory Year, CEPALCO estimates that around 60 customers will likely receive compensation from CEPALCO.

**nGSL4 = 60 customers**

Based on the foregoing scheme, shown in **Annex A** is the detailed computation of the Penalty Level for each GSL Scheme.

## **J.2.4 Supporting Information and Calculations**

### **Proposed Scheme in Setting the Target Levels for GSLs**

#### **For iGSL1:**

Tabulated historical values of feeder interruption durations for the period starting year 2000 up to 2005 are shown in Tables 1-a and 1-b. CEPALCO proposed that the historical data of the worst performing feeder will be used as basis in setting the threshold levels. Hence, based on the actual data tabulated below, the threshold levels will be 22.05 hours and 34.33 hours for GSL1-a and GSL1-b, respectively.

**Table 1-a: Duration of Unplanned Sustained Interruption, hrs.**

<b>Feeder</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>Maximum</b>
CAMF1	4.41	3.71	14.52	4.86	7.94	7.97	<b>14.52</b>
CAMF2	6.64	3.73	12.01	4.31	8.47	7.07	<b>12.01</b>
CAMF4	9.83	22.05	15.30	5.34	8.39	6.29	<b>22.05</b>

CARF1	3.07	2.42	0.87	2.60	1.71	5.97	<b>5.97</b>
CARF2	4.03	1.77	0.23	3.50	0	4.42	<b>4.42</b>
CARF3	7.73	1.02	9.67	4.82	13.22	2.13	<b>13.22</b>
TAGF1	12.27	7.04	16.59	15.84	10.71	18.46	<b>18.46</b>
TAGF2	6.63	3.62	8.70	7.28	18.32	12.29	<b>18.32</b>

**Table 1-b: Duration of Planned Sustained Interruption, hrs**

Feeder	2005	2004	2003	2002	2001	2000	Maximum
CAMF1	1.40	12.20	18.58	15.56	23.07	17.13	<b>23.07</b>
CAMF2	0.90	6.47	20.16	16.47	24.89	18.53	<b>24.89</b>
CAMF4	12.29	24.67	20.53	16.54	15.34	13.18	<b>24.67</b>
CARF1	0.64	0	0.29	0.74	2.38	1.20	<b>2.38</b>
CARF2	3.25	1.21	0.29	2.01	13.96	0.75	<b>13.96</b>
CARF3	1.47	14.17	3.27	5.30	11.90	2.02	<b>14.17</b>
TAGF1	34.33	9.14	18.19	18.57	6.62	22.14	<b>34.33</b>
TAGF2	13.06	11.10	4.49	0.86	1.92	21.43	<b>21.43</b>

**For GSL2:**

Tabulated historical values of feeder interruption frequency for the period starting year 2000 up to 2005 are shown below. The frequency of interruption of the worst performing feeder will be the basis of the threshold levels. Hence, the proposed threshold levels will be 46 and 23 for GSL2-a and GSL2-b, respectively.

**Table 2-a: Frequency of unplanned sustained interruption**

Feeder	2005	2004	2003	2002	2001	2000	Maximum
CAMF1	7	8	20	15	10	14	<b>20</b>
CAMF2	8	7	15	10	11	11	<b>15</b>
CAMF4	18	16	18	12	17	9	<b>18</b>
CARF1	7	8	4	3	4	10	<b>10</b>
CARF2	9	5	1	2	0	9	<b>9</b>
CARF3	21	8	18	13	12	5	<b>21</b>
TAGF1	29	22	46	26	18	23	<b>46</b>
TAGF2	10	10	10	10	8	15	<b>15</b>

**Table 2-b: Frequency of planned sustained interruption**

Feeder	2005	2004	2003	2002	2001	2000	Maximum
CAMF1	2	5	6	5	6	6	<b>6</b>
CAMF2	3	3	10	6	12	4	<b>12</b>
CAMF4	5	6	8	14	8	6	<b>14</b>
CARF1	4	0	5	7	3	2	<b>7</b>
CARF2	2	2	5	9	7	1	<b>9</b>
CARF3	7	8	6	13	12	4	<b>13</b>
TAGF1	15	10	13	13	23	21	<b>23</b>
TAGF2	4	1	6	4	7	13	<b>13</b>

**For GSL3:**

Tabulated historical values of restoration time for faults on the secondary distribution lines and distribution transformers are shown in [Annex B](#). Restoration durations greater than 24 hours were not included. It is the intention of CEPALCO that restoration time for GSL3 should not exceed to 24 hours.

In setting the proposed threshold levels for GSL3, CEPALCO used the average value between the maximum restoration time over the 3-year

historical period and the median value over the same period. Hence, the proposed threshold levels will be 11 hours and 12 hours for GSL3-a and GSL3-b, respectively.

For GSL3-c, proposed threshold level will be within 12 hours based on the frequency distribution of the duration of restoration times for the Years 2003 – 2005. Annex C contains the data on frequency distribution of restoration time.

**For GSL4:**

Proposed Threshold level is within 5 working days or as mutually agreed with the customer, whichever is later. Provided that,

- Number of working days is measured from the day the applicant signed the service contract and paid the pertinent service fees up to the day service is connected.
- Saturdays, Sundays, Legal Holidays and declared non-working holidays are excluded in counting the duration within which connection of service is rendered
- Penalty will start from the day after the proposed threshold of 5 working days
- Changes to the original due date done with the mutual or prior approval of the applicant/customer and CEPALCO will result in a new due date. In this case, penalties will only be calculated based on the new connection due date.

**Excluded events**

CEPALCO will adopt the excluded events specified in the PIS Framework plus the following proposed additional events:

1. Planned interruptions are excluded in GSL3.
2. Faults at customer side
3. Faults due to fire incidents not caused by CEPALCO facilities
4. Failure of the applicant to appear on the pre-agreed schedule
5. The applicant prefers a particular date which is beyond the standard accomplishment period

**SCHEDULE J.1.2.1: PROPOSED PERFORMANCE BANDS FOR SAIFI, CAIDI, PLANNED SAIDI, TIME TO PROCESS & TIME TO CONNECT**

	Description	Performance Bands						
		SAIFI	CAIDI	Planned SAIDI	Voltage Variation	System Loss	Time to Process	Time to Connect
Performance Target		27.38	84.95	1,502.47	20%	9.5%	5.5	5.0
Standard Deviation		5.18	8.54	290.51			1.5	1.6
1.5 x Standard Deviation		7.76	12.81	435.77			2.2	2.5
Performance greatly below target	Actual value more than 1.5 standard deviations above the target value	SAIFI => 35.14	CAIDI => 97.76	SAIDI => 1,938.24	Probability of voltage violation greater than or equal to 25%	Not Applicable	Actual => 7.7	Actual => 7.5
Target not achieved	Actual value more than 1 standard deviation, but less than 1.5 standard deviation, above the target value	32.56 < SAIFI < 35.14	93.49 < CAIDI < 97.76	1,792.98 < SAIDI < 1,938.24	Probability of voltage violation between 22% and 25%	Not Applicable	7 < Actual < 7.7	6.6 < Actual < 7.5
Performance as per expectation	Actual value between 1 standard deviation above and 1 standard deviation below the target value	22.20 =< SAIFI <= 32.56	76.41 =< CAIDI <= 93.49	1,211.96 =< SAIDI <= 1,792.98	Probability of voltage violation on or between 18% and 22%	8.5%=<Sysloss<=9.5%	4 =<actual <= 7	3.4=<actual<=6.6
Target exceeded	Actual value more than 1 standard deviation, but less than 1.5 standard deviation below the target value	19.62 < SAIFI < 22.20	72.14 < CAIDI < 76.41	1,066.70 < SAIDI < 1,211.96	Probability of voltage violation between 15% and 18%	7.0%<Sysloss<8.5%	3.2 <actual<4	2.5<actual<3.4
Target greatly exceeded	Actual value less than 1.5 standard deviations below the target value	SAIFI <= 19.62	CAIDI <= 72.14	SAIDI <= 1,066.70	Probability of voltage violation less than or equal to 15%	Sysloss=<7%	Actual =< 3.2	Actual =< 2.5

**SCHEDULE J.1.3.1: CALCULATION OF THE PROPOSED TARGETS FOR NETWORK PERFORMANCE**

**I. HISTORICAL PERFORMANCE FOR THE YEARS 2002 - 2005**

INDICES Reference ==>	2002	2003	2004	2005	Average	Standard Deviation
	Sch. 1	Sch. 2	Sch. 3	Sch. 4		
System Average Interruption Frequency Index, SAIFI	25.43	32.61	19.99	26.64	26.17	5.18
Customer Average Interruption Duration Index, CAIDI (Minutes)	70.49	51.94	53.62	62.03	59.52	8.54
System Average Interruption Duration Index, Planned SAIDI (Minutes)	1,146.30	710.14	443.45	809.92	777.45	290.51

**II. Calculation of Upgrading Factor**

**II-A. Historical Data:**

	Formula	2002	2003	2004	2005	Average
SUM OF <b>UNPLANNED</b> CUSTOMER INTERRUPTIONS (i.e., No of Customers Interrupted x No. of Unplanned Interruptions)	<b>A</b>	1,300,882	2,136,885	1,302,210	1,808,377	1,637,089
SUM OF <b>UNPLANNED</b> CUSTOMER INTERRUPTION DURATIONS, Hours (i.e. No. of Customers Interrupted x Duration of Unplanned Interruption)	<b>B</b>	853,808	1,496,031	924,437	1,157,526	1,107,950
SUM OF <b>PLANNED</b> CUSTOMER INTERRUPTIONS (i.e., No of Customers Interrupted x No. of Planned Interruptions)	<b>C</b>	833,970	697,175	508,495	709,340	687,245
SUM OF <b>PLANNED</b> CUSTOMER INTERRUPTION DURATIONS, Hours (i.e. No. of Customers Interrupted x Duration of Planned Interruption)	<b>D</b>	1,606,834	1,027,001	668,030	1,275,426	1,144,323
SUM OF <b>PLANNED &amp; UNPLANNED</b> CUSTOMER INTERRUPTIONS	<b>E = A+C</b>	2,134,852	2,834,060	1,810,705	2,517,717	2,324,334
SUM OF <b>PLANNED &amp; UNPLANNED</b> CUSTOMER INTERRUPTION DURATIONS, Hours	<b>F = B+D</b>	2,460,642	2,523,032	1,592,467	2,432,952	2,252,273

**II-B. Projected Number of Customers**

		2002	2003	2004	2005	Average
<b>Average Number of Customer</b>	<b>G</b>	84,235	87,269	90,533	94,518	
<b>-- Customer Increase Per Year</b>	<b>H</b>		3.60%	3.74%	4.40%	3.91%

<b>PROJECTED NUMBER OF CUSTOMERS PER FEEDER</b>		2005 (Base)	2007	2008	2009	2010	2011
Camaman-an S/S Feeder 1	<b>I</b>	2,806	2,916	3,030	3,149	3,272	3,400
Camaman-an S/S Feeder 2		9,220	9,581	9,956	10,346	10,751	11,172
Camaman-an S/S Feeder 4		20,850	21,666	22,514	23,395	24,311	25,263
Carmen S/S Feeder 1		8,696	9,036	9,390	9,758	10,140	10,537
Carmen S/S Feeder 2		8,584	8,920	9,269	9,632	10,009	10,401
Carmen S/S Feeder 3		8,371	8,699	9,040	9,394	9,762	10,144
Tagoloan S/S Feeder 1		25,347	26,339	27,370	28,441	29,554	30,711
Tagoloan S/S Feeder 2		12,493	12,982	13,490	14,018	14,567	15,137
<b>TOTAL FORECASTED CUSTOMERS</b>		<b>J=Σ I</b>		<b>100,139</b>	<b>104,059</b>	<b>108,133</b>	<b>112,366</b>
Number of Customers Scheduled for Maintenance	<b>K</b>		60,502	54,434	65,331	58,780	70,546
No. of Additional Maintenance & Upgrading Works per Year	<b>L</b>		2	2	2	2	2
Duration of the Interruption due to Additional Maintenance & Upgrading Works, Hours	<b>M</b>		10	10	10	10	10

<b>ADDITIONAL INTERRUPTIONS DUE TO MAINTENANCE &amp; UPGRADING WORKS</b>		Jul-07	2008	2009	2010	Jun-11
SUM OF <b>PLANNED</b> CUSTOMER INTERRUPTIONS (i.e., No of Customers Scheduled for Maintenance x No. of Interruptions due to maintenance & upgrading works)	<b>N = KxL</b>	121,004	108,868	130,662	117,560	141,092
SUM OF <b>PLANNED</b> CUSTOMER INTERRUPTION DURATIONS, Hours (i.e. No. of Customers Scheduled for Maintenance x Duration of Interruption due to maintenance)	<b>O=KxLxM</b>	1,210,040	1,088,680	1,306,620	1,175,600	1,410,920

<b>SAIFI/SAIDI DUE TO ADDITIONAL MAINTENANCE &amp; UPGRADING WORKS</b>		2007	2008	2009	2010	2011
System Average Interruption Frequency Index, SAIFI	<b>P = N/J</b>	1.21	1.05	1.21	1.05	1.21
System Average Interruption Duration Index, Planned SAIDI (Minutes)	<b>Q=O/(Jx60)</b>	725.02	627.73	725.01	627.73	725.00

<b>CAIDI DUE TO ADDITIONAL MAINTENANCE &amp; UPGRADING WORKS</b>		<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
SUM OF CUSTOMER INTERRUPTIONS w/ additional maintenance	$R = E_{ave} + N$	2,445,338	2,433,202	2,454,996	2,441,894	2,465,426
SUM OF CUSTOMER INTERRUPTIONS DURATIONS (Hours) w/ add'l maintance	$S = F_{ave} + O$	3,462,313	3,340,953	3,558,893	3,427,873	3,663,193
Customer Average Interruption Duration Index, CAIDI (Minutes)	$T = S / (R \times 60)$	84.95	82.38	86.98	84.23	89.15

### III. PROPOSED PERFORMANCE TARGETS FOR SAIFI, CAIDI & PLANNED SAIDI

<b>INDICES</b>		<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
System Average Interruption Frequency Index, SAIFI	Historical Average + Upgrading & Maintenance Factor	27.38	27.21	27.38	27.21	27.38
Customer Average Interruption Duration Index, CAIDI (Minutes)		84.95	82.38	86.98	84.23	89.15
System Average Interruption Duration Index, Planned SAIDI (Minutes)		1,502.47	1,405.18	1,502.46	1,405.19	1,502.46

**SCHEDULE J.1.3.2: CALCULATION OF THE PROPOSED TARGETS FOR  
SERVICE PERFORMANCE**

**HISTORICAL DATA OF AVERAGE TIME TO PROCESS APPLICATION  
AND TIME TO CONNECT METER (Based on sample periods)**

<b>SAMPLE DATES</b>	<b>PROCESSING (INSPECTION)</b>	<b>INSTALLATION</b>	<b>NUMBER OF CUSTOMERS</b>
NOV.21-25, 2003	3.87	3.10	45
DEC.20-26, 2003	4.70	6.26	50
DEC.6-10, 2004	4.38	5.13	40
DEC.21-26, 2004	4.98	3.38	50
JAN. 21-31, 2005	5.85	5.03	34
FEB.1-5, 2005	5.32	3.10	39
MAR. 1- 5, 2005	5.58	6.82	50
APR. 1 - 5, 2005	6.42	6.06	50
MAY 3-10, 2005	4.92	6.00	50
JUNE 1 - 6, 2005	8.00	3.85	48
JULY 1-5, 2005	5.73	6.61	49
AUG. 1-5, 2005	3.24	4.45	49
SEPT. 1-6, 2005	3.54	2.82	50
OCT. 1-15, 2005	5.04	2.00	48
NOV. 25-30, 2005	7.24	3.36	50
DEC.6-10, 2005	7.61	3.25	37
JAN. 1-5, 2006	6.60	4.62	50
FEB. 1-4, 2006	6.16	2.00	49
MARCH 6-10, 2006	4.84	2.06	50
APRIL 1-6, 2006	2.28	1.94	50
<b>AVERAGE</b>	<b>5.32</b>	<b>4.09</b>	<b>938</b>
<b>Proposed Performance Target for the 2nd Regulatory Period</b>	<b>5.50</b>	<b>5.00</b>	<b>Based on the ave. of the above sample data except for February to April 2006 when data are abnormally low due to low number of applicants</b>
Standard Deviation	1.47	1.64	

**SCHEDULE J.1.3.3: CALCULATION OF MONTHLY SAIFI, CAIDI AND PLANNED SAIDI**

**FOR THE YEAR 2002**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative
Total number of Customers	83,006	83,233	83,040	83,591	83,816	84,023	84,455	84,332	84,894	85,265	85,408	85,751	84,235
SUM OF UNPLANNED CUSTOMER INTERRUPTIONS (i.e., No of Customers Interrupted x No. of Unplanned Interruptions)	197,699	198,403	85,069	148,573	226,976	55,360	45,847	87,924	92,722	54,025	52,993	55,291	1,300,882
SUM OF UNPLANNED CUSTOMER INTERRUPTION DURATIONS, Hours (i.e. No. of Customers Interrupted x Duration of Unplanned Interruption)	156,650	197,042	33,767	81,814	54,832	54,402	22,199	48,664	71,535	79,821	32,595	20,487	853,808
SUM OF CUSTOMER INTERRUPTIONS, PLND	31,013	133,240	13,159	214,218	13,129	70,880	63,373	122,764	76,950	70,216	6,128	18,900	833,970
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, PLND (H)	326,847	89,540	11,968	311,622	15,036	151,294	64,491	74,924	169,552	354,874	8,041	28,646	1,606,834

MONTHLY INDICES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative/Average
System Average Interruption Frequency Index, SAIFI	2.76	3.98	1.18	4.34	2.86	1.50	1.29	2.50	2.00	1.46	0.69	0.87	25.43
Customer Average Interruption Duration Index, CAIDI (Min)	126.84	51.85	27.94	65.07	17.46	97.76	47.62	35.20	85.25	209.93	41.24	39.73	70.49
System Average Interruption Duration Index, Planned SAIDI (Min)	236.26	64.55	8.65	223.68	10.76	108.04	45.82	53.31	119.83	249.72	5.65	20.04	1146.30

**FOR THE YEAR 2003**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative/Average
Total Number of Customers	86,179	86,435	86,624	86,819	86,733	86,912	87,160	87,473	87,732	88,100	88,389	88,675	87,269
SUM OF CUSTOMER INTERRUPTIONS, UNPLND	148,129	283,318	383,873	326,045	368,219	169,959	67,782	92,516	48,861	77,306	46,801	124,076	2,136,885
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, UNPL(H)	61,924	119,297	313,568	226,820	372,634	47,708	43,859	92,607	9,391	49,033	32,638	126,552	1,496,031
SUM OF CUSTOMER INTERRUPTIONS, PLND	12,595	145,214	120,916	69,459	192,506	52,106	9,983	8,424	2,582	6,458	74,000	2,932	697,175
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, PLND (H)	45,778	485,034	59,259	177,872	67,956	15,832	44,262	19,284	8,470	50,163	41,594	11,498	1,027,001

MONTHLY INDICES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative/Average
System Average Interruption Frequency Index, SAIFI	1.87	4.96	5.83	4.56	6.46	2.56	0.89	1.15	0.59	0.95	1.37	1.43	32.61
Customer Average Interruption Duration Index, CAIDI (Min)	40.21	84.61	44.31	61.39	47.15	17.17	67.99	66.51	20.83	71.05	36.87	65.22	51.94
System Average Interruption Duration Index, Planned SAIDI (Min)	31.87	336.69	41.05	122.93	47.01	10.93	30.47	13.23	5.79	34.16	28.23	7.78	710.14

**SCHEDULE J.1.3.3: CALCULATION OF MONTHLY SAIFI, CAIDI AND PLANNED SAIDI**

**FOR THE YEAR 2004**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative/Average
TOTAL NO. CUSTOMERS	88,957	89,201	89,382	89,613	90,011	90,445	90,821	91,073	91,354	91,531	91,864	92,142	90,533
SUM OF CUSTOMER INTERRUPTIONS, UNPLND	43,057	248,396	53,424	49,709	132,935	177,201	169,152	11,412	110,915	149,494	36,677	119,838	1,302,210
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, UNPL(H)	36,844	136,918	47,109	22,108	25,110	301,775	98,384	16,732	46,342	129,564	23,112	40,440	924,437
SUM OF CUSTOMER INTERRUPTIONS, PLND	2,653	37,029	6,158	116,258	52,722	15,710	1,236	16,315	40,423	80,189	48,648	91,154	508,495
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, PLND (H)	5,717	15,384	24,509	207,035	163,275	16,496	7,311	7,880	41,015	133,352	14,593	31,467	668,030

MONTHLY INDICES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative/Average
System Average Interruption Frequency Index, SAIFI	0.51	3.20	0.67	1.85	2.06	2.13	1.88	0.30	1.66	2.51	0.93	2.29	19.99
Customer Average Interruption Duration Index, CAIDI (Min)	55.87	32.02	72.12	82.84	60.88	98.99	37.22	53.26	34.63	68.68	26.51	20.45	53.62
System Average Interruption Duration Index, Planned SAIDI (Min)	3.86	10.35	16.45	138.62	108.84	10.94	4.83	5.19	26.94	87.41	9.53	20.49	443.45

**FOR THE YEAR 2005**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative
TOTAL NO. CUSTOMERS	92,485	92,862	93,371	93,729	93,846	94,428	94,672	95,135	95,489	95,805	96,012	96,379	94,518
SUM OF CUSTOMER INTERRUPTIONS, UNPLND	484,606	112,501	86,160	11,197	83,268	71,306	157,054	171,667	108,453	264,559	92,290	165,316	1,808,377
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, UNPL(H)	337,083	35,534	43,145	2,727	52,666	22,572	127,427	180,143	51,139	122,537	60,385	122,168	1,157,526
SUM OF CUSTOMER INTERRUPTIONS, PLND	3,088	2,516	99,539	46,351	29,756	36,767	1,376	148,479	61,574	201,006	46,856	32,032	709,340
SUM OF CUSTOMER INTERRUPTIONS DURATIONS, PLND (H)	19,556	8,550	353,830	2,053	41,275	320,028	4,911	317,424	43,596	56,804	66,281	41,118	1,275,426

MONTHLY INDICES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cummulative
System Average Interruption Frequency Index, SAIFI	5.27	1.24	1.99	0.61	1.20	1.14	1.67	3.37	1.78	4.86	1.45	2.05	26.64
Customer Average Interruption Duration Index, CAIDI (Min)	43.88	23.00	128.26	4.98	49.87	190.20	50.12	93.25	33.43	23.11	54.62	49.64	62.03
System Average Interruption Duration Index, Planned SAIDI (Min)	12.69	5.52	227.37	1.31	26.39	203.35	3.11	200.19	27.39	35.57	41.42	25.60	809.92

## ANNEX A. PROPOSED PENALTY LEVELS FOR GSL SCHEME

### Total Revenue Allocation

ARR <sub>2008</sub>	1,032,269,394
GSL Allocation	0.50%
- in Peso	5,161,347

	Est. No. Of Customers likely to receive compensation	% Allocation	Penalty Allocation	Penalty Level, PhP
<b>GSL1</b>				
A	20,850	45.13%	1,104,074	53.00
B	25,347	54.87%	1,342,204	53.00
<b>Sub-total</b>	<b>46,197</b>	<b>47.40%</b>	<b>2,446,278</b>	

<b>GSL2</b>				
A	25,347	50.00%	1,342,204	53.00
B	25,347	50.00%	1,342,204	53.00
<b>Sub-total</b>	<b>50,694</b>	<b>52.01%</b>	<b>2,684,409</b>	

<b>GSL3</b>				
A	150	28.90%	7,943	53.00
B	150	28.90%	7,943	53.00
C	219	42.20%	11,597	53.00
<b>Sub-total</b>	<b>519</b>	<b>0.53%</b>	<b>27,483</b>	

<b>GSL4</b>	60	0.06%	3,177	53.00
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<b>TOTAL</b>	<b>97,470</b>		<b>5,161,347</b>	
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**ANNEX B: HISTORICAL RESTORATION DURATION FOR DT & SECONDARY LINE FAULTS, HOURS  
PERIOD: 2003 - 2005**

**RESTORATION TIME FOR FAULTS AT THE SECONDARY LINES**

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MAX	Tmedian	Proposed Threshold Level (Ave. of Max & Median Value)
2003	0	1.35	8.62	7.05	4.00	4.00	1.20	4.28	4.58	4.07	11.62	3.73	<b>18.80</b>	<b>3.70</b>	<b>11</b>
2004	13.22	1.47	2.17	5.38	1.92	2.58	2.28	1.17	1.67	11.58	2.25	18.80			
2005	3.83	2.37	2.03	1.17	3.97	3.67	2.97	5.75	3.03	10.25	5.33	2.13			

**RESTORATION TIME FOR FAULTS AT THE DISTRIBUTION TRANSFORMER**

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Max	Median	Proposed Threshold Level (Ave. of Max & Median Value)
2003	8.63	5.15	16.95	4.77	8.30	8.45	8.63	7.70	8.50	16.78	5.20	12.58	<b>16.95</b>	<b>7.86</b>	<b>12</b>
2004	9.85	9.50	7.97	10.60	5.60	16.17	6.20	4.97	9.00	7.35	4.83	9.15			
2005	11.60	12.00	4.13	5.03	9.02	7.18	3.93	6.60	5.32	7.75	6.07	4.27			

**ANNEX C.**  
**THREE (3)-YEAR HISTORICAL DATA on INTERRUPTION**  
**AT SERVICE DROP LEVEL**  
**FREQUENCY DISTRIBUTION METHOD (2003-2005)**

Month/Year	Within 4 hours	Within 8 hours	Within 12 hours	Within 24 hours	Beyond 24 hours	
<b>2003</b>						
January	268	18	1	1	3	
February	311	27	11	16	3	
March	366	35	8	10	5	
April	279	15	2	2	3	
May	407	80	15	31	17	
June	391	73	23	30	7	
July	396	75	23	43	15	
August	377	64	18	24	18	
September	361	32	19	15	5	
October	401	40	16	20	4	
November	351	38	9	20	1	
December	423	113	41	71	56	
<b>Total</b>	<b>4331</b>	<b>610</b>	<b>186</b>	<b>283</b>	<b>137</b>	<b>5,547</b>
<b>Percentage</b>	<b>78%</b>	<b>11%</b>	<b>3%</b>	<b>5%</b>	<b>2%</b>	
<b>2004</b>						
January	335	29	12	11	5	
February	324	41	7	12	3	
March	335	26	7	9	1	
April	284	20	4	4	0	
May	342	32	13	15	2	
June	446	81	22	39	5	
July	342	38	7	2	0	
August	372	35	6	15	3	
September	345	45	4	2	3	
October	373	42	6	8	1	
November	333	37	3	5	3	
December	335	48	5	5	0	
<b>Total</b>	<b>4166</b>	<b>474</b>	<b>96</b>	<b>127</b>	<b>26</b>	<b>4,889</b>
<b>Percentage</b>	<b>85%</b>	<b>10%</b>	<b>2%</b>	<b>3%</b>	<b>1%</b>	
<b>2005</b>						
January	388	35	8	3	3	
February	279	292	2	5	0	
March	339	20	5	4	1	
April	268	13	2	1	0	
May	303	35	9	11	0	
June	365	41	14	3	0	
July	369	36	11	6	3	
August	359	54	13	10	0	
September	353	42	13	11	2	
October	329	37	4	4	0	
November	299	12	1	8	2	
December	290	20	6	8	0	
<b>Total</b>	<b>3,941</b>	<b>637</b>	<b>88</b>	<b>74</b>	<b>11</b>	<b>4,751</b>
<b>Percentage</b>	<b>83%</b>	<b>13%</b>	<b>2%</b>	<b>2%</b>	<b>0%</b>	