



**Regulatory Reset
for the
Privately Owned Distribution Utilities
subject to
Performance Based Regulation (PBR)**

for

July 2007 to June 2011

Position Paper

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Republic of the Philippines
Energy Regulatory Commission
Pacific Center, San Miguel Avenue, Pasig City

REGULATORY RESET
for the
PRIVATELY OWNED DISTRIBUTION UTILITIES
SUBJECT TO PERFORMANCE BASED REGULATION (PBR)
for
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Pursuant to Section 43(f) of Republic Act No. 9136, otherwise known as the “*Electric Power Industry Reform Act of 2001*”, and Rule 15, Section 5(a) of its Implementing Rules and Regulations (IRR), the Energy Regulatory Commission (ERC) promulgated the Guidelines on the Methodology for Setting Distribution Wheeling Rates (ERC Resolution no 12-02, Series of 2004, dated December 20, 2004, hereafter the ‘DWRG’).

Pursuant to Clause 7.1.2 of the DWRG, the ERC issued a Regulatory Reset Issues Paper on September 30, 2005 to provide its initial views on the issues to be discussed during the pending Regulatory Reset Process, to specify the information required to be delivered by each Regulated Entity for purposes of the Regulatory Reset Process and the time by which such information should be delivered. Public consultation meetings were held and submissions were sought from interested parties on the Issues Paper. This paper describes the position of the ERC with regard to the price reset for the Second Regulatory Period, following its consideration of the submissions received and aspects raised during the consultation process.

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1. INTRODUCTION

1.1 Purpose

In January 2005, the Energy Regulatory Commission (ERC) implemented the Distribution Wheeling Rate Guidelines (DWRG) which had been developed through a public consultation process during 2004. The final DWRG dated December 10, 2004 defines a Performance Based Regulation (PBR) framework using a price cap on the provision of wheeling services by private Distribution Utilities.

Pursuant to Clause 7.1.2 of the DWRG, the ERC issued an Issues Paper on September 30, 2005 to commence the regulatory reset process for the Second Regulatory Period commencing July 1, 2007. This Issues Paper:

- describes the ERC's initial views and intentions with regard to the issues raised by the pending Regulatory Reset Process;
- specifies the information to be provided by each Regulated Entity for the purposes of the Regulatory Reset Process and the time by which it has to be provided; and
- provides the time by which each Regulated Entity must file an application with the ERC to commence the Regulatory Reset Process.

Public consultations were held to present the Issues Paper in the franchise areas of the three entrants, as follows :

- Cagayan de Oro (Oct. 10, 2005) for Cagayan Electric Power and Light Company, Inc. (CEPALCO);
- Dagupan City (Oct. 13, 2005) for Dagupan Electric Corporation (DECORP); and
- Metro Manila (Oct. 14, 2005) for Manila Electric Company (MERALCO).

Submissions on the Issues Paper were sought, with the closing date for submission on October 28, 2005.

To discuss the submissions with the proponents and other interested parties, further public consultations were held on November 14, 2005 in Cagayan de Oro, November 16, 2005 in Dagupan City and November 18, 2005 in Metro Manila.

After considering the submissions received and following the consultation process, the ERC prepared a Response Paper¹ and this Position Paper to state its initial position on the Regulatory Reset Process for the Second Regulatory Period.

1.2 Use of terms and definitions in the Position Paper

Throughout this Position Paper, where capitalized terms are used, this indicates that the term has been defined in clause 1.3 of the DWRG or clause 1.2 of the ERC's proposed Distribution Services and Open Access Rules (DSOAR). Where there is any conflict in the

¹ See definition below

definition of the terms between the DWRG and the proposed DSOAR, the later definition, as contained in the proposed DSOAR, should apply.

A number of additional terms have also been defined for purposes of the Issues Paper and this Position Paper. These terms have the following meanings:

Distribution Utility	An electric cooperative, private corporation, government-owned utility, or existing local government unit, that has an exclusive franchise to operate a Distribution System.
Issues Paper	The document prepared pursuant to Clause 7.1.2 of the DWRG to invite consultation on the ERC's views on the issues pertinent to the Regulatory Reset Process for the Second Regulatory Period.
Non-network Assets	Those assets forming part of the Regulatory Asset Base that are required to provide Regulated Distribution Services, but are not Distribution System assets or Distribution Connection Assets.
Position Paper	This document, prepared following consultation on the Issues Paper, to state the ERC's initial position on the Regulatory Reset Process for the Second Regulatory period.
Regulatory Asset Base	Those assets employed by a Regulated Entity to provide efficient Regulated Distribution Services. It covers the Regulated Distribution System assets as well as the Non-network Assets required to support the delivery of Regulated Distribution Services.
Regulatory Reset Process	The regulatory reset process before the start of the Second Regulatory Period. A regulatory reset process is the undertaking prior to the start of any Regulatory Period, through which the price control arrangements are established that will apply to a Regulated Entity with regard to the provision of Regulated Distribution Services in each Regulated Distribution System for the next Regulatory Period. This process relies on submissions by Regulated Entities, decisions by the ERC and consultation with the Regulated Entities and the public in general, as described in the DWRG.
Regulatory WACC	The weighted average cost of capital established for the purposes of the PBR of Regulated Entities in accordance with Clause 4.11 of the DWRG.
Response Paper	The paper containing the ERC's response to the comments provided in the submissions received on the Issues Paper and during the consultation process to

discuss these submissions.²

1.2.1 Reading the Issues Paper in conjunction with other documents

This Position Paper is intended to be read in conjunction with the DWRG, the Issues Paper and the Response Paper. These documents are available on the ERC website³ or can be requested from the ERC⁴. The purpose of the Position Paper is to inform interested parties about the ERC's preliminary approach to the Regulatory Reset Process for the Second Regulatory Period.

It should be noted that the underlying justification for the ERC's positions are not repeated in this paper, as they are already explained in the Issues Paper and the Response Paper

In certain instance, changes will be made to the DWRG and these are described below. Unless specifically noted in the Position Paper that it is intended to change the DWRG in the manner described, where any contradictions exist between the Position Paper and the DWRG, the DWRG should take precedence.

To avoid the potential for confusion between instances where references are made to text in the DWRG or the Position Paper, all references to text from the DWRG will refer to clauses or Articles. References to text in the Position Paper will refer to sections.

1.3 Regulated Entities

The DWRG applies to those electricity distribution utilities that have voluntarily decided to enter the PBR. It distinguishes between Initial Regulated Entities and Subsequent Regulated Entities, or those that signed up to PBR for the First Regulatory Period and those that signed up for the Second Regulatory Period.

Since this Position Paper relates to the Regulatory Reset Process for the Second Regulatory Period, there is essentially little practical difference in how the process will apply to Initial or Subsequent Regulated Entities. Where differences exist these are notified in the DWRG and, where appropriate, are highlighted in the Position Paper as well.

1.4 Outline of this paper

This Position Paper is structured in accordance with the layout of the Issues Paper.

² ERC report titled "RESPONSE TO SUBMISSIONS RECEIVED ON THE REGULATORY RESET ISSUES PAPER", dated December 9, 2005.

³ http://www.erc.gov.ph/pdf/Final%20DWRG%201_10_05.pdf

⁴ The ERC will provide the documents in electronic format, on media provided by applicants or, in justified cases, in printed format.

2. PROCESS AND TIMETABLE

The ERC is committed to conduct public consultations on the next steps in the implementation of the PBR framework for private Distribution Utilities, including the Regulatory Reset Process.

2.1 Reset process

The reset process and timeline are shown in the flowchart in figure 1. In broad terms, the process that will be followed from the publication of this Position Paper onward is as follows:

- The ERC will develop a financial model which will be used to model the application of the DRWG and calculate the X-factor for Regulated Entities. This model will also be distributed to all Regulated Entities for their use in preparing their own rate applications.
- The ERC will develop a framework for the performance incentive scheme that will eventually be applied to all Regulated Entities. This will be supplied to the Regulated Entities who will use that as a guideline when developing tailor-made incentive schemes for the Second Regulatory Period.
- The ERC will revalue the Regulatory Asset Base for each Regulated Distribution System, determine the Regulatory Weighted Average Cost of Capital (WACC) and carry out all of its other obligations in terms of the DWRG, with the help of Regulatory Reset Experts as appropriate. This information will be provided to the Regulated Entities to allow them to file their rate applications.
- Regulated Entities will collect the necessary expenditure data, prepare their expenditure forecasts, and submit a rate application to the ERC. Regulated Entities will also collect historical network and service performance data and prepare a performance incentive scheme based on this, as part of the rate application.
- Each Regulated Entity will make a public presentation explaining their rate application and performance incentive scheme.
- Public hearings will be held on the rate applications and performance incentive schemes, allowing for cross examination of the Regulated Entities witnesses/evidences by oppositors/intervenors of record.
- The ERC will review the rate applications and incentive schemes submitted by the Regulated Entities and based on this review and the outcome of the public hearings, publish a draft determination, indicating the initial maximum price cap and the X-factor that will apply to each Regulated Distribution System for the Second Regulatory Period.
- Public hearings will be held on the draft determination, in each of the three (3) franchise areas where the Regulated Entities are situated.
- A final determination will be made of the initial price-cap and the X-factor for each Regulated Distribution System, which will be published and implemented.

2.2 Reset timetable

Article VII of the DWRG sets out the time frames within which various activities are required to be performed during the Regulatory Reset Process. Taking this into account, the key dates will be as set out in table 1, revised from the DWRG where appropriate.

Table 1: Timeline for the Regulatory Reset Process

Position Paper		
i.	ERC to publish its Position Paper on the Regulatory Reset Process	Dec 9, 2005
Information gathering and analysis; rate application		
i.	ERC to develop final framework for performance incentive scheme	Mar 15, 2006
ii.	ERC to communicate the asset valuation results and other regulatory parameters (including the Regulatory WACC and final incentive scheme) to Regulated Entities	June 30, 2006
iii.	Utilities to file rate applications	Aug 31, 2006
iv.	ERC to conduct expository hearings on rate applications (CEPALCO, DECORP, MERALCO)	Sep, 2006
v.	ERC to conduct evidentiary hearings on rate applications (CEPALCO, DECORP, MERALCO)	Sep 2006-Jan 2007
vi.	ERC to conduct public hearings on rate applications (Cagayan de Oro, Dagupan City, Metro Manila)	Week of Sep 11-15, 2006
Draft determination process		
i.	ERC to publish draft determination published for consultation	Feb 16, 2007
ii.	ERC to close submissions on draft determination close	Mar 30, 2007
iii.	ERC to conduct public consultation	Apr 16-27, 2007
iv.	Evidentiary hearings	Apr - May 2007
Final determination published		May 31, 2007

2.2.1 Use of terminology with regard to consultations and hearings

The terms “public consultation” and “public hearing” are used to describe the Regulatory Reset Process. While there is a significant degree of overlap between these terms and the processes involved, they will broadly be interpreted as follows :

- Public consultations will apply during the execution of the ERC’s quasi-legislative function, whereby it develops rules and policies in consultation with interested parties. For example, the development of this Position Paper was based on a public consultation process.
- Public hearings will apply during the execution of the ERC’s quasi-judicial function, whereby it makes determinations on rate or similar applications. This will apply to, for example, the consultative process after the submission of rate applications by Regulated Entities during the Regulatory Reset Process.

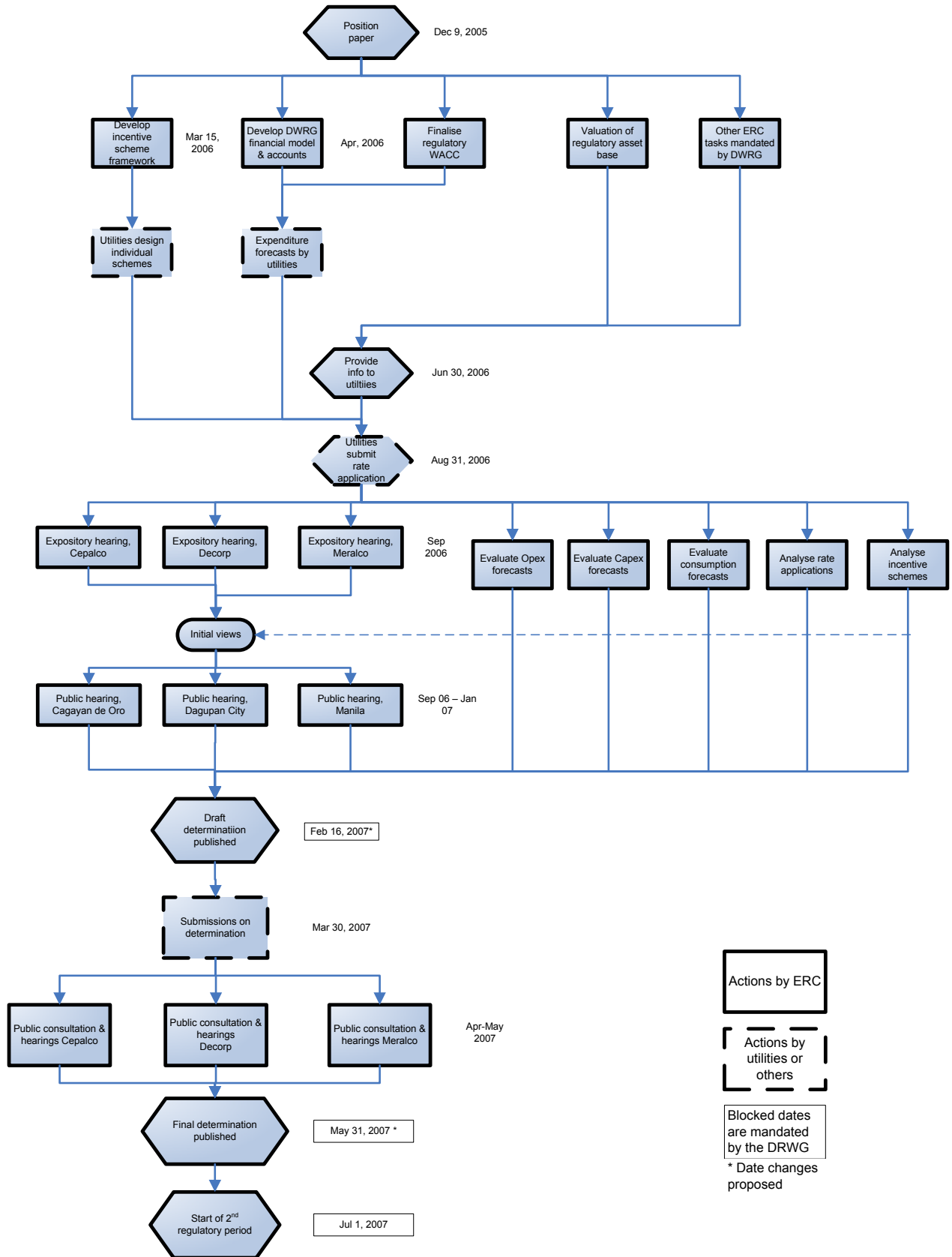


Figure 1 : Flowchart of the Regulatory Reset Process

The Regulatory Reset Process has been amended from that originally proposed in the DWRG and now includes provision for public presentations by the Regulated Entities of their rate applications, as well as public hearings on these rate applications.

The following changes are therefore made to the timelines proposed in the DWRG.

- The date for the publication of the draft determination on the price control arrangements will be February 16, 2007. This is four and a half (4 ½) months before the start of the Second Regulatory Period, not nine months as per Clause 7.1.7 of the DWRG.
- The date for the issuance of a final determination on the price control arrangements will be May 31, 2007. This is one months before the start of the Second Regulatory Period, not three (3) months as per Clause 7.1.7 of the DWRG.

2.3 Appointment of regulatory reset experts

The ERC will retain Regulatory Reset Experts, which may be one or several parties, who may be retained for one or several activities, for the following:

- a) determining the Regulatory WACC (Clause 4.11 of the DWRG);
- b) undertaking a review of asset revaluation and the preparation of a report in this regard (Clause 4.8 of the DWRG);
- c) preparing a report on the condition of assets used to provide Regulated Distribution Services and the regulatory life that should be attributed to these assets (Clause 4.10.3 of the DWRG);
- d) reviewing the capital expenditure forecasts of Regulated Entities (Clause 4.12 of the DWRG);
- e) reviewing the operating and maintenance expenditure of Regulated Entities (Clause 4.13 of the DWRG);
- f) reviewing, remodeling or recalculating of the forecast financial accounts and ratios (Clause 4.22 of the DWRG);
- g) reviewing the energy delivery forecasts provided by Regulated Entities (Clause 4.23);
- h) development of the general framework for the (eventual) performance incentive scheme, as described in Section 9;
- i) assistance in and review of the individual performance incentive schemes, as described in Section 9;
- j) development of a detailed financial model to determine and analyze the maximum average price caps under the DWRG, as described in Section 7.6.5; and
- k) any other matter in respect of which the ERC determines it requires assistance for the Regulatory Reset Process.

The fees for the Regulatory Reset Expert or Experts must be borne by the Regulated Entities. The fees for the activities (a), (f), (h) and (j) will be shared by the Regulated Entities in accordance with the provisions of clause 14.4.1 of the DWRG. For all other

activities, the fees will be borne by each Regulated Entity in accordance with the effort and resources required to provide the outputs for the particular Regulated Entity. Where there are common cost components in the fees for an activity, for example the cost of traveling to and from the Philippines, these will be shared by all Regulated Entities in accordance with Clause 14.4.1 of the DRWG.

Payment of the Regulated Entities will be in accordance with Clauses 14.4.2 and 14.4.3 of the DWRG.

The ERC will identify the Regulatory Reset Experts, who have to meet the criteria for the required experience and qualifications set out in Appendix C of the DWRG. To further clarify these criteria, the following additional paragraphs are to be added to the DWRG, at the start of Appendix C, just below the main heading “CRITERIA FOR REGULATORY EXPERTS”:

“The main categories for which Regulatory Reset Experts will be retained by the ERC are listed below, with the experience and qualifications required for individual experts working on each category. These experience levels and qualifications may not necessarily all lie in a single expert, but rather in a team, or in a group of one or more experts working on a category. Any individual making up part of such a team or group of Regulatory Reset Experts working on a category, should have qualifications in one or more of the areas listed, and have experience in one or more of the aspects listed against that particular category.

The requirements noted below are not intended to prevent a Regulatory Reset Expert from using the support of analysts, administrative or other supporting staff in the provision of services to the ERC in terms of the DWRG and it is not required or expected that such supporting staff should have the experience or qualifications noted below. However, a Regulatory Reset Expert shall review all the outputs from such supporting staff and accept full professional responsibility for such outputs. All information and reports provided by a Regulatory Reset Expert to the ERC shall be presented by the Regulatory Reset Expert in his/her own name and capacity.”

The ERC has also decided to somewhat broaden the criteria for Regulatory Reset Experts and is therefore implementing the following change in the last paragraph and bullets of Appendix C (under the heading “Professional qualifications”):

“Where a person is required to have qualifications in Engineering, Economics or Business or Commerce, or as an Actuary, that person must :

- have graduate or post graduate qualifications in that discipline from a reputable Philippines or overseas university, with demonstrable experience of having worked in that field for three (3) years or longer; or*
- be a member of a professional institute in the Philippines or an overseas jurisdiction which represents that discipline, with a grading according to the rules of that institute that is higher than entry or training level.*

Notwithstanding the above, the ERC may decide to appoint a Regulatory Reset Expert who does not comply with these requirements for professional qualifications, where it has been proven to the satisfaction of the ERC that the Reset Expert has more than ten (10) years demonstrable professional experience in the relevant discipline that is

directly relevant to the service to be rendered. In such a case, the ERC will communicate the decision in advance to the affected Regulated Entity or Entities, providing the supporting information on the experience of the intended Regulatory Reset Expert and why this appointment is considered appropriate for the task to be performed.”

2.3.1 Selection of Regulatory Reset Experts

Regulatory Reset Experts will be identified and selected by the ERC in a transparent process. It may ask Regulated Entities for inputs in identifying suitable candidates.

Where practical and where timeframes allow, the ERC will notify Regulated Entities of its intention to retain a specific Regulatory Reset Expert for an activity and request their comments on this appointment before finalizing the arrangements. While the ERC will take note of these comments and accommodate them as far as they are considered reasonable, it is under no obligation to change its intention or the Expert identified.

An important selection criterion for Regulatory Reset Experts will be their ability to cooperate with local parties, including the Regulated Entities and their ability to transfer knowledge to these parties. Where practical, the engagement of local consultants as part of the activities will be encouraged.

2.3.2 Comment on the outputs from Regulatory Reset Experts

It is anticipated that the Regulatory Reset Experts will work closely with the Regulated Entities in most of the activities and that the Regulated Entities will therefore have ample opportunity to provide inputs and to assess the work of the Experts.

Where practical and the timeframe allows, the ERC will also invite comments from Regulated Entities on the outputs of the Regulatory Reset Expert at the end of an activity. Alternatively, interested parties, including the Regulated Entities will have the opportunity to comment on these outputs during the public hearing process that will follow the issuance of the ERC’s draft determination on the price reset.

2.3.3 Recovery of costs for Regulatory Reset Experts

Regulated Entities are entitled to recover the costs that it will bear for the Regulatory Reset Experts. These costs are considered to be a levy by the ERC and will therefore be recoverable under the “levies, duties or taxes other than corporate income tax” building block.

3. OPERATING AND MAINTENANCE EXPENDITURE

3.1 Basis of operating and maintenance expenditure forecasts

3.1.1 Definition of operating and maintenance costs

For purposes of the Regulatory Reset Process, operating and maintenance costs are defined as those reasonable and efficient costs incurred by a Regulated Entity to effectively operate a Regulated Distribution System and maintain its asset base to allow it to remain serviceable at rated capacity for its normal expected life. It specifically excludes expenses incurred directly for the creation or establishment of fixed assets that form part of the Regulated Distribution System or Regulatory Asset Base, such expenses which are discussed in Section 4.2 below. It also excludes the depreciation of the Rolled-forward Regulatory Asset Base, which is discussed in Section 4.4 below.

A diagram of the operating and maintenance expenditure of a Regulated Entity is provided in figure 2 below. The operating and maintenance costs covered under the DWRG and addressed in this Issues Paper relates only to that for the Regulated Distribution Service grouping.

3.1.2 Expense categories

Regulated Entities have to provide their forecast operating and maintenance expenditure broken down into the categories described in Clause 4.13.1 of the DWRG. Forecasts have to be provided for each Regulatory Year of the Second Regulatory Period.

These categories are as follows (more detailed explanations of each are included in Appendix C):

- a) Distribution expenses - operation
 - Operation supervision and engineering
 - Load Dispatching
 - Station Expenses
 - Overhead Lines (demand & customer)
 - Street Lighting and Signal System (non-roadway and roadways)
 - Metering (distribution network related)
 - Consumer Installations
 - Rents
 - Information technology (distribution network related)
 - Miscellaneous
 - Station Equipment
 - Overhead Lines (demand & customer)
 - Line Transformers
 - Street Lighting and Signal System (non-roadway and roadways)
 - Information technology (distribution network related)

- Metering (distribution network related, including metering related to monitoring and managing system losses)
- Miscellaneous Plant

Figure 2 : Breakdown of Regulated Entity operating and maintenance expenditure

REGULATED ENTITY OPERATIONS & MAINTENANCE EXPENDITURE				
EXPENSES FOR OTHER OPERATIONS	DISTRIBUTION BUSINESS O&M EXPENSES			
	EXCLUDED SERVICE EXPENSES	REGULATED DISTRIBUTION SERVICES O&M		
		DISTRIBUTION SYSTEM EXPENSES	CONSUMER ACCOUNTS	ADMIN & GENERAL EXPENSES
	Other excluded services	Operations and maintenance of assets required to convey electricity from and to connection points	Operation & maintenance of consumer installations	Expenses related to the administration and general management of the distribution utility
		Distribution IT	Customer IT	Admin IT
		Streetlight O&M		
	Other telecom services	Distribution telecom		
	Excluded connections expenses	Distribution connection O&M	Bad debt	Regulatory expenses
		Ancillary services	Meter reading	WESM expenses

- b) Distribution expenses – maintenance
 - Maintenance supervision and engineering
 - Structures
- c) Consumer accounts expenses
 - Supervision
 - Meter Reading Expenses
 - Information technology (consumer related)
 - Consumer Records and Collection Expenses
 - Bad debts
 - Informational and Instructional Advertising Expenses
 - Miscellaneous Consumer Services Expenses
 - Consumer Prompt Payment Discount
- d) Administrative and general
 - Administrative and General Salaries
 - Office Supplies and Expenses

- Information technology (admin & general)
- Outside Services Employed
- Property Insurance
- Injuries and Damages
- Employee Pension and Benefits
- Regulatory liaison and compliance
- Rents
- Maintenance of Office and General Plant
- Officers Allowances and Benefits
- Travel
- Training
- Wholesale Electricity Spot Market (WESM) compliance – market fees⁵
 - Registration fees
 - Metering fees
 - Billing and settlement fees
 - Administration fees
 - Costs for the PEM Board, committees & working groups
 - Market Management Software and upgrades costs recovery
 - WESM – provision and maintenance of security⁶
- Miscellaneous General Expenses

Information technology appears as an item in all main expense categories. This expenditure will be differentiated as follows:

- a) Distribution IT systems are dedicated systems directly supporting the efficient operation and maintenance of Distribution Networks.⁷
- b) Consumer related IT systems are those dedicated to providing and supporting customer services, including Distribution Connection Services.
- c) Administrative and general IT systems are those that contribute to the overall management and benefit of a Regulated Distribution System, but are not directly used in the operation of Distribution Systems.⁸

Where IT systems are shared between these functions, a proportional allocation should be made of the expenses for each. Details of the manner in which such costs are allocated should be provided.

⁵ Only to the extent that these costs apply to Regulated Distribution Services

⁶ Distribution Utilities are mandated to source at least 10% of their power requirements from the Spot Market

⁷ This would include the hardware and software used for applications such as geographic information systems, asset databases, fault monitoring and recording, SCADA and network performance data recording.

⁸ Such IT systems would include the hardware and software for accounting, payroll or human resource management.

No detailed review of expenses in the various “Miscellaneous” categories indicated above is required, unless these expenses exceed five percent 5% of the total forecast operating and maintenance expenditure for any forecast year. Where this 5% is expected to be exceeded, expenditure forecasts for the item have to be provided for the each of the forecast years.

Regulated Entities are free to further subdivide the categories for their operating and maintenance expenditure, as long as this categorization is applied consistently for the forecasting period and can be easily rolled up into the categories listed.

3.1.3 Foreign exchange losses or gains

Clause 4.13.1 (d) (iv) of the DWRG, related to foreign exchange losses or gains will be removed from the DWRG. Separate forecasts against this category are therefore not required and Regulated Entities’ forecasts in this regard should be included in their operating or capital expenditure forecasts for other categories.

3.1.4 Isolation of CPI and foreign exchange impacts

Revenue requirements will be based on Philippine Peso forecasts made in nominal terms.⁹ To allow the ERC to isolate and assess the impact of CPI and foreign exchange movements on the forecast expenditure, this also has to be broken down into real Philippine Peso and real US dollar expenditure.¹⁰

The mechanism for converting the forecast real expenditure to nominal expenditure and foreign expenditure to the local equivalent, is described in Appendix E. For purposes of this calculation, all expenses to be incurred in other foreign currencies have to be converted to a US dollar equivalent, indicating the exchange rates used.

Regulated Entities have to provide full details of their assumptions with regard to forecasts of the Philippine and USA CPI, as well as the future PhP/US\$, or any other applicable exchange rates. The sources of these assumptions have to be identified.

After consideration of the submissions of CPI and foreign exchange rate forecasts by Regulated Entities in their rate applications, the ERC will adopt a common set of measures for these, which it will apply to the expenditure forecasts of all Regulated Entities.

Clause 4.20 of the DWRG requires the ERC to review the weighting factors W1 and W2 as defined in Clause 3.3 of the DWRG, during the Regulatory Reset Process for the Second Regulatory Period. The minor impact of foreign exchange movements on operating and maintenance expenditure will be taken into account when reviewing these weightings. Likewise, the minor impact will also be considered when assessing operating and maintenance efficiency gains (see Section 8 for further discussion).

⁹ The word “nominal” is used in this document in its financial context, implying that the amount forecasted to be spent takes into account inflation. Nominal figures used for annual forecasts should be based on 30 June year-end values.

¹⁰ Supra note **Error! Bookmark not defined.**

3.1.5 *Historical expenditure patterns*

Regulated Entities have to provide the ERC with information on their historical operating and maintenance expenditure in accordance with the requirements of Clause 4.13.1 of the DWRG. The categories into which the expenditure information should be broken down are as discussed in Section 3.1.2 above.

Quarterly records are required on historical operating and maintenance expenditure, broken down per expense category as described in Section 3.1.2 above, for :

- a) the five (5) calendar years ending on 31 December 2006, providing estimates of anticipated expenses for the final months of 2006 as required; and
- b) estimated expenditure for the six (6) - month period ending on 30 June 2007.

This information is to be provided at the same time as the operating and maintenance expenditures are submitted.

In situations where due to abnormal factors, historical expenditure patterns do not provide a fair reflection of what would have been considered efficient expenditure under normal circumstances, this has to be highlighted by Regulated Entities. A full description of the reasons for this claim and the abnormal factors giving rise to it must be provided. An indication also has to be provided of what would have been considered efficient expenditure under normal circumstances.

3.1.6 *Allocation of overhead costs*

Where Regulated Entities engage in business activities outside the operation of their Regulated Distribution Systems as regulated under the DWRG, full details of the type and magnitude of overhead costs incurred for these activities should be provided. It should be indicated how total overhead costs for the Regulated Entities are shared between their regulated and non-regulated activities, the proportion in which these costs have been allocated to the Regulated Distribution System in the operating and maintenance expenditure forecasts, and the basis for this allocation.

For the sake of explanation, overhead costs would predominantly, but not exclusively, fall under the category of Administration & General expenses in the Uniform Filing Requirements (UFR) Application. These overhead costs include, but are not limited to those for:

- boards of directors or other governance bodies;
- senior management (where not solely allocated to the management of the Distribution System);
- business-wide information systems and support staff;
- shared corporate functions such as human resource management or legal support;
- buildings and facilities shared between regulated and non-regulated operating;
- business-wide insurance; and
- foreign exchange losses or gains.

3.2 Levies, duties and taxes other than corporate income tax

Forecasts must be provided of the expected payments that will be made for taxes other than corporate income tax, levies and duties payable by a Regulated Entity for each Regulatory Year of the Second Regulatory Period, in as far as these taxes, levies or duties relate to the operation of their Distribution Systems.

In addition, Regulated Entities must provide information on their historical expenditure on levies, duties and taxes other than corporate income tax in relation to their Distribution Systems, for:

- a) the five (5) calendar years ending on 31 December 2006, providing estimates of anticipated expenses for the final months of 2006 as required; and
- b) estimated expenditure for the six (6) - month period ending on 30 June 2007.

For the sake of clarity, the ERC notes that:

- business or other taxes levied by local government units (LGUs) on a revenue basis, relating to non-distribution revenue such as consumer payments for transmission charges, losses recovery charges or energy sold are not to be recovered under the distribution wheeling rates;¹¹ and
- franchise taxes are a passed-through item and not to be recovered under the distribution wheeling rates.

3.3 Evaluation of operating and maintenance expenditure forecasts

Each category of the operating and maintenance expenditure forecasts submitted by Regulated Entities must be accompanied by a justification of why the expenditure is necessary and why it is considered of reasonable magnitude. The justifications are also to demonstrate how operating efficiencies and productivity will be improved during the Second Regulatory Period.

3.3.1 *Benchmarking and alternative methods to analyze efficiency*

The DWRG notes that international benchmarks may be used to compare the operating and maintenance performance of a Regulated Entity to justify expenditure. Where Regulated Entities intend to use such benchmarks, the sources of information, the international companies against which performance has been benchmarked and the benchmarking methodology must be clearly explained. In addition, Regulated Entities must clearly demonstrate how they have normalized international benchmarks to make them relevant for the local conditions.

Regulated Entities may also consider alternative methods to establish the efficiency of their proposed operating and maintenance forecasts. Without being prescriptive in this regard, such methods could include:

¹¹ Such charges should be recovered as a separate line item on consumer accounts (for taxes levied by LGUs), after approval of a filing in this regard by the ERC.

- a bottom-up approach, whereby expenditure requirements are estimated based on assessing all the operating and maintenance actions required to ensure the efficient operation of a Distribution System and the reasonable cost for each such action based on the personnel and equipment involved; or
- analysis of historical operating and maintenance expenditure patterns, taking into account the historical efficiency and the potential that existed for efficiency improvements without substantially reducing service levels.

If an alternative method is applied to establish the efficiency of forecast operating and maintenance expenditure, Regulated Entities are to provide full details of the methodology applied, their calculations and the supporting information used.

3.3.2 Trade-off between capital and operating expenditure

There is potential for a substantial degree of trade-off between operating and capital expenditure incurred by a Regulated Entity, especially in the shorter term. When considering the efficiency of forecast operation and maintenance expenditures, the ERC will therefore also take note of the efficiency of the forecast capital expenditure.

Where Regulated Entities explicitly intend to make such trade-offs, this is to be highlighted in their rate applications and the justification for the intended trade-offs described.

3.3.3 Review of operating and maintenance expenditure forecasts

The ERC will retain a Regulatory Reset Expert in accordance with Article XIV of the DWRG to review the operating and maintenance expenditure forecasts (including the taxes, levies and duties noted in Section 3.2) and supporting documentation submitted by each Regulated Entity. The expert will advise the ERC on whether these forecasts:

- a) are reasonably efficient;
- b) are supported by adequate justification;
- c) are sufficient to support the forecast growth of connections, energy delivered or coincident peak demand;
- d) are sufficient to maintain or improve existing Regulated Entity service performance or Distribution System reliability levels;
- e) are reasonable with regard to the recovery of bad debt and the strategy for improving debt collection; and
- f) make a reasonable allowance for forecast changes in CPI or exchange rate levels.

Following consideration of this advice, the ERC will decide whether the Regulated Entities' proposed operating and maintenance expenditure forecasts and the factors on which they are based meet these criteria and, if this is the case, will approve the forecast expenditures. If the ERC decides that the criteria have not been met, it will consult further and approve such forecasts as it considers necessary for the criteria to be met.

3.4 Data requirements

Appendix E provides the templates for the operation and maintenance expenditure forecasts to be provided by Regulated Entities to the ERC, including the CPI and exchange rate forecasts. It also includes the templates for providing details on forecast expenditure on levies, duties and taxes other than corporate income tax, as noted in Section 3.2.

4. DEPRECIATION AND RETURN ON CAPITAL

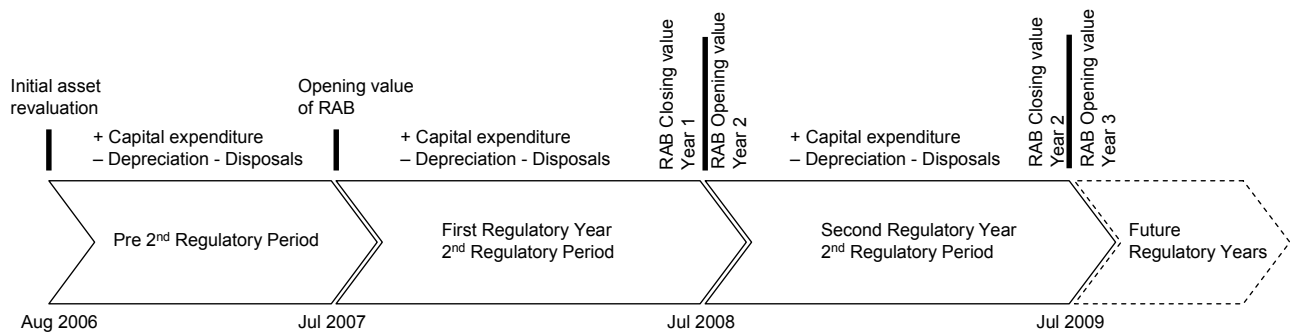
4.1 Regulatory Asset Base

In Clauses 4.8 and 4.9 of the DWRG, the methodology that will apply in establishing the value of the Regulatory Asset Base for each Regulated Entity is described.

An asset revaluation must be undertaken for each Regulated Distribution System, which will culminate in an Initial Revaluation Report for each Regulated Distribution System. This is to be completed eleven (11) months before the start of the Second Regulatory Period. The asset valuations will be undertaken using an optimized depreciated replacement cost (ODRC) approach.

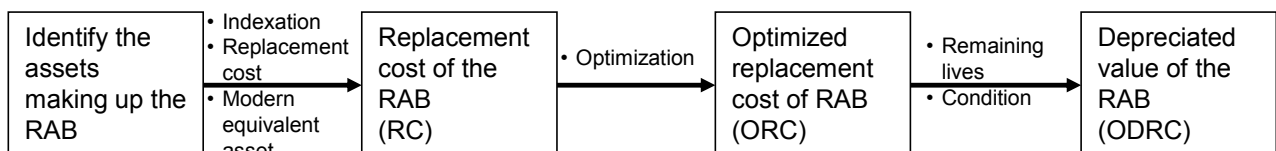
The initial revaluated opening values established in the revaluation reports will form the basis of the Rolled-forward Depreciated Regulatory Asset Base that will be used by the ERC to calculate the annual revenue requirements of Regulated Entities, after making allowance for future efficient capital expenditure, asset depreciation and asset disposals. The process for determining the Rolled-forward Depreciated Regulatory Asset Base is illustrated in diagram form in Figure 3 below.

Figure 3 : Rolled-forward Depreciated Regulatory Asset Base



The basic steps for revaluing the Regulatory Asset Base (RAB) is demonstrated in the diagram in Figure 4 below.

Figure 4: Steps in determining the initial revaluated asset values



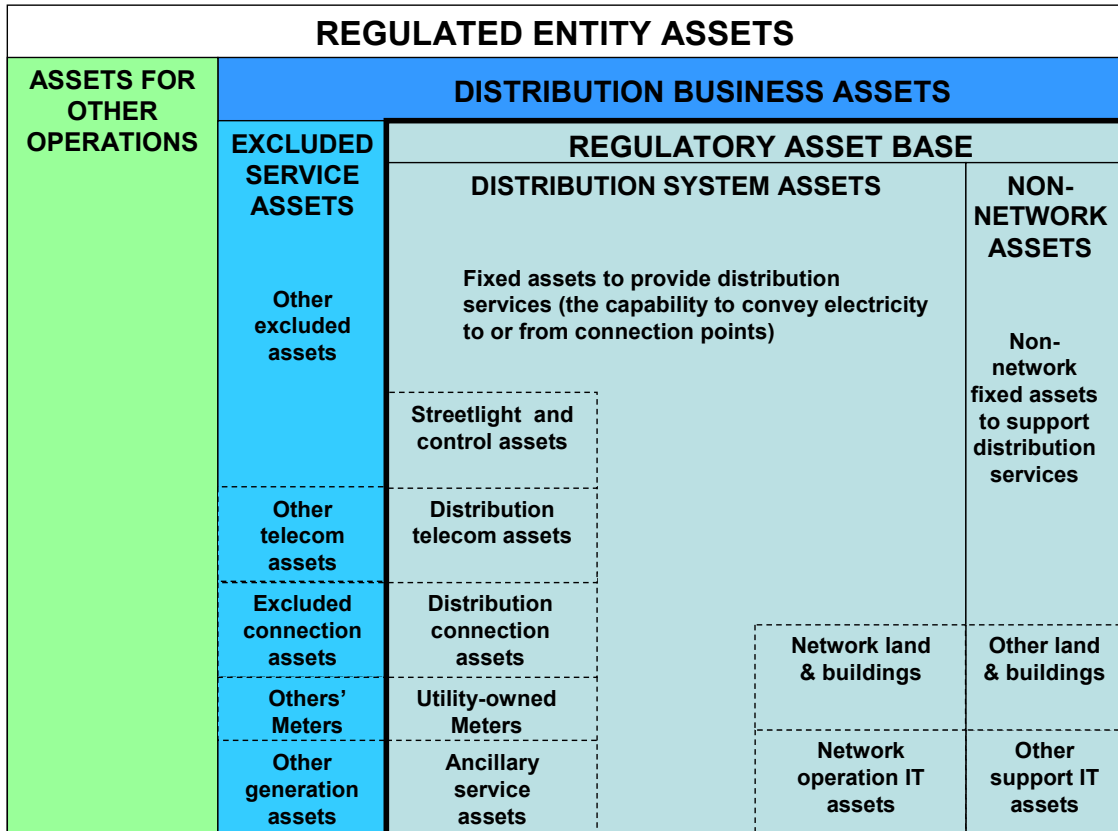
4.1.1 Definition of the Regulatory Asset Base

The main Distribution System function of Regulated Entities is the provision of Regulated Distribution Services and most of the assets they own or control are therefore applied for

this purpose. The Regulatory Reset Process and the DWRG is limited to Regulated Distribution Services and the associated Regulatory Asset Base.

For the Regulatory Reset Process, the Regulatory Asset Base is defined as those assets required by a Regulated Entity for the efficient provision of its Regulated Distribution Services. It refers to the Distribution System assets as well as those Non-network Assets required to support the delivery of Regulated Distribution Services. In figure 5 below, a diagram is provided of the Regulatory Asset Base in relation to the total assets that could be owned or managed by a Regulated Entity.

Figure 5 : Breakdown of Regulated Entity asset base



With regard to generation assets, where such assets are used to generate electricity for resale or to provide ancillary services that are “on-sold” to the National Transmission Corporation (TRANSCO) or any other user of such services, do not form part of the Regulatory Asset Base. However, generators may be used solely for distribution purposes, such as providing voltage support, reactive VAR compensation, demand peak lopping or providing standby power during planned interruptions. In such cases, where no direct revenue is derived from selling the energy generation or ancillary capacity of generators, such generators are to be included under the Regulatory Asset Base and their cost would be recovered through the distribution wheeling rates. Regulated Entities should provide full details of all such generators included as part of the Regulatory Asset Base.

In terms of the DSOAR (Clause 4.5.2), energy consumption meters may be owned either by end-consumers or by Distribution Utilities. In case of the former, such meters will not be included in the Regulatory Asset Base. (Distribution Utilities will, however, still be

required to operate, maintain and seal all consumption meters, which is a recognized operating and maintenance expense in terms of the DWRG.)

4.1.2 *Asset categories*

Clause 4.8.5 of the DWRG specifies the categories into which the assets making up a Regulated Distribution System must be subdivided for revaluation purposes. The Initial Revaluation Report must specify the value of the assets against each of these categories, as well as the information used and assumptions made against each category. Where considered necessary, Regulated Entities can break down asset information into further subcategories (under the main heading provided here). The asset categories to be used are listed below and also explained in Appendix L.

a) Distribution Plant

- Land and Land Rights (dedicated to distribution purposes)
- Structures and Improvements (dedicated to distribution purposes)
- Station Equipment -
 - Power transformers
 - Switchgear
 - Protective equipment
 - Metering and control equipment
 - Communications equipment
 - Other station equipment
- Poles, Towers and Fixtures – Distribution; Customer
- Overhead Conductors and Devices – Distribution; Customer
- Underground Conduits – Distribution; Customer
- Underground Conductors and Devices – Distribution; Customer
- Line Transformers – Distribution; Customer
- Power conditioning equipment¹²
- Services
- Meters, Metering Instruments & Metering Transformers – Distribution, Customer¹³
- Information technology equipment (dedicated to distribution purposes)
- Regulated Entity property on Consumers' Premises
- Street Lights and Signal Systems
- Submarine Cables

¹² This refers to equipment such as capacitor banks for power factor correction, voltage regulators, generators used for spinning reserve or voltage stability, VAR compensators etc..

¹³ Demand and energy flow metering on the distribution network is separate from customer consumption metering.

(note that the differentiation between distribution and customer refers to the use of an asset either as part of the Distribution System, or as part of the Distribution Connection Assets)

- b) General Plant (Non-network Assets)
 - Land and Land Rights (non-network related)
 - Structures and Improvements (non-network related)
 - Office Furniture and Equipment
 - Transportation Equipment
 - Stores Equipment
 - Tools, Shop and Garage Equipment
 - Laboratory Equipment
 - Information systems equipment (non-network related)
 - Power-operated Equipment
 - Communication Plant and Equipment
 - Miscellaneous Equipment
- c) Materials and Supplies, including spares

Transferred Subtransmission Assets (see Section 11.7) must be included as a separate category on its own.

The Initial Revaluation Report must also indicate the weighted average age of the assets in each asset category.

The Non-network Assets will constitute part of the Regulatory Asset Base and have to be included in the revaluation report. However, they will not be subject to optimization. In addition, the valuation methodologies described in Section 4.1.6 above may not be appropriate for these assets. The Regulatory Reset Expert(s) will indicate in the Initial Revaluation Report the approach adopted for including and valuing Non-network Assets in the Regulatory Asset Base.

4.1.3 *Distribution Connection Assets*

Excluded Services are discussed in section 11.5. Distribution Connection Service will eventually be an excluded service, after the promulgation of the DSOAR. Hence Distribution Connection Assets will eventually be excluded from the Regulatory Asset Base. For the present however, these assets are to remain included under the Regulatory Asset Base on which Regulated Entities are entitled to a return under the PBR.

4.1.4 *Asset database*

In order to maintain accurate records of the revalued and historical values of assets as determined during the Initial Revaluation, as well as the depreciation of these assets going forward, Regulated Utilities are required to maintain a detailed asset database. For the

purposes of the database, individual assets must be broken down to a meaningful level, to at least a single feeder, transformer or switchboard level. All major substation assets must also be separately indicated. Without being prescriptive about the format that this database should take, which could be GIS (Geographical Information System) records or a dedicated database application, the information below must be included for all assets:

- description of the asset, showing key ratings, installation and configuration details;
- initial installation date of the asset;
- initial historical cost of the installed and commissioned asset, including all costs capitalized against the asset;
- all costs capitalized against the projects after installation, such as for refurbishment;
- historical value of the asset as of the date of the Initial Revaluation Report;
- optimized value of the asset as of the date of the Initial Revaluation Report;
- depreciation of the ODRC of the asset, going forward; and
- depreciation of the historical asset value of the asset, going forward.

In Clause 1.7 of the DWRG, it is noted that a separate register must be held of any Subtransmission Assets transferred to Regulated Entities by TRANSCO. The proposed asset database should therefore make allowance for these assets to be separately identifiable.

4.1.5 Use of Regulatory Reset Expert for asset valuation

The ERC will retain a single, independent Regulatory Reset Expert or group of Regulatory Reset Expert(s) for purposes of valuing the Regulatory Asset Base of each of the Regulated Entities. Prior to this appointment, it will consult with Regulated Entities to establish their preferences and to ascertain whether they have valid concerns that would lead to exclusion of a particular expert from the process.

It is noted that the existing guidelines for appraisal, including those for the accreditation of appraisers, as contained in the “Guidelines for the Appraisal of Property, Plant and Equipment for Rate Fixing Purposes of ERC” are superseded by the DWRG and the DSOAR, for Regulated Entities. Appraisers will be required to have proven skills in the use of the ODRC valuation technique.

4.1.6 Determining the replacement cost

The first step of the revaluation process, as demonstrated in Figure 4, involves the calculation of the replacement cost (RC) of the Distribution System assets. In Clause 4.8.4 of the DWRG, three (3) methods of asset revaluation are suggested:

- a) **Indexation of the historical value of assets.** This bases the current replacement cost of an asset on the application of an appropriate escalation index to the initial cost of establishing the asset. The initial cost will take into account all the direct costs incurred in establishing the asset, including capitalized costs. The method assumes that little technological change has occurred in the asset type since installation, and that it would be re-installed in the same original manner.

- b) **Absolute valuation by replacement cost analysis.** This bases the revaluation of assets at current unit prices, based on recent evidence. It assumes that no significant technological change of the asset type in question has occurred since installation. In using this method, allowance must be made for the economies of scale that would be obtained through substantial replacement projects rather than through one-of or low-volume replacements. In addition to the landed material cost of an asset and other direct costs related to its installation, such as those for design, procurement, transport, project management, construction and commissioning, should also be included in the unit rates.
- c) **Absolute valuation using modern equivalent asset analysis.** This method involves the valuation of an asset by assuming that it would be replaced by a modern equivalent asset with the same service potential. It is particularly appropriate where asset-technology has changed significantly and assets of the original type are no longer manufactured. In using this method allowance must be made for replacement projects of significant scope rather than one-of or low-volume replacements. In addition to the landed material cost of an asset and other direct costs related to its installation, such as those for design, procurement, transport, project management, construction and commissioning, should also be included in the unit rates.

The revaluation process will use a combination of the above approaches, applying each where most appropriate. The Regulatory Reset Expert will indicate in the revaluation report the basis on which the asset revaluations have been prepared. The report will highlight, among others, the adequacy of historical records, the basis of deciding on what constitutes a modern equivalent asset, information sources on current replacement costs, the basis of allowing for economies of scale, and other costs to be capitalized.

4.1.7 *Treatment of works under construction at the Initial Revaluation date*

The following text will be added to Clause 4.8.5 of the DWRG, to be included after paragraph (c) of this clause, as a separate sub-clause of Clause 4.8.5:

“Where construction projects have commenced before the date of the Initial Revaluation but will only be completed after this date, any capital expenditure that has been incurred against the projects before the date of the Initial Revaluation will be included in the Rolled Forward Regulatory Asset Base. Such expenditure will be:

- (a) *broken down into in the Asset Categories j described above;*
- (b) *based on the actual, documented value of the capital expenditure incurred, to the extent that such expenditure was reasonable and to the extent that it was attributable to assets which would (if they had been in existence as at the date of the Initial Revaluation) be included in the Regulatory Asset Base; and*
- (c) *indexed from the documented date at which the capital expenditure had been incurred until the date of the Initial Revaluation, using as index the regulatory WACC (as calculated in terms of Section 4.11).*

Regulated Entities are to provide the Regulatory Reset Expert/s with information regarding the nature of such projects under construction, the amounts of capital expenditure incurred against these projects and the dates on which such expenditure have occurred.”

4.1.8 Optimization principles

The second step in the asset revaluation process is to determine the optimized replacement cost (ORC) of the Distribution System asset base. The optimization requirements proposed by the ERC are described in detail in Appendix A, with key aspects of the methodology, and parameters summarized below.

The form of optimization that will be adapted by the ERC uses the existing network as the starting point for the valuation – the so-called “brownfields” approach. A series of optimization tests will be systematically applied to the whole network to identify stranded assets, excess capacity and over-engineering. Where necessary, the network is notionally redesigned to provide an optimized network.

The basic rules for establishing the optimized network are that it should:

- a) provide a quality of supply similar to that which currently exists, except where this exceeds the approved standard quality of supply criteria; and
- b) have a capacity similar to that of the existing network, except where this exceeds allowed future load growth over the forecast periods allowed.

Optimization consists of five (5) stages:

- a) excluding stranded assets;
- b) optimizing the configuration of the network;
- c) optimizing the capacity of elements in the network;
- d) optimizing network engineering; and
- e) optimizing stores and spares.

The determination of indexed historical costs, replacement costs or modern equivalent replacement costs for existing individual network components is *not* part of the optimization process. This has to be done prior to calculating the ORC.

In some cases the quality of supply provided by an existing network may be excessive, in which case the network has to be optimized down to appropriate quality levels. (The opposite case, where existing quality levels are lower than what is considered appropriate and would therefore require additional network investment, or optimization “up”, is not of concern. This is because the optimization principles do not allow for the provision of network capacity or quality of supply in addition to what currently exists.) The quality of supply levels that will apply to the Regulatory Reset Process are provided in Table 2.

A further key component of the optimization methodology is the planning horizon allowed for various distribution network components when considering future load growth. The planning horizons that will be applied for the Regulatory Reset Process are set out in Table 3.

Table 2: Proposed quality levels

Quality category	Network components	Quality level
Degree of network security	<ul style="list-style-type: none"> • Points of connection to transmission network • Sub-transmission network¹⁴ • Substations • Primary switching stations • Primary distribution feeders¹⁵ 	n-1 ¹⁶
	<ul style="list-style-type: none"> • Secondary distribution feeders • Low voltage network 	n-0
Power Factor	• All	>85% lagging
Voltage variations	• All	>90% of nominal voltage level <110% of nominal voltage level
Signal distortion	• All	Total Harmonic Distortion <5%
Technical system losses	• All	<= 6.5% of energy conveyed

The power factor, voltage variations, technical losses and signal distortion categories are not used for optimizing out assets. They are included as additional criteria constituting sufficient justification for distribution assets.

Table 3: Planning horizons for network components

Network components	Planning horizon
Sub-transmission lines Substations (excluding transformers) Primary distribution circuits Points of connection to transmission network	15 years
Substation transformers	10 years
Secondary distribution circuits Low voltage network Other distribution assets	5 years

¹⁴ For the purposes of optimization, sub-transmission assets are defined as those assets used on Regulated Distribution Systems to connect transmission and distribution substations. It does not include those assets owned by Regulated Entities to directly connect large consumers to the transmission network.

¹⁵ A primary distribution circuit is a distribution voltage circuit used for transporting electricity to other circuits at the same or lower distribution voltage levels. In general, subject to certain exceptions, primary distribution circuits will not be used for the direct supply of electricity to customers or for the direct supply of distribution transformers that feed a low voltage network.

¹⁶ This refers to a deterministic quality level, where the n-x level refers to the in-built redundancy in a network, or part of the network. For example, n-1 implies that there is a single component redundancy for all parts of the sub-network considered, so that failure of any single component would not result in any disruption of supply. A level of n-0 provides no redundancy and failure of a single component may therefore result in service disruption.

4.1.9 Calculating the ODRC

The final step of the asset revaluation process involves the determination of the ODRC of the Distribution System asset base. This is done by deducting the regulatory depreciation from the optimized replacement cost (ORC). The methodology for the depreciation of the Regulatory Asset Base is described in Section 4.4 below.

The Initial Revaluation Report requires an indication, per asset category, of the weighted average optimized replacement cost and the weighted average ODRC.

4.1.10 Allowance for capital tied up during construction work

The DWRG provides for a CWIP factor to compensate for the time value of capital tied up during the construction of major assets (Clause 4.8.9).

Calculation of the value of capital invested during construction will be based on the “spend profile” for representative construction projects, calculated on a month-by-month basis over the whole planning and construction period of such projects. The Regulatory WACC will be applied to the varying levels of capital tied up during this process, to determine the appropriate return that could otherwise have been earned on the capital.

The ERC will apply a general CWIP factor to all assets, to be determined by the Regulatory Reset Expert. In special cases, where evidence is provided by Regulated Entities that a special CWIP factor should be applied to a particular asset or group of assets, the ERC will consider the evidence and may approve the special factor for that asset or group of assets.

The CWIP factor may be the same for all revalued assets, or may differ between asset categories.

4.1.11 Initial opening value of the Regulatory Asset Base

The Initial Revaluation Report will establish the opening value of the Regulatory Asset Base as of the start of the Second Regulatory Period. Since the report will be issued at least eleven (11) months before the time, it will estimate the impact on the Regulatory Asset Base of capital expenditure and depreciation during these final months before the start of the Second Regulatory Period. The process for this consideration is described in Clause 4.8.10 of the DWRG.

The ODRC of the Regulatory Asset Base as established in the Initial Revaluation Report and approved by the ERC will form the opening value for the interim period between its issuance and the start of the Second Regulatory Period. The closing value of the Regulatory Asset Base at the end of this interim period¹⁷ will be based on this opening value plus an allowance for the following costs established during the interim period:

- addition of the forecast capital expenditure over the period, adapted for the CWIP factor described in Section 4.1.10 above. This expenditure will only be included to the extent that it is reasonable and is attributable to assets that would have been included in

¹⁷ This will also be the opening value at the start of the Second Regulatory Period.

the Regulatory Asset Base after the optimization process, had they been in existence at the start of the process;

- deduction of the estimated depreciation of the ODRC value established in the Initial Revaluation Report over the interim period;
- deduction of the estimated depreciation of the capital expenditure incurred over the interim period, from the date of commissioning of the assets on which the expenditure was incurred; and
- deduction of the estimated net receipts from the disposal of assets included in the opening Regulatory Asset Base, calculated as the balance of the value at which they were disposed of and their value in the rolled-forward rate base at the time of disposal.

The value of asset disposals over this interim period will be calculated at the ODRC value of the assets being disposed of, as contained in the rolled-forward Regulatory Asset Base.

4.1.12 Rolled forward asset base

The Regulatory Asset Base of a Regulated Distribution System for each regulatory year will be determined by the roll-forward calculation of the value of each asset category, as described in Clause 4.9 of the DWRG. The value of the Regulatory Asset Base used for calculating the annual revenue requirement of Regulated Entities is the average of the opening and closing values of the Regulatory Asset Base for each regulatory year.

The opening Regulatory Asset Base value at the start of the Second Regulatory Period is the ODRC of the Regulated Distribution System, adjusted for the interim period between issuance of the Initial Revaluation Report and the start of the Second Regulatory Period as described in Section 4.1.11 above. The value will be as determined by the ERC in accordance with Clause 4.8.12 of the DWRG.

Subsequently, the closing value of the Regulatory Asset Base for each Regulatory Year shall be based on the opening value for that year plus an allowance for the following estimated costs arising during the Regulatory Year :

- addition of the estimated capital expenditure, as approved by the ERC and discussed in Section 4.2 below;
- deduction of depreciation of the opening Regulatory Asset Base as of the start of the Second Regulatory Period;
- deduction of depreciation of the capital expenditure incurred on Distribution System assets during the previous years of the Second Regulatory Period; and
- deduction of any income received from the disposal of assets that were included in the Regulatory Asset Base. The income from disposals will be estimated at the rolled-forward depreciated regulatory asset value of the assets involved.

Calculation of depreciation is discussed in Section 4.4 below. Depreciation will be separately calculated on capital investments made after the start of the Second Regulatory Period and Regulated Entities must maintain separate records of such asset investments and the depreciation on these assets to that of the initial opening value of the Regulatory Asset Base at the start of the Second Regulatory Period.

4.1.13 Working capital

In calculating the return on capital included in the annual revenue requirement for Regulated Entities, the DWRG provides for a return on working capital tied up in the Regulated Distribution Systems. The rate of return on this capital is set at the Regulatory WACC.

Working capital is calculated in accordance with the methodology described in Clause 4.7.7 of the DWRG and is set as a proportion of the difference between real operating and maintenance expenditure and the real amount of bad debts for a Regulated Distribution System. The proportion that will be applied will be calculated by the Regulatory Reset Expert following an assessment of the cash-flow patterns of Regulated Entities and consideration of a hypothetical and efficient Distribution Utility.

It is intended that the return on working capital will only be provided on capital applied to the managing and operation of the Distribution System and will not apply to working capital required by Regulated Entities for the payment of transmission, generation or similar charges.¹⁸ However, it is noted that in the interim, until all the arrangements with regard to allocation of service charges have been finalized, Regulated Entities may be unable to recover such returns and they will therefore be allowed to recover this as part of the distribution wheeling rates.

4.1.14 Historical cost of the Regulatory Asset Base

The Initial Revaluation Report must also identify the historical cost of the Regulatory Asset Base for a Regulated Distribution System. These historical costs must be depreciated in a similar manner to the rolled-forward depreciated Regulatory Asset Base described in Section 4.1.12 above. It is therefore required that Regulated Entities maintain asset registers with depreciated historical as well as ODRC values.

The written down historical costs are used when calculating the corporate income tax that a Regulated Entity is entitled to recover.

4.1.15 Data requirements

The data requirements for asset valuation are documented in Article VI of the DWRG. It is anticipated that the Regulatory Reset Expert(s) for the preparation of the Initial Revaluation Report will provide additional guidance on the information required for this report. As a minimum requirement, the template in Appendix G must be completed for the existing distribution asset base.

Regulated Entities are expected to endeavor to provide the Regulatory Reset Expert(s) with all reasonable information and data needs.

¹⁸ The return on working capital required for these types of charges should be included as a separate line item in consumers' accounts or separately included and indicated as part of the relevant charge, following the approval by the ERC of a filing in this regard.

4.2 Capital expenditure forecasts

Clause 4.12 of the DWRG discusses the basis of the capital expenditure forecasts that must be provided to the ERC by Regulated Entities. Forecasts have to be provided for each Regulatory Year of the Second Regulatory Period.

Where capital expenditure projects are forecast to extend across Regulatory Years, only that portion of the expenditure to be capitalized within each particular Regulatory Year is to be included in the capital expenditure forecast for that year.

Following the approval of a Regulated Entity's capital expenditure forecasts by the ERC, these are to be included in the building block analysis through which the annual revenue requirement of the Regulated Entity will be determined.

4.2.1 *Definition of capital expenditure*

Capital expenditure is defined to be those expenses incurred by a Regulated Entity on property (excluding intellectual property), plant or equipment to :

- augment the capacity of the network to meet demand growth;
- replace ageing and obsolete assets;
- extend the useful lives of network assets to beyond the standard regulatory lives;
- improve the quality and reliability of supply;
- relocate network assets where so instructed by other parties;
- make capital improvements that are necessary for meeting the established service quality targets and/or technical and safety obligations imposed by regulatory or statutory agencies; and
- purchase or construct Non-network Assets (for example, buildings and vehicles) required for the normal operation of the Regulated Distribution System.

An item of property, plant and equipment should be recognized as an asset when:

- it is probable that future economic benefits associated with the asset will flow to the Regulated Entity (which could include the avoidance of economic harm which may otherwise occur); and
- the cost of the asset to the Regulated Entity can be measured reliably.

4.2.2 *Capitalization of operating or maintenance expenses*

The International Accounting Standards (IAS) adopted in the Philippines will apply with regard to the capitalization of operating and maintenance expenses by Regulated Entities. In general, only those operating expenses incurred directly in the course of establishing capital assets can be capitalized to become part of the value of the associated assets and therefore to be included in the capital expenditure forecasts.

Cost components that can be capitalized are:

- purchase price, including import duties and non-refundable purchase taxes, and any directly attributable costs of bringing the asset to working condition for its intended use, e.g., cost of site preparation, initial delivery and handling costs, installation costs, professional fees such as for architects, engineers and project managers, and estimated cost of dismantling and removing the asset and restoring the site, and the estimated costs of dismantling and removing the asset as a provision under International Accounting Standards (IAS) 37, Provisions, Contingent Liabilities and Contingent Assets;
- borrowing costs allowed under IAS 23, to the extent that these are not already recovered through the CWIP factor;
- administration and other general overhead costs and start-up and similar pre-production costs which are directly attributed to the acquisition of the property, plant and equipment and/or bringing the asset to its working condition; and
- major spare parts and stand-by equipment qualify as property, plant and equipment when the enterprise expects to use them during more than one (1) period. If the spare parts or servicing equipment can be used only in connection with an item of property, plant and equipment and their use is expected to be irregular, they are accounted for as property, plant and equipment and are depreciated over a time period not exceeding the useful life of the related asset.

For subsequent expenditures on assets, capitalization shall be done only when it is probable that future economic benefits, in excess of the originally assessed standard of performance of the existing asset, will flow to the enterprise. As such, the expenditure improves the condition of the asset beyond its originally assessed standard of performance, as follows:

- modification of an asset to extend its useful life, or increasing its capacity;
- upgrading assets to achieve a substantial improvement in the quality of output; and
- adoption of new production processes enabling a substantial reduction in previously assessed operating costs.

The following items are to be excluded from capitalized costs:

- any trade discounts and rebates given in relation to the asset;
- initial operating losses incurred prior to an asset achieving planned performance;
- applicable government grants in accordance with IAS 20 (Accounting for Government Grants and Disclosure of Government Assistance); and
- expenditure on repairs or maintenance of property, plant and equipment made to restore or maintain the future economic benefits that an enterprise can expect from the originally assessed standard of performance of the asset. For example, the cost of servicing or overhauling plant and equipment is usually a maintenance expense since it restores, rather than increases, the originally assessed standard of performance.

At the time of their rate applications, Regulated Entities have to provide the ERC with a description of their general approach to capitalization of expenses. Any administrative,

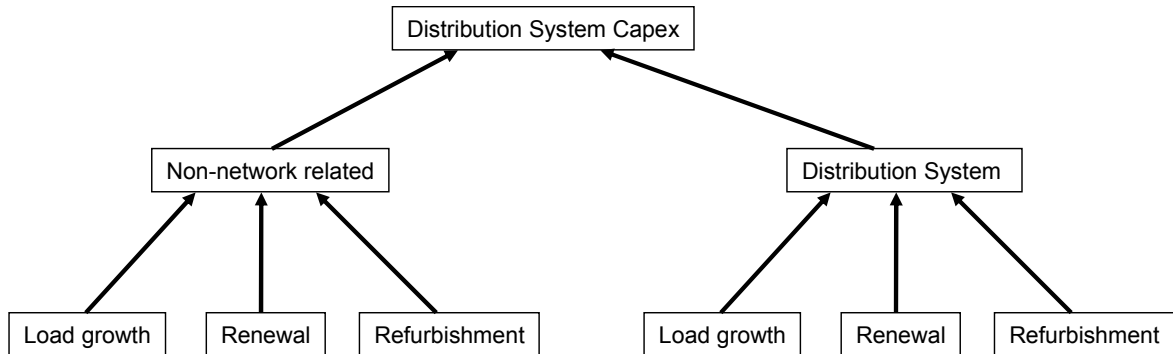
management, governance or other overhead costs to be capitalized must be separately identified to the ERC in the capital expenditure forecasts, together with the justification for this decision and the manner in which the costs involved are calculated. The Regulatory Reset Expert will consider these costs and advise the ERC on the reasonableness thereof. After consideration, the ERC may decide to accept these costs as part of the capital expenditure forecasts, or may decide to reclassify them as operating and maintenance costs (if deemed efficient and reasonable).

4.2.3 Categorization of capital expenditure forecasts

Regulated Entities have to provide their forecast capital expenditure broken down into the asset categories described in Clause 4.8.5 of the DWRG and as discussed in Section 4.1.2 above.

In addition, capital expenditure forecasts must be divided into Distribution System related and non-network related expenditure, and each of these classes into subclasses for expenditure related to load growth, asset renewal and asset refurbishment. This categorization is depicted in Figure 6 below.

Figure 6 : Proposed categorization of forecast capital expenditure



<u>Categories</u>			<u>Asset categories</u>		
Xxx	.....	.....	Xxx	.....	.....
Xxx	.....	.....	Xxx	.....	.....
Xxx	.....	.....	Xxx	.....	.....
Xxx	.....	.....	Xxx	.....	.....
Xxx	.....	.....	Xxx	.....	.....

This breakdown of capital expenditure should include all capital expenditure projects planned for each Regulatory Year, including those major projects discussed in Section 4.2.4 below.

To avoid confusion over what constitutes growth, renewal or refurbishment projects, the following should be noted:

- Renewal projects are those that replace existing assets due to their deteriorating condition, when the anticipated economic cost of operating, refurbishing and maintaining these assets exceed that to renew them.

- Renewal projects can also be to replace assets due to technological obsolescence.
- There is often a significant degree of overlap between maintenance and refurbishment projects. In general, maintenance works are defined as those works required to ensure that an asset performs its designated function for its full standard asset life. Refurbishment projects on the other hand, are those that are used to increase the serviceability of assets to beyond their normal standard asset lives. Expenses incurred for maintenance activities should not be capitalized.
- Refurbishment projects often involve at least a degree of asset replacement, which may give rise to some ambiguity. Such projects should be classed in accordance with their underlying activities that constitute the largest part of the project value.
- Projects undertaken to renew assets because they can no longer meet growing demands should be classed as growth projects.

4.2.4 Major capital expenditure projects

The capital expenditure program must separately identify each major capital expenditure project planned for each Regulatory Year during the Second Regulatory Period. The definition in Clause 4.12.1 of the DWRG of what constitutes major projects which must be separately identified by Regulated Entities is amended as follows :

“...This capital expenditure program must separately identify each capital expenditure project in respect of which the forecast capital expenditure in any Regulatory Year or subsequent Years during or after the Second Regulatory Period is greater than PhP 50 million or 30% of total capital expenditure forecasted for that Regulatory Year, whichever is lower. ”

In addition, the definition of the term “Significant Project” in Clause 1.3 of the DWRG is also to be changed to the following :

“Significant Project *A capital expenditure project:*

(a) *which is contained in the capital expenditure program that is approved by the ERC under Section 4.12.5 for a Regulated Distribution System; and*

(b) *for which the capital expenditure forecasted in any Regulatory Year for that project (as contained in that program) is greater than PhP50 million or thirty percent (30%) of the total capital expenditure forecasted for that Regulatory Year under that program, whichever is lower. ”*

For each major capital project separately identified, the following additional information must be provided :

- a description of the project, including the reason why it is required and what its intended outcome is;
- the estimated cost of the project;

- the planned construction period and dates, from the date when significant costs will start to be incurred through to the commissioning date of the project;
- the estimated cost to be incurred against the project in each Regulatory Year, or after the Second Regulatory Period;
- the justification for the ranking of the project relative to others in terms of its timing;
- the anticipated implication if the project is to be deferred or cancelled;
- the anticipated impact of the project on the performance measures of the Regulated Distribution System;
- the classification of the project into the categories and classes described in Section 4.2.2 above;¹⁹ and
- the operating cost that will be capitalized against the project, including overheads.

The information provided on each major project must be sufficient to allow the ERC to make a well-informed decision on the appropriateness of the project for inclusion in a capital expenditure program.

The Regulatory Reset Expert will further examine the materiality of the proposed thresholds for what is classed as a major project and, if appropriate, the ERC may amend the value prescribed above and advise the Regulated Entities of this change.

4.2.5 Justification of other capital expenditure

The residual capital expenditure for each Regulatory Year, after removing the major projects discussed in Section 4.2.4 above, has to be justified against each asset category. Regulated Entities have to justify why the expenditure is required and is considered to be of reasonable magnitude.

4.2.6 Historical evidence of capital expenditure

As part of their price reset applications during the Regulatory Reset Period, Regulated Entities have to provide historical records of capital expenditure on Distribution System Assets and Non-network Assets related to the Distribution System for the last five (5) calendar years before the start of the Second Regulatory Period.

These expenditure records have to be broken down as closely as reasonably possible to the categories described in Section 4.1.2 above.

Projects completed over this period with values exceeding PhP50 million or thirty percent (30%) of the total annual capital expenditure should be separately identified.

4.2.7 Isolation of CPI and foreign exchange impacts

Capital expenditure forecasts should be provided in nominal terms. Supporting information must be provided by Regulated Entities on the assumptions made and

¹⁹ If a project is deemed to cover more than one category, it must be indicated what proportion of costs is to be allocated to each category.

information used with regard to forecasting the CPI (Philippines and the USA) and the PHP/US\$ exchange rate for each quarter of the Second Regulatory Period.

To be consistent, the CPI and exchange rate forecasts used by Regulated Entities for forecasting operating and maintenance expenditure (described in Section 3.1.3) and that used for capital expenditure forecasts have to be the same.

The form of conversion of forecast real capital expenditure will be similar to that described for operating and maintenance expenses in Section 3.1.3. For purposes of this calculation, all expenses to be incurred in other foreign currencies have to be converted to a US dollar equivalent.

4.2.8 Evaluation of capital expenditure forecasts

The ERC will retain a Regulatory Reset Expert in accordance with Article XIV of the DWRG to review the capital expenditure forecasts and supporting documentation submitted by each Regulated Entity. The expert will advise the ERC on whether these forecasts:

- a) fairly represent the capital expenditure program such that all related capital expenditure is grouped into single projects;
- b) are based on the best available prices obtainable from the international market;
- c) conform with the trending patterns established from assessing the historical expenditure records;
- d) are reasonably efficient from a design and implementation point of view;
- e) are sufficient to support the forecast growth of connections, energy delivered or coincident peak demand;
- f) are sufficient to allow the Regulated Entity to maintain or improve performance target levels as specified by the ERC; and
- g) make reasonable allowance for forecast changes in CPI or exchange rate levels.

In determining whether the forecast expenditure is efficient, the ERC requires that the Regulatory Reset Expert should apply the optimization principles required for the revaluation of the Regulatory Asset Base, as described in Section 4.1.8 above.

Following consideration of the advice from the Regulatory Reset Expert, the ERC will approve the Regulated Entities' proposed capital expenditure forecasts if the factors on which they are based meet these evaluation criteria. Otherwise, the ERC will consult further with that entity and approve such forecasts as it considers necessary for the criteria to be met.

The ERC will rely on a number of sources of evidence to determine the efficiency of capital expenditure, which may include benchmarking against Distribution Utilities in other jurisdictions. In using such benchmarks, the ERC will normalize the figures to account for differences between the Regulated Entities' Distribution Systems, social and geographical characteristics of that of the benchmark comparators.

4.2.9 *Impact of capital expenditure on service levels*

In the capital expenditure forecasts, Regulated Entities are required to indicate whether their overall capital expenditure forecasts provide for maintaining current performance levels, or whether they include some provision for improved performance levels. Where such improvement initiatives are separately identifiable, they should be highlighted.

4.2.10 *Data requirements*

Appendix F provides the templates for the capital expenditure forecasts to be provided by Regulated Entities to the ERC.

4.3 *Weighted average cost of capital*

The ERC recognizes that the determination of the rate of return that Regulated Entities can earn on the Regulatory Asset Base is a key factor for the Regulatory Reset Process. It intends to calculate a regulatory WACC for a hypothetical, efficient Distribution Utility that will be used as the rate of return for the Second Regulatory Period.

However, at the time of preparing this Position Paper, the ERC is conducting a hearing process on the regulatory WACC that should apply to transmission wheeling services in the Philippines. As the method for calculating the WACC, the underlying assumptions, and the parameters on which it will be based are likely to be very similar for distribution and transmission wheeling services, the ERC may compromise the hearing process if it expresses views on the calculation of the WACC in this Position Paper.

During the first quarter of 2006, the ERC will appoint a Regulatory Reset Expert to investigate the regulatory WACC that should apply to Distribution Utilities in the Philippines and will then base its preliminary decision on the outcome of this investigation. A paper will be issued before May 31, 2006 to highlight the ERC's decision on the preliminary regulatory WACC and the reasons for the decision.

4.4 *Regulatory depreciation*

Regulatory depreciation is described in Clause 4.10 of the DWRG. This applies to the depreciation of both asset components making up the Rolled Forward Regulatory Asset Base – on the one hand, those assets in existence at the start of the Second Regulatory Period, and on the other, the assets coming into existence thereafter. Depreciation on these two components is calculated separately, but using the same methodology and standard asset lives discussed below.

4.4.1 *Standard regulatory lives of assets*

A weighted average regulatory life must be determined for each asset category (Clause 4.10.1(a) of the DWRG).²⁰ This should be the weighted average economic life of assets, where the economic life of an asset is deemed to expire when the costs of maintenance and repair of that asset exceed the efficient replacement cost of it on a project comparison basis, using a forward-looking discounted cash flow analysis.

²⁰ The asset categories are as described in section 4.1.2.

The regulatory asset life must be the same for the same asset category for each Regulated Distribution System. Determining the regulatory lives of asset categories will therefore require that the experience with assets in all the Regulated Distribution Systems, operated by all Regulated Entities, is taken into account.

The ERC will require the Regulatory Reset Expert to advise it on the economic life for each asset category. The Expert's estimate will be the economically efficient life of each asset category, based on considering the manner in which such assets are applied in the various Regulated Distribution Systems, the experience of Regulated Entities with regard to the lifespan of assets and the reasonable balance between refurbishment, operating and maintenance expenditure and life-time replacement expenditure.

As the lifespan of assets within an asset category may vary, the weighted average lifespan will be calculated. This will be done by using a weighting proportional to the optimized replacement cost for the assets within that asset category as of the date of the Initial Revaluation.

The weighted average life per asset category thus determined will be used as the standard asset life for that category. These standard lives will be used not only to depreciate the existing asset base as of the start of the Second Regulatory Period, but also for assets acquired thereafter.

Where significant differences exist between the lifespan of assets making up a category, further subcategories will be developed, each of which would then have its own standard (weighted) lifespan. This categorization will be investigated by the Regulatory Reset Expert.

4.4.2 Determining the age of assets for the purpose of the Initial Revaluation

The Regulatory Reset Expert must form an opinion on the weighted average age of the assets in each asset category at the time of the Initial Revaluation. It is anticipated that this determination will be based largely on historical records that Regulated Entities have of the installation dates of assets.

In cases where such historical data does not exist, the Expert will assess the condition of the asset(s) in question and make an estimate of the age based on that assessment, also taking into account the environment in which the asset is situated.

The remaining weighted average life of an asset category is calculated by deducting the weighted average age of the category from its weighted average regulatory life.

4.4.3 Proposed form of depreciation

Regulatory depreciation will be calculated on a straight line basis across the standard lifespan of assets, per asset category.

In Clause 4.10.1 of the DWRG, two (2) methods are proposed to calculate depreciation which, if the determination of the ODRC of the Regulatory Asset Base during the Initial Revaluation was done correctly, should provide identical results. Annual depreciation is calculated as:

- the ORC value of the asset category divided by the regulatory lifespan of the asset category; or

- the ODRC value of the asset category divided by the remaining life of the asset category.

4.4.4 Use of assets beyond their regulatory lifespan

Assets used beyond their standard regulatory life-span will retain a book value (for the purposes of calculating the value of the Regulatory Asset Base) of not less than five percent (5%) of the ORC of the asset. Once assets are depreciated to this level, their depreciated value would not fall below that, for as long as they remain in full operation.

This information should be entered into the asset database discussed in Section 4.1.4, which should be adapted to include either:

- detailed depreciation registers for each asset; or
- the establishment of a separate set of records that would record the residual value of assets used beyond their regulatory lives, the value of which would be added to the value of the Rolled Forward Depreciated Regulatory Asset Base, and removed once those assets are finally taken out of service.

5. ENERGY CONSUMPTION FORECASTS

5.1 De-aggregation of forecasts

Pursuant to Clause 4.23 of the DWRG, each Regulated Entity is to provide the ERC with forecasts of energy (in kWh) to be delivered for each year of the Second Regulatory Period through each Regulated Distribution System operated by it. The volume of such delivery will be determined by the amount of energy delivered to Connection Points, not the amount of energy entering the Regulated Distribution System. All line losses are therefore to be excluded from the forecasts.

In Clause 6.3 of the DWRG, the forecast data requirements are spelled out. In accordance therewith, Regulated Entities have to provide energy consumption forecasts (in kWh) for each Customer Segment.

5.1.1 Demand forecasting

In addition to energy consumption forecasts, Regulated Entities are also required to provide demand forecasts for each Regulatory Year during the Second Regulatory Period, measured in kW or MW as appropriate.²¹ As far as possible using existing metering installations and obtaining the relevant information from TRANSCO or generators, this is to be broken down into the following level of detail for each Regulated Distribution System :

- co-incident maximum demand for the Regulated Distribution System, as measured at all Grid Connection Points and connection points to generators, including embedded generation;
- maximum demand at each Grid Connection Point and connection points to generators, including embedded generation;
- maximum demand at each substation forming part of a Regulated Distribution System;
- maximum demand on each sub-transmission feeder (or combination of feeders where redundancy is built into the system); and
- maximum demand on each major distribution feeder (or combination of feeders where redundancy is built into the system).²²

The maximum demand at any point on a network is generally defined as the highest peak demand experienced therein (or forecast to be experienced) during any half-hour period (or other period as approved) during a Regulatory Year. Half-hourly demand will be determined by integrating (numerically or otherwise) the instantaneous demand experienced at that point for the half-hourly period. Such measurement is required for each half-hour period of the Regulatory Year.

²¹ Where demand is measured in apparent power terms (kVA or MVA), an appropriate conversion should be made to real power (kW or MW) using historical evidence of the power factor experienced during peak times.

²² Major distribution feeders are defined as for optimization purposes in Section 4.1.8.

The ERC agrees to the use of different metering periods for determining maximum demand, as long as these do not exceed hourly intervals.

The ERC also note that in many cases the required metering information noted above cannot currently be provided by Regulated Entities. It therefore requires Regulated Entities to assess their metering installations and consider how, over time, it can extend this to provide the information required. The required capital and operating & maintenance expenditure to achieve this should be included with the rest of the forecasts of the Regulated Entity at the time of the reset for the second and further regulatory periods. This expenditure will be considered by the ERC and approved if deemed efficient and appropriate for the purposes required.

5.2 Basis of forecasting

Regulated Entities must explain the basis of their consumption and demand forecasting models in sufficient detail to allow the Regulatory Reset Expert to make an informed judgment as to the sufficiency thereof. In addition, an indication should be provided of how accurate forecasts using these methodologies have been in the past.

In making the estimates, Regulated Entities should take into account at least the following factors and their impact on consumption:

- historical growth and trends;
- economic growth data and forecasts;
- demographic patterns;
- significant macro- or micro-economic factors;
- local town-planning or development guidelines;
- industry or technological developments impacting on the use of electricity;
- residential, commercial or industrial developments of which advance notice has been received; and
- discussions with developers and major existing clients about their intended further developments.

If, after considering the opinion of the Regulatory Reset Expert(s), in the opinion of the ERC the consumption or demand forecasting for any Regulated Entity is not reasonable, the ERC will determine the forecasts for that Regulatory Entity. These adapted forecasts will then be used for all the applications noted in the DWRG that rely on such forecasts, including the assessment of operating, maintenance and capital expenditure.

As part of their forecasts, Regulated Entities are required to submit historical consumption and demand figures for the last five calendar years before the start of the Second Regulatory Period (making such forecasts as required for the remaining months of the last year), broken down as far as possible into the divisions discussed in Section 5.1 above.

5.3 Data requirements

Appendix I provides the templates for the consumption and demand figures to be provided to the ERC.

6. CORPORATE INCOME TAX

6.1 Income tax forecasts

The calculation of the estimated income tax is described in Clause 4.14 of the DWRG. For each Regulatory Year, it is based on applying the corporate tax rate of the Regulated Entity to the forecast net taxable income of the Regulated Entity for the previous Regulatory Year, including the case where the previous year was the last year before the start of the Second Regulatory Period.

Tax losses will be recoverable as indicated, and will form part of the net taxable income.

For the purpose of calculating the net taxable income in Clause 4.14.2(b) of the DWRG, the definition of the AT_{t-2} term will be changed as follows :

“(b) *where Regulatory Year t is a Regulatory Year (other than the first Regulatory Year) in the Second Regulatory Period :*

$TIncome_{t-1} + AT_{t-2}$

Where :

$TIncome_{t-1}$ = *the taxable income of the Regulated Entity for Regulatory Year t-1 as calculated on the basis of the methodology for its determination set out in Section 4.14.3; and*

AT_{t-2} = *the net tax losses carried forward at the end of the Regulatory Year in the Second Regulatory Period which precedes Regulatory Year t-1,*

where the net tax losses:

- (i) *arise from the provision of Regulated Distribution Services in respect of the relevant Regulated Distribution System by the Regulated Entity;*
- (ii) *are calculated from the start of the last year of the First Regulatory Period to the end of the Regulatory Year in the Second Regulatory Period which precedes Regulatory Year t-1;*
- (iii) *carried forward at the end of any Regulatory Year in the period covered are calculated as the sum of the tax losses carried forward into that Regulatory Year and the taxable income or tax loss for that Regulatory Year; and*
- (iv) *only exist where it is a negative amount, with positive amounts resulting in a zero net tax loss carried forward.*

For these purposes, taxable income will be treated as a positive amount and tax losses will be treated as a negative amount.”

Taxable income is estimated based on the maximum annual capped price and the estimated energy consumption for each Regulatory Year, from which will be deducted the estimated operating and maintenance expenditure, interest payments on outstanding debt and

depreciation of the historical asset base for that Regulatory Year. The following should be noted :

- Depreciation of the opening asset base will be in real terms and will be based on the historical asset base, not the ODRC of the Regulatory Asset Base.²³
- Depreciation of the asset base acquired after the start of the Second Regulatory Period will be similar to that forming part of the Rolled Forward Depreciated Regulatory Asset Base.
- Interest payments will be based on the value of the Regulatory Asset Base, and the debt ratio and cost of debt used for the calculation of the WACC.

The regulatory tax losses relate only to those losses arising from the operation of the Regulated Distribution System. As such, it would only arise if the taxable income of a Regulated Entity, as defined in Clause 4.14.3 of the DWRG is a negative amount for any Regulatory Year, or for the last year of the First Regulatory Period.

²³ As noted in section 4.1.14, records have to be maintained for both the ODRC and HC values of the Regulated Distribution System asset base.

7. PRICE CONTROL

7.1 Establishment of the previous maximum average price-cap

During the second and subsequent years of the Second Regulatory Period, the base, or opening maximum average price cap (MAP_{t-1}) for each Regulatory Year is the maximum average price cap determined for the previous Regulatory Year. The opening maximum annual price cap that should apply for the First (1st) Regulatory Year of the Second Regulatory Period is determined as follows:

7.1.1 *Opening maximum average price-cap – Initial Regulated Entity*

For Initial Regulated Entities, the opening maximum average price cap for the Second Regulatory Period is based on the maximum average price cap determined for the last year of the First Regulatory Period, the calculation of which is described in clause 3.2.1 of the DWRG.

7.1.2 *Opening maximum average price-cap – Subsequent Regulated Entity*

For Subsequent Regulated Entities, the opening maximum average price cap for the Second Regulatory Period is based on the revenue billed for Regulated Distribution Services provided through the relevant Regulated Distribution System and the amount of energy delivered through the Regulated Distribution System during 2006.

7.2 Weighted Index for inflation and exchange rate changes

Calculation of the Weighted Index applied to the maximum average price-cap is described in clause 3.3 of the DWRG. This index is based on changes in the CPI and, if a trigger level is reached, changes in the PhP/US\$ exchange rate and the USA consumer price index. Where this trigger has been reached, a weighting of 0.6 will apply to the Philippine CPI changes and a weighting of 0.4 to the combined exchange rate and USA CPI changes.

7.2.1 *Determination of quarterly CPI figures*

The annual change in the CPI considered for price setting for a Regulatory Year is based on a comparison of quarterly CPI figures. These quarterly figures are those for the year ending in the March quarter three (3) months before the start of the Regulatory Year, and the same quarterly figures for the year ending on 31 March one year earlier. This process is described in Clause 3.3.2 of the DWRG.

To avoid confusion, it should be noted that the years referred to in this clause are Regulatory Years, not calendar years. For example, if the Regulatory Year considered is 2009 (i.e. that ending in June 2009), the term $CPI_{(QD, t-1)}$ refers to the December of Regulatory Year 2008. This is in fact the quarter ending on 31 December 2007.²⁴

²⁴ The quarter ending on 31 December 2008 would be the December quarter of Regulatory Year 2009.

The quarterly figures will be based on the All Items Consumer Price Index published by the Philippines National Statistics Office, using an index base of “2000 = 100”.²⁵

7.2.2 Determination of quarterly exchange rate and USA CPI figures

Calculation of changes to the PhP/US\$ exchange rate and changes in the USA CPI will also be based on a comparison of quarterly exchange rate or CPI figures. The comparison will be for the year ending in the March quarter three months before the start of the Regulatory Year, against the same quarterly figures for the year ending on 31 March one year earlier. This is described in Clause 3.3.3 of the DWRG.

Historical exchange rate figures will be as published by the Bangko Sentral ng Pilipinas (BSP), expressed as PhP/US\$1, based on the inter-bank mid-rates prevailing on each of the last five (5) business days of a quarter.

Historical USA CPI figures as published by the US Bureau of Labor Statistics for all urban customers, UC city average will be used. These will be for the last month of each quarter in series CUUR0000SAO.

The manner in which the DWRG refers to the quarterly figures is similar to that used for Philippine CPI figures and their interpretation should therefore also be the same.

7.2.3 Changes to the weighted index

In terms of Clause 4.20 of the DWRG, the ERC is to review the values of the W1 and W2 indices set out in Clause 3.3 of the DWRG, to determine whether they appropriately reflect the proportions of the operating, maintenance and capital expenditure forecast for the Regulatory Period undertaken or otherwise referable to a foreign currency.

As a result of this review, in which it will be assisted by a Regulatory Reset Expert, the ERC may change the relative weighting of the W1 and W2 factors. This revised weighting may be the same for the whole Regulatory Period or may differ between years. In addition, it may also differ between Regulated Distribution Systems.

Regulated Entities will be informed by May 31, 2006 if there are to be any changes to the weightings, with the reasons for any such changes.

7.3 Over or under recovery of revenue

The under/over recovery formula that will apply in determining the maximum average price-cap for a Regulatory Year is described in Clause 4.3 of the DWRG. The purpose of this recovery is to correct the maximum average price-cap where under- or over-recovery of revenue has occurred during the previous Regulatory Year, purely as a result of the actual weighted average tariff per kWh, taking into account actual consumption levels, being higher or lower than the allowed maximum average price-cap.

The correction factor allows for the impact of interest by using an interest factor (one hundred eighty (180) day weighted average Manila Reference Rate of the BSP). It also

²⁵ If the NSO should change the base value for reported CPI, all CPI values used for calculating the annual change in CPI should be adjusted to the same base value.

allows for a penalty factor of an additional four percent (4%) to this interest factor if over-recovery exceeds seven percent (7%) of the maximum average price-cap.

It is not the intention to apply the 4% penalty factor to income arising from related business undertakings. To ensure this, the DWRG will be amended as follows :

“4.3.2(c) if $DA_{2008} > 0$

$$\text{and } [(AWAT_{2008} - (RBR_{2007}/CQ_{2007})]/[(0.5MAP_{2006}) + (0.5MAP_{2007})] < 1.07$$

then

$$K_{2008} = DA_{2008}[(1 + (i_{2008})/100)];$$

(d) if $DA_{2008} > 0$

$$\text{and } [(AWAT_{2008} - (RBR_{2007}/CQ_{2007})]/[(0.5MAP_{2006}) + (0.5MAP_{2007})] \geq 1.07$$

(where \geq means greater than or equal to)

then

$$K_{2008} = DA_{2008}[(1 + (i_{2008} + 4)/100)] - 0.04[(RBR_{2007}/CQ_{2007}) + 0.07(0.5MAP_{2006} + 0.5MAP_{2007})]; \quad ”$$

(note that the correction factor k_t in the first year of the Second Regulatory Period is zero for Subsequent Regulated Entities)

and

“4.3.3 (b) if $DA_t > 0$

$$\text{and } [(AWAT_t - (RBR_{t-1}/CQ_{t-1})]/[(0.5MAP_{t-1}) + (0.5MAP_{t-2})] < 1.07$$

then

$$K_t = DA_t[(1 + (i_t)/100)];$$

(c) if $DA_t > 0$

$$\text{and } [(AWAT_t - (RBR_{t-1}/CQ_{t-1})]/[(0.5MAP_{t-1}) + (0.5MAP_{t-2})] \geq 1.07$$

(where \geq means greater than or equal to)

then

$$K_t = DA_t[(1 + (i_t + 4)/100)] - 0.04[(RBR_{t-1}/CQ_{t-1}) + 0.07(0.5MAP_{t-1} + 0.5MAP_{t-2})]; \quad ”$$

7.4 Tax adjustment factor

The tax adjustment factor is to correct for over or under recovery of corporate income tax that has occurred during the previous Regulatory Year and is described in Clause 4.4 of the DWRG.

This factor is determined by comparing the actual corporate income tax paid during a Regulatory Year for the provision of Regulated Distribution Services in a Regulated Distribution System, to the corporate income tax estimate that was made for that period during the regulatory reset.

7.5 Revenue earned on distribution network by non-regulated businesses

In calculating the correction factor for over/under recovery of revenue (clause 4.3.1 of the DWRG) and the initial maximum average price-cap for Subsequent Regulated Entities (clause 4.5 of the DWRG), an allowance is made for the addition of revenue derived from related business undertakings that utilize the relevant Regulated Distribution System, but do not form part of Regulated Distribution Services. These business undertakings can be engaged directly or indirectly by a Regulated Entity.

Related business activities include but are not limited to the following :

- Service fees (service connection, re-connection, etc.)
- Rental for distribution transformers
- Rental for poles, boom and truck cane
- Testing and calibration fees
- Relocation and transfer fees
- Inspection and installation fees
- Illegal connection surcharge
- Jobbing and contract fees
- Engineering design on special projects
- Rental of other utility property
- Revenue from miscellaneous operations
- Dividend income
- Bad debts recovery

For the Second (2nd) Regulatory Period, the RBR_t (Clause 4.3.1) and RBR_{bs} (Clause 4.5) values will be set at fifty percent (50%) of the net income derived from related business activities. It is noted that in order to adhere to the EPIRA (Section 26), Regulated Entities are required to maintain separate accounts for each related business undertaking, to ensure that they shall neither subsidize in any way such business undertakings nor encumber their distribution assets in any way to support such business.

7.6 Calculation of the efficiency factor (X-factor)

Calculation of the X-factor is based on a smoothing formula described in Clause 4.15 of the DWRG. The factors from which it is calculated are discussed below.

7.6.1 Forecast inflation rates

Regulated Entities have to submit CPI forecasts as part of their expenditure forecasts which will be verified by the ERC. The ERC intends to consider the CPI indices provided by the various Regulated Entities and, based on this consideration, decide on a common factor that will be applied to all.

7.6.2 Initial maximum average price cap

The initial maximum average price used in the calculation of the X-factor is the same value that is used in the calculation of the maximum average price at the start of the Second Regulatory Period, as described in Sections 7.1.1 and 7.1.2 above.

7.6.3 Forecast energy consumption

The forecast energy consumption figures will be those submitted by Regulated Entities, approved or adapted by the ERC as described in Section 5 above.

7.6.4 Setting of the P_0 factor

The P_0 factor is an amount (in PhP/kWh) that the ERC will determine for each Regulated Distribution System to take into account a balance between windfall gains and losses in revenue resulting from external factors over which Regulated Entities have little or no control (such as windfall gains/losses arising from the revaluation of the existing asset base). In addition, the factor will be used to reduce price shocks during the transition from the First Regulatory Period to the Second Regulatory Period.

Boundaries are set for the P_0 value as described in Clauses 4.15.3 (a) and (b) of the DWRG.

7.6.5 Development of financial model

In order to allow the ERC and Regulated Entities to calculate and analyze the maximum average price caps for each Regulated Distribution System, including the determination of the X-factor and to assess the impact of the P_0 -factor, the ERC will retain a Regulatory Reset Expert to develop a detailed financial model. This model will be based on the formulas and the information to be provided pursuant to the DWRG and the Issues Paper.

In addition, the model will also be used to model the financial accounts and ratios noted in Clause 4.22 of the DWRG.

8. EFFICIENCY ADJUSTMENTS

The DWRG makes provision for efficiency adjustments, to ensure that a Regulated Entity has an incentive to reduce controllable costs to below those forecasts approved by the ERC as part of the regulatory reset process. This process is described in clause 4.19 and Article IX of the DWRG.

8.1 Overview of mechanism for efficiency adjustment

The definitions for calculating the net efficiency gain for a Regulatory Year is described in Clause 9.2 of the DWRG.

The carry-over mechanism for an efficiency gain (or loss) achieved in a Regulatory Year is described in Clause 9.3 of the DWRG. In order to carry forward such a gain (or loss), it will be added to (or subtracted from) the allowed annual revenue for each Regulatory Year in the Third (3rd) Regulatory Period up to and including the Fourth (4th) Regulatory Year following the occurrence of the efficiency gain (or loss).

8.2 Adjustment of expenditure forecasts

In Clause 9.2.4 of the DWRG provision is made for the possible adjustment by the ERC of the earlier approved capital or operating and maintenance expenditure forecasts for a Regulated Entity. This is specifically for the purpose of calculating the net efficiency adjustments and is not intended to in any way impact on the calculation of the allowed annual revenue during the Second Regulatory Period, or the X-factor and the maximum average price-caps.

For purposes of the net efficiency adjustments, such adjustments of the approved forecast expenditures may be required to reflect:

- changes in the scope of services and activities undertaken by a Regulated Entity from those that formed the basis of the approved forecasts; and
- material differences between the forecast electricity demand levels experienced on a Regulated Distribution System and those forecast²⁶, as measured by the co-incident maximum demand.²⁷

The DWRG will be further expanded to provide for similar adjustment of approved forecast amounts for capital, operating or maintenance expenditure in the case of material changes in the CPI or foreign exchange rates as compared with those used for the approved forecasts. The following paragraphs will be added to Clause 9.2.4 of the DWRG, directly following on 9.2.4 (b):

“ (c) *material differences between the actual Philippine CPI as compared with the Philippine CPI figures used for the capital expenditure forecasts approved by the ERC pursuant to Section 4.12.5 and operating and*

²⁶ Material differences are defined as those cases where the actual demand is greater than 103% or less than 97% of the forecast demand.

²⁷ See section 5.1.1 for a discussion on the measurement of maximum demand.

- maintenance expenditure forecasts approved by the ERC pursuant to Section 4.13.5 (for these purposes there will only be deemed to be such a material difference where the actual ΔCPI_t for a Regulatory Year as calculated in section 3.3.2, varies by more than ten percent (10%) from the annual change in the CPI forecast by a Regulated Entity for Regulatory Year t , as calculated by using the ΔCPI_t formula in Section 3.3.2 but substituting actual quarterly CPI figures with the Regulated Entity's approved quarterly forecast figures for the same period); and*
- (d) *material differences between the actual PhP/US\$ exchange rate and the USA CPI as compared with the exchange rate and USA CPI figures used for the capital expenditure forecasts approved by the ERC pursuant to Section 4.12.5 and operating and maintenance expenditure forecasts approved by the ERC pursuant to Section 4.13.5 (for these purposes there will only be deemed to be such a material difference where the actual ΔUSER_t for a Regulatory Year, as calculated in Section 3.3.3, varies by more than ten percent (10%) from the annual change in the exchange and CPI rates forecast by a Regulated Entity for Regulatory Year t , as calculated by using the ΔUSER_t formula in Section 3.3.3 but substituting actual quarterly exchange rate and USA CPI figures with the Regulated Entity's approved quarterly exchange rate and USA CPI forecast figures for the same period)."*

8.3 Maintaining service delivery levels

Expenditure efficiencies are not allowed to be gained at the expense of service and network performance levels. In the DWRG, provision is made for excluding net efficiency adjustments during the Third Regulatory Period if it is found during the regulatory reset that 2004 service delivery levels have not been maintained for any Regulatory Year during the Second Regulatory Period.

The service measures that will be monitored are those discussed in Section 9.3 and the historical and actual performance information submitted by Regulated Entities under the performance incentive scheme will be used to assess performance against 2005 levels. For determining whether performance levels have slipped below 2005 levels, the ERC will calculate the S-factor described in Section 9.3.3 to 9.3.5 for each Regulatory Year, but will use the 2005 performance in the relevant indices as base value when assessing performance against target, instead of the historical averages as proposed for the performance incentive scheme. If the S-factor thus calculated for any Regulatory Year is less than zero, it would constitute slippage against 2005 service levels.²⁸

The ERC therefore will closely monitor capital expenditure savings to ensure that such savings will not be detrimental to the effective longer term operation, delivery capacity and service performance of a Regulated Distribution System. In particular, the net capital efficiency adjustments are not intended to arise from savings made by deferring or

²⁸ If information for 2005 performance against the incentive measures are not available, only those indices for which information exist will be used.

canceling capital expenditure projects approved during the regulatory reset. Where such deferrals or cancellations therefore occur, the ERC may adjust the capital expenditure forecasts for purposes of calculating the net capital efficiency adjustment.²⁹

If pursuant to Clause 12.2 of the DWRG, an X-factor adjustment event occurs as a result of deferred capital expenditure on Significant Projects, the subsequent adjustment made to the approved capital expenditure program will also be applied for purposes of calculating the net capital efficiency adjustments.

²⁹ This is unless a Regulated Entity can prove to the ERC that the postponement of a project will result in a higher overall economic benefit due to external factors such as changes in technology, more certainty with regard to developments in load centers or patterns, or the completion of other works which would substantially reduce the cost of a project or add to the value it would contribute.

9. PERFORMANCE INCENTIVE SCHEME

Under Clause 4.18 of the DWRG, a performance incentive scheme will be implemented that rewards each Regulated Entity for achieving specified performance target levels, and penalizes it for failing to achieve specified target levels. This incentive scheme is further described in Article VIII of the DWRG.

9.1 Interim performance incentive schemes

During consultations on the Regulatory Reset Issues Paper, it became clear that serious shortcomings exist with regard to the performance measurement information for Distribution Systems. The levels of performance information that can be provided for each also vary greatly.

The ERC recognizes that in the absence of sufficient performance data, its intended performance incentive scheme cannot be effectively implemented. The following approach will therefore be implemented:

- a) The performance incentive scheme described below will be implemented from the start of the Third (3rd) Regulatory Period only. A final framework for the intended scheme will be provided to Regulated Entities not later than February 28, 2006.
- b) Drawing from this framework, each Regulated Entity is required to design its own simplified performance incentive scheme for the Second Regulatory Period. This would take into account those indices in the framework that it can measure and for which it has historical data, or use indices that could, over time, be rolled into the final framework. The Regulated Entities are also to suggest, with appropriate justification, the performance bands against which actual performance should be measured for each index, and the relative weighting that should apply to each index.
- c) The ERC will assess the incentive schemes proposed by the Regulatory Reset Experts and, if considered appropriate, will accept it for implementation during the Second Regulatory Period. If an incentive scheme is found to be inadequate, the Regulated Entity will be requested to revise or expand it. If no satisfactory resolution is achieved in a reasonable time, the ERC will design and implement such a scheme at its own discretion.
- d) Regulated Entities are required to assess the gaps between its proposed incentive scheme and that in the framework provided by the ERC. Based on this, a detailed report is to be provided to the ERC by each Regulated Entity on how it plans to address these gaps and expand its performance measurement capability over the Second Regulatory Period, to enable it to measure performance against all the indices required by the Third (3rd) Regulatory Period. The capital, operating and maintenance expenditure required for this is to be included in the forecasts for the regulatory reset, where it will be assessed by the ERC and approved if deemed efficient and appropriate. However, the ERC is aware that such expenditure may be significant and, if it is therefore found to inflate the maximum price-cap by an unacceptable degree, the ERC may decide to reduce the performance measurement requirements or extend the implementation period over two (2) regulatory periods.

For purposes of the interim performance incentive schemes drawn up by the Regulated Entities, a price-linked incentive scheme, Guaranteed Service Levels (GSL) scheme and information disclosure scheme must be included, similar to that discussed below and in the framework to be provided to the Regulated Entities. The percentage of revenue involved in the incentive scheme should in general be similar to that discussed below, but may be reduced at the discretion of the ERC if it considers the number of indices measured too low.

To refine future performance incentive schemes, the ERC will collect further performance data during the Second (2nd) Regulatory Period, as well as conduct studies to ascertain customer preferences with regard to various service levels, willingness to pay for improved service, and the cost to improve service levels.

9.2 Overview of the eventual incentive scheme

The performance incentive scheme that will apply for the Third (3rd) Regulatory Period (and which will form the framework guiding the individual incentive schemes to be proposed by the Regulated Entities) will have three (3) main streams, as described below.

a) Price-linked incentive scheme

The performance of Regulated Distribution Systems will be assessed against a number of network performance and service performance measures.³⁰ If performance levels exceed predetermined targets, Regulated Entities will be financially rewarded or, if performance levels fail to meet predetermined performance targets, Regulated Entities will be financially penalized.

The reward or penalty will take the form of an additional S-factor to be used in the calculation of the maximum average price-cap. The S-factor will be a weighted performance measure, based on the performance levels achieved against a number of indices over the calendar year preceding each Regulatory Year.

b) Guaranteed Service Levels

A system of Guaranteed Service Levels (GSLs) will be introduced for each Regulated Distribution System, in terms of which customers will receive certain guarantees with regard to the responsiveness and effectiveness of Regulated Entities. If these GSLs are not met, predetermined penalties will be paid by the Regulated Entities directly to customers.

c) Information disclosure

The performance of Regulated Distribution Systems against a further number of performance indices (network and service related) will be regularly measured and published.

³⁰ Network performance measures refer to those indices measured directly in terms of Distribution System performance, usually expressed as technical factors. Service performance measures refer to those indices relating directly to the performance of the staff supporting the operation of the Distribution System, usually expressed in terms of the time taken to complete actions, or the number of times actions exceeded or missed target levels.

9.3 Price-linked incentives

9.3.1 Capturing the performance rewards or penalties

For the direct reward-based incentives, the price-cap formula (Clause 4.2.1 of the DWRG) will be adapted with an S-factor, as follows:

$$\text{MAP}_t = [\text{MAP}_{t-1} \times \{1 + \text{CWI}_t - X\}] + S_t - K_t + \text{ITA}_t$$

where S_t is the performance incentive factor calculated as described in Section 9.3.3 below. This factor can be zero, positive or negative, depending on whether actual performance against the (weighted) majority of the indices has exceeded the performance target discussed below or has fallen below these.

The calculation of the performance targets will initially be largely based on historical actual performance levels by Regulated Distribution Systems. In future regulatory periods, more weight will be placed on benchmarked performance measures and stretch targets, to ensure gradual performance improvement. The ERC intends to develop its information base during the Second (2nd) Regulatory Period to allow it to determine realistic benchmarks or stretch targets for the Third (3rd) Regulatory Period.

9.3.2 Service performance indices to be measured

For the Third (3rd) Regulatory Period performance incentive scheme, the following service performance indices will be included in the S-factor:

Network Performance Measures

- a) System Average Interruption Frequency Index (SAIFI). A measure of the average number of sustained service interruptions experienced per customer over the measurement period.
- b) Customer Average Interruption Duration Index (CAIDI). A measure of the average duration of sustained service interruptions over the measurement period.
- c) Planned System Average Interruption Duration Index (SAIDI). A measure of the average duration of planned sustained service interruptions for all customers over the measurement period.³¹
- d) Voltage regulation. A measure of the probability of Distribution System voltage levels falling outside the boundaries prescribed in the Distribution Code.
- e) System losses. An indication of total losses on a Regulated Distribution System, including technical and non-technical losses, or the difference between the energy obtained from Grid Connection Points and connection points to embedded generators, and that delivered and invoiced to End Users.

Service performance measures

- f) Time to process applications for Regulated Distribution Services.

³¹ Planned outages are those over which Regulated Utilities can exercise a large degree of control and for which advance notice, longer than seventy two (72) hours ahead, will be given to customers.

- g) Time to connect premises to the Regulated Distribution System after compliance with all government and Regulated Entity requirements.
- h) Percentage of calls answered at the call center (or equivalent) within a predetermined time.

The final definition and calculation of the various indices will be provided as part of the final framework, but the indicative approach is discussed in Appendix D.

The ERC will eventually widen the Distribution Code definition of SAIDI, SAIFI and CAIDI to include outages on at least the larger secondary lines of a Distribution System. This will not include outages to single or small groups of customers,³² but outages on major low voltage lines or distribution transformers should be included.

Regulated Entities already face a downside potential from the system loss cap that is imposed on Regulated Distribution Systems. It is therefore the intention that the system loss performance index will not have a negative measure– it will be zero or positive only.

The ERC recognizes that not all Regulated Entities may have formal call centers to respond to customer queries. Such a center, or an equivalent arrangement is however considered a fundamental requirement for providing efficient customer service and it is therefore encouraged by means of the incentive scheme.

9.3.3 Calculation of the S-factor

The S-factor will be based on a weighted sum of performance components, one for each of the indices discussed in Section 9.3.2. It will be calculated as follows:

$$S_t = \frac{[S_{SAIFI,t} + S_{CAIDI,t} + S_{SAIDI,t} + S_{VoltViol,t} + S_{Sysloss,t} + S_{Proc,t} + S_{Con,t} + S_{Call,t}] \times 0.025 ARR_t}{FQ_t}$$

where,

ARR_t = the allowed annual revenue for Regulatory Year t calculated in accordance with Clause 4.7.7 of the DWRG;

FQ_t = the total amount of energy (expressed in kWh) that is forecast to be delivered to Connection Points through the relevant Regulated Distribution System during Regulatory Year t, with the forecast as approved by the ERC;

and

$$S_{SAIFI,t} = W_{SAIFI} \times Perf_{SAIFI,t-1}$$

where, $S_{SAIFI,t}$ = S-component for SAIFI for Regulatory Year t;

W_{SAIFI} = Weighting given to the SAIFI S-component; and

³² Such outages are unlikely to register on the network wide SAIDI or SAIFI statistics in any case.

$Perf_{SAIFI,t-1}$ = SAIFI performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{CAIDI,t} = W_{CAIDI} \times Perf_{CAIDI,t-1}$$

where, $S_{CAIDI,t}$ = S-component for CAIDI for Regulatory Year t;

W_{CAIDI} = Weighting given to the CAIDI S-component; and

$Perf_{CAIDI,t-1}$ = CAIDI performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{SAIDI,t} = W_{SAIDI} \times Perf_{SAIDI,t-1}$$

where, $S_{SAIDI,t}$ = S-component, planned SAIDI for Regulatory Year t;

W_{SAIDI} = Weighting given to the SAIDI S-component; and

$Perf_{SAIDI,t-1}$ = Planned SAIDI performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{VoltViol,t} = W_{VoltViol} \times Perf_{VoltViol,t-1}$$

where, $S_{VoltViol,t}$ = S-component for voltage regulation performance for Regulatory Year t;

$W_{VoltViol}$ = Weighting given to the voltage regulation S-component; and

$Perf_{VoltViol,t-1}$ = Voltage regulation performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{Sysloss,t} = W_{Sysloss} \times Perf_{Sysloss,t-1}$$

where, $S_{Sysloss,t}$ = S-component for system losses performance for Regulatory Year t;

$W_{Sysloss}$ = Weighting given to the system losses S-component; and

$Perf_{Sysloss,t-1}$ = System losses performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{Proc,t} = W_{Proc} \times Perf_{Proc,t-1}$$

where, $S_{Proc,t}$ = S-component for time to process applications for Regulatory Distribution Services for Regulatory Year t;

W_{Proc} = Weighting given to the process time S-component; and

$Perf_{Proc,t-1}$ = Process time performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{Con,t} = W_{Con} \times Perf_{Con,t-1}$$

where, $S_{Con,t}$ = S-component for time to provide connection to the Regulated Distribution System for Regulatory Year t;

W_{Con} = Weighting given to the service connection time S-component; and

$Perf_{Con,t-1}$ = Connection time performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

$$S_{Call,t} = W_{Call} \times Perf_{Call,t-1}$$

where, $S_{Call,t}$ = S-component for call-center performance for Regulatory Year t;

W_{Call} = Weighting given to the call-center performance S-component; and

$Perf_{Call,t-1}$ = Call-center performance assessment for the calendar year ending on December 31 of Regulatory Year t-1.

9.3.4 *Weighting of the performance indices*

In Clause 8.2.3 (c) of the DWRG, it is specified that the total level of the rewards or penalties under the performance incentive scheme for any Regulatory Year should not exceed three percent (3%) of the allowed annual revenue for a Regulated Distribution System for that year. As the performance incentive scheme will have two (2) streams involving possible changes to the annual revenue that can be earned, the following ceilings will apply to these streams:

- a) The maximum value of the direct reward-based incentive scheme in any year will be capped at two point five percent (2.5%) of the allowed annual revenue.
- b) The revenue allowance for the GSL scheme will be set at point five percent (0.5 %) of the annual allowed revenue in any Regulatory Year as calculated before the GSL scheme is taken into account.

The ceiling on the direct reward-based incentive scheme is already accounted for in the formulas to calculate the S-factor, as described in Section 9.3.3 above. Based on the relative importance of these indices, the extent to which they can be influenced by Regulated Entities and the ability of Regulated Entities to effectively measure them, the weightings set out in Table 4 will be applied to the various performance S-components.

Table 4 : Weightings for the S-components

Component	Symbol	Weighting
SAIFI	W_{SAIFI}	0.20
CAIDI	W_{CAIDI}	0.20
Planned SAIDI	W_{SAIDI}	0.15
Voltage regulation	$W_{VoltViol}$	0.10
System losses	$W_{Sysloss}$	0.05
Time to process applications	W_{Proc}	0.10
Time to connect premises	W_{Con}	0.10
Call-center performance	W_{Call}	0.10

9.3.5 Determination of the performance targets for the various performance indices

The proposed methodology to determine the performance targets is discussed below. Regulated Entities are required to collect information about the performance levels of their Regulated Distribution Systems against these indices over the Second Regulatory Period. This data will be used when determining the final performance bands for the incentive scheme to be implemented during the third regulatory period. Shortcomings in the ability of Regulated Entities to measure performance against these indices should be addressed in their reports detailing the performance measurement improvement plans (described in Section 9.1 (d) above.)

It is the intention to set five (5) discrete performance bands for each performance index, as illustrated in Table 5 below. Performance in each of these bands would result in the allocation of a simple performance assessment value to the index being assessed. These are the “Perf”-values described in Section 9.3.3.

Table 5 : Proposed performance assessment bands

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

The manner in which the bands will be set for each performance index is described in Table 6 (a-g) below – assuming that the performance data will be collected during the Second Regulatory Period. Where this is not the case, the methodology will be adapted at the time of the third (3rd) regulatory reset.

Table 6a : Setting of performance bands for SAIFI performance

SAIFI	
Average SAIFI value	Average annual SAIFI for a Regulated Distribution System for the Second Regulatory Period
Standard deviation	Standard deviation of the annual SAIFI values for a Regulated Distribution System for the 10 calendar years ending on Dec 31, 2010
Performance greatly below target	Annual SAIFI more than 2 standard deviations above the SAIFI average
Target not achieved	Annual SAIFI more than 1 standard deviation, but less than 2 standard deviations, above the SAIFI average
Performance as per expectation	Annual SAIFI between 1 standard deviation above and 1 standard deviation below the average value
Target exceeded	Annual SAIFI more than 1 standard deviation, but less than 2 standard deviations, below the SAIFI average
Target greatly exceeded	Annual SAIFI more than 2 standard deviations below the SAIFI average

Table 6b : Setting of performance bands for CAIDI performance

CAIDI	
Average CAIDI value	Average annual CAIDI for a Regulated Distribution System for the Second Regulatory Period
Standard deviation	Standard deviation of the annual CAIDI values for a Regulated Distribution System for the 10 calendar years ending on Dec 31, 2010
Performance greatly below target	Annual CAIDI more than 2 standard deviations above the CAIDI average
Target not achieved	Annual CAIDI more than 1 standard deviation, but less than 2 standard deviations, above the CAIDI average
Performance as per expectation	Annual CAIDI between 1 standard deviation above and 1 standard deviation below the average value
Target exceeded	Annual CAIDI more than 1 standard deviation, but less than 2 standard deviations, below the CAIDI average
Target greatly exceeded	Annual CAIDI more than 2 standard deviations below the CAIDI average

Table 6c : Setting of performance bands for planned SAIDI performance

PLANNED SAIDI	
Average planned SAIDI value	Average annual planned SAIDI for a Regulated Distribution System for the Second Regulatory Period
Standard deviation	Standard deviation of the annual planned SAIDI values for a Regulated Distribution System for the 10 calendar years ending on Dec 31, 2010
Performance greatly below target	Annual planned SAIDI more than 2 standard deviations above the planned SAIDI average
Target not achieved	Annual planned SAIDI more than 1 standard deviation, but less than 2 standard deviations, above the planned SAIDI average
Performance as per expectation	Annual planned SAIDI between 1 standard deviation above and 1 standard deviation below the average value
Target exceeded	Annual planned SAIDI more than 1 standard deviation, but less than 2 standard deviations, below the planned SAIDI average
Target greatly exceeded	Annual planned SAIDI more than 2 standard deviations below the planned SAIDI average

Table 6d : Setting of performance bands for voltage regulation performance

VOLTAGE REGULATION	
Target probability of voltage violation (pV_v)	4%
Performance greatly below target	Probability of voltage violation greater than or equal to 6%
Target not achieved	Probability of voltage violation between 5% and 6%
Performance as per expectation	Probability of voltage violation on or between 3% and 5%
Target exceeded	Probability of voltage violation between 2% and 3%
Target greatly exceeded	Probability of voltage violation less than or equal to 2%

Table 6e : Setting of performance bands for system losses

SYSTEM LOSSES	
Target for system losses	9.5%
Performance greatly below target	Not applicable
Target not achieved	Not applicable
Performance as per expectation	System losses on or between 8.5% to 9.5%
Target exceeded	System losses between 7.0% and 8.5%
Target greatly exceeded	System losses less than or equal to 7.0%

Table 6f : Setting of performance bands for time to process applications

TIME TO PROCESS SERVICE APPLICATIONS	
Long-term average time to process a service application	Average time to process applications over the Second Regulatory Period
Standard deviation	Standard deviation of the average time to process applications, based on actual cases for the Second Regulatory Period
Performance greatly below target	Annual average processing time more than 2 standard deviations above the long-term average value
Target not achieved	Annual average processing time more than 1 standard deviation, but less than 2 standard deviations, above the long-term average value
Performance as per expectation	Annual average processing time between 1 standard deviation above and 1 standard deviation below the long-term average value
Target exceeded	Annual average processing time more than 1 standard deviation, but less than 2 standard deviations, below the long-term average value
Target greatly exceeded	Annual average processing time more than 2 standard deviations below the long-term average value

Table 6g : Setting of performance bands for time to provide connection

TIME TO PROCESS SERVICE APPLICATIONS	
Long-term average time to provide a connection	Average time to provide a connection over the Second Regulatory Period
Standard deviation	Standard deviation of the average time to provide a connection, based on actual cases for the Second Regulatory Period
Performance greatly below target	Annual average connection time more than 2 standard deviations above the long-term average value
Target not achieved	Annual average connection time more than 1 standard deviation, but less than 2 standard deviations, above the long-term average value
Performance as per expectation	Annual average connection time between 1 standard deviation above and 1 standard deviation below the long-term average value
Target exceeded	Annual average connection time more than 1 standard deviation, but less than 2 standard deviations, below the long-term average value
Target greatly exceeded	Annual average connection time more than 2 standard deviations below the long-term average value

Table 6h : Setting of performance bands for call center performance

TIME TO PROCESS SERVICE APPLICATIONS	
Long-term average time to provide a connection	Average percentage of calls answered after 30 seconds over the Second Regulatory Period
Standard deviation	Standard deviation of the average percentage of calls answered after 30 sec., based on actual numbers for the Second Regulatory Period
Performance greatly below target	Annual average connection time more than 2 standard deviations above the long-term average value
Target not achieved	Annual average connection time more than 1 standard deviation, but less than 2 standard deviations, above the long-term average value
Performance as per expectation	Annual average connection time between 1 standard deviation above and 1 standard deviation below the long-term average value
Target exceeded	Annual average connection time more than 1 standard deviation, but less than 2 standard deviations, below the long-term average value
Target greatly exceeded	Annual average connection time more than 2 standard deviations below the long-term average value

The ERC is aware that some of the data required to calculate the proposed target levels may not be available, in which case target levels may have to be set based on reduced datasets, comparisons between Regulated Distribution Systems, or with international benchmarks.

9.3.6 Excluded events

There are a number of external events which can have a substantial impact on the actual performance of Regulated Distribution Systems against performance indices that are predominantly outside the control of Regulated Entities. The ERC intends to allow these events to be excluded from the statistics used to calculate network or service performance.

Events of which the impact on the performance of a Regulated Distribution System will generally be excluded are:

- supply interruptions made at the request of a customer;

- load shedding due to a shortfall in generation;
- supply interruptions caused by a failure of the transmission network;
- supply interruptions caused by a failure of a transmission connection asset, but only to the extent that the interruptions were not due to inadequate planning of transmission connections; and
- widespread supply interruptions due to rare and extreme events which were not reasonably able to be foreseen, or if they could be foreseen, for which the impact could still not be effectively mitigated.

A Regulated Entity wishing to exclude the impact of a certain event from the calculation of the service performance incentive scheme would need to provide the ERC with the following:

- a detailed description of the nature of the event for which an exclusion is sought and the reasons justifying the exclusion of the event, including the provision of supporting evidence;
- evidence of the impact of the event on the Regulated Distribution System reliability performance, for each of the measures adversely affected;
- a description of the steps that the Regulated Entity took to mitigate against or respond to the events; and
- evidence that the Regulated Entity was unable to further mitigate against the impact of the event.

The ERC will adopt the two point five (2.5) beta approach, developed by the Institute for Electrical and Electronic Engineers (IEEE) to identify major event days.³³

Further tests will be applied to determine the main cause(s) for the major event days, isolating, where appropriate, the underlying event and formally classifying it as “severe”. These tests include assessing the nature and rarity of an event, the ability to foresee and prepare for an event, the ability of distribution companies to mitigate the effects of an event, and the reaction of Regulated Entities after the event. If an event is classed as extreme, its impact on the daily SAIDI (and other performance indices, as appropriate) would be excluded from the annual performance statistics.

9.3.7 *Improving service levels*

A key function of the performance incentive scheme is to encourage the improvement of network and service performance of Regulated Distribution Systems. While the scheme as proposed above will be predominantly based on targeted service levels that are derived from the historical performance of Regulated Distribution Systems, the ERC will in future regulatory periods consider adopting stretch targets.

For the Third (3rd) Regulatory Period, the ERC will assess the historical performance data received for each Regulated Distribution System and, after taking into account the advice

³³ IEEE Power Engineering Society. (2004, May). IEEE Std 1366TM – 2003. IEEE Guide for Electric Power Distribution Reliability Indices. New York, USA. Institute of Electronics and Electrical Engineers (IEEE)

of the Regulatory Reset Expert(s), may decide that the actual historical performance of a Regulated Distribution System against one or more of the performance indices may be inappropriately high or low. If such performance levels differ substantially from the accepted norm, the ERC may then adapt the associated performance target(s) to more realistic benchmark levels.

Where it is found that a Regulated Distribution System's historical performance against a particular performance index is substantially better than the norm, the ERC may decide to set the performance targets for the index in question somewhat below the actual historical performance. This will accord some benefits to the Regulated Entity from its historical good performance without leading to unacceptable lowering of performance levels. Such cases are expected to be unusual.

It is anticipated that where historical performance levels are considered inappropriate, it will usually be because of under-performance rather than over-performance. In such cases the ERC may decide to increase the performance target for a Regulated Distribution System to a level higher than that indicated by historical performance against an index. This may be done from the outset, or the improvement may be more gradually introduced over the third regulatory period, with new targets set for each Regulatory Year. Such changes from historical performance levels will only be made in exceptional cases, where performance levels are substantially and obviously inappropriate.

During the Second (2nd) Regulatory Period, the ERC intends to conduct an in-depth investigation into the actual service and network performance of Regulated Entities and international benchmarks in this regard. Based on its findings, it may then decide to base future incentive targets more on benchmarks than on historical performance, thus encouraging Regulated Entities to, where appropriate, further improve the quality of their service over time to internationally acceptable levels.

Over time, common performance targets will be established for all Regulated Entities. Given the significant differences between the Regulated Distribution Systems and the environments in which they operate, such common measures will require the setting of different performance targets for different network types.

9.4 Guaranteed Service Levels (GSL)

A GSL scheme will be introduced to Regulated Distribution Systems during the Second (2nd) Regulatory Period. In terms of this scheme, Regulated Entities will compensate a consumer directly if certain service delivery performance thresholds are not met.

For the interim schemes proposed by Regulated Entities, the indices measured will be those suggested by them. From the Third (3rd) Regulatory Period onward, the indices described below will be used.

9.4.1 Proposed GSL indices and payment levels

The indices that will be included in the GSL scheme, and indicative performance targets against these, are listed below. Actual targets will be established during the course of the Second (2nd) Regulatory Period.

The proposed GSL measures, including indicative values for the thresholds are:

- a) GSL1 : a customer in an urban or sub-urban part of a Regulated Distribution System experiencing more than fifteen (15) hours of sustained interruptions over any Regulatory Year or a customer in a rural part of a Regulated Distribution System experiencing more than twenty five (25) hours of sustained interruptions over any Regulatory Year;
- b) GSL2 : a customer in an urban or sub-urban part of a Regulated Distribution System experiencing more than fifteen (15) sustained interruptions in a Regulatory Year or a customer in a rural part of a Regulated Distribution System experiencing more than twenty five (25) sustained interruptions in a Regulatory Year;
- c) GSL3 : restoration of service to a customer after a fault on the secondary side of a Regulated Distribution System, including the service drop, does not occur within twelve (12) hours of the fault occurring; and
- d) GSL4 : the Regulated Entity failing to provide a connection to a customer on the day promised, with cumulative payments applying for each day that a connection is later than promised.

It is stressed that the targets included above are indicative only and are not based on actual information submitted experience by Regulated Entities. Final targets will only be set once the appropriate data has been gathered from Regulated Entities over the course of the Second (2nd) Regulatory Period.

9.4.2 Determining the penalty levels

Setting appropriate GSL performance levels requires current information on actual performance against the indices. The ERC will collect the information from Regulated Entities over the Second Regulatory Period to determine the penalty levels that will apply when GSLs are not met.

The methodology that will be used to establish the penalty levels is as follows:

1. The ERC will calculate the total revenue allocation for the GSL scheme. As noted in Section 9.3.4, this allocation will be calculated as point five percent (0.5%) of the allowed annual revenue, as calculated before the scheme is implemented. Since it is intended to set constant penalty levels for the whole of the Third (3rd) Regulatory Period, these will be based on the revenue for Regulatory Year 2012 (the start of the period).

$$GSLRev = 0.005 \times ARR_{2012}$$

where ARR_{2012} is the allowed annual revenue for Regulatory Year 2012 calculated in accordance with Clause 4.7.7 (carried forward to Article VI for subsequent regulatory periods) of the DWRG

2. Based on the data submitted by the Regulated Entities, the ERC will assess the likely number of instances in a year that each of the penalty levels will be exceeded. For example, the number of customers likely to have faults remaining after twelve (12) hours (GSL3) during Regulatory Year t would be n_{GSL3} .

3. By allocating the same weighting to all the proposed GSL indices, the revenue allocation will be made per index. For example, the revenue allocated to the GSL3 measure (restoration > 12 hours) would be:

$$GSL3Rev = 0.25 \times GSLRev$$

4. The penalty amount will be calculated by dividing the revenue allocation for each index by the estimated number of times that the penalty level for that index is expected to be exceeded. For example, the penalty payable each time that an interruption on the secondary side of a Regulated Distribution System is not restored within twelve (12) hours, would result in a penalty amount of:

$$PenGSL3 = \frac{GSL3Rev}{nGSL3}$$

9.4.3 Adapting revenue requirements

It is intended to make an additional allowance in the allowed annual revenue for each Regulated Entity, to cover the anticipated amount that would be payable towards the GSL scheme. It will be viewed as an additional operating expense for each Regulatory Year.

As such, Regulated Entities who manage to perform better than forecasted against the GSL will be allowed to retain the extra revenue, potentially also as part of their future efficiency adjustments. Conversely, those Regulated Entities that pay out more penalties than allowed for, will bear the additional cost, potentially also as part of their future efficiency adjustments.

This is to allow Regulated Entities the option of incurring additional expenditure to avoid penalty situations, or to remain revenue neutral if they maintain current performance levels.

9.4.4 Improvement of service levels

As is the case for the price-linked incentive scheme, the ERC intends to review the GSL scheme in depth over the Second (2nd) Regulatory Period. During the regulatory reset for the Third Regulatory Period it may decide to, where appropriate, base GSL penalty levels more on local and international benchmarks for good practice than on actual performance, if such performance falls short of the benchmarks.

In addition, the ERC will at that stage :

- review the levels at which penalties have been set;
- review the threshold levels where penalties are incurred;
- consider the introduction of new GSL incentives or the removal of existing incentives that have proved to be inefficient; and
- may reconsider the total revenue component allocated to the GSL scheme.

The ERC will also at that stage investigate the possibility of placing a portion of the expected GSL revenue at risk, by excluding it from the allowed annual revenue for Regulated Entities.

9.4.5 *Excluded events*

As with the price-linked incentive scheme, there are external events which can have a substantial impact on the actual performance of Regulated Entities against the GSL scheme, but that are predominantly outside their control. These events will be excluded from the scheme. The events that will be excluded are similar to that discussed earlier:

- supply interruptions made at the request of a customer;
- load shedding due to a shortfall in generation;
- supply interruptions caused by a failure of the transmission network;
- supply interruptions caused by a failure of a transmission connection asset, but only to the extent that the interruptions were not due to inadequate planning of transmission connections; and
- widespread supply interruptions due to rare and extreme events which were not reasonably able to be foreseen, or if they could be foreseen, for which the impact could still not be effectively mitigated.

A Regulated Entity wishing to avoid a penalty payment arising as a result of one of these events has to notify the ERC and the affected customer(s) of the reason for this. In addition, the following details have to be provided to the ERC:

- a detailed description of the nature of the event for which an exclusion is sought and the reasons justifying the exclusion of the event, including the provision of supporting evidence;
- evidence of the impact of the event on the Regulated Distribution System reliability performance, for each of the measures adversely affected;
- a description of the steps that the Regulated Entity took to mitigate against or respond to the events; and
- evidence that the Regulated Entity was unable to further mitigate against the impact of the event.

The ERC will develop standard measures by which to assess whether the impact of an event was severe enough to cause the penalty to be disallowed.

After assessing whether a penalty can indeed be disallowed or should remain in place, the ERC will notify the Regulated Entity of its decision. It will be the responsibility of the Regulated Entity to further communicate the decision to the affected customer(s).

9.5 **Information disclosure**

The third component of the performance incentive scheme is the measurement and disclosure of further performance data. From the Third (3rd) Regulatory Period, Regulated Entities will be required to measure the performance of each Regulated Distribution System against the following indices:

Network performance indices

- a) momentary average interruption frequency index (MAIFI);

- b) frequency of tripping events per 100 circuit-km;
- c) average forced-outage duration (total duration of forced outages divided by the number of such outages);

Service performance indices

- d) average time to respond to emergency calls;
- e) average time to respond to billing queries and complaints;
- f) average time to respond to payment queries and complaints;
- g) average time to reconnect a service after payment of all dues;
- h) average time to provide a complainant with a substantive answer to the complaint;
and
- i) average time to correct a power quality complaint.

The information has to be collected and supplied to the ERC on a monthly basis. In addition to the monthly figures, the cumulative performance total against each index must also be provided, from the start of the corresponding calendar year till the end of the month for which each index was measured.

The ERC intends to annually publicize the information disclosure data for all Regulated Distribution Systems.

9.6 Measurement ability and details

It is essential that performance measurement information is both exhaustive and accurate.

It is required that all performance information submitted to the Commission is accompanied by a declaration by the Regulated Entity that the information provided has been verified and is substantially correct as provided. This declaration has to be signed by the Chief Executive Officer (or equivalent) of the Regulated Entity and the Member of the Board (or equivalent) of the Regulated Entity to whom this responsibility has been delegated.

In addition, at the end of every Regulatory Year, a statement is required from a registered auditor to accompany the full-year performance statistics for each Regulated Distribution System. The auditor has to certify that the information has been audited and found to be free of substantive errors and to represent a fair reflection of the performance of the Regulated Distribution System for the measurement year.

The ERC may from time to time conduct its own audits on the accuracy of measured information. The ERC will draw up the audit scope and appoint an auditor, but the cost for such audits will be borne by Regulated Entities. Not more than two (2) such audits will be conducted during any Regulatory Year for a single Regulated Entity, unless there is compelling evidence to suggest that the performance information submitted by the Regulated Entity is not of a sufficient standard and that further audits are warranted. Regulated Entities are to maintain all records that would be necessary for the ERC's auditor to reconstruct and verify the calculations made for the monthly and annual information submissions. As a minimum, Regulated Entities have to maintain detailed

records of the following (in as far as it can be provided with current measuring equipment and systems):

- outages, describing the date, nature and class of outages, the duration, the parts of the network and customers affected and the cause of the incidents ;
- customer requests for services and other customer enquiries, including the time and date they were made, and the time and date of various milestones reached in processing them;
- technical quality measurements taken, including the date and position of measurements, the person(s) taking the measurements and the measurement results;
- all equipment used to take measurements on the network, including calibration and service details; and
- details of all calculations made to prepare the quarterly data submission to the ERC.

Should it become apparent during an audit that the information provided by a Regulated Entity for any Regulated Distribution System is not sufficiently accurate, the ERC may :

- request a Regulated Entity to prepare and submit new calculations;
- cancel any performance incentive rewards due to a Regulated Entity where these relate to inaccurate measurements or reporting;
- require Regulated Entities to replace measurement equipment and implement better measurement techniques; and
- appoint an independent third (3rd) party to undertake the required measurement and information processing, where such an appointment will be at the Regulated Entity's expense.

9.7 Data required

Templates for the historical and the quarterly performance data that has to be submitted to the ERC by Regulated Entities for each Regulated Distribution System is provided in Appendix J.

This provides for the historical information required by March 31, 2006 as well as the monthly performance measurements thereafter. Monthly information should be submitted from mid 2006 onwards (for the month ending 31 July 2006). Submissions are required not later than the twentieth (20th) of the following month.

10. ANNUAL ADJUSTMENT OF TARIFF RATES

The process for the annual adjustment of the maximum distribution wheeling rates that may be charged for the provision of Regulated Distribution Services on any Regulated Distribution System during the Second (2nd) Regulatory Period is described in Article VI of the DWRG. It is further developed in the DSOAR, particularly with regard to converting the maximum annual price-cap to rates (DSOAR Clause 5.3.2).

For the sake of clarity, it is noted here that this section refers to annual rate adjustments for Regulatory Years after the First (1st) Regulatory Year of the Second (2nd) Regulatory Period only. The setting of the rates for the First Regulatory Year will be determined as part of the reset process.

The Regulatory Year for which new rates are to be determined is referred to as the Application Year.

10.1 Overview

The timetable for the annual rate setting process for an Application Year as described in the DWRG is set out in Table 7 below.

Table 7 : Annual rate setting timetable

Action	Date required
Gathering of all the required data by Regulated Entities for the rate adjustment, as prescribed in the DWRG	Month of April preceding the Application Year
Submission of rate adjustment information and proposal for the wheeling rates to apply during the Application Year for each Regulated Distribution System by Regulated Entities to the ERC	30 April preceding the Application Year
ERC to pass requests for further information to Regulated Entities	Before 20 May preceding the Application Year
Further information provided by Regulated Entities	Before 25 May preceding the Application Year
Regulated Entities to meet with ERC staff to explain the submission in detail	Before 25 May preceding the Application Year
Determination by ERC of whether proposed wheeling rate for the Application Year can be implemented as submitted, or whether amendments are necessary	16 June preceding the Application Year
Implementation of the wheeling rates, if accepted by ERC in submitted form	1 July of the Application Year
Notice of amendments required provided to Regulated Entities by the ERC, consultation, amendment of information and setting of wheeling rates	As appropriate, but after 16 June preceding the Application Year
Implementation of the wheeling rates after direction on amended rates is given by the ERC	15 days after the direction is given (but not before 1 July of the Application Year)

The information to be submitted by Regulated Entities to the ERC as part of their submission for an annual rate setting is described in Clause 6.2.1(a) of the DWRG. This information is to accompany a Regulated Entity's proposal for the maximum distribution wheeling rates that may be charged during the Application Year. All calculations made and the source of all data used in these calculations must be clearly indicated. The proposal and supporting data is to be submitted in soft and hard copies to the ERC.

In addition to the data specified in the DWRG, Regulated Entities are required to also submit information pertaining to the performance of each Regulated Distribution System against the performance incentive indices used for the direct reward-based incentive scheme for the calendar year preceding the Application Year. These are the indices described in section 9.3.2 above, or as approved for the individual performance incentive schemes for the Second Regulatory Period.

Each rate for each Customer Segment that will be applied by a Regulated Entity for each Regulated Distribution System during the Application Year must be detailed in the proposal, together with a statement demonstrating the compliance of those proposed rates with the requirements of the DWRG and the DSOAR.

The rates submission has to be certified by the CEO (or equivalent) of the Regulated Entity and the Chairman of its Board of Directors (or equivalent) as being correct and in accordance with the DWRG and the DSOAR.

10.2 Converting maximum annual prices into rates

The maximum average price cap is a company-wide measure and does not address individual rate elements. It is therefore necessary to convert this into rate elements. The general methodology for this conversion is described in Clause 5.3.2 of the DSOAR, as amended below. (It should be noted that at the date of this Position Paper, the DSOAR is still in preliminary form and has not been finally promulgated yet. However, it is envisaged that it will be promulgated before the start of the Second Regulatory Period.

The steps to calculate the rates for an Application Year are as follows:

- a) Calculate the historical revenue earned from each Customer Segment i for a historical year t ($CR_{i,t}$).
- b) Calculate the average historical rate for each customer segment over the previous 12 months ($CS_{i,t} = \frac{CR_{i,t}}{CQ_{i,t}}$), where $CQ_{i,t}$ is the energy consumed by each customer segment i (kWh), during historical year t .
- c) Compute the projected revenue for the next year per customer segment based on the historical rate and forecast consumption ($CR_{i,t+1} = CS_{i,t} \times FQ_{i,t}$).
- d) By adding the projected revenue for each Customer Segment, the total projected revenue for the Application Year, based on historical rates, is calculated. ($CR_{20YR} = \sum CR_{i,t+1}$)

- e) Determine the proportion of revenue to be recovered for each customer segment based on the projected revenue. $\left(\frac{CR_{i,t+1}}{CR20YR}\right)$
- f) Compute the total revenue (TR) for the Application year by multiplying the maximum average price cap (MAP_t) with the forecast energy consumption for the Application year. ($TR = MAP_t \times FQ_t$)
- g) Allocate the total revenue requirement (TR) for the Application Year to each Customer Segment ($TR_{i,t}$) based on the proportion of projected revenue from each Segment to the total revenue projected as computed under item (e) above.
- $$(TR_{i,t} = TR \times \frac{CR_{i,t}}{CR20YR})$$
- h) The new rate element for a Customer Segment is then based on the revenue requirement allocation to that segment for the Application Year, using the same rate design as before for that Customer Segment, as approved at the time of the regulatory reset.

Implicit to this methodology is the fact that a new rate structure or Customer Segment cannot be introduced during a Regulatory Period. In addition, it is also a requirement of the DSOAR that existing rates designs cannot be amended during a Regulatory Period. Such changes, or the introduction of a new rate structure can therefore only be made as part of the regulatory reset process.

Changes in the rates, to account for new required revenue allocations to a Customer Segment, can therefore only be introduced by changing the quantum of those rate elements that already exist for each particular rate structure.

10.3 Side constraints

Pursuant to Clause 6.4 of the DWRG, all maximum wheeling rates are subject to side constraints, in terms of which the annual change in revenue that can be collected through a particular rate may not exceed certain predefined limits.

For the First (1st) Regulatory Year, this constraint is set at the Consumer Weighted Index (CWI) index plus two percent (2%). For later Regulatory Years, the constraint has not been predetermined and will be set by the ERC “having regard to the needs of End-users”.

The ERC will determine the side constraint factor once all the information for the regulatory reset process has been received. This constraint will however not be less than two percent (2%).

10.3.1 Impact of side constraints when adapting rates with varying structures

The ERC notes that the application of a single tariff measure, such as the cost per energy unit (kWh) promoted by the DWRG, can give rise to unintended results when applied to rate structures also incorporating demand components or substantial fixed components. As an example, the following can be considered:

- In theory, during a rate reset, all components of a rate structure will be adapted, generally by the same proportion. For a composite rate, this means that the unit rate, the demand rate and the fixed rate will be affected.
- Since the actual energy consumed (kWh) only is taken into account when testing whether side constraints have been breached, by applying the test as prescribed to the unit component of a rate the side constraints may not be breached.
- However, if the total account of a customer is accounted for (i.e. including the demand component and a fixed component) and that is converted to a single cost per kWh, the situation may be different. Customers with an improving load factor (i.e. those with demand rising relative to unit consumption), will find that their average cost per kWh is increasing relative to those with decreasing load factors.
- It is therefore possible that based on looking at unit consumption only but considering the total electricity cost for a customer, the side constraints may be exceeded for certain customers, even though the adoption of the rate in general fell within the side constraints.
- Such customers, when considering the impact of a new rate, may therefore consider that the side constraint has been breached and may file a complaint with the ERC.

The ERC does not view breaches of the side constraints in such situations as intentional or against the spirit of the DWRG. In assessing whether side constraints have been breached, it will consider the impact of a new rate on an “average” customer for a particular Customer Segment. This will be a customer for which the unit consumption, demand (and fixed rate, where appropriate) will be at the average level for that Customer Segment. Only if the side constraints are breached for such an “average” customer, will complaints be taken further.

The ERC expects Regulated Entities to conduct the same “average customer” test when adapting existing rates.

10.4 Introducing new rate structures

As noted above, new rate structures can only be introduced during regulatory resets. Where such new rate structures are to be introduced, Regulated Entities must provide the ERC with detailed information about the definition of these intended new structures, those customers that are likely to be incorporated in the new Customer Segment, and the Segments from which they will be drawn.

In considering applications for new rate structures, the ERC will need to be convinced that the impact of these rates on existing customers who will fall into the new category will not be such that the side constraints are exceeded. (Side constraints will remain in force for changes in rates between Regulatory Periods.) Regulated Entities therefore have to provide evidence of the impact of the proposed new rate structure and typical consumption patterns on the total electricity cost for the average customer in the new Customer Segment. This has to be compared with the historical cost for such customers, in the categories from which they are likely to have been moved.

In terms of the DSOAR (Clause 5.3.4), during a regulatory reset, Regulated Entities have to conduct a cost of service study for each Regulated Distribution System. This study will functionalize the annual allowed revenue and allocate it to each Customer Segment. This will be compared against the charges that are likely to be paid by each Customer Segment based on the existing (and new) rate structures.

While it is recognized that rates have to be practical and inevitably require a degree of compromise, Regulated Entities have to ensure that as far as is practically possible the actual cost for distribution wheeling as charged to each Customer Segment fairly reflects the cost to provide Regulated Distribution Services to that Customer Segment. In addition, the rate for each Customer Segment should also ensure that the contribution of an individual customer to the revenue base for that segment fairly reflects the average cost to provide the service to that customer.

10.5 Passed-through costs

In terms of the proposed DSOAR, the cost of purchased power and transmission costs are to be considered as passed-through costs and shall not be included under distribution wheeling costs. They shall also not be taken into account in the calculation of the maximum average price-cap for Regulated Distribution Systems, or in determining whether side-constraints have been breached.

Force Majeure and Tax Change Event regulated pass-through amounts are likewise not to be considered as part of the maximum average price-cap for Regulated Distribution Systems.³⁴

10.5.1 Recouping system losses

In terms of the proposed DSOAR (Clause 5.4), Regulated Entities are entitled to recover Distribution System losses through ERC approved System Loss Charges, subject to a System Loss Cap. This component is to be separately indicated in electricity invoices and will not be included as part of the maximum average price-cap for Regulated Distribution Systems.

Regulated Entities are responsible for procuring all energy related to Distribution System losses. Where such losses exceed the System Loss Cap (currently set at nine point five percent (9.5%), but subject to change by the ERC), this will be to the account of the Regulated Entities.

³⁴ See section 11.1 for a further discussion on these aspects

11. OTHER ISSUES

11.1 Regulated pass-through events

In Section 10.5 above, a number of cost items were identified as pass-through items as far as the wheeling rates are concerned. Of these, the regulated pass-through for Force Majeure Events and Tax Event Changes require further clarification.

11.1.1 Force Majeure Event pass through

The treatment of Force Majeure Event pass through is discussed in Article X of the DWRG. If a Force Majeure event occurs, a Regulated Entity may seek the ERC's approval to charge customers of the relevant Regulated Distribution System an additional amount. This amount, or the FM Pass Through Amount, is to allow a Regulated Entity to recover additional Regulated Distribution System related costs incurred as a result of the occurrence of a Force Majeure Event.

After consideration a claim for a Force Majeure Event, the ERC may decide to approve it and will determine the additional amount that will be added to the maximum average price-cap for a Regulated Distribution System and the period over which this addition should occur. In such cases the Regulated Entity must publish a notice informing customers of the approved FM Pass Through Amount, the circumstances giving rise to it and the manner in which it will be applied.

The procedure that a Regulated Entity has to follow in submitting an application to the ERC to seek approval for a FM Pass Through Amount is described in clause 10.2 of the DWRG. This section also lists the supporting information that a Regulated Entity has to provide, as well as the constraints that will apply to such an amount. In addition, the process to be followed for any application involving an adjustment in rates is described in Section 11.3 below.

In considering whether to approve an application for a FM Pass Through Amount, the ERC has to consider a number of factors, as discussed in Clause 10.4 of the DWRG. Any approach that the ERC intends to pursue to determine whether an event should be excluded for the purpose of the performance incentive scheme (see Section 9.3.6) will also be taken into account in assessing Force Majeure Event Claims, although a Force Majeure Event will normally be more severe than even those events excluded in terms of the performance incentive schemes. Conversely, where a Force Majeure Event is accepted to have occurred, this will automatically constitute an excluded event for the performance incentive scheme.

FM Pass Through amounts are not to be taken into account in the calculation of the maximum average price cap or in determining whether that price has been exceeded.

11.1.2 Tax Event Regulated pass through

Tax Event pass through is discussed in Article XI of the DWRG.

If a Positive Tax Change Event occurs during the Second (2nd) Regulatory Period, a Regulated Entity may approach the ERC for approval to charge customers an additional amount over the maximum annual price-cap. This amount, or the Positive Tax Pass

Through Amount, is to allow a Regulated Entity to recover additional costs incurred as a result of the Tax Change Event.

Conversely, if a Negative Tax Change Event occurs during the Second Regulatory Period, the ERC may require a Regulated Entity to pass through a reduction to customers in the maximum annual price-cap. This amount, or the Negative Tax Pass Through Amount, is to prevent over-recovery of taxes paid resulting from a Tax Change Event.

After considering claims for a Positive Tax Pass Through, the ERC may decide to approve this and will determine the additional value that will be applied to the maximum average price-cap and the period over which this should occur. Alternatively, if the ERC decides to implement a Negative Tax Pass Through, it will determine the reduction to apply to the maximum annual price-cap and the period over which this is to occur. The Regulated Entity must publish a notice informing customers of the approved Positive Tax Pass Through or required Negative Tax Pass Through Amount, the circumstances giving rise to it and the manner in which it will be applied.

The procedure that a Regulated Entity has to follow in seeking the ERC's approval for a Positive Tax Pass Through is described in Clause 11.2 of the DWRG. It also lists the supporting information that a Regulated Entity has to provide and the constraints that will apply to such an amount. The procedure the ERC will follow in deciding on a Negative Tax Pass Through is described in clause 11.3 of the DWRG. In addition, the process to be followed for any application involving an adjustment in rates is described in Section 11.3 below.

In considering whether to approve an application for a Tax Pass Through and the extent of such a pass through, the ERC has to consider a number of factors. These are discussed in Clause 11.4 of the DWRG.

Tax Pass Through amounts are not to be taken into account in the calculation of the maximum average price cap or in determining whether that price has been exceeded.

11.2 Re-opening events

The DWRG allows for a number of events that will constitute re-opening events, as described in Article XII of the DWRG. These events are those that are serious enough to warrant a recalculation of the maximum annual price caps or the X-factor.

11.2.1 Increase in CPI

If the change in the CPI between two consecutive quarters is bigger than 0.07, a Regulated Entity may apply to the ERC for a change in the method used to calculate the maximum annual price-cap (Clause 12.1 of the DWRG). The ERC will consider such an application and if it accepts that the situation has occurred, will determine a new price calculation method. This method will apply for the rest of the Regulatory Period.

This re-opening event will only arise during periods of hyper-inflation, under which circumstances the currently proposed price-setting methodology could result in unintended outcomes. It is therefore considered appropriate to reconsider the price-setting formula under such conditions.

11.2.2 *Deferred capital expenditure*

Substantial delays in significant capital expenditure as compared with the programs forecasted during the regulatory reset and approved by the ERC, will result in a Regulated Entity over-recovering revenue. To avoid this, allowance is made for the recalculation of the X-factor where such situations arise (Clause 12.2 of the DWRG).

If the capital expenditure on any Significant Project is deferred for longer than 18 months from the time it was forecasted to be undertaken, a Regulated Entity must notify the ERC. If following such notice, or through its own investigations, the ERC determines that such expenditure on a Significant Project has not occurred within eighteen (18) months of the time forecast, it will notify the Regulated Entity of its determination. After taking into account submissions from the Regulated Entity, the ERC will recalculate the X-factor based on the exclusion of that capital expenditure. This recalculated X-factor will apply for the rest of the Regulatory Period.³⁵ Where such deferrals push projects out into a next Regulatory Period, it will be taken into account in the X-factor for that next period.

Excess revenue earned by a Regulated Entity as a result of delaying capital expenditure will be recovered as part of recalculating the X-factor. This will be based on calculating the excess revenue earned by a Regulated Entity over the period that a Significant Project was deferred.

This excess revenue will be determined based on the return on the deferred forecast capital expenditure, as well as the allowance made for regulatory depreciation on this capital expenditure, converted to present value at the time of the calculation. It will be calculated as follows:

$$ER_n = (WACC \times CV_n \times \frac{Def_n}{12} + Depn_n)(1 + WACC)^{\frac{Def_n}{12}}$$

where,

ER_n = excess revenue earned related to deferred Significant Project n;

$WACC$ = Regulatory WACC;

CV_n = estimated capital value for deferred Significant Project n that was included in the approved capital expenditure forecast for the Second (2nd) Regulatory Period;

Def_n = the time with which the Significant Project n has been deferred (in months); and

$Depn_n$ = regulatory depreciation allowed for on the capital expenditure for Significant Project n, over the time Def_n .

In recalculating the X-factor, the excess revenue will be deducted from the allowed revenue requirements for the first of the remaining years of the Regulatory Period. If the next Regulatory Year falls in the next Regulatory Period, the excess amount will be

³⁵ Unless recalculated again in terms of events arising requiring such recalculation under Article XII.

deducted from the allowed revenue calculated for the First (1st) Regulatory Year of the next Regulatory Period.

This calculation will also apply if the deferment of a Significant Project extends into the next Regulatory Period, in which case the X-factor will be recalculated for the next period, with the excess revenue subtracted from the allowed revenue for the next Regulatory Year of that Regulatory Period.³⁶

In many cases, deferred projects may still be required, even if more than eighteen (18) months after originally scheduled. In these cases the following approach will be used:

- If a Regulated Entity intends to continue with a deferred project during the same Regulatory Period in which it was originally included, it should inform the ERC of its intention as soon as it receives notice about the ERC's determination with regard to a delayed Significant Project, highlighting when it now intends to commence with the project. In such a case, the ERC will recalculate the X-factor for that Regulatory Period by considering the revised construction start date for the Significant Project in the capital expenditure and depreciation expense forecasts. The excess revenue earned up to the time of the recalculation of the X-factor will be deducted from the allowed annual revenue for the next Regulatory Year.
- If a Regulated Entity intends to continue with a deferred project, but only in the next Regulatory Period, the project should be removed from the capital expenditure forecasts for the current Regulatory Period and the X-factor for the remainder of the period recalculated, after deducting the excess revenue already earned by the Regulated Entity from the allowed annual revenue for the next Regulatory Year (which could fall in the next Regulatory Period). For the next Regulatory Period, the Regulated Entity should then re-include the project in their rate application as part of their capital expenditure forecast, where it will be treated the same as any other forecasted project.

The possibility exists for Regulated Entities to defer capital expenditure approved under a Regulatory Period to the next Regulatory Period, even if expenditure is not delayed by eighteen (18) months. By including such expenditure again for the next Regulatory Period, the Regulated Entity will reap the benefit of having the expenditure approved in more than one (1) period, without actually having had to incur it in the earlier period. To prevent this situation from arising, forecast capital expenditure approved in a Regulatory Period will not be re-allowed in the next period, unless a Regulated Entity requests the ERC to remove such a project from the capital forecasts for the current Regulatory Period, in which case the process described above will apply.

11.2.3 Major un-forecasted acquisitions

If a Regulated Entity makes major un-forecasted acquisitions during the Second Regulatory Period, it may lodge an application to the ERC for a re-calculation of the X-factor. The process and the definition of major un-forecasted acquisitions are described in Clause 12.4 of the DWRG.

³⁶ This is for situations where Significant Projects were scheduled to start within the last 18 months of a Regulatory Year.

This allowance makes provision for the acquisition of new assets not foreseen at the time of submitting the capital expenditure forecasts, or for the case where the actual value of assets acquired exceed one hundred five percent (105%) (or is less than ninety five percent [95%]) of the forecast value approved by the ERC for a single asset or the cumulative total of assets acquired during the Second Regulatory Period.

If, after investigation, the ERC determines that the circumstances claimed by a Regulated Entity have occurred, the X-value for the remainder of the Second (2nd) Regulatory Period will be recalculated. Provision is also made for the ERC to instigate a recalculation of the X-factor if the actual value of assets acquired by a Regulated Entity is less than ninety five percent (95%) of the approved forecast.

The materiality level as described in Clause 12.4.1(c) of the DWRG will be changed to:

“..... is greater than the lesser of PhP20 Million or point four percent (0.4%) of the value of all assets that, at the time of the relevant acquisition, are used by the Regulated Entity.....”

Further decisions on the level of materiality may be taken once the ERC has examined the details of historical capital expenditure on Regulated Distribution Systems as discussed in Section 4.2.6., including the materiality levels described in Clause 12.4.1(d)ii of the DWRG.

11.3 Procedure for events leading to an adjustment in rates

Recent Supreme Court Decisions have made it clear that Section 4(e), Rule 3 of the Implementing Rules and Regulations (IRR) of R.A. 9136 should be strictly adhered to in all applications filed with the Commission for rates and other relief affecting consumers. Any application under the DWRG that would lead to revenue recovery on the part of Regulated Entity and therefore give rise to an adjustment in rates for consumers (which could be an increase or decrease), including applications for applying pass-through costs and re-opening events for recalculating the X-factor, should comply with Section 4(e), Rule 3 of the IRR.

In this light, the following procedure will be applied to any applications filed by Regulated Entities that may give rise to rate adjustments for consumers.

- a) Filings by Regulated Entities of applications for recovery should be made within the times prescribed in the DWRG and in compliance with the pre-filing requirements set forth in Section 4(e), Rule 3 of the IRR of R.A. 9136.
- b) The ERC shall set a date for the public hearing of such filings not later than thirty (30) days after receipt of the filing,
- c) All memorandums, comments, position papers on the application, together with all supporting documentation and testimonial evidences in affidavit form associated with the public hearing shall be submitted within a period of one (1) month from the date of the hearing.
- d) A final resolution on the application for recovery shall be given not later than six (6) months from the filing of the application.

11.4 Related party transactions

A Regulated Entity may in the course of its management of a Regulated Distribution System enter into transactions with external, but related parties to procure operating or maintenance support, goods or materials.³⁷ The definition of related parties is as per International Accounting Standard 24, and is summarized in Appendix B. Parties are considered to be related if one party has fifty percent (50%) or more of the shareholding in the other, or the ability to control the other party or to exercise significant influence or joint control over the other party in making financial and operating decisions.³⁸

The ERC does not wish to discourage such transactions with related parties. However, it wishes to ensure that an arms-length relationship between Regulated Entities and related parties are maintained. In addition, any dividends, profits or other benefits incurring to a Regulated Entity in terms of its association with a related party should ultimately become part of the revenue earned by Regulated Entities and will be taken into account when assessing the actual revenue that was earned in each Regulatory Year.

Where such transactions with related parties are foreseen during the Second Regulatory Period, sufficient details must therefore be provided by Regulated Entities as part of the Regulatory Reset Process when submitting expenditure forecasts, to allow the ERC to assess the reasonableness and efficiency of such transactions and to take into account the revenue or other material benefits that is expected to be earned through the relationship. These details shall include information about:

- the identity of each related party with whom the contracts will be entered into;
- the nature of the relationship between the Regulated Entity and the related party, including an indication of the shareholding or interest that the Regulated Entity has in the related party;
- a detailed description of the goods or services to be provided by each related party to the Regulated Entity in the course of the transactions, for each Regulatory Year;
- the justification of why the transaction is preferred with a related party rather than a fully independent party;
- the anticipated unit price, quantity, revenue and expenditure amounts of each of the related party transactions, in nominal PhP terms for each Regulatory Year;
- the anticipated revenue or other material benefits that will be earned from the Regulated Entity's interest in the related party, for each Regulatory Year; and
- any debts arising from related party transactions that will be forgiven or written off.

³⁷ For the avoidance of any doubt, such support refer to services or goods rendered for the effective management of the Regulated Distribution System, as defined in Section 3.1.1, and can also include activities not directly related to the operation or maintenance of the distribution network, for example general management or information system support.

³⁸ Such transactions may of course also be undertaken with completely independent parties. However, since Regulated Entities are not expected to share in any profits or other benefits derived by independent parties, the ERC does not require the same level of information on these transactions.

If the ERC comes to the view that any related party transaction is likely to be less efficient than the similar transaction would have been with an independent party, or if the transaction was concluded using internal resources that are reasonably available, the amount of such transaction will be reduced to what is considered efficient levels by the ERC.

In order to maintain a sufficient level of comfort about related party transactions and to ensure that such transactions are efficient, the ERC may conduct post-transaction audits on any related party transaction conducted by a Regulated Entity. These audits will focus on:

- the accuracy of the information provided to the ERC about the transaction including, where relevant, a verification of the actual information as compared with information submitted about the transaction as part of the Regulated Entity's expenditure forecasts;
- the efficiency of the transactions, relative to similar transactions with non-related parties;
- the extent to which an effective arms-length relationship had been maintained with related parties;
- the extent to which profits or benefits arising from a related party transaction has accrued back to a Regulated Entity or its officers; and
- any evidence that the transaction may have been used by a Regulated Entity to avoid obligations in terms of the DRWG.

If the findings from such an audit should raise concerns with regard to any of these aspects, further steps will be taken by the ERC after consultation with the Regulated Entity. Such steps may include a deduction of any excess benefits or revenue deemed to arise from the transaction, including the quantified value of the perceived inefficiency of such transactions, from the Regulated Entity's allowed revenue for the next regulatory period, using the correction factor described in Clauses 4.2.1 and 5.2 of the DWRG for this purpose. Alternatively such benefits or revenue may be deducted from the Net Efficiency Adjustment described in Clause 9.2 of the DRWG.

11.5 Excluded services

The DWRG allows for certain Excluded Services that may be provided by a Regulated Entity, but that do constitute Regulated Distribution Services and for which the wheeling rates will not apply. Excluded Services are deemed to be those services provided in respect of a Regulated Distribution System by a Regulated Entity in its Qualified Franchise Area that is not a Regulated Distribution Service and also not a contestable service.

The prime example of an Excluded Service will be Distribution Connection Services, as envisaged under the DSOAR. At present, these services are included as Regulated Distribution Services under the DWRG, as are the operating, maintenance and capital expenditure associated with the Distribution Connection Services and the asset base (Distribution Connection Assets).

However, following the promulgation of the DSOAR (as is intended before the start of the Second Regulatory Period), these Distribution Connection Services will be excluded from the Regulated Distribution Services, as will be the associated expenses and asset base. The DWRG and this Issues Paper should therefore be read against that background and with that likelihood in mind. If Distribution Connection Services and the associated expenses and assets are separated from the Regulated Distribution Services and the regulated asset base, it will not constitute a contradiction with the DWRG or this Issues Paper.

It should be noted that in terms of the DSOAR, energy meters do not form part of Distribution Connection Assets and these will therefore remain part of the regulated asset base under the DWRG, even if Distribution Connection Connections are separated out.

11.6 Financial ratio analysis

In Clause 4.22 of the DWRG, the requirement for the forecast financial statements and ratio analysis that each Regulated Entity must provide to the ERC is described. The ERC will extend the financial model to be developed for calculating the X-factor to include the forecast financial statements and ratio analysis.

These forecasts are required for part of the economic and financial analysis that has to be conducted to determine the allowed annual revenue for a Regulated Entity. In particular it will be used to estimate the credit rating of a Regulated Entity, which will influence the determination of the building blocks for that entity.

It should be noted that these statements and ratios refer to regulatory accounts, not the actual financial accounts of Regulated Entities.

11.7 Subtransmission Assets

Under Section 8 of the EPIRA and Rule 22, Section 13(b) of its IRR, it is contemplated that Subtransmission Assets will be transferred from Transco to Regulated Entities. Where such Transferred Subtransmission Assets exist at the start of the Second (2nd) Regulatory Period, they will be operated as part of the Regulated Distribution System and thus, form part of the Regulatory Asset Base on which the distribution wheeling rates will be based.

The manner in which Transferred Subtransmission Assets are valued differs from that for the rest of the Regulated Distribution System and is described in Clause 4.8.13 of the DWRG. Depreciation on these assets is also calculated differently and is explained in Clause 4.10.1(b) of the DWRG.

It should be noted that Subtransmission Assets are defined³⁹ as only those assets used by Distribution Utilities as intermediate facilities to connect transmission and distribution substations. Assets used to connect End Users directly to the transmission network or to transmission or distribution substations are considered to be Connection Assets and, for the purposes of this Issues Paper, will be treated similarly to other Distribution Connection Assets.

³⁹ See the proposed DSOAR, Clause 1.2

12. PROPOSED FUTURE CHANGES TO THE DWRG

Although the regulatory reset process for the Second (2nd) Regulatory Period is now underway, the ERC wishes to signal its intention at this early stage about possible significant refinements that it may make to the DWRG at the next regulatory reset, before the Third (3rd) Regulatory Period. These possible changes are flagged below.

12.1 Alternatives to the weighted average cost of capital

The WACC is traditionally one of the critical elements to be determined during a regulatory reset for any form of regulation relying on building blocks or a return on rate base. It is also an element for which the underlying components are hard to determine and which are subject to a great deal of debate and contrary interpretation. Especially in an environment like the Philippines, where there is relatively little trading in public equity and liquidity levels are low, it is very hard to observe the WACC parameters. It therefore becomes necessary to rely on international figures, which introduce further elements of uncertainty, and may not always be appropriate.

In view of these problems, the ERC intends to investigate alternative means of determining the appropriate cost of capital that should apply to Regulated Entities. This may include:

- establishing an accurate risk-free rate for the Philippines and adding an appropriate margin to that rate to compensate investors in electricity distribution businesses for the risk they face above this rate; or
- consideration of the level at which a large Philippines corporation with an assessed credit rating equivalent to an electricity distribution business can obtain capital and the return that it expects to achieve on its equity.

Such measures will by definition involve simplifying assumptions but, given the uncertainties surrounding the WACC and the CAPM on which it is based, may still be more appropriate, especially if wide consensus can be reached among Philippine utilities that the assumptions are reasonable.

12.2 Standardized customer segmentation

It is ideal for the ERC to eventually assess and compare the relative performance of Regulated Distribution Systems right throughout the country on a common basis and to ensure that customers in similar environments receive similar service levels at similar price levels.

To achieve this, the ERC intends to undertake studies during the Second (2nd) Regulatory Period to look at the standardization of Customer Segments across Regulated Distribution Systems and non-regulated distribution systems. These may eventually form the basis of standardized rates and performance measurements may also be extended to separately measure the performance of networks or services for various Customer Segments, or for different network categories.

12.3 Improved performance incentive scheme

The ERC intends to further improve the performance incentive scheme. It therefore intends to conduct further studies during the course of the Second (2nd) Regulatory Period. At the same time, the ERC intends to collect more actual performance data on a variety of measures.

Particular aspects that will be investigated include :

- the cost (capital and operating) to improve various service levels;
- the variability in Regulated Distribution System performance against each performance index and establishing appropriate mean performance levels and acceptable limits of variability;
- the importance attached by customers to the various performance incentive indices;
- the cost of un-served energy for various customer types; and
- the willingness of customers to pay more for improved service levels.

12.4 Regulatory accounts

It has been noted that the financial accounts and ratio referred to in Clause 4.22.2 of the DWRG are regulatory accounts, not the company's standard financial accounts. The ERC intends to further develop the reporting requirements for these regulatory accounts to ensure that they are prepared to the same standard as the standard financial accounts and can be:

- independently audited as per standard accounting and auditing procedures; and
- reconciled with the Regulated Entities' standard financial accounts.

12.5 Frequency of asset revaluation

The ERC will investigate the feasibility of foregoing a formal asset revaluation as described in Clauses 4.8 and 5.5 of the DWRG for one or more of the Subsequent Regulatory Periods. Instead, the opening value of the Regulatory Asset Base at the start of the Third (3rd) Regulatory Period will be based on the value of the Rolled Forward Depreciated Asset Base, after applying an appropriate inflation and foreign exchange index to account for the period since the last formal revaluation.

Given that:

- an optimized replacement cost for the Regulatory Asset Base will be formally established at the start of the Second (2nd) Regulatory Period;
- all future capital expenditure will be approved by the ERC and will only allow for optimized assets; and
- depreciation will be in accordance with standard asset lives,

it is anticipated that the asset value at the start of the Third (3rd) Regulatory Period as determined through a revaluation process as described in Sections 4.8 and 5.5 of the

DWRG, will not differ substantially from the indexed value of the Rolled Forward Depreciated Asset Base at that same date.

This assumes that the valuation and optimization process accepted for the final determination of the maximum price cap will remain the same for the Third (3rd) Regulatory Period.

12.6 Weightings for the over/under recovery calculations

It was suggested that the weightings used in the calculation of the differential amount (DA_t) feeding into calculation of the over/under-recovery factor (K_t) may be inappropriate (Clause 4.3.1(b) of the DWRG). It allocates a fifty-fifty (50:50) weighting to the maximum average price for the two years before the calculation period. Other factors such as the actual units conveyed during the year, may also play an important role in the revenue earned and could skew the calculation of the differential amount.

The ERC will consider this over the Second (2nd) Regulatory Period based on actual information gathered with regard to revenue under- and over recovery. If appropriate, it will adapt the weighting currently used in the DWRG.

Pasig City, December 7, 2005.

RODOLFO B. ALBANO, JR.
Chairman

OLIVER B. BUTALID
Commissioner

JESUS N. ALCORDO
Commissioner

RAUF A. TAN
Commissioner

ALEJANDRO Z. BARIN
Commissioner

APPENDIX A : OPTIMIZATION PRINCIPLES

In this section, the guidelines for the optimization of network assets are provided.

A1. Introduction

The intention of optimization when valuing a distribution network is to ensure that the network would use the most cost-efficient design that would provide the required service potential. In theory such a state could however only be achieved if an approach is followed that completely disregards the design and configuration of the existing asset base. Such an approach would be cost intensive and is likely to result in variable and inconsistent outcomes.

The form of optimization proposed for the ERC therefore uses the existing network as the starting point for the valuation. A series of optimization tests must be systematically applied to the whole network to identify stranded assets, excess capacity and over-engineering. Where necessary, the network is notionally redesigned to provide an optimized network.

Optimization is to be undertaken after the replacement cost (RC) distribution network has been determined. The output from this process is the optimized replacement cost (ORC).

The base rules for establishing the optimized network are that it should:

- c) provide a quality of supply similar to that which currently exists, except where this exceeds the approved standard quality of supply criteria; and
- d) have a capacity similar to that of the existing network, except where this exceeds allowed future load growth.

Optimization consists of five stages:

- a) excluding stranded assets;
- b) optimizing the configuration of the network;
- c) optimizing the capacity of elements in the network;
- d) optimizing network engineering; and
- e) optimizing stores and spares.

The determination of indexed historical costs, replacement costs or modern equivalent replacement costs for existing individual network components is *not* part of the optimization process. This shall be done prior to calculating the RC.

A2 Life cycle analyses

As a general rule, optimization will involve the selection of the lowest cost asset that would provide the required capacity and service levels at a particular point on a distribution network. However, the most cost-efficient design is the one that minimizes the present value of the total costs of an asset and its use over its standard lives. The situation may therefore arise where the use of a lower cost asset is avoided because of such life cycle cost

analysis. In such cases, a general description of the analysis and assumptions used should be included in the valuation report.

In undertaking life cycle cost analyses to determine the most efficient design, the following may be taken into account:

- (ii) the capital and operating costs over the life of the asset;
- (iii) other costs that are incurred by the Regulated Entity as a result of the use of the asset; and
- (iv) the cost of losses to the extent that these are caused by the existing load and the allowed future load growth.

A3. Constraints on Optimization

The optimization process shall be carried out subject to the following constraints:

- a) the potential level of service of the optimized network shall not exceed that of the existing network, and the performance of any part of the optimized network shall not exceed the Regulated Entities disclosed quality of supply criteria, unless non-standard contracts with customers exist that require the Regulated Entity to provide an enhanced quality of supply;
- b) the location of points of connection to other networks should be assumed to be fixed. However, where a point of connection can be bypassed and replaced with a more cost-efficient network arrangement, then that point of connection shall be deleted for valuation purposes;
- c) the location and number of connection points to consumers should be assumed fixed;
- d) the optimized network should only use the voltage levels used on the existing network; and
- e) the existing geographic boundaries of the Regulated Entity's supply area should be assumed to be fixed.

A4. The Process of Optimization

Optimization of the network shall be undertaken on a systematic basis. The optimization process must examine the existing network and determine whether a more cost-efficient design could meet the required quality of supply criteria throughout the allowed planning period. Optimization shall be undertaken systematically across the network and shall include, in particular, the following network components:

- a) points of connection to other networks;
- b) substations and primary distribution switching stations;
- d) subtransmission lines and primary distribution circuits;
- e) high voltage distribution feeders; and
- f) the low voltage distribution system.

A5. Future Load Growth

The maximum capacity of any part of the optimized network shall be determined by the allowed future load growth, which is the maximum forecast load on the relevant part of the network under contingency operating conditions over the allowed planning period. However, in no case shall optimized capacity exceed existing capacity.

In order to ensure compliance with this clause, when preparing valuations Regulated Entities shall disclose both existing loads and the load forecast used as a basis for optimization. As a minimum, existing and forecast loads shall be provided for each grid connection point, each main substation and each high voltage distribution feeder. Clear justification and a detailed derivation of the load growth forecasts are required. Both the existing maximum demand and the highest forecast maximum demand during the planning period shall be provided.

Allowances should be made, where possible, for different growth rates in different parts of the network. Existing loads may be estimated where metering is not available.

The load forecast shall include only future electricity loads that can reasonably be expected to be supplied from the distribution network. A load outside the existing geographic boundaries of a Regulated Entity's area of supply shall not be included in the forecast unless a written customer contract to supply the load exists at the time of the valuation.

The planning periods over which future load growth can be allowed for shall not exceed the following:

- a) for subtransmission lines, substations (excluding transformers), primary distribution circuits and points of connection to a transmission network, fifteen (15) years;
- b) substation transformers, ten (10) years;
- c) high voltage (HV) and low voltage (LV) distribution, and other network assets, five (5) years.

A.6 Quality of Supply

The optimized network shall be designed to supply the existing load, and the allowed future load growth, with a quality of supply that matches the level that currently exists for each part of the network, except where this is greater than the quality of supply criteria as approved by the ERC.

For the optimization process, Regulated Entities shall disclose the quality of supply criteria that it currently uses as a basis for network design. This should be based on their analysis of customer requirements and assessment of network maintenance requirements and costs.

Relevant quality of supply criteria include:

- a) the degree of security (redundancy) in different circumstances or localities;
- b) target reliability indices for different areas of the network (CBD, urban, rural);
- c) voltage regulation criteria; and
- d) levels of electrical losses.

The degree of security may be disclosed either in probabilistic or deterministic terms. A deterministic approach could reference the level of in-built redundancy, i.e. as (n) or (n-1) or (n-2) component redundancy. (An (n) security level implies no component redundancy so that if a component fails, then customer supply is lost. An (n-1) security level is one in which customer supply is not interrupted in the event of any single component outage etc.) Irrespective of whether probabilistic or deterministic criteria are used, it is necessary for a Regulated Entity to express its degree of security criteria in such a way that the optimization process is transparent and can be shown to have been applied consistently across all parts of the network.

Existing Distribution System assets that provide a quality of supply greater than that disclosed by the Regulated Entity shall be optimized out, except where the assets are required to meet contractual obligations to provide an improved quality of supply to specific customers.

A7. Excluding Stranded Assets

Any system fixed assets not required to supply line services to existing customers, and which could therefore be disconnected, shall be identified and excluded from the optimized network. Such assets are known as stranded assets and should be optimized out.

A8. Optimizing System Configuration

Optimization of the system configuration shall be carried out by considering alternative configurations subject to the constraints on optimization and in accordance with the relevant criteria relating to the quality of supply declared by the Regulated Entity. The optimized configuration is the one that satisfies the relevant optimization criteria in the most cost efficient manner.

In the process of optimizing the system configuration, certain assets or groups of assets may become excess to requirements and should be valued at nil, while other new assets may need to be notionally brought in.

A9. Optimizing Network Capacity

After the configuration of the system has been optimized, the elements within that system shall be optimized by considering whether lower capacity, more cost-efficient elements would be adequate.

Civil engineering works such as spare ducts, cable tunnels and switchyard bays not currently used shall be optimized out unless they will be required to meet the allowed future load growth. If the future use of such assets is only intended to provide an improved quality of supply, rather than an increase in system capacity, the assets shall be optimized out since the optimized system shall not provide a quality of supply greater than that which currently exists.

A10. Optimizing Network Engineering

As part of the process of optimizing the network, the engineering of the network shall be examined to confirm that the optimized asset base is not over-engineered, given the required quality of supply criteria. Over-engineering may occur if parts of the existing asset base are engineered to a standard that exceeds the Regulated Entity's current practice or if a more cost-efficient engineering arrangement or configuration would be used if the

existing assets were replaced. The Regulated Entity's design and construction standards, and the standard of engineering applied to its most recent projects should be used as the benchmark for this test. Where a more cost-efficient arrangement would result if the required level of service were provided by applying the Regulated Entity's existing engineering standards then the relevant assets shall be replaced by a notional asset arrangement that reflects current practice.

A11. Optimizing Network Equipment Spares

Network equipment spares may be included in the ORC valuation as long as the spares are suitable replacements for assets installed in the network. However, the quantity of spares in valuation shall not exceed the reasonable quantity of spares required to meet the Regulated Entity's disclosed quality of supply criteria.

Stranded assets may be valued as network spares, subject to the criteria set out above. Stranded assets not required as network spares shall be assigned a zero value for the purposes of the valuation.

A.12 Assets to be Included in the ORC Valuation

Only fixed assets forming part of a Regulated Distribution System owned by a Regulated Entity or subject to a finance lease are to be included as part of the optimized replacement cost of the Regulated Distribution System. Such fixed assets are assets that are tangible in nature, have relatively long useful lives, and are used, or intended to be used, for the conveyance or supply of electricity. Where an easement forms an integral part of a network asset, it should be considered to be a system fixed asset and may be included in the valuation. Stores and spares held in stock that can be used in the network in place of existing network assets may be included in the valuation to the extent that the quantities of items included in the valuation are appropriate, considering the historical reliability of the equipment and the number of items installed on the network.

The following assets shall not be included in the ORC valuation:

- a) office buildings, except where required for the real time operation and control of the distribution or transmission network;
- b) depots and workshops;
- c) office furniture and equipment;
- d) motor vehicles;
- e) tools, plant and machinery;
- f) works that are under construction;
- g) non-network related land;
- h) non-network related stores and spares;
- i) computer systems, except computer systems that are used for real time network operation and control;
- j) asset management systems, including geographic information systems, except where such systems are used for real time network operation and control;

- k) street lights and poles or other structures used exclusively for the support of streetlights;
- l) street light control relays and circuits or other equipment used exclusively for the control of street lights; and
- m) assets where the ownership is disputed or unclear.

To avoid any uncertainty, it is noted that assets not forming part of the optimized replacement cost of Regulated Distribution System would still be considered part of the Regulatory Asset Base, in so far as they are used to support the provision of Regulated Distribution Services.

APPENDIX B : RELATED PARTY TRANSACTIONS

Related party transactions and the obligation of disclosure by Regulated Entities of such transactions are described in Section 11.3 of the Issues Paper.

In this section, the definition of related parties and transactions that would constitute related party transactions are defined. These definitions are taken from the IAS 24.

B1. Definition of related parties

Parties are considered to be related if one party has the ability to control the other party or to exercise significant influence or joint control over the other party in making financial and operating decisions.

Clause 24.9 [of IAS 24] states that a party is related to an entity if:

- (a) directly, or indirectly through one or more intermediaries, the party:
 - (i) controls, is controlled by, or is under common control with, the entity (this includes parents, subsidiaries and fellow subsidiaries);
 - (ii) has an interest in the entity that gives it significant influence over the entity; or
 - (iii) has joint control over the entity;
- (b) the party is an associate (as defined in IAS 28) of the entity;
- (c) the party is a joint venture in which the entity is a venturer;
- (d) the party is a member of the key management personnel of the entity or its parent;
- (e) the party is a close member of the family of any individual referred to in (a) or (d);
- (f) the party is an entity that is controlled, jointly controlled or significantly influenced by or for which significant voting power in such entity resides with, directly or indirectly, any individual referred to in (d) or (e); or
- (g) the party is a post-employment benefit plan for the benefit of employees of the entity, or of any entity that is a related party of the entity.

Per Clause 24.11 [of IAS 24], the following are not considered related parties:

- two (2) enterprises simply because they have a director or key manager in common;
- two (2) venturers simply because they share joint control over a joint venture;
- providers of finance, trade unions, public utilities, government departments and agencies in the course of their normal dealings with an enterprise; and
- a single customer, supplier, franchiser, distributor, or general agent with whom an enterprise transacts a significant volume of business merely by virtue of the resulting economic dependence arising between the parties.

B2. Definition of related party transactions

IAS 24.9 states that a related party transaction is a transfer of resources, services, or obligations between related parties, regardless of whether a price is charged.

Typical services that would be included under related party transactions are:

- Providing or receiving services;
- Purchase or sales of goods, property and other assets;
- Leases;
- Transfers of research and development;
- Transfers under license agreements;
- Transfers under finance arrangements (including loans and equity contributions in cash or in kind);
- Provision of guarantees or collateral; and
- Settlement of liabilities on behalf of the entity or by the entity on behalf of another party.

APPENDIX C : EXPLANATION OF O&M COST CATEGORIES

The UFR identified the following categories and sub-categories of Operating Expense (OPEX):

414-000-00 DISTRIBUTION EXPENSES

414-000-10 Operation

This account represents the expenses incurred in the general supervision and direction of the operation of the distribution system.

Direct supervision of specific activities, such as station operation, line operation, meter department operation, etc. shall be charged to the appropriate account.

Included in this account are salaries and wages in: performing special tests to determine efficiency of equipment operation, preparing or reviewing budgets, estimates and drawings relating to the distribution operation, preparing instructions for operating activities, formulating and reviewing work of the department, and secretarial work for supervisory personnel but not general clerical work; and other expenses related to the activities described above.

414-581-10 Operation – Load Dispatching

This account represents the expenses incurred in load dispatching operating pertaining to the distribution of electricity.

Included in this account are salaries and wages of employees in: directing and switching, arranging and controlling clearances for construction, maintenance, test and emergency purposes, controlling system voltages, preparing operating reports, and obtaining reports on the weather and special events; and expenses incurred for: communication service provided for system control purposes, system record and report forms, and meals, traveling and incidental expenses.

414-582-10 Operation – Station Expenses

This account represents the expenses incurred in the operation of distribution substations.

Included in this account are salaries and wages in supervising station operation, adjusting station equipment where such adjustment primarily affects performance such as regulating the flow of cooling water, adjusting current fields of a machine, changing voltage of regulators or changing station transformer taps, keeping station, log and records and preparing reports on station operation, inspecting, testing and calibrating station equipment for the purpose of checking its performance, operating switching and other station equipment, standing watch, guarding and patrolling station and station yard, sweeping, mopping and tidying station, and care of grounds, including cutting grass, etc.; and materials and expenses incurred for: building service, operating supplies such as lubricants, commutator brushes, water and rubber goods, station meter and instrument supplies such as ink and charts, tools, transportation, and meals, traveling and incidental expenses.

414-583-10 Operation – Overhead Line Expenses

This account represents the expenses incurred in the operation of distribution lines.

Included in this account are salaries and wages in supervising line operation, changing line transformer taps, inspecting and testing lighting arresters, line circuit breakers, switches and grounds, inspecting and testing line transformers for the purpose of determining load, temperature or operating performance, routine patrolling of lines, load test and voltage surveys of feeders, circuits and line transformers, removing line transformers, oil circuit reclosers and sectionalizers with or without replacement, installing line transformers, oil circuit reclosers or sectionalizers with or without change in capacity provided that the cost of first installation of these items is capitalized, voltage surveys, either routine or upon request of consumers, including voltage tests at consumer's main switch, transferring loads, switching and reconnecting circuits and equipment, electrolysis surveys, and inspecting and adjusting line testing equipment; and materials and expenses for: tools, transportation, meals, traveling and incidental expenses, and operating supplies such as instrument chart, rubber goods, etc..

414-585-10 Operation – Street Lighting and Signal System

This account represents expenses incurred in the operation of street lighting and signal systems plant which is owned or leased by the distribution utility and those owned by customers where such work is done regularly as a part of the street lighting and signal system service.

Included in this account are salaries and wages in: supervising street lighting and signal systems operating, replacing lamps and incidental cleaning of glassware and fixtures in connection therewith, routine patrolling for lamps outages, extraneous nuisance or encroachments, etc., testing lines and equipment including voltage and current measurement, and winding and inspecting time switches and other controls; and materials and expenses for: street lamp renewals, transportation and tools, and meals, traveling and incidental expenses.

414-586-10 Operation – Meter Expenses

This account represents expenses incurred in the operation of consumer meters and associated equipment.

Included in this account are salaries and wages in: supervising meter operation, clerical work on meter history and associated equipment record card, test cards and reports, disconnecting and reconnecting, removing and reinstalling, sealing and unsealing meters and other metering equipment in connection with initiating or terminating services including the cost of obtaining meter readings, if incidental to such operation, consolidating meter installations due to elimination of separate meters for different rates of service, and changing or relocating meters, instrument transformers, time switches and other metering equipment on premises or in shops excluding inspecting and testing incidental to maintenance; and material and expenses for: meter seals and miscellaneous meter supplies, transportation, meals, traveling and incidental expenses, and tools.

414-587-10 Operation – Consumer Installation Expenses

This account represents cost of labor, materials used and expenses incurred in work on consumer installations in inspecting premises and in rendering services to customers of the nature of those indicated by the list of items hereunder.

Included in this account are salaries and wages in: supervising consumer installation work, inspecting premises including check of wiring for code compliance, investigating, locating and clearing grounds on consumer's wiring, investigating service complaints, including load tests of motors and lighting and power circuits on consumers' premises, field investigations of complaints on bills or of voltage, installing, removing, renewing and changing lamps and fuses, radio, television and similar interference work including erection of new serials on consumers' premises and patrolling of lines, testing of lighting arresters, inspection of pole hardware, etc., and examination on or off premises of consumers' appliances, wiring or equipment to locate cause of interference, installing, connecting, reinstalling or removing leased property on consumers' premises, cost of changing consumers' equipment due to changes in service characteristics, and investigation of current diversion including setting and removal of check meters and securing special readings thereon, special calls by employees in connection with discovery and settlement of current diversion, changes in consumer wiring and any other labor cost identifiable as caused by current diversion; materials and expenses for: lamps and fuse renewals, materials used in servicing consumers' fixtures, appliances and equipment, power, light, heat, telephone and other expenses of repair department, tools, transportation, including pickup and delivery charges, meals, traveling and incidental expenses, and rewards paid for discovery of current diversion; and amounts billed consumers for any work.

414-588-10 Operation – Rents

This account represents rent expenses on property of others used, occupied or operated in connection with the distribution system, joint use of poles and payments to the government and others for the use and occupancy of public lands and reservations for distribution line rights of way.

This account includes rentals of property of others used in connection with the distribution system.

Information technology (distribution network related)⁴⁰

Distribution IT systems are dedicated systems directly supporting the efficient operation and maintenance of Distribution Networks. This would include the hardware and software used for applications such as geographic information systems, asset databases, fault monitoring and recording, SCADA and network performance data recording.

414-589-10 Operation – Miscellaneous Expenses

This account represents other expenses incurred in distribution system operation not classifiable in the specific accounts described above.

This account includes salaries and wages in: general records of physical characteristics of lines and substations, such as capacities, etc., ground resistance records, joint pole maps

⁴⁰ This is a new requirement for the Issues Paper and therefore does not have a corresponding rate filing identifier

and records, distribution system voltage and load records, preparing maps and prints, service interruption and trouble records and general clerical and stenographic work; and expenses incurred in: operating records covering poles, transformers, manholes cables and other distribution facilities, and janitorial work at distribution office buildings including cutting grass, etc.; and materials and expenses incurred for: communication service, building service, miscellaneous office supplies, printing and stationeries, maps and records and first-aid supplies, and research, development and demonstration.

414-000-20 Maintenance

The maintenance accounts described below are to be used when the primary purpose of the activity is preventing failure, restoring service, and/or maintaining plant life at its original quality of service.

414-590-20 Maintenance – Supervision and Engineering

This account represents expenses incurred in the general supervision and direction of maintenance of the distribution system.

This account includes salaries and wages related in: special tests to determine efficiency of equipment operation, preparing and reviewing budgets, estimates and drawings related to maintenance activities, preparing instructions for maintenance activities, formulating and reviewing routing maintenance activities, and secretarial work for supervisory personnel but not general clerical work chargeable to other accounts; and other expenses related to the activities described above, such as: operating records covering poles, transformers, manholes cables and other distribution facilities, and janitorial work at distribution office buildings including cutting grass, etc..

414-591-20 Maintenance – Structures

This account represents expenses incurred in the maintenance of structures, the book cost of which is includible in the sub-account Structures and Improvement under the plant classification Distribution Plant.

Included in this account are salaries and wages of employees; materials and other expenses in connection with the maintenance of structures as described in the above paragraph; direct field supervision, inspecting, testing and reporting on condition of structures specifically to determine the need for repairs, replacements, rearrangements and changes and inspecting the adequacy of repairs which have been made; work performed specifically for preventing failure, restoring service and/or maintaining the life of the structures; repairing for reuse, materials recovered from the plant; testing for locating and clearing trouble; and replacing or adding minor items of plant which do not constitute a retirement unit.

414-592-20 Maintenance – Station Equipment

This account represents expenses incurred in maintenance of plant, the book cost of which is includible in the sub-accounts Stations and Equipment and Storage Battery Equipment under the classification Distribution Plant.

Included in this account are salaries and wages of employees; materials and other expenses in connection with the maintenance of structures as described in the above paragraph;

direct field supervision; inspecting, testing and reporting on condition of structures specifically to determine the need for repairs, replacements, rearrangements and changes and inspecting the adequacy of repairs which have been made; work performed specifically for preventing failure, restoring service and/or maintaining the life of the structures; repairing for reuse, materials recovered from the plant; testing for locating and clearing trouble; and replacing or adding minor items of plant which do not constitute retirement unit.

414-593-20 Maintenance – Overhead Lines

This account represents expenses incurred in the maintenance of line distribution facilities, the book cost of which is includible in the sub-accounts Poles, Towers and Fixtures, Overhead Conductors and Devices and Services under the classification Distribution Plant.

Included in this account are salaries and wages, materials used and expenses incurred on poles, towers and fixtures in: installing additional clamps or removing clamps or strain insulators on guys in place, moving line or guy pole in relocation of pole or section of line, painting poles, towers, crossarms or pole extension, readjusting and changing position of guys or braces, realigning and straightening poles, crossarms, braces, pins, racks, brackets and other fixtures on poles, reconditioning reclaimed pole fixtures, relocating crossarms, racks, brackets and other fixtures on poles, repairing pole supported flatform, repairs by others to jointly owned poles, shaving, cutting rot or treating poles or crossarms in use or salvaged for reuse, stubbing poles already in service, supporting conductors, transformers and other fixtures and transferring them to new poles during pole replacements, and maintaining pole signs, stencils, tags, etc.; salaries and wages, materials used and expenses incurred on overhead conductors and devices in: overhauling and repairing line cutouts, line switches, line breakers and capacitor installations, cleaning insulators and bushings, refusing line cutouts, repairing line oil circuit breakers and associated relays and control wiring, repairing grounds, resagging, retying or rearranging position or spacing of conductors, standing by phones, going to calls, cutting faulty lines, clear or similar activities at times of emergency, sampling, testing, changing, purifying and replenishing insulating oil, transferring loads, switching and reconnecting circuits and equipment for maintenance purposes, repairing line testing equipment, trimming trees and clearing bush, and chemical treatment of right of way area when occurring subsequent to construction of line; and salaries and wages, materials and expenses incurred on overhead services in: moving position of service either on pole or on consumer's premises, pulling shack in service wire, retying service line, and refastening or tightening service bracket.

414-593-20 Maintenance – Line Transformers

This account represents expenses incurred in maintenance of distribution line transformers, the book cost of which is includible in the sub-account Line Transformers under the classification Distribution Plant.

Included in this account are direct supervision; inspecting, testing and reporting on condition of line transformers specifically to determine the need for repairs, replacements, rearrangements and changes and inspecting the adequacy of repairs which have been made; work performed specifically for preventing failure, restoring service and/or maintaining the life of the line transformers; repairing for reuse materials recovered from the plant; testing for locating and clearing trouble; replacing or adding minor items of plant which do not

constitute a retirement unit; and materials and other expenses in connection with the maintenance of line transformers as described in the above paragraph.

414-596-20 Maintenance – Street Lighting and Signal Systems

This account represents cost of labor, materials used and expenses incurred in maintenance of plant, the book cost of which is includible in sub-account Street Lighting and Signal Systems under the classification Distribution Plant.

Included in this account are direct field supervision; inspecting, testing and reporting on condition of street lighting and signal systems specifically to determine the need for repairs, replacements, rearrangements and changes and inspecting the adequacy of repairs which have been made; work performed specifically for preventing failure, restoring service and/or maintaining the life of the street lights and signal systems; repairing for reuse materials recovered from the plant; testing for locating and clearing trouble; replacing or adding minor items of plant which do not constitute a retirement unit; and materials and other expenses in connection with the maintenance of street lights and signal systems as described in the above paragraph.

Information technology (distribution network related)⁴¹

Distribution IT systems are dedicated systems directly supporting the efficient operation and maintenance of Distribution Networks. This would include the hardware and software used for applications such as geographic information systems, asset databases, fault monitoring and recording, SCADA and network performance data recording.

414-597-20 Maintenance – Meters

This account represents expenses incurred in maintenance of meters and meter testing equipment, the book cost of which is includible in sub-account Meters under the classification Distribution Plant.

Included in this account are direct field supervision; inspecting, testing and reporting on condition of street lighting and signal systems specifically to determine the need for repairs, replacements, rearrangements and changes and inspecting the adequacy of repairs which have been made; work performed specifically for preventing failure, restoring service and/or maintaining the life of meters; repairing for reuse materials recovered from the plant; testing for locating and clearing trouble; replacing or adding minor items of plant which do not constitute a retirement unit; and materials and other expenses in connection with the maintenance of street lights and signal systems as described in the above paragraph.

414-598-20 Maintenance – Miscellaneous Plant

This account represents expenses incurred in the maintenance of miscellaneous plant, the book cost of which is includible in the accounts Installations in Customer's Premises and Leased Property on Customer's Premises.

Included in this account are expenses of similar nature to that listed in other distribution accounts; and expenses in maintenance of office furniture and equipment used by distribution system department.

⁴¹ Supra note 40

CONSUMER ACCOUNTS EXPENSES

420-901-00 Supervision

This account represents expenses incurred in the general direction and supervision of consumer accounting and collection activities.

Direct supervision of a specific activity shall be charged to the appropriate expense account.

Included in this account are salaries and wages of employees directly involved in the direction and supervision of the consumer accounting activities; and other expenses related to the activities described above.

420-902-00 Meter Reading Expenses

This account represents expenses in reading consumer meters and determining consumption when performed by employees engaged in reading meters.

Included in this account are salaries and wages in: preparing forms for obtaining meter readings, inspecting time clocks, checking seals, etc., when performed by Meter Readers and the work represents a minor activity incidental to regular meter reading routine, reading meters including demand meters, and obtaining load information for billing purposes, computing consumption from Meter Reader's book or from reports done by employees engaged in reading meters, reviewing meter reading reports used for billing purposes, collecting from prepayments meters when incidental to meter reading, and computing and reviewing estimated or average consumption performed by employees engaged in reading meters; and materials and expenses incurred for: badges, lamps and uniform, demand charts, meter reading records and binders and forms for recording readings, and transportation, meals and incidental expenses.

Information Technology (consumer related)⁴²

Consumer related IT systems are those dedicated to providing and supporting customer services, including Distribution Connection Services.

420-903-00 Consumer Records and Collection Expenses

This account represents expenses incurred in the course of working on consumers applications, contracts, orders, credit investigations, billing and accounting, collections and complaints.

Included in this account are salaries and wages in: receiving, preparing, recording and handling routine orders for service, disconnections, transfers or meter tests initiated by the consumer, excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders, investigations of consumers' credit and keeping of records pertaining thereto, including records of uncollectible accounts written off, receiving, refunding or applying consumer deposits, and maintaining consumer deposit, line extension and other miscellaneous records, checking consumption shown in Meter Readers' reports where incidental to preparation of billing data, preparing address plates and addressing bills and delinquent notices, preparing billing data, operating

⁴² Supra note 40

billing and bookkeeping machines, verifying billing records with contracts or rate schedules, preparing delivery and delivering bills, collecting payments from consumers including collection from prepayment meters unless incidental to meter reading operating, balancing collections, preparing collections for deposit and cash reports, preparing mailing or delivering delinquent notices and preparing reports of delinquent accounts, posting collections and other credits or charges to consumer accounts, balancing consumer accounts and controls, final meter reading of delinquent accounts when done by Collectors incidental to regular activities, disconnecting and reconnecting service due to non-payment of bills, receiving, recording and handling of inquiries, complaints and request for investigations from consumers, including preparation of necessary orders, but excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders, statistical and tabulating work on consumer accounts and revenues, but not including special analyses for sales department, rate department, or other general purposes, unless incidental to regular consumer accounting routines, preparing meter reading sheets, and determining consumption and computing estimated or average consumption when performed by employees other than those engaged in reading meters; and materials and expenses incurred for: address plates and supplies, cash overages and shortages, commissions or fees to others for collecting, payments to credit organizations for investigations and reports, postage, transportation, including transportation of consumer bills and meter books under centralized billing procedures, transportation, meals and incidental expenses, bank charges, exchange and other fees for cashing and depositing consumers' checks, forms for recording orders for services, removals, etc., and rent of mechanical equipment.

420-904-00 Uncollectible Accounts

This account represents provision for losses arising from uncollectibility of receivables.

Included in this account is the amount estimated or set-up as provisions for uncollectible accounts.

420-905-00 Informational and Instructional Advertising Expenses

This account represents expenses incurred in activities which primarily convey information as to what the utility urges or suggests consumers should do in utilizing electric service.

Included in this account are salaries and wages in: direct supervision of informational activities, preparing informational materials for newspapers, periodicals, etc. including those for radio and TV programs, preparing informational booklets, bulletins, etc. for direct mailing, preparing informational windows and other displays, and employing agencies, selecting media and conducting negotiations in connection with the placement of information programs; and materials and expenses for: use of newspapers, periodicals, bulletin boards, radio, etc. for informational purposes, postage or direct mailing to customers, exclusive of posters related to billings, printing of informational booklets, dodgers, bulletins, etc., supplies and expenses in preparing informational materials by utility, and office supplies.

420-06-00 Miscellaneous Consumer Services Expenses

This account represents the expenses incurred in connection with consumer service and informational activities which are not includible in other consumer information expense accounts described herein.

Included in this account are salaries and wages in: general clerical and stenographic work not assigned to specific customer service and information programs, and miscellaneous labor; and materials and expenses for: communication service, and printing, postage and office supplies.

420-907-00 Consumer Prompt Payment Discount

This account represents discount given to consumers for paying bills on time. Included in this account are discounts availed by consumers.

ADMINISTRATIVE AND GENERAL EXPENSES**430-920-00 Administrative and General Salaries**

This account represents the compensation of officers, executives and other employees of the utility properly chargeable to utility operating and not directly to any particular operating function. Included in this account is the amount of salaries and wages incurred and due.

430-921-00 Office Supplies and Expenses

This account represents expenses incurred for office supplies and expenses incurred in connection with the general administration of utility's operating which are assignable to specific administrative or general departments and are not specifically provided for in other accounts described herein.

Included in this account are automobile service, bank messenger and service charges, books, periodicals, bulletins and subscriptions to newspapers, newsletters, tax services, etc., building service expenses for consumer accounts, sales and administrative and general purposes, communication service expenses, cost of individual items of office equipment used by general departments which are of small value or short life, office supplies, payment of court costs, witness fees and other expenses of legal department, and postage, printing and stationeries.

Information technology (admin & general)⁴³

Administrative and general IT systems are those that contribute to the overall management and benefit of a Regulated Distribution System, but are not directly used in the operation of Distribution Systems. Such IT systems would for example include the hardware and software for accounting, payroll or human resource management.

430-923-00 Outside Services Employed

This account represents fees and expenses of professional consultants and others for general services which are not applicable to a particular operating function or to other

⁴³ Supra note 40

accounts. It also represents the pay and expenses of persons engaged for a special or temporary administrative or general purpose in circumstances where the person so engaged is not considered as an employee.

Included in this account are fees, pay and expenses of accountants and auditors, actuaries, appraisers, attorneys, engineering consultants, management consultants, negotiators, public relations counsel, tax consultants, etc.; and supervision fees and expenses paid under contracts for general management services.

430-924-00 Property Insurance

This account represents cost of insurance, labor and related supplies and expenses incurred for the protection against losses and damages to owned or leased property used in the operating.

Included in this account are premiums payable to insurance companies for fire, storm, burglary, explosions, lightning, fidelity, riot and similar insurance; special costs incurred in procuring insurance; insurance counsel, brokerage fees and expenses; and insurance inspection service. Reductions in this account are recoveries from insurance companies or others for property damages.

430-925-00 Injuries and Damages

This account represents cost of insurance or reserve accruals against injuries and damages claims of employees or others, losses of such character not covered by insurance and expenses incurred in settlement of injuries and damages claims, and expenses incurred in injuries and damages activities.

Included in this account are insurance premiums incurred for protection against claims from injuries and damages by employees or others, such as a public liability, property damages, casualties, employee disability, etc.; losses not covered by insurance on account of injuries or deaths to employees or others and damages to the property of others; fees and expenses of claim investigators; payment of awards to claimants for court costs and attorney's services; medical and hospital service and expenses for employees as a result of occupational injuries or resulting from claims of others; compensation payments under workmen's compensation laws; compensation paid while incapacitated as a result of occupational injuries; and cost of safety, accident prevention and similar educational activities. Reductions in this account are the reimbursements from insurance companies or others for expenses charged hereto on account of injuries and damages and insurance dividends or refunds.

430-926-00 Employee Pension and Benefits

This represents pensions paid to or on behalf of retired employees, or accruals to provide for pension, payments for employee accident, sickness, hospital and death benefits or insurance therefore.

Included in this account are payment of pensions under a non-accrual or non-funded basis; accruals for or payments to pension funds or to insurance companies for pension purposes; group and life insurance premiums; payment for medical and hospital services and expenses of employees when not a result of occupational injuries; payments of accident, sickness, hospital and death benefits or insurance; payments to employees incapacitated for

service or on leave of absence beyond periods normally allowed, when not a result of occupational injuries or in excess of statutory awards; membership fees and dues in trade, technical and professional associations paid by a utility for employees; and expenses in connection with educational and recreational activities for the benefit of employees.

430-927-00 Franchise Requirements and Regulatory Commission Expenses

(For the Issues Paper and the DWRG, this is now titled “Regulatory Liaison and Compliance”).

This account represents expenses in connection with franchise, ordinance or similar requirements provided that charges to this account are based at regular tariff rates. In addition, this account covers all regulatory liaison and regulatory compliance costs, including any contributions that Regulated Entities have to make towards the cost for the appointment of Regulatory Reset Experts by the ERC. This account also include expenses incurred in connection with formal cases before regulatory bodies or cases in which such body is a party, including payments made to a regulatory commission for fees assessed against the Utility for pay and expenses of such commission, its officers, agents and employees.

Included in this account are expenses for materials, supplies and services furnished government authorities without reimbursement in compliance with franchise or ordinance; fees and expenses of counsel, solicitors, attorneys, accountants, engineers, clerks, attendants, witnesses and others engaged in the prosecution of or defense against petitioners or complaints presented to regulatory bodies, or in the evaluation of property owned or used in connection of such cases; and office supplies and expenses, payments to public service or other regulatory commissions, stationeries and printing, traveling expenses and other expenses incurred directly in connection with formal cases before regulatory commissions.

430-931-00 Rents

This account represents expenses for the property of others used, occupied or operated in connection with the consumer accounts, consumer service and informational sales and general and administrative functions of the utility.

Included in this account are rent expenses incurred.

430-932-00 Maintenance of Office and General Plant

This account represents expenses allocable or assignable to customer accounts, sales and administrative and general functions incurred in the maintenance of property being used in the utility operation.

Included in this account are expenses on labor, materials and other costs incurred.

430-933-00 Taxes on Property

For this Issues Paper and the DWRG this is covered under the “levies, duties and taxes (other than corporate income tax)” category.

430-934-00 Officers Allowances and Benefits

This account represents allowances and benefits given to the members of the Board of Directors, general manager, management assistants and other officers of the utility. It also includes representation expenses incurred by said officers.

Included in this account are Board meeting per diems; uniform allowances; representation expenses; and other allowances, fees and expenses.

430-935-00 Travel

This account represents expenses incurred by the utility officers and employees while on official travel.

Included in this account are meals and transportation; hotel accommodations; and other incidental expenses.

430-936-00 Training

This account represents all expenses incurred in connection with training, seminars and other continuing education program for the officers and employees to enhance their knowledge and improve performance in the conduct of their duties and responsibilities.

Included in this account are registration/seminar fees; meals and transportation; seminar/training materials; and other related expenses.

430-936-00 Miscellaneous General Expenses

This account represents expenses incurred in connection with the general management of the utility not provided for in the accounts described elsewhere.

Included in this account are salaries and wages for miscellaneous labor; expenses incurred for: contributions for conventions and meetings, experimental and general research work, communication service not chargeable to other accounts, trustees, registrar and transfer agent fees and expenses, member or stockholders' meeting expenses, publishing and distributing annual reports to members, institutional or goodwill advertising, and public notices of financial, operating and other data required by regulatory statutes, not including however, notices required in connection with acquisitions of property.

WESM COMPLIANCE

Under the WESM Rules, the following are the costs or expenses that a distribution utility has to provide for:

Market Fees

The cost of administering and operating the WESM which shall be recovered by the Market Operator through a charge to be imposed on all WESM Members or WESM transactions, provided such charge shall be filed by the Market Operator with the ERC for approval, consistent with the Act (R.A. No. 9136). *(Section 2.10.1 of the WESM Rules)*

The components shall include, but are not limited to:

- a) Registration fees, comprising an annual fee payable by each WESM Member for the category or categories which they are registered;

- b) Metering fees to recover the Market Operator's budgeted revenue requirements for the collection, storage and processing of metering data;
- c) Billing and settlement fees, to recover the Market Operator's budgeted revenue requirements for providing the billing and settlements service, as described in Chapter 3 of the WESM Rules;
- d) Administration fees, to recover the remainder of the Market Operator's budgeted revenue requirements not covered by (a), (b) and (c); and
- e) Costs reasonably incurred by the PEM Board and the committees and working groups that the Philippine Electricity Market (PEM) Board appoints under the WESM Rules;
 - (Items [a] to [e] – identified under Section 2.10.4 of the WESM Rules)*
- f) Market Management Software and upgrades costs recovery. *(not currently part of the WESM Rules but its inclusion is in the process of filing for approval)*

Costs and Expenses Relative to the Provision and Maintenance of Security to the WESM

DUs are mandated to source at least 10% of their power requirements from the Spot Market. As such, DUs are also categorized as Trading Participants. Unless exempted by the Market Operator *(criteria for exemption as specified under Section 3.15.2.2 of the WESM Rules)*, DUs, as Trading Participants, are required to provide and maintain a security *(forms of which are specified under Section 3.15.3)* as mandated under Section 3.15.2.1 of the WESM Rules. Doing so will entail costs and expenses such as documentation, interest expenses if funds are borrowed to acquire such security, etc.

BAD DEBTS

Such costs as Regulated Entities cannot recover from appropriately invoiced customers, after taking all prudent steps trying to recover the outstanding amounts. Such steps include notifying the customers of the outstanding amounts, and employing debt collection agencies if no reaction is still forthcoming.

APPENDIX D : DEFINITION OF INDICES USED FOR THE PERFORMANCE INCENTIVE SCHEME

In this appendix the various indices that will be used for the performance incentive scheme are defined and the method for their calculation is explained.

D1. Price-related incentive scheme

(a) SAIFI

Definition : System average interruption frequency index

Description : The average number of sustained interruptions experienced per customer in the measurement area over the measurement period.

Calculation : The SAIFI is calculated with the following formula :

$$SAIFI = \frac{\sum N_i}{N_T}$$

where,

N_i = Number of customers experiencing sustained interruptions

N_T = Total number of customers supplied (average over period)

Regulated Entities have to calculate the SAIFI impact of each sustained interruption experienced over the measurement period. Monthly reports have to be made to the ERC of both the SAIFI for the month and the cumulative annual total for that reporting year.

- Comments :
- i. The SAIFI is to be calculated for planned and unplanned outages.
 - ii. Only sustained interruptions are considered (those with a duration of longer than 1 minute).
 - iii. SAIFI is to be calculated across the full customer base, for the whole Regulated Distribution System. Each active connection point (regardless of the voltage level at which the connection is made) is counted as one customer.
 - iv. Interruptions arising from excluded events are not to be taken into account in calculating the SAIFI.

(b) CAIDI

Definition : Customer average interruption duration index

Description : The average time required to restore a connection to the average customer per sustained interruption.

Calculation : The CAIDI is calculated with the following formula :

$$CAIDI = \frac{\sum r_i N_i}{\sum N_i}$$

where,

r_i = Duration of each sustained interruption (in minutes)

- Comments :
- i. The CAIDI is to be calculated for planned and unplanned outages.
 - ii. Only sustained interruptions are considered (those with a duration of longer than 1 minute).
 - iii. CAIDI is to be calculated across the full customer base affected by interruptions, for the whole Regulated Distribution System. Each affected, active connection point (regardless of the voltage level at which the connection is made) is counted as one customer.
 - iv. Interruptions arising from excluded events are not to be taken into account in calculating the CAIDI.

Regulated Entities have to calculate the CAIDI impact of each sustained interruption experienced over the measurement period. Monthly reports have to be made to the ERC of both the CAIDI for the month and the cumulative annual total for that reporting year.

(c) Planned SAIDI

Definition : System average interruption duration index (for planned outages)

Description : The average time that customers experience supply interruptions, for planned outages.

Calculation : The SAIDI is calculated with the following formula :

$$SAIDI = \frac{\sum r_i N_i}{N_T}$$

Regulated Entities have to calculate the SAIDI impact of each sustained, planned interruption experienced over the measurement period. Monthly reports have to be made to the ERC of both the planned SAIDI for the month and the cumulative annual total for that reporting year.

- Comments :
- i. The planned SAIDI is to be calculated for planned outages only.
 - ii. Planned outages are only those planned by Regulated Entities and for which advance notice have been given to all affected customers, at least three (3) working days (72 hours) in advance.
 - iii. Only sustained interruptions are considered (those with a duration of longer than 1 minute).
 - iv. Planned SAIDI is to be calculated across the full customer base affected by interruptions, for the whole Regulated Distribution System. Each affected, notified, active connection point (regardless of the voltage level at which the connection is made) is counted as one customer.

- v. Interruptions arising from excluded events are not to be taken into account in calculating the planned SAIDI.

(d) Voltage violations

Description : The probability that the long-duration voltage level at any position on the Distribution Network falls between 90% and 100% of the nominal voltage level prescribed in the Distribution Code, based on representative sample measurements taken over the measurement period.

Calculation : A voltage violation exists where the measured voltage (V_m) falls outside the following limits :

$$V_m \geq 1.1V_n$$

or

$$V_m \leq 0.9V_n$$

where,

V_m = The RMS⁴⁴ voltage measure at the measurement point

V_n = The nominal (RMS) voltage level at the measurement point, in accordance with the levels prescribed in the Distribution Code

The probability of a voltage violation is calculated as follows:

$$pV_v = \frac{VR_o}{VR_t}$$

where,

pV_v = Probability of a voltage violation occurring

VR_t = Number of voltage measurements taken at different positions on the network over the measurement period

VR_o = Number of voltage measurements where voltage violations existed during the readings

Regulated Entities have to take measurements of the RMS voltage levels at approved times and approved positions on the network and calculate the probability of a voltage violation occurring. This figure is to be reported to the ERC on a monthly basis, both for the measurement month and the cumulative annual total for that reporting year.

⁴⁴ Root-mean-squared

- Comments :
- i. The number and positions at which voltage measurements are to be taken are to be agreed with the ERC.
 - ii. The time at which measurements are to be taken is to be agreed with the ERC.

(e) **System losses**

Description : Technical and non-technical losses occurring on a Distribution Network during the conveyance of electricity to End Users.

Calculation : The losses are calculated as follows :

$$TL = \frac{(UI_t - UD_t)}{UI_t}$$

where,

UI_t = The total kWh energy delivered to a Distribution System over the measurement period, measured as the sum of all the energy delivered to the Distribution System at each Grid Connection Point or connection point to embedded generators

UD_t = The total kWh energy delivered and invoiced to End Users through a Distribution System over the measurement period.⁴⁵

Regulated Entities have to calculate the monthly system losses on their Regulated Distribution Systems. This figure is to be reported to the ERC on a monthly basis, both for the measurement month and the cumulative annual total for that reporting year.

- Comments :
- i. All connection points delivering energy into the Distribution System should be taken into account.
 - ii. The connection points are to be described to the ERC and the ERC has to be notified of any changes in or additions to connection points.

(f) **Time to process applications for Regulated Distribution Services**

Description : The average time between receiving an application for a Regulated Distribution Service (including, for the purpose of this measure, applications for Distribution Connection Services), processing and approving the application.

Calculation : The average time to process applications will be calculated as follows :

$$TA = \frac{\sum (DatN - DL_p - DatA)}{AplCom}$$

⁴⁵ Note that this figure includes those units delivered to end users that are not paid for, whether due to not being invoiced or through bad debts.

where,

- TA = The average time to process an application (in working days). This is calculated for applications for which the processing was completed during the measurement period.
- DatA = Date when an application for a Regulated Distribution Service is received, converted to a numerical index that allows the calculation of working days elapsed between this date and another.
- DatN = Date when the customer is notified that the Regulated Distribution Service has been approved (or finally disapproved), converted to a numerical index that allows the calculation of working days elapsed between this date and another.
- DL_p = Time lost due to factors outside the control of the Regulated Entity(working days).
- AplCom = Number of applications for which processing was completed over the measurement period.

Regulated Entities have to calculate the average time to process applications for Regulated Distribution Services in respect of a Regulated Distribution System on a monthly basis. Only those applications completed during the month are to be included in the calculation. This figure is to be reported to the ERC on a monthly basis, both for the measurement month and the cumulative annual average for that reporting year.

- Comments :
- i. Working days only are included in the calculation. These are days outside weekends and formally declared public holidays.
 - ii. Completed processing can mean the point at which an applicant is notified that its application for a Regulated Distribution System has been approved and the terms for this approval are notified, or that its application cannot be approved.
 - iii. Time lost due to factors outside the control of Regulated Entities will only include the following :
 - time to obtain licenses, permissions or approvals from parties external to Regulated Entities, from the date that such applications are lodged to when a response is obtained; and
 - time awaiting further information from an applicant, without which such applications cannot proceed, from the date that a further request for information was sent until an answer or commitment is received that allows processing of the application to proceed.

(g) Time to connect premises to the Regulated Distribution System

Description : The average time for providing a connection to a Regulated Distribution Service after all government (local and national) approvals have been obtained and the Regulated Entity requirements have been met by the applicant for the service.

Calculation : The average time to provide applications will be calculated as follows :

$$TC = \frac{\sum (DatC - DL_c - DatR)}{ConCom}$$

where,

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

DatC = Date when a connection was completed, converted to a numerical index that allows the calculation of working days elapsed between this date and another.

DatR = Date when the connection was ready to commence after receiving all necessary approvals and the applicant has met all requirements for the connection to proceed, converted to a numerical index that allows the calculation of working days elapsed between this date and another.

DL_c = Time lost due to factors outside the control of the Regulated Entity during the connection process (working days).

ConCom = Number of connections completed over the measurement period.

Regulated Entities have to calculate the average time to provide connections to the Regulated Distribution System on a monthly basis. Only those connections completed during the month are to be included in the calculation. This figure is to be reported to the ERC on a monthly basis, both for the measurement month and the cumulative annual average for that reporting year.

- Comments :
- i. Working days only are included in the calculation. These are days outside weekends and formally declared public holidays.
 - ii. Completed connection mean the date at which the applicant is notified that it can start consuming electricity through the connection point, after all testing and commissioning work and the necessary certification have been completed.
 - iii. Time lost due to factors outside the control of Regulated Entities will only include the following :
 - time that access to the connection site is not possible; and

- time awaiting further information from an applicant if it has been notified of a problem that would delay construction of the connection point, from the date that the applicant is notified until an answer or commitment is received that allows the installation of the connection to proceed.

h) Performance of call-centre – percentage of calls answered within required time

Description : The average time (in seconds) for answering a call placed to a Regulated Entity’s call-center (or equivalent service provider, if a formal call-center does not exist).

Calculation : The average time to answer calls, from the time a call is received, till such time that a substantive reaction is provided.

Regulated Entities have to calculate the average time to answer calls on a quarterly basis. Only those calls received during the quarter are to be included in the calculation. This figure is to be reported to the ERC on a quarterly basis, both for the measurement period and the cumulative annual average for that reporting year.

- Comments :
- i. Only substantive responses are considered to be an answer to a call. In particular, placing calls on hold, or providing an automated response that does not directly result in the query being addressed, are not classed as answered calls.
 - ii. If a call-center is not operating for any period of time, this implies that all calls made to the center during this time exceeded the penalty threshold. For such periods, Regulated Entities must provide an estimate of the number of calls that would have been missed, based on historical calling trends. Details of such events, and the supporting evidence for the Regulated Entity’s forecast, must be submitted to the ERC with the quarterly performance submission.

D2. Guaranteed Service Level incentive scheme

(a) GSL1 : Duration of sustained interruptions above annual threshold level

Description : The total duration of the sustained interruptions (those longer than one minute in duration) experienced by a customer over the measurement year.

Calculation : The sum of the duration of all the sustained interruptions experienced by a customer at a single connection point over the measurement period.

- Comments :
- i. Interruptions include planned and unplanned outages.
 - ii. Only sustained interruptions are considered (those with a duration of longer than 1 minute).
 - iii. The calculation only applies to a single customer – if the customer should terminate its connection during the course of a measurement year, a new cumulative total will be started for the next customer at

the same connection point. The original customer will also not be allowed to continue with its earlier cumulative total at its next connection point.

- iv. Regulated Entities are obliged to maintain the cumulative total and advise a customer if the threshold has been exceeded and it is entitled to a penalty payment.

(b) GSL2 : Number of sustained interruptions above annual threshold level

Description : The total number of sustained interruptions (those longer than five minutes in duration) experienced by a customer over the measurement year.

Calculation : The number of sustained interruptions experienced by a customer at a single connection point over the measurement period.

- Comments :
- i. Interruptions include planned and unplanned outages.
 - ii. Only sustained interruptions are considered (those with a duration of longer than 5 minutes).
 - iii. The calculation only applies to a single customer – if the customer should terminate its connection during the course of a measurement year, a new cumulative total will be started for the next customer at the same connection point. The original customer will also not be allowed to continue with its earlier cumulative total at its next connection point.
 - iv. Regulated Entities are obliged to maintain the cumulative total and advise a customer if the threshold has been exceeded and it is entitled to a penalty payment.

(c) GSL3 : Restoration of supply after fault on secondary side of Distribution System

Description : The duration of a supply interruption to a customer resulting from a fault on the secondary side of the Regulated Distribution System, including on the Distribution Connection Assets.

Calculation : The period between the occurrence of a fault on the secondary side of the Distribution System, or the point at which such a fault is reported to a Regulated Entity, and the time at which the fault has been repaired and service to the affected customer restored.

- Comments :
- i. Interruptions do not include planned outages, as long as sufficient notice has been provided to an affected customer and the outage duration does not exceed the time notified to the customer.
 - Where more than one customer is affected by the same fault, and the time to restore exceeds the threshold, penalties will be payable to all customers affected.
 - Temporary restoration of supply, defined as restoration for less than two hours, does not constitute restoration in terms of this index and the calculation period will extend from the original occurrence of the fault (or the time it was reported), till such time that the supply is

fully restored (with fully restored defined as available at normal supply capacity for an uninterrupted period longer than two hours).

(d) GSL4 : Failure to provide a connection on time

Description : A Regulated Entity fails to provide a connection to the Regulated Distribution System on the day previously agreed with a customer.

Calculation : The number of days (or parts of days) between the date at which a connection to the Regulated Distribution System is provided and the day agreed with a customer for the connection. The penalty will increase with the penalty amount for each day that the connection is late, up to a maximum of five days.

Comments : i. The agreed connection day should be in writing.
ii. Changes to the originally agreed connection day made with the mutual, prior approval of the Customer and the Regulated Entity will result in a new connection date. In this case, penalties will only be calculated from the new connection date forward.

D3. Information disclosure

The indices to be measured and reported under the information disclosure scheme are as defined in the Distribution Code.

APPENDIX E : TEMPLATES FOR FORECASTING OPERATING AND MAINTENANCE EXPENDITURE

For purposes of Clause 4.13.1 of the DWRG, the following templates should be used to provide summaries of historical and forecast operating and maintenance expenditure incurred by a Regulated Entity on Regulated Distribution Services. The templates are assumed to link according to Figure E1.

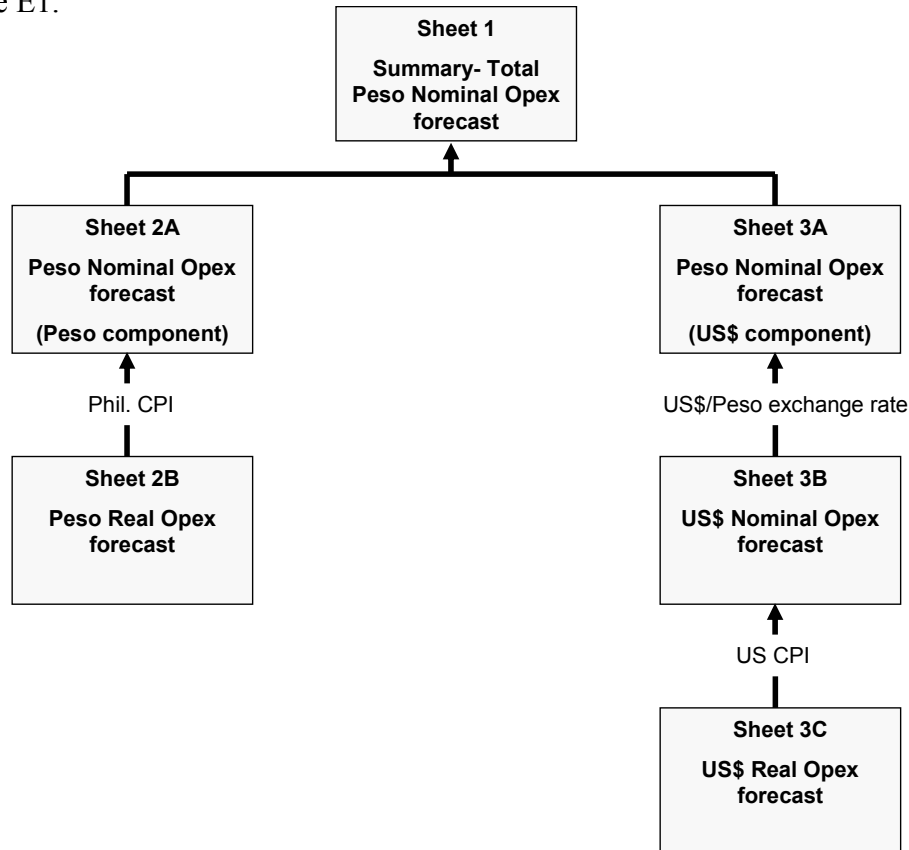


Figure E1 : Development of operating & maintenance expenditure forecast summary

In completing the templates, the following should be noted:

- The actual figures for 2003 to 2006 refer to calendar years, while the forecasts for 2008 to 2011 refer to Regulatory Years (July 1 to June 30).
- The budgeted figure for 2007 refers to the six (6) months from Jan 1, 2007 to Jun 30, 2007.
- Quarterly data refers to the value as at the end of each quarter for the year indicated.
- Where quarterly figures are forecast for Regulatory Years (2008 to 2011), these refer to the Regulatory Year quarters, with the first such quarter ending on Sept 30.⁴⁶
- Where CPI forecasts are made, the same base value must apply for all years.

⁴⁶ In other words, the Sept and Dec quarters fall in the previous calendar year. (E.g. the Sept quarter for regulatory year 2009 is the quarter ending on 30 Sept 2008.)

SHEET 1 : TOTAL OPERATING & MAINTENANCE EXPENDITURE									
Opex Category and Sub-category	Actual (peso, nominal in peso of historical year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of regulatory year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Distribution									
Operation									
Operation supervision & engineering									
Load dispatching									
Substation									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Metering									
Consumer installation expenses									
Rents									
Information technology									
Miscellaneous									
Maintenance									
Maintenance supervision & engineering									
Structures									
Substations									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Line transformers									
Information technology									
Metering									
Miscellaneous									
Sub-total Distribution									
Consumer accounts									
Supervision									
Meter reading									
Information technology									
Consumer records & collection expenses									
Uncollectible accounts									
Informational and instructional advertising expenses									
Miscellaneous									
Consumer prompt payment discount									
Sub-total Consumer accounts expenses									
Administrative & general									
Admin & general salaries									
Office supplies & expenses									
Information technology									
Outside services employed									
Property insurance									
Injuries & damages									
Employee pension & benefits									
Rents									
Maintenance of office & general plant									
Officers allowance & benefits									
Travel									
Training									
Bad debt									
Regulatory liaison & compliance									
Other									
Sub-total Administration & general									
WESM compliance									
Registration fees									
Metering fees									
Billing & settlement fees									
Administration fees									
Costs for the PEM board, committees & working groups									
Market management software & upgrades									
Provision of security									
Other									
Sub-total WESM compliance									
Total Operating & Maintenance Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures					Year:	Value:			
Base value assumed for USA CPI figures					Year:	Value:			

Table E.1 : Sheet 1 - Operating & maintenance expenditure forecast summary (expressed in nominal PhP)

SHEET 2A : PESO OPERATING & MAINTENANCE EXPENDITURE									
Opex Category and Sub-category	Actual (peso, nominal in peso of historical year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of regulatory year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Distribution									
Operation									
Operation supervision & engineering									
Load dispatching									
Substation									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Metering									
Consumer installation expenses									
Rents									
Information technology									
Miscellaneous									
Maintenance									
Maintenance supervision & engineering									
Structures									
Substations									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Line transformers									
Information technology									
Metering									
Miscellaneous									
Sub-total Distribution									
Consumer accounts									
Supervision									
Meter reading									
Information technology									
Consumer records & collection expenses									
Uncollectible accounts									
Informational and instructional advertising expenses									
Miscellaneous									
Consumer prompt payment discount									
Sub-total Consumer accounts expenses									
Administrative & general									
Admin & general salaries									
Office supplies & expenses									
Information technology									
Outside services employed									
Property insurance									
Injuries & damages									
Employee pension & benefits									
Rents									
Maintenance of office & general plant									
Officers allowance & benefits									
Travel									
Training									
Bad debt									
Regulatory liaison & compliance									
Other									
Sub-total Administration & general									
WESM compliance									
Registration fees									
Metering fees									
Billing & settlement fees									
Administration fees									
Costs for the PEM board, committees & working groups									
Market management software & upgrades									
Provision of security									
Other									
Sub-total WESM compliance									
Total Operating & Maintenance Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
Sep quarter									
Dec quarter									
Mar quarter									
Jun quarter									
Philippines Consumer Price Index Assumption									
Sep quarter									
Dec quarter									
Mar quarter									
Jun quarter									
USA Consumer Price Index Assumption									
Sep quarter									
Dec quarter									
Mar quarter									
Jun quarter									
Base value assumed for Philippine CPI figures					Year :	Value :			
Base value assumed for USA CPI figures					Year :	Value :			

Table E.2 : Sheet 2A - Operating & maintenance expenditure forecast summary : Peso Component (expressed in nominal PhP)

SHEET 2B : PESO OPERATING & MAINTENANCE EXPENDITURE										
Opex Category and Sub-category	2003	2004	2005	2006	Budget	Forecast (peso, real as at 31 Dec 2006)				
					(peso, real)	2007	2008	2009	2010	2011
Distribution										
Operation										
Operation supervision & engineering										
Load dispatching										
Substation										
Overhead line - demand										
Overhead line - customer										
Streetlighting (non-roadway)										
Streetlighting (roadway)										
Metering										
Consumer installation expenses										
Rents										
Information technology										
Miscellaneous										
Maintenance										
Maintenance supervision & engineering										
Structures										
Substations										
Overhead line - demand										
Overhead line - customer										
Streetlighting (non-roadway)										
Streetlighting (roadway)										
Line transformers										
Information technology										
Metering										
Miscellaneous										
Sub-total Distribution										
Consumer accounts										
Supervision										
Meter reading										
Information technology										
Consumer records & collection expenses										
Uncollectible accounts										
Informational and instructional advertising expenses										
Miscellaneous										
Consumer prompt payment discount										
Sub-total Consumer accounts expenses										
Administrative & general										
Admin & general salaries										
Office supplies & expenses										
Information technology										
Outside services employed										
Property insurance										
Injuries & damages										
Employee pension & benefits										
Rents										
Maintenance of office & general plant										
Officers allowance & benefits										
Travel										
Training										
Bad debt										
Regulatory liaison & compliance										
Other										
Sub-total Administration & general										
WESM compliance										
Registration fees										
Metering fees										
Billing & settlement fees										
Administration fees										
Costs for the PEM board, committees & working groups										
Market management software & upgrades										
Provision of security										
Other										
Sub-total WESM compliance										
Total Operating & Maintenance Expenditure										
Exchange Rate Assumption for Forecast Period (peso/US\$)										
Sep quarter										
Dec quarter										
Mar quarter										
Jun quarter										
Philippines Consumer Price Index Assumption										
Sep quarter										
Dec quarter										
Mar quarter										
Jun quarter										
USA Consumer Price Index Assumption										
Sep quarter										
Dec quarter										
Mar quarter										
Jun quarter										
Base value assumed for Philippine CPI figures	Year :		Value :							
Base value assumed for USA CPI figures	Year :		Value :							

Table E.3 : Sheet 2B - Operating & maintenance expenditure forecast summary : Peso Component (expressed in real PHP)

SHEET 3A : US\$ OPERATING & MAINTENANCE EXPENDITURE - Expressed in Peso									
Opex Category and Sub-category	Actual (peso, nominal in peso of historical year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of regulatory year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Distribution									
Operation									
Operation supervision & engineering									
Load dispatching									
Substation									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Metering									
Consumer installation expenses									
Rents									
Information technology									
Miscellaneous									
Maintenance									
Maintenance supervision & engineering									
Structures									
Substations									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Line transformers									
Information technology									
Metering									
Miscellaneous									
Sub-total Distribution									
Consumer accounts									
Supervision									
Meter reading									
Information technology									
Consumer records & collection expenses									
Uncollectible accounts									
Informational and instructional advertising expenses									
Miscellaneous									
Consumer prompt payment discount									
Sub-total Consumer accounts expenses									
Administrative & general									
Admin & general salaries									
Office supplies & expenses									
Information technology									
Outside services employed									
Property insurance									
Injuries & damages									
Employee pension & benefits									
Rents									
Maintenance of office & general plant									
Officers allowance & benefits									
Travel									
Training									
Bad debt									
Regulatory liaison & compliance									
Other									
Sub-total Administration & general									
WESM compliance									
Registration fees									
Metering fees									
Billing & settlement fees									
Administration fees									
Costs for the PEM board, committees & working groups									
Market management software & upgrades									
Provision of security									
Other									
Sub-total WESM compliance									
Total Operating & Maintenance Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures		Year :		Value :					
Base value assumed for USA CPI figures		Year :		Value :					

Table E.4 : Sheet 3A - Operating & maintenance expenditure forecast summary : US\$ Component (expressed in nominal PhP)

SHEET 3B : US\$ OPERATING & MAINTENANCE EXPENDITURE - Expressed in nominal US\$									
Opex Category and Sub-category	Actual (US\$, nominal in peso of historical year)				Budget (US\$, nominal)	Forecast (US\$, nominal in peso of regulatory year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Distribution									
Operation	Operation supervision & engineering								
	Load dispatching								
	Substation								
	Overhead line - demand								
	Overhead line - customer								
	Streetlighting (non-roadway)								
	Streetlighting (roadway)								
	Metering								
	Consumer installation expenses								
	Rents								
	Information technology								
	Miscellaneous								
Maintenance	Maintenance supervision & engineering								
	Structures								
	Substations								
	Overhead line - demand								
	Overhead line - customer								
	Streetlighting (non-roadway)								
	Streetlighting (roadway)								
	Line transformers								
	Information technology								
	Metering								
	Miscellaneous								
	Sub-total Distribution								
Consumer accounts									
	Supervision								
	Meter reading								
	Information technology								
	Consumer records & collection expenses								
	Uncollectible accounts								
	Informational and instructional advertising expenses								
	Miscellaneous								
	Consumer prompt payment discount								
	Sub-total Consumer accounts expenses								
Administrative & general									
	Admin & general salaries								
	Office supplies & expenses								
	Information technology								
	Outside services employed								
	Property insurance								
	Injuries & damages								
	Employee pension & benefits								
	Rents								
	Maintenance of office & general plant								
	Officers allowance & benefits								
	Travel								
	Training								
	Bad debt								
	Regulatory liaison & compliance								
	Other								
	Sub-total Administration & general								
WESM compliance									
	Registration fees								
	Metering fees								
	Billing & settlement fees								
	Administration fees								
	Costs for the PEM board, committees & working groups								
	Market management software & upgrades								
	Provision of security								
	Other								
	Sub-total WESM compliance								
Total Operating & Maintenance Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)		Sep quarter							
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption		Sep quarter							
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption		Sep quarter							
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures		Year :	Value :						
Base value assumed for USA CPI figures		Year :	Value :						

Table E.5 : Sheet 3B - Operating & maintenance expenditure forecast summary : US\$ Component (expressed in nominal US\$)

SHEET 3C : US\$ OPERATING & MAINTENANCE EXPENDITURE - Expressed in real US\$									
Opex Category and Sub-category	2003	2004	2005	2006	Budget (US\$, real)	Forecast (real US\$ as at Dec 31, 2006)			
					2007	2008	2009	2010	2011
Distribution									
Operation									
Operation supervision & engineering									
Load dispatching									
Substation									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Metering									
Consumer installation expenses									
Rents									
Information technology									
Miscellaneous									
Maintenance									
Maintenance supervision & engineering									
Structures									
Substations									
Overhead line - demand									
Overhead line - customer									
Streetlighting (non-roadway)									
Streetlighting (roadway)									
Line transformers									
Information technology									
Metering									
Miscellaneous									
Sub-total Distribution									
Consumer accounts									
Supervision									
Meter reading									
Information technology									
Consumer records & collection expenses									
Uncollectible accounts									
Informational and instructional advertising expenses									
Miscellaneous									
Consumer prompt payment discount									
Sub-total Consumer accounts expenses									
Administrative & general									
Admin & general salaries									
Office supplies & expenses									
Information technology									
Outside services employed									
Property insurance									
Injuries & damages									
Employee pension & benefits									
Rents									
Maintenance of office & general plant									
Officers allowance & benefits									
Travel									
Training									
Bad debt									
Regulatory liaison & compliance									
Other									
Sub-total Administration & general									
WESM compliance									
Registration fees									
Metering fees									
Billing & settlement fees									
Administration fees									
Costs for the PEM board, committees & working groups									
Market management software & upgrades									
Provision of security									
Other									
Sub-total WESM compliance									
Total Operating & Maintenance Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures	Year :				Value :				
Base value assumed for USA CPI figures	Year :				Value :				

Table E.6 : Sheet 3C - Operating & maintenance expenditure forecast summary : US\$ Component (expressed in real US\$)

APPENDIX F : TEMPLATES FOR CAPITAL EXPENDITURE

For purposes of Clause 4.12.1 of the DWRG, the following templates should be used to provide summaries of the historical and forecast capital expenditure incurred by a Regulated Entity for the provision of Regulated Distribution Services. The templates are assumed to link according to Figure F1. As discussed in Section 4.2.3, forecasts must be provided for demand, renewal and refurbishment expenditure. The same template given below is to be used for each.

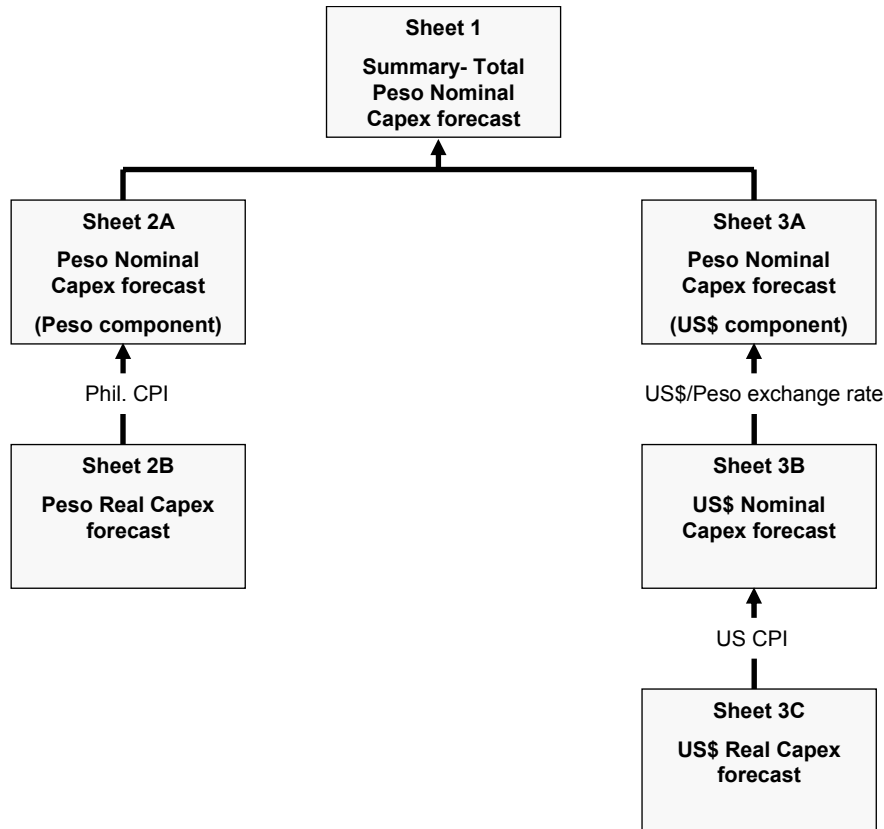


Figure F1 : Development of capital expenditure forecast summary

In completing the templates, the following should be noted:

- The actual figures for 2003 to 2006 refer to calendar years, while the forecasts for 2008 to 2011 refer to Regulatory Years (July 1 to June 30).
- The budgeted figure for 2007 refers to the six (6) months from Jan 1, 2007 to Jun 30, 2007.
- Quarterly data refers to the value as at the end of each quarter for the year indicated.
- Where quarterly figures are forecast for Regulatory Years (2008 to 2011), these refer to the Regulatory Year quarters, with the first such quarter ending on Sept 30.⁴⁷
- Where CPI forecasts are made, the same base value must apply for all years.

⁴⁷ In other words, the Sept and Dec quarters fall in the previous calendar year. (E.g. the Sept quarter for regulatory year 2009 is the quarter ending on 30 Sept 2008.)

SHEET 1 : TOTAL CAPITAL EXPENDITURE									
Asset Category	Actual (peso, nominal in peso of reporting year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of reporting year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
A. Distribution Plant									
1									
2									
3									
3a									
3b									
3a									
3b									
3a									
3b									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
Sub-total Distribution Plant									
B. General Plant									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
Sub-total General Plant									
C. Materials and Supplies (including spares)									
D. Transferred subtransmission assets									
E. Allocated Overheads Capitalized									
Total Capital Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures					Year :	Value :			
Base value assumed for USA CPI figures					Year :	Value :			

Table F.1 : Sheet 1 – Total capital expenditure forecast summary (expressed in nominal PhP)

SHEET 2A : CAPITAL EXPENDITURE - PESO PORTION									
Asset Category	Actual (peso, nominal in peso of reporting year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of reporting year)			
	2003	2004	2005	2006		2007	2008	2009	2010	2011
A. Distribution Plant									
1									
2									
3									
3a									
3b									
3a									
3b									
3a									
3b									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
Sub-total Distribution Plant									
B. General Plant									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
Sub-total General Plant									
C. Materials and Supplies (including spares)									
D. Transferred subtransmission assets									
E. Allocated Overheads Capitalized									
Total Capital Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures		Year :		Value :					
Base value assumed for USA CPI figures		Year :		Value :					

Table F.2 : Sheet 2A – Capital expenditure forecast summary : Peso Component (expressed in nominal PhP)

SHEET 2B : CAPITAL EXPENDITURE - PESO PORTION										
Asset Category	Actual (peso, nominal in peso of reporting year)				Budget (peso, nominal)	Forecast (peso, real in peso)				
	2003	2004	2005	2006		2007	2008	2009	2010	2011
A. Distribution Plant										
1										
2										
3										
3a										
3b										
3a										
3b										
3a										
3b										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
Sub-total Distribution Plant										
B. General Plant										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
Sub-total General Plant										
C. Materials and Supplies (including spares)										
D. Transferred subtransmission assets										
E. Allocated Overheads Capitalized										
Total Capital Expenditure										
Exchange Rate Assumption for Forecast Period (peso/US\$)										
	Sep quarter									
	Dec quarter									
	Mar quarter									
	Jun quarter									
Philippines Consumer Price Index Assumption										
	Sep quarter									
	Dec quarter									
	Mar quarter									
	Jun quarter									
USA Consumer Price Index Assumption										
	Sep quarter									
	Dec quarter									
	Mar quarter									
	Jun quarter									
Base value assumed for Philippine CPI figures		Year :	Value :							
Base value assumed for USA CPI figures		Year :	Value :							

Table F.3 : Sheet 2B – Capital expenditure forecast summary : Peso Component (expressed in real PhP)

SHEET 3A : CAPITAL EXPENDITURE - US\$ PORTION									
Asset Category	Actual (peso, nominal in peso of reporting year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of reporting year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
A. Distribution Plant									
1									
2									
3									
3a									
3b									
3a									
3b									
3a									
3b									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
Sub-total Distribution Plant									
B. General Plant									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
Sub-total General Plant									
C. Materials and Supplies (including spares)									
D. Transferred subtransmission assets									
E. Allocated Overheads Capitalized									
Total Capital Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures		Year :		Value :					
Base value assumed for USA CPI figures		Year :		Value :					

Table F.4 : Sheet 3A – Capital expenditure forecast summary : US\$ Component (expressed in nominal PhP)

SHEET 3B : CAPITAL EXPENDITURE - US\$ PORTION									
Asset Category	Actual (US\$, nominal in US\$ of reporting year)				Budget (US\$, nominal)	Forecast (US\$, nominal in US\$ of reporting year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
A. Distribution Plant									
1									
2									
3									
3a									
3b									
3a									
3b									
3a									
3b									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
Sub-total Distribution Plant									
B. General Plant									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
Sub-total General Plant									
C. Materials and Supplies (including spares)									
D. Transferred subtransmission assets									
E. Allocated Overheads Capitalized									
Total Capital Expenditure									
Exchange Rate Assumption for Forecast Period (peso/US\$)									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Philippines Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
USA Consumer Price Index Assumption									
	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures		Year :		Value :					
Base value assumed for USA CPI figures		Year :		Value :					

Table F.5 : Sheet 3B – Capital expenditure forecast summary : US\$ Component (expressed in nominal US\$)

SHEET 3C : CAPITAL EXPENDITURE - US\$ PORTION										
Asset Category	Actual (US\$, real in US\$ of reporting year)				Budget (US\$, real)	Forecast (US\$, real in US\$)				
	2003	2004	2005	2006		2007	2008	2009	2010	2011
A. Distribution Plant										
1										
2										
3										
3a										
3b										
3a										
3b										
3a										
3b										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
Sub-total Distribution Plant										
B. General Plant										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
Sub-total General Plant										
C. Materials and Supplies (including spares)										
D. Transferred subtransmission assets										
E. Allocated Overheads Capitalized										
Total Capital Expenditure										
Exchange Rate Assumption for Forecast Period (peso/US\$)										
	Sep quarter									
	Dec quarter									
	Mar quarter									
	Jun quarter									
Philippines Consumer Price Index Assumption										
	Sep quarter									
	Dec quarter									
	Mar quarter									
	Jun quarter									
USA Consumer Price Index Assumption										
	Sep quarter									
	Dec quarter									
	Mar quarter									
	Jun quarter									
Base value assumed for Philippine CPI figures		Year :		Value :						
Base value assumed for USA CPI figures		Year :		Value :						

Table F.6 : Sheet 3C – Capital expenditure forecast summary : US\$ Component (expressed in real US\$)

APPENDIX G : ASSET BASE DATA TEMPLATES

For purposes of Clause 4.8 of the DWRG, the following template should be used to provide summaries of the historical and ODRC values of the Regulatory Asset Base. The worksheets which feed into this template need to show the individual projects and the grouped asset values, the categorization of project types, the justification by project and the estimation process (where applicable) for converting overseas values into local values. The same template should be used for the Rolled Forward Depreciated Asset Base.

Asset Category	HISTORICAL COST			OPTIMIZED REPLACEMENT COST				
	Historic cost	Depreciated historic cost	Weighted average age of asset category	Replacement cost	Optimized replacement cost	Depreciated optimized replacement cost	Weighted average age of asset category	Weighted average asset life (regulatory purposes)
A. Distribution Plant								
1 Land and Land Rights (Distribution Purpose)								
2 Structures and Improvements (Distribution Purpose)								
3 Station Equipment								
3a Power transformers								
3b Switchgear								
3a Protective equipment								
3b Metering & control equipment								
3a Communications equipment								
3b Other station equipment								
4 Poles, Towers and Fixtures - Distribution								
5 Poles, Towers and Fixtures - Customer								
6 Overhead Conductors and Devices - Distribution								
7 Overhead Conductors and Devices - Customer								
8 Underground Conduits - Distribution								
9 Underground Conduits - Customer								
10 Underground Conductors and Devices - Distribution								
11 Underground Conductors and Devices - Customer								
12 Line Transformers - Distribution								
13 Line Transformers - Customer								
14 Power Conditioning Equipment								
15 Services								
16 Meters, Instruments & Metering Transformers-distribution								
17 Meters, Instruments & Metering Transformers - customer								
18 Information technology equipment (distribution)								
19 Regulated Entity Property on Consumers' Premises								
20 Street Lights and Signal Systems								
21 Submarine Cables								
Sub-total Distribution Plant								
B. General Plant								
1 Land and Land Rights (non-network)								
2 Structures and Improvements (non-network)								
3 Office Furniture and Equipment								
4 Transportation Equipment								
5 Stores Equipment								
6 Tools, Shop and Garage Equipment								
7 Laboratory Equipment								
8 Information systems equipment (non-network)								
9 Power-operated Equipment								
10 Communication Plant and Equipment								
11 Miscellaneous Equipment								
Sub-total General Plant								
C. Materials and Supplies (including spares)								
D. Transferred subtransmission assets								
E. Allocated Overheads Capitalized								
Total Asset Value								

APPENDIX H : TEMPLATE FOR ANNUAL RATE ADJUSTMENT

For purposes of Article VI of the DWRG, the following templates should be used to provide the information that will be required for each annual rate setting application.

The information calculated in sheets 2, 3A and 3B will feed into the final calculation of the new maximum average price cap in sheet 1.

SHEET 1 : ANNUAL ADJUSTMENT OF TARIFFS						
Regulatory Year for which adjustment is required :					(year t)	
ITEM	SYMBOL	PERIOD		QUANTITY	UNIT	DWRG REFERENCE
		From	To			
Amount billed to customers, 12 months ending in December of year t-1	CR_{t-1}				PhP	3.4, 3.5, 4.3, 4.5, 5.1
Net income derived from related business undertakings, 12 months ending in December of year t-1 (supply details separately)	RBR_{t-1}				PhP	3.4, 3.5, 4.3, 4.5, 5.1
Total amount of energy delivered through the Regulated Distribution System, 12 months ending in December of year t-1	CQ_{t-1}				kWh	3.4, 3.5, 4.3, 4.5, 5.1
Simple average of the 180 day weighted average Manila Reference Rate, 12 months ending in December of year t-1	i_t				% p.a.	3.4, 4.3, 5.1
Maximum average price in Regulatory Year t-1	MAP_{t-1}				PhP/kWh	3.2.1, 4.2.1, 4.3.1
Maximum average price in Regulatory Year t-2	MAP_{t-2}				PhP/kWh	3.2.1, 4.2.1, 4.3.1
Correction factor for under/over recovery for the application year t	K_t				PhP/kWh	3.4, 4.3, 5.1
Change in weighted index (as calculated from sheet 2)	CWI_t				Number	3.3, 4.2, 5.1, 5.2
Actual corporate income tax paid in Regulatory Year t-2 arising from the provision of Regulated Distribution Services	$ActTax_{p,t-2}$				PhP	4.4
Regulatory WACC for the Regulatory Period	$WACC_t$				Number	4.11
Estimated corporate income tax paid in Regulatory Year t-2 arising from the provision of Regulated Distribution Services	$Tax_{p,n}$				PhP	4.4, 4.14
Tax adjustment during application year t	ITA_t				PhP/kWh	4.4, 5.1
Incentive scheme adjustment factor (as calculated from sheet 3), 12 months ending in December of year t-1	S_t				PhP/kWh	Issues Paper
Maximum average price for application year t	MAP_t				PhP/kWh	3.2, 4.2, 5.1, 5.2

SHEET 2 : CALCULATION OF CHANGE IN WEIGHTED INDEX					
Regulatory Year for which adjustment is required :			(year t)		
ITEM	SYMBOL	ACTUAL DATE	VALUE	UNIT	DWRG REFERENCE
Philippines Consumer price index for year t-1	CPI_{t-1}			Number	3.3.2
CPI June t-2 quarter	$CPI_{(QJ, t-2)}$			Number	3.3.2
CPI September t-1 quarter	$CPI_{(QS, t-1)}$			Number	3.3.2
CPI December t-1 quarter	$CPI_{(QD, t-1)}$			Number	3.3.2
CPI March t-1 quarter	$CPI_{(QM, t-1)}$			Number	3.3.2
Philippines Consumer price index for year t-2	CPI_{t-2}			Number	3.3.2
CPI June t-3 quarter	$CPI_{(QJ, t-3)}$			Number	3.3.2
CPI September t-2 quarter	$CPI_{(QS, t-2)}$			Number	3.3.2
CPI December t-2 quarter	$CPI_{(QD, t-2)}$			Number	3.3.2
CPI March t-2 quarter	$CPI_{(QM, t-2)}$			Number	3.3.2
Change in Philippines CPI for application year t	ΔCPI_t			Number	3.3.2
USA Consumer price index for year t-1	$USCPI_{t-1}$			Number	3.3.2
CPI June t-2 quarter	$USCPI_{(QJ, t-2)}$			Number	3.3.2
CPI September t-1 quarter	$USCPI_{(QS, t-1)}$			Number	3.3.2
CPI December t-1 quarter	$USCPI_{(QD, t-1)}$			Number	3.3.2
CPI March t-1 quarter	$USCPI_{(QM, t-1)}$			Number	3.3.2
USA Consumer price index for year t-2	$USCPI_{t-2}$			Number	3.3.2
CPI June t-3 quarter	$USCPI_{(QJ, t-3)}$			Number	3.3.2
CPI September t-2 quarter	$USCPI_{(QS, t-2)}$			Number	3.3.2
CPI December t-2 quarter	$USCPI_{(QD, t-2)}$			Number	3.3.2
CPI March t-2 quarter	$USCPI_{(QM, t-2)}$			Number	3.3.2
PhP/US\$ exchange rate change for year t-1	$USER_{t-1}$			Number	3.3.3
PhP/US% exchange rate June t-2 quarter	$USER_{(QJ, t-2)}$			Number	3.3.3
PhP/US% exchange rate September t-1 quarter	$USER_{(QS, t-1)}$			Number	3.3.3
PhP/US% exchange rate December t-1 quarter	$USER_{(QD, t-1)}$			Number	3.3.3
PhP/US% exchange rate March t-1 quarter	$USER_{(QM, t-1)}$			Number	3.3.3
PhP/US\$ exchange rate change for year t-2	$USER_{t-2}$			Number	3.3.3
PhP/US% exchange rate June t-3 quarter	$USER_{(QJ, t-3)}$			Number	3.3.3
PhP/US% exchange rate September t-2 quarter	$USER_{(QS, t-2)}$			Number	3.3.3
PhP/US% exchange rate December t-2 quarter	$USER_{(QD, t-2)}$			Number	3.3.3
PhP/US% exchange rate March t-2 quarter	$USER_{(QM, t-2)}$			Number	3.3.3
Change in PhP/US\$ rate	$\Delta USER_t$			Number	3.3.3
Should the exchange rate be included in the weighted index for application year t ?					
If it is to be included, based on which quarter(s) ?					
Weighted index for application year t	CWI_t				

SHEET 3A : INCENTIVE FACTOR CALCULATION, REGULATORY YEARS 2008 AND 2009					
Regulatory Year for which adjustment is required :					(year t)
ITEM	SYMBOL	FROM	TO	QUANTITY	UNIT
Measured SAIFI, 12 months ending in December of year t-1	SAIFI _t				Number
SAIFI performance band 1		higher than			Number
SAIFI performance band 2					Number
SAIFI performance band 3					Number
SAIFI performance band 4					Number
SAIFI performance band 5		lower than			Number
Assessment of SAIFI performance					Band #
Performance factor allocated	Perf _{SAIFI, t-1}				Number
Weighting allocated to SAIFI index	W _{SAIFI}				Number
Contribution of SAIFI index to S-factor	S _{SAIFI,t}				Number
Measured CAIDI, 12 months ending in December of year t-1	CAIDI _t				Minutes
CAIDI performance band 1		higher than			Minutes
CAIDI performance band 2					Minutes
CAIDI performance band 3					Minutes
CAIDI performance band 4					Minutes
CAIDI performance band 5		lower than			Minutes
Assessment of CAIDI performance					Band #
Performance factor allocated	Perf _{CAIDI, t-1}				Number
Weighting allocated to CAIDI index	W _{CAIDI}				Number
Contribution of CAIDI index to S-factor	S _{CAIDI,t}				Number
Measured system losses, 12 months ending in December of year t-1	Sysloss _t				%
System losses performance band 1					%
System losses performance band 2					%
System losses performance band 3					%
System losses performance band 4					%
System losses performance band 5		lower than			%
Assessment of system losses performance					Band #
Performance factor allocated	Perf _{Sysloss, t-1}				Number
Weighting allocated to system losses index	W _{Sysloss}				Number
Contribution of system losses index to S-factor	S _{Sysloss,t}				Number
Measured application processing time, 12 months ending in December of year t-1	Proc _t				Days
Application processing performance band 1		higher than			Days
Application processing performance band 2					Days
Application processing performance band 3					Days
Application processing performance band 4					Days
Application processing performance band 5		lower than			Days
Assessment of application processing performance					Band #
Performance factor allocated	Perf _{Proc, t-1}				Number
Weighting allocated to application processing index	W _{Proc}				Number
Contribution of application processing index to S-factor	S _{Proc,t}				Number
Measured connection time, 12 months ending in December of year t-1	Con _t				Days
Connection time performance band 1		higher than			Days
Connection time performance band 2					Days
Connection time performance band 3					Days
Connection time performance band 4					Days
Connection time performance band 5		lower than			Days
Assessment of connection time performance					Band #
Performance factor allocated	Perf _{Con, t-1}				Number
Weighting allocated to connection time index	W _{Con}				Number
Contribution of connection time index to S-factor	S _{Con,t}				Number
Forecast annual allowed revenue for application year t	ARR _t				PhP
Forecast energy consumption for application year t	FQ _t				kWh
S-factor for application year t	S _t				PhP/kWh

SHEET 3B : INCENTIVE FACTOR CALCULATION, REGULATORY YEARS 2010 AND 2011					
Regulatory Year for which adjustment is required : (year t)					
ITEM	SYMBOL	FROM	TO	QUANTITY	UNIT
Measured SAIFI, 12 months ending in December of year t-1	SAIFI _t				Number
SAIFI performance band 1		higher than			Number
SAIFI performance band 2					Number
SAIFI performance band 3					Number
SAIFI performance band 4					Number
SAIFI performance band 5		lower than			Number
Assessment of SAIFI performance					Band #
Performance factor allocated	Perf _{SAIFI, t-1}				Number
Weighting allocated to SAIFI index	W _{SAIFI}				Number
Contribution of SAIFI index to S-factor	S _{SAIFI, t}				Number
Measured CAIDI, 12 months ending in December of year t-1	CAIDI _t				Minutes
CAIDI performance band 1		higher than			Minutes
CAIDI performance band 2					Minutes
CAIDI performance band 3					Minutes
CAIDI performance band 4					Minutes
CAIDI performance band 5		lower than			Minutes
Assessment of CAIDI performance					Band #
Performance factor allocated	Perf _{CAIDI, t-1}				Number
Weighting allocated to CAIDI index	W _{CAIDI}				Number
Contribution of CAIDI index to S-factor	S _{CAIDI, t}				Number
Measured planned SAIDI, 12 months ending in December of year t-1	SAIDI _t				Minutes
Planned SAIDI performance band 1		higher than			Minutes
Planned SAIDI performance band 2					Minutes
Planned SAIDI performance band 3					Minutes
Planned SAIDI performance band 4					Minutes
Planned SAIDI performance band 5		lower than			Minutes
Assessment of planned SAIDI performance					Band #
Performance factor allocated	Perf _{SAIDI, t-1}				Number
Weighting allocated to planned SAIDI index	W _{SAIDI}				Number
Contribution of planned SAIDI index to S-factor	S _{SAIDI, t}				Number
Measured voltage regulation performance, 12 months ending in December of year t-1	VoltViol _t				%
Voltage regulation performance band 1		higher than			%
Voltage regulation performance band 2					%
Voltage regulation performance band 3					%
Voltage regulation performance band 4					%
Voltage regulation performance band 5		lower than			%
Assessment of voltage regulation performance					Band #
Performance factor allocated	Perf _{VoltViol, t-1}				Number
Weighting allocated to voltage regulation index	W _{VoltViol}				Number
Contribution of voltage regulation index to S-factor	S _{VoltViol, t}				Number
Measured system losses, 12 months ending in December of year t-1	Sysloss _t				%
System losses performance band 1					%
System losses performance band 2					%
System losses performance band 3					%
System losses performance band 4					%
System losses performance band 5		lower than			%
Assessment of system losses performance					Band #
Performance factor allocated	Perf _{Sysloss, t-1}				Number
Weighting allocated to system losses index	W _{Sysloss}				Number
Contribution of system losses index to S-factor	S _{Sysloss, t}				Number
Measured application processing time, 12 months ending in December of year t-1	Proc _t				Days
Application processing performance band 1		higher than			Days
Application processing performance band 2					Days
Application processing performance band 3					Days
Application processing performance band 4					Days
Application processing performance band 5		lower than			Days
Assessment of application processing performance					Band #
Performance factor allocated	Perf _{Proc, t-1}				Number
Weighting allocated to application processing index	W _{Proc}				Number
Contribution of application processing index to S-factor	S _{Proc, t}				Number
Measured connection time, 12 months ending in December of year t-1	Con _t				Days
Connection time performance band 1		higher than			Days
Connection time performance band 2					Days
Connection time performance band 3					Days
Connection time performance band 4					Days
Connection time performance band 5		lower than			Days
Assessment of connection time performance					Band #
Performance factor allocated	Perf _{Con, t-1}				Number
Weighting allocated to connection time index	W _{Con}				Number
Contribution of connection time index to S-factor	S _{Con, t}				Number
Measured call center performance, 12 months ending in December of year t-1	Call _t				Minutes
Call center performance band 1		higher than			Minutes
Call center performance band 2					Minutes
Call center performance band 3					Minutes
Call center performance band 4					Minutes
Call center performance band 5		lower than			Minutes
Assessment of call center performance					Band #
Performance factor allocated	Perf _{Call, t-1}				Number
Weighting allocated to call center index	W _{Call}				Number
Contribution of call center index to S-factor	S _{Call, t}				Number
Forecast annual allowed revenue for application year t	ARR _t				PhP
Forecast energy consumption for application year t	FQ _t				kWh
S-factor for application year t	S _t				PhP/kWh

APPENDIX I : ENERGY CONSUMPTION FORECASTS TEMPLATE

For purposes of Clause 4.23 of the DWRG, the following templates should be used to provide the forecast energy consumption and maximum demand for each Regulated Distribution System.

SHEET 1 : ENERGY CONSUMPTION FORECASTS

MEASUREMENT POINT	UNITS	HISTORICAL FIGURES (CALENDAR YEARS)					Forecast	FORECAST (REGULATORY YEARS)			
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Regulated Distribution System	GWh										
Grid connection points (Describe each point)	MWh										
	MWh										
	MWh										
Direct connection points to generators (Describe each point)	MWh										
	MWh										
	MWh										
Customer Segment 1	MWh										
Customer Segment 2	MWh										
(Provide for each segment)	MWh										
Estimated system losses	%										

SHEET 2 : MAXIMUM DEMAND FORECASTS

MEASUREMENT POINT	UNITS	HISTORICAL FIGURES (CALENDAR YEARS)					Forecast	FORECAST (REGULATORY YEARS)			
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Regulated Distribution System	MW										
Grid connection points (Describe each point)	MW										
	MW										
	MW										
Direct connection points to generators (Describe each point)	MW										
	MW										
	MW										
Substations (Describe each substation)	MW										
	MW										
	MW										
Subtransmission feeder (Describe each feeder)	MW										
	MW										
	MW										
Major distribution feeder (Describe each feeder)	kW										
	kW										
	kW										
	kW										

APPENDIX J : TEMPLATE FOR SERVICE PERFORMANCE MEASUREMENT

For purposes of the performance incentive scheme required under Clause 4.18.1 of the DWRG and as expanded in Section 9 above, the following service performance templates are to be completed for each Regulated Distribution System:

Sheet 1 contains the template for historical performance information to be submitted and sheet 2 for the ongoing monthly performance information. The following should be noted:

- Information must be provided separately for each Regulated Distribution System.
- Where information cannot be supplied, this should be indicated and the reason for this provided.
- All information submissions have to be certified by the CEO (or equivalent) and the responsible Member of the Board (or equivalent) of the Regulated Entity.
- For the ongoing monthly submissions, the cumulative total or cumulative average for that Regulatory Year (up to the end of the month for which information is submitted) also has to be provided. The cumulative total at the end of June will be the annual total for a Regulatory Year.
- The template in sheet 2 should also be used for the provision of monthly performance information for the period between January 1, 2006 and June 30, 2007.

SHEET 1 : HISTORICAL PERFORMANCE DATA

Performance index	Units	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
System average interruption frequency index (SAIFI)	Number										
Customer average interruption duration index (CAIDI)	Minutes										
Planned system average interruption duration index (SAIDI)	Minutes										
Probability of voltage levels falling within prescribed limits	%										
System losses	%										
Average time to process applications for Regulated Distribution Services	Days										
Average time to connect premises to the Regulated Distribution System	Days										
Average time to answer calls at call centre	Seconds										
Number of urban/sub-urban customers experiencing service interruptions longer than 10 hours	Number										
Number of urban/sub-urban customers experiencing service interruptions longer than 15 hours	Number										
Number of urban/sub-urban customers experiencing service interruptions longer than 20 hours	Number										
Number of rural customers experiencing service interruptions longer than 15 hours	Number										
Number of rural customers experiencing service interruptions longer than 25 hours	Number										
Number of rural customers experiencing service interruptions longer than 35 hours	Number										
Number of customers in urban/sub-urban areas experiencing more than 10 sustained interruptions per year	Number										
Number of customers in urban/sub-urban areas experiencing more than 15 sustained interruptions per year	Number										
Number of customers in urban/sub-urban areas experiencing more than 20 sustained interruptions per year	Number										
Number of customers in rural areas experiencing more than 15 sustained interruptions per year	Number										
Number of customers in rural areas experiencing more than 25 sustained interruptions per year	Number										
Number of customers in rural areas experiencing more than 35 sustained interruptions per year	Number										
Number of customers for whom restoration of faults on the secondary distribution network were not restored within 12 hours	Number										
Number of connections not delivered on days agreed with customers	Number										
Number of connections delivered 2 days late	Number										
Number of connections delivered 3 days late	Number										
Number of connections delivered 4 day late	Number										
Number of connections delivered 5 or more days late	Number										
Momentary average interruption frequency index (MAIFI)	Number										
Frequency of tripping events per 100 circuit-km	Number										
Average forced-outage duration	Minutes										
Average time to respond to emergency calls	Minutes										
Average time to respond to billing queries and complaints	Days										
Average time to respond to payment queries and complaints	Days										
Average time to reconnect a service after payment of all dues	Days										
Average time to provide a complainant with a substantive answer to the complaint	Days										
Average time to correct a power quality complaint	Days										

SHEET 2 : MONTHLY PERFORMANCE DATA

Regulatory Year :	Performance index	Units													
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Cumulative	
	System average interruption frequency index (SAIFI)	Number													
	Customer average interruption duration index (CAIDI)	Minutes													
	Planned system average interruption duration index (SAIDI)	Minutes													
	Probability of voltage levels falling within prescribed limits	%													
	System losses	%													
	Average time to process applications for Regulated Distribution Services	Days													
	Average time to connect premises to the Regulated Distribution System	Days													
	Average time to answer calls at call centre	Seconds													
	Number of urban/sub-urban customers experiencing service interruptions longer than [GSL1 target]	Number													
	Number of rural customers experiencing service interruptions longer than [GSL1 target]	Number													
	Number of customers in urban/sub-urban areas experiencing more than [GSL2 target] sustained interruptions per year	Number													
	Number of customers in urban/sub-urban areas experiencing more than 15 sustained interruptions per year	Number													
	Number of customers in rural areas experiencing more than [GSL2 target] sustained interruptions per year	Number													
	Number of customers for whom restoration of faults on the secondary distribution network were not restored within 12 hours	Number													
	Number of connections not delivered on days agreed with customers	Number													
	Number of connections delivered 2 days late	Number													
	Number of connections delivered 3 days late	Number													
	Number of connections delivered 4 day late	Number													
	Number of connections delivered 5 or more days late	Number													
	Momentary average interruption frequency index (MAIFI)	Number													
	Frequency of tripping events per 100 circuit-km	Number													
	Average forced-outage duration	Minutes													
	Average time to respond to emergency calls	Minutes													
	Average time to respond to billing queries and complaints	Days													
	Average time to respond to payment queries and complaints	Days													
	Average time to reconnect a service after payment of all dues	Days													
	Average time to provide a complainant with a substantive answer to the complaint	Days													
	Average time to correct a power quality complaint	Days													

APPENDIX K : LEVIES, LICENCES & OTHER TAXES TEMPLATE

For purposes of Clause 4.13.2 of the DWRG, the following templates should be used to provide summaries of the historical and forecast expenditure incurred by a Regulated Entity for levies, licenses and tax other than corporate income tax payable in the course of providing Regulated Distribution Services.

The templates are assumed to link according to Figure K1.

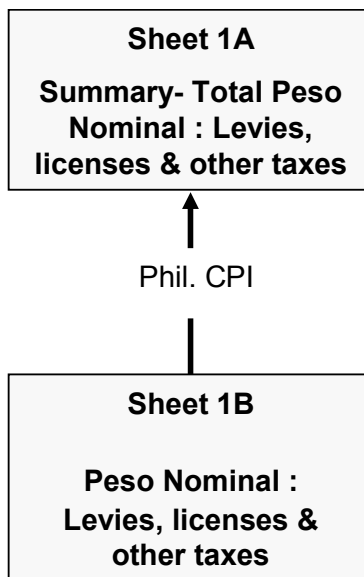


Figure K1 : Development of levies, licenses and other taxes expenditure forecast summary

In completing the templates, the following should be noted:

- The actual figures for 2003 to 2006 refer to calendar years, while the forecasts for 2008 to 2011 refer to Regulatory Years (July 1 to June 30).
- The budgeted figure for 2007 refers to the six (6) months from Jan 1, 2007 to Jun 30, 2007.
- Quarterly data refers to the value as at the end of each quarter for the year indicated.
- Where quarterly figures are forecast for Regulatory Years (2008 to 2011), these refer to the Regulatory Year quarters, with the first such quarter ending on Sept 30.⁴⁸
- Where CPI forecasts are made, the same base value must apply for all years.

⁴⁸ In other words, the Sept and Dec quarters fall in the previous calendar year. (E.g. the Sept quarter for regulatory year 2009 is the quarter ending on 30 Sept 2008.)

SHEET 4a : Levies, duties and taxes (excluding corporate income tax)									
Opex Category and Sub-category (Specify)	Actual (peso, nominal in peso of historical year)				Budget (peso, nominal)	Forecast (peso, nominal in peso of regulatory year)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Levies									
Sub-total Levies									
Duties									
Sub-total Levies									
Other taxes									
Sub-total Levies									
Total Levies, Duties & other Taxes Expenditure									
Philippines Consumer Price Index Assumption	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures	Year :			Value :					

Table K.1 : Sheet 1A – Levies, duties and other taxes expenditure forecast summary (expressed in nominal PhP)

SHEET 4b : Levies, duties and taxes (excluding corporate income tax)									
Opex Category and Sub-category (Specify)	Actual (peso, nominal in peso of historical year)				Budget (peso, real)	Forecast (peso, real as at Dec 31, 2006)			
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Levies									
Sub-total Levies									
Duties									
Sub-total Levies									
Other taxes									
Sub-total Levies									
Total Levies, Duties & other Taxes Expenditure									
Philippines Consumer Price Index Assumption	Sep quarter								
	Dec quarter								
	Mar quarter								
	Jun quarter								
Base value assumed for Philippine CPI figures	Year :			Value :					

Table K.2 : Sheet 1B – Levies, duties and other taxes expenditure forecast summary (expressed in real PhP)

APPENDIX L : DEFINITION OF CAPITAL ASSET CATEGORIES

In this appendix, a definition of the categories to be used for describing the Distribution System assets is provided. The lists provided are indicative only and are not intended to be exhaustive.

In the case of uncertainty, Regulated Entities should include assets in the category they deem the best fit for such assets. It is however essential to ensure that such categorization is applied consistently over time.

A. DISTRIBUTION PLANT

1. Land and Land Rights (dedicated to distribution purposes)

This account shall include the cost of land and land rights used in connection with distribution operations.

Note: Do not include in this account the costs of permits to erect poles, towers, etc., or to trim trees.

2. Structures and Improvements (dedicated to distribution purposes)

This account shall include the cost of structures and improvements used in connection with distribution operations.

3. Station Equipment (power transformers, switchgear, protective equipment, metering and control equipment, communications equipment and other station equipment)

This account shall include the cost installed of substation equipment, including transformer banks, protection installation, switchgear, communication systems, etc., which are used for the purpose of converting voltage levels or controlling and directing the flow of electricity through the distribution network.

Note: The cost of rectifiers, series transformers, and other special station equipment devoted exclusively to street lighting service shall not be included in this account, but in Street Lights and Signal Systems.

4. Poles, Towers and Fixtures – Distribution; Customer

This account shall include the cost installed of poles, towers, and appurtenant fixtures used for supporting overhead distribution conductors and service wires.

5. Overhead Conductors and Devices – Distribution; Customer

This account shall include the cost installed of overhead conductors and other overhead devices used for distribution purposes.

Note: The cost of conductors used solely for street lighting or signal systems shall not be included in this account but in Street Lights and signal Systems.

6. Underground Conduits – Distribution; Customer

This account shall include the cost installed of underground conduit and tunnels used for housing distribution cables or wires.

Note: The cost of underground conduit used solely for street lighting or signal systems shall be included in Street Lights and Signal Systems.

7. Underground Conductors and Devices – Distribution; Customer

This account shall include the cost installed of underground conductors and associated devices used for distribution purposes.

Note: The cost of underground conductors and devices used solely for street lighting or signal systems shall be included in Street Lights and Signal Systems.

8. Line Transformers – Distribution; Customer

This account shall include the cost installed of overhead and underground distribution line transformers and pole-type and underground voltage regulators owned by the utility, for use in transforming electricity to the voltage at which it is to be used by the customer.

Note: The cost of line transformers used solely for street lighting or signal systems shall be included in Street Lighting and Signal Systems.

9. Power Conditioning Equipment

This refers to equipment such as capacitor banks for power factor correction, synchronous condensers, static VAR compensators, line filters, voltage regulators, generators used to provide spinning reserve or voltage stability, etc..

10. Services

This account shall include the cost installed of overhead and underground conductors leading from a point where wires leave the last pole of the overhead system or the distribution box or manhole, or the top of the pole of the distribution line, to the point of connection with the customer's outlet or wiring. Conduit used for underground service conductors shall be included herein.

11. Meters, Metering Instruments and Metering Transformers – Distribution; Customer

This account, in as far as it pertains to customer assets, shall include the cost installed of meters or devices and appurtenances thereto, for use in measuring the electricity delivered to its users, whether actually in service or held in reserve.

In as far as this account pertains to distribution assets, this account shall include meter installations for monitoring energy flows at various points in the system, as well as meters installed to monitor and manage system losses.

12. Information Technology Equipment (dedicated to distribution purposes)

This account is for any other information technology equipment used to manage the distribution network, that are not already included under substation or similar categories.

13. Regulated Entity Property on Consumers' Premises**Installations on Customers' Premises**

This account shall include the cost installed of equipment on the customer's side of a meter when the utility incurs such cost and when the utility retains title to and assumes full responsibility for maintenance and replacement of such property.

Leased Property on Customers' Premises

This account shall include the cost of electric motors, transformers, and other equipment on customers' premises (including municipal corporations), leased or loaned to customers, but not including property held for sale.

14. Street Lights and Signal Systems

This account shall include the cost installed of equipment used wholly for public street and highway lighting or traffic, fire alarm, police, and other signal systems.

15. Submarine Cables**B. GENERAL PLANT (NON-NETWORK ASSETS)****1. Land and Land Rights (non-network related)**

This account shall include the cost of land and land rights used for utility purposes, the cost of which is not properly includible in other land and land rights accounts.

2. Structures and Improvements (non-related related)

This account shall include the cost in place of structures and improvements used for utility purposes, the cost of which is not properly includible in other structures and improvements accounts.

3. Office Furniture and Equipment

This account shall include the cost of office furniture and equipment owned by the utility and devoted to utility service, and not permanently attached to buildings, except the cost of such furniture and equipment which the utility elects to assign to other plant accounts on a functional basis.

4. Transportation Equipment

This account shall include the cost of transportation vehicles used for utility purposes.

5. Stores Equipment

This account shall include the cost of equipment used for the receiving, shipping, handling, and storage of materials and supplies.

6. Tools, Shop and Garage Equipment

This account shall include the cost of tools, implements, and equipments used in construction, repair work, general shops and garages and not specifically provided for or includible in other accounts.

7. Laboratory Equipment

This account shall include the cost installed of laboratory equipment used for general laboratory purposes and not specifically provide for or includible in other departments or functional plant accounts,

8. Information Systems Equipment (non-network related)

This account should include all information system equipment used to provide support services to the distribution function, including desktop computers, software, back-up storage devices, computer network assets, UPS or similar systems, etc.

9. Power-operated Equipment

This account shall include the cost of power operated equipment used in construction or repair work exclusive of equipment includible in other accounts. Include, also, the tools and accessories acquired for use with such equipment and the vehicle on which such equipment is mounted.

10. Communication Plant and Equipment

This account shall include the cost installed of telephone, telegraph, and wireless equipment for general use in connection with utility operations. It shall exclude any items included under the information system category.

11. Miscellaneous Equipment

This account shall include the cost of equipment, apparatus, etc., used in the utility operations, which is not includible in any other account of this system of accounts.

C. MATERIALS AND SUPPLIES**1. Materials and Supplies - Fuel Stock**

This account represents the cost of fuel on hand, and includes (1) invoice price less any cash or other discounts, (2) freight, switching, demurrage and other transportation charges except any charges for unloading from the shipping medium, and (3) excise taxes, purchasing agent's commissions, insurance and other expenses directly assignable to cost of fuel.

2. Materials and Supplies – Electric

This account represents the cost of materials purchased primarily for use in the conduct of utility business for construction, operation and maintenance purposes and materials recovered in connection with construction, maintenance or retirement of property. This includes (1) cost of electric materials and supplies purchased, (2) freight, insurance, unloading, handling and other transportation charges, if can be directly assigned to particular purchases, and (3) cost of special tests of materials prior to acceptance.

3. Materials and Supplies – Others

This account represents cost of materials and supplies held primarily for use in the repairs and maintenance of general plant items such as vehicles, office equipment and like items.

4. Office Supplies

This account represents the cost of postage, stationery and all other office supplies on hand.

5. Stores Expense Undistributed

This account shall include the cost of freight and delivery charges not directly identifiable to each type of materials and supplies purchased. This account shall be cleared by adding to the cost of materials and supplies issued a prorated amount of freight and delivery charges to distribute the expenses equitable over stores issues. This includes (1) freight, delivery and handling charges of materials and supplies purchased when not assignable to specific items, (2) adjustments of inventories of materials but not including large differences which can readily be assigned to important classes of materials and equitably distributed among the accounts to which such class of materials were charged since the previous inventory, and (3) excise and other similar taxes (paid on materials and supplies purchased) not assignable to specific materials.