

*Cambodia Power Sector: Technical Assistance for  
Capacity Building of the Electricity Authority of  
Cambodia*

December 2005

## **ENERGY SECTOR MANAGEMENT ASSISTANCE PROGRAMME (ESMAP)**

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**March 2005**

Energy Sector Management Assistance Program  
(ESMAP)

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# Table of Contents

|  |     |
|--|-----|
| Acknowledgments .....  | v   |
| Abbreviations and Acronyms .....   | vii |
| Units of Measure .....   | vii |
| Preface .....  | ix  |
| Introduction .....   | 1   |
| Country Profile .....  | 1   |
| Power System in Cambodia .....   | 4   |
| Power Sector Issues .....  | 9   |
| EAC Technical Assistance Project .....   | 11  |
| Basic Law and Regulations in the Power Sector .....  | 11  |
| The Electricity Authority of Cambodia .....  | 13  |
| Objectives of the Project .....  | 15  |
| Project Milestones .....   | 17  |
| Licensing .....  | 17  |
| Overall Performance Standards .....  | 20  |
| Complaint Handling Procedures .....  | 34  |
| Procedure for Application and Determination of Tariff .....  | 35  |
| Conclusion .....   | 37  |
| Annex 1: Households and Population in Provinces .....  | 39  |
| Annex 2: Details of Generation Licenses .....  | 41  |
| Details of Distribution Licenses .....   | 42  |
| Details of Consolidated License Consisting of Generation, .....  | 43  |
| National Transmission and Distribution Licenses .....  | 43  |
| Details of Consolidated License Consisting of Generation and Distribution Licenses .....   | 44  |
| Annex 3: Map Showing Locations of Licenses .....   | 51  |
| Annex 4: Decision on Revision of Procedures for Revising Licenses .....  | 53  |
| The Electricity Authority of Cambodia .....  | 53  |
| Decides .....  | 54  |
| New Contents to be Substituted in the Existing Procedures for Issuing, Revising,<br>Suspending, Revoking, or Denying Licenses for Providing Electric Power Services<br>(Revised 1) ..... | 54  |
| Annex 5: Regulations on Overall Performance Standards for Distribution Licensees and<br>Retail Licensees .....   | 55  |
| in The Kingdom of Cambodia .....   | 55  |
| The Electricity Authority of Cambodia .....  | 55  |
| Decides .....  | 55  |
| Chapter 1 .....  | 56  |
| Chapter 2 .....  | 57  |
| Chapter 3 .....  | 60  |
| Annex 6: Procedures for Filing Complaint to the EAC and for Resolution of Complaint<br>by the EAC .....  | 61  |
| A. Provisions in the Electricity Law of the Kingdom of Cambodia .....  | 61  |
| B. Phases in the Resolution of Complaints by the EAC .....   | 61  |
| C. Procedure for Filing of Complaint and Notice to Defendant .....   | 62  |
| D. Reconciliation .....  | 64  |
| E. Investigation .....   | 65  |
| F. Preservation of Records and Documents .....   | 66  |

|   |     |
|---|-----|
| H. Appeals .....  | 66  |
| Annex 7: Procedures for Application and Determination of Tariff.....                | 69  |
| Provisions in the Electricity Law of the Kingdom of Cambodia.....                   | 69  |
| Procedure for Annual Data Submission by Licensees and its Monitoring .....          | 71  |
| Appendix 1: Forms for Annual Data Submission by Larger Licensees .....              | 77  |
| Appendix 2: Forms for Annual Data Submission by Smaller Licensees .....             | 101 |
| Appendix 3: Forms for Submission by Larger Licensees with Tariff Application .....  | 113 |
| Appendix 4: Forms for Submission by Smaller Licensees with Tariff Application ..... | 131 |

## List of Tables

|  |    |
|--|----|
| Table 1.1: 1998 Census Data.....   | 3  |
| Table 3.1: Number of Licenses Issued (September 2004).....                 | 18 |
| Table 3.2: Licensed Generation Capacity.....                               | 18 |
| Table 3.3: Generation Capacity by Type of Generation.....                  | 18 |
| Table 3.4: Number of Licensees in Generating Capacity Bands.....           | 19 |
| Table 3.5: Duration of Licenses .....                                      | 20 |
| Table 3.6: Permitted Variation in the Voltage in Different Countries ..... | 27 |

## List of Figures

|   |    |
|---|----|
| Figure 1.1: Map of Cambodia .....   | 2  |
| Figure 1.2: Actual and Expected Production and Consumption of Power ..... | 6  |
| Figure 2.1: The EAC and MIME: Duties and Responsibilities .....           | 12 |
| Figure 2.2: The EAC Organization at Present.....                          | 13 |

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## **Abbreviations and Acronyms**

|       |   |
|-------|---|
| ADB   | Asian Development Bank                      |
| EAC   | Electricity Authority of Cambodia           |
| EDC   | Electricite du Cambodge                     |
| ESMAP | Energy Sector Management Assistance Program |
| HFO   | Heavy fuel oil                              |
| HV    | High voltage                                |
| IDA   | International Development Association       |
| IPP   | Independent power producer                  |
| LPG   | Liquefied petroleum gas                     |
| LV    | Low voltage                                 |
| MIME  | Ministry of Industry, Mines, and Energy     |
| MV    | Medium voltage                              |
| PPA   | Power purchase agreement                    |

## **Units of Measure**

|     |                 |
|-----|-----------------|
| GWh | Gigawatt hours  |
| kV  | Kilovolt        |
| kVA | Kilovolt ampere |
| kW  | Kilowatt        |
| kWh | Kilowatt hours  |
| MW  | Megawatt        |



## Preface

The power sector in the Kingdom of Cambodia suffered heavily during the civil war (1971–75) and subsequent regime (1975–79). The infrastructure for electricity was almost destroyed not only in Phnom Penh City but also in other provincial towns and smaller towns. After the liberation of January 7, 1979, the government of Cambodia started to restore electricity infrastructure in Phnom Penh City and the main provincial towns of the country. Electricite du Cambodge (EDC) was reestablished with the task of supplying electricity to Phnom Penh. The supply of electricity in major provincial towns was entrusted to government enterprises at the provincial level. Private entrepreneurs provided supply services in other towns and villages.

The sector continued to suffer from inadequate capacity, inefficient operation, and high tariff. The government initiated reform in the sector and passed a new law under which the Ministry of Industry, Mines, and Energy (MIME) will remain in charge of policy and planning only, a new regulatory body will be in control of regulating the sector, and private participation will be encouraged. It was also decided that the power supply in major provincial towns under the control of MIME will be gradually transferred to EDC or to private operators.

Incorporation of EDC took place in 1996. In 2001 the Electricity Law was promulgated, and the Electricity Authority of Cambodia (EAC), the regulatory body for electricity in Cambodia, started functioning. The functions of EAC included licensing, tariff setting, and resolution of consumer complaints and enforcement of performance standards.

The task before the EAC was immense. EAC requested technical assistance from the Energy Sector Management Assistance Program (ESMAP) to assist it in the issuing of licenses, determining performance standards, establishing procedures for resolution of complaints, and developing procedures for application and determination of tariffs.

Mr. Badri Prasad Rekhani was appointed as a short-term consultant to provide the technical assistance to EAC. He worked on the project from June 2003 to September 2004. This report describes the achievements of EAC under the technical assistance project and includes the documents prepared by Mr. Rekhani. The report also describes the extent to which these documents were adopted by EAC.



# 1

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## Introduction

1.1 The Electricity Authority of Cambodia (EAC) is in its nascent stage of development. However, it has undertaken initial steps toward increasing public awareness of electricity regulation and issuing licenses to larger scale generators and distributors in urban areas. EAC's next important task is to formalize the operations of small-scale private operators in the rural areas. The regulatory framework for rural electricity operations in the country has yet to be fully developed. Guidelines and procedures are currently being drafted by EAC, but they still have to be tested thus, gradual revisions can be anticipated and precedents must be established.

1.2 In addition, the scope of EAC's operations must be expanded to include, among other things, definitions of technical standards and procedures for determining tariff levels. In view of EAC's extensive work plan, the Energy Sector Management Assistance Program (ESMAP) has provided a grant toward the financing for a technical advisor to support EAC in these activities.

### Country Profile

1.3 The Kingdom of Cambodia, situated in the Lower Mekong River, is a land of paddies and forests dominated by the Mekong River and Tonle Sap. It is a member country of the Association of South East Asian Nations and is bordered by Thailand in the west, Vietnam in the east, and Laos in the north.

1.4 Cambodia's population is about 13,607,069, and its land area is approximately 181,040 sq km (land: 176,520 sq km; water: 4,520 sq km) with a coastline of 443 km. The country is divided administratively into 20 provinces (Banteay Mean Chey, Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Mondol Kiri, Otdar Mean Chey, Pouthsat, Preah Vihear, Prey Veng, Ratanakir1, Siem Reap, Stoeng Treng, Svay Rieng, Takeo) and the four municipalities of Keb, Pailin, Phnom Penh (the capital city), and Sihanoukville.

Figure 1.1: Map of Cambodia



1.5 Cambodia's economy is showing resilience in spite of the challenging international environment. Economic growth in 2001 was estimated at 6.3 percent, driven by a tourism sector and robust garment exports. In 2001, there was nearly zero inflation, and in 2002, the government made significant progress by producing strategies for moving forward in key socio-political areas, including education, health, governance, and nutrition.

1.6 As a post-conflict country with physical, social, human, and economic foundations for growth shattered and in need of restoration, Cambodia faces a formidable array of development challenges. Many parts of the country only recently became accessible as the security situation has eased.

1.7 The 1998 general population census of Cambodia was conducted in March 1998. Some of the data from this census are given in Table 1.1.

**Table 1.1: 1998 Census Data**

| Subject   |       | Data       |
|---|-------|------------|
| Number of provinces/municipalities                                  |       | 24         |
| Number of districts   |       | 183        |
| Number of communes  |       | 1,609      |
| Number of villages  |       | 13,406     |
| Number of normal/regular households                                 |       | 2,162,086  |
| Number of all households  | Total | 2,188,663  |
|   | Urban | 322,246    |
|   | Rural | 1,866,417  |
| Percentage of households having electricity as main source of light | Total | 15.1       |
|   | Urban | 53.6       |
|   | Rural | 8.6        |
| Population  | Total | 11,437,656 |
|   | Urban | 1,795,575  |
|   | Rural | 9,642,081  |

1.8 The number of households and population with urban/rural breakup for each province are given in Appendix 1.

1.9 Cambodia, measured by income or other social indicators, is among the poorest countries in the world, ranking 136 of 174 in the UN's Human Development Index. According to the recent National Poverty Reduction Strategy,<sup>1</sup> 36 percent of the Cambodian population is in poverty, living on less than US\$0.46–0.63 per day, and 50.3 percent of children under age five are underweight. Moreover, it reported that half of Cambodia's poor would be lifted out of poverty if 6 percent growth could be sustained for eight years.

1.10 The Asian Development Bank (ADB), in its report on March 15, 2005, gave the following important socioeconomic development indices for Cambodia:

- 44 percent of the population have access to clean water
- 22 percent live in hygienic conditions
- 17 percent have access to electricity
- 0.2 percent surf the Internet
- 4 percent of roads are covered with asphalt
- 28 percent of the population is poor
- 10.3 million of its 13.4 million people live on US\$2 a day
- Average annual income is US\$306
- Economic growth rate from 1994 to 2003 is 6.8 percent

1. Royal Government of Cambodia, National Poverty Reduction Strategy, February 2003.

1.11 The industrial sectors prevailing in Cambodia can be divided into garments, tourism, construction and infrastructure, agribusiness, handicraft industries, and the non-tourism service sector. In part owing to the small base, growth performance was impressive over the 1996–2000 timeframe, in which total manufacturing output grew at 19.1 percent, driven by textile/garment at 64.3 percent, followed by electricity and water at 8 percent, and construction and mining at 3 percent each.<sup>2</sup> Growth is exceptionally dependent on foreign direct investment, which comprised more than 50 percent of fixed capital formation in 1998.

1.12 Most of the existing energy sources in Cambodia are used by the 84 percent of the population who live in rural areas. Wood and charcoal are the only sources of energy for cooking. The exact amount of coal, petroleum, and gas available in Cambodia is not known. No specific studies have been conducted. However, at present some companies are exploring petroleum and gas offshore.

1.13 Potential of hydropower in Cambodia is high (more than 10,000 MW), but the development of hydropower has not been implemented mostly because of a lack of a pre-feasibility study of the projects and investment capital.

1.14 At the moment, import of electricity from neighboring countries at low tariff rates is an appropriate choice to bridge the gap between demand and supply and to reduce the electricity tariff. This will increase the size of electricity market and will lead to large-scale power development in Cambodia.<sup>3</sup>

## **Power System in Cambodia**

1.15 Electricity was first available in Cambodia in 1906. Until 1958, electricity was supplied by three private companies: Compagnie des Eaux Electricité, Union d'Electricité de l'Indochine, and Compagnie Franco-Khmer d'Electricité.

1.16 Compagnie des Eaux Electricité supplied electricity to Phnom Penh and its surrounding areas. Union d'Electricité de l'Indochine supplied electricity to all provinces except Battambang. Battambang was supplied by Compagnie Franco-Khmer d'Electricité.

1.17 In October 1958, the government took control of Compagnie des Eaux Electricité and Union d'Electricité de l'Indochine and established a new state-owned enterprise called Electricité du Cambodge (EDC). EDC supplied electricity to Phnom Penh and all provincial towns in the country except Battambang. Other smaller towns were supplied by private companies. In 1958, total installed generation capacity in Cambodia was approximately 30 MW, of which 16 MW was supplied by EDC and 14 MW by the other private companies.

1.18 During 1971–79, the power sector in Cambodia experienced civil war (1971–75) and the Pol Pot regime (1975–79). Electricity facilities including generation, transmission, and distribution networks were nearly destroyed not only in Phnom Penh

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2. MOP, Social and Economic Development Plan II.

3. EAC, Report on Power Sector of the Kingdom of Cambodia for the Year 2003.



but also in other provincial and smaller towns. Most of the data and other information relating to this period on the electricity sector could not survive this period.

1.19 After the liberation on January 7, 1979, the government started to restore the electricity infrastructure in Phnom Penh and in the main provincial towns. The electricity supply was under the management of the Ministry of Industry, Mines, and Energy (MIME). MIME reestablished EDC with the task of supplying electricity to Phnom Penh and established small electricity companies to supply electricity to the provinces. Remarkable progress has been made in the power sector from 1991 until today, resulting in restoration and development of the electricity infrastructure and supply of electricity and reforms in the electric power sector.

1.20 Currently, Cambodia has one of the lowest electrification rates in Asia with only about 17 percent of its population connected to a power supply. Electricity costs are among the highest in the world. These two aspects are partly linked and both are partly the consequence of Cambodia's recent turbulent history.

1.21 The power system in Cambodia is different from most other countries. Most of the countries in the world have an interconnected grid consisting of large generating stations, high voltage (HV) lines and substations, and medium voltage (MV) and low voltage (LV) systems to take the power supply from the grid sub stations to the consumers. In addition, few countries have isolated systems to supply power to remote areas. In Cambodia, there is no national grid, and the supply to cities and towns is through a large number of isolated systems. Except for two hydropower stations, all generations use heavy fuel oil or diesel as fuel.

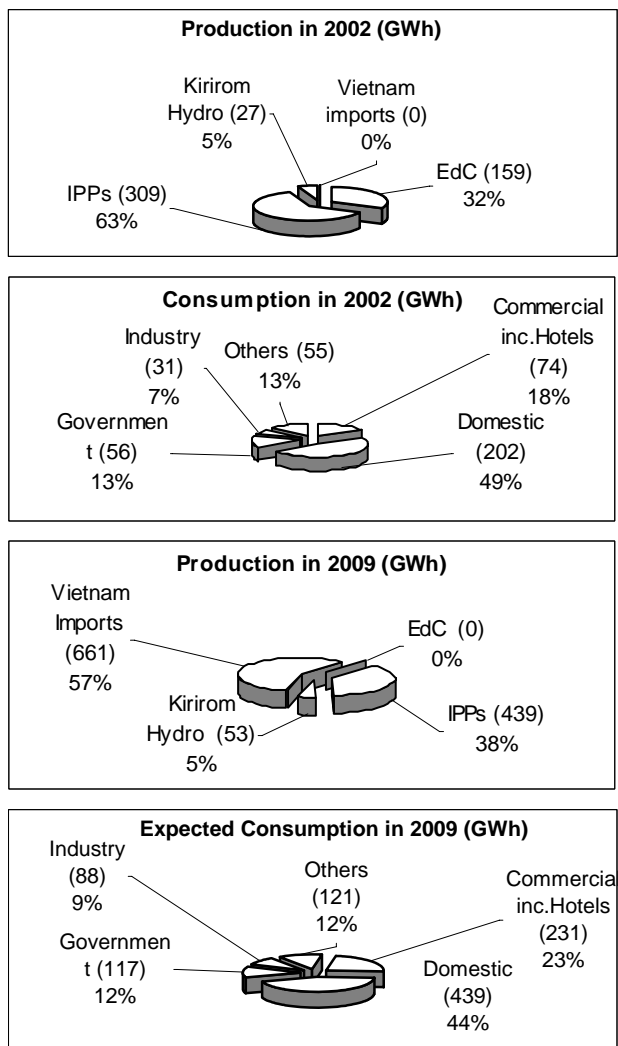
1.22 The principal entities in the electricity sector are MIME, the EAC, and the five categories of electricity providers that make up the power system. MIME is responsible for sector policy, strategy for rural electrification, negotiations for electricity trade agreements, and major investment projects, and, with the Ministry of Finance, is the sponsoring ministry for EDC. EAC is the power sector regulator responsible for licensing, approving tariffs and setting and enforcing performance standards and settling disputes.

1.23 The power system of Cambodia can be divided into five categories:

- EDC supply systems
- Supply from neighboring countries
- Isolated systems for other towns and villages
- Private independent power producers (IPPs)
- Captive supply

1.24 The dependable total system capacity in 2003 was 109 MW. See Figure 1.2.

**Figure 1.2: Actual and Expected Production and Consumption of Power**



**Electricite du Cambodge**

1.25 EDC is the government-owned corporation and the largest supplier of electricity in Cambodia. EDC has been issued a consolidated license consisting of a generation license, national transmission license, and a distribution license. The EDC system is generally in good condition. It supplies electricity to Phnom Penh, provincial towns of Sihanoukville, Siem Reap, Battambang, Takeo, and Kampong Cham, and areas in the border districts of Pohnea Krek, Memot, Bavit, and Kampong Trach. The supply system to each of the cities and towns is isolated from each other.

1.26 In 1970, total installed generation capacity of EDC reached 61,125 kW, 77.5 percent of the total electricity production capacity in the entire country (78,805 kW). Electricity energy produced by EDC was 123,820,000 kWh in Phnom Penh and 12,230,000 kWh in other provincial towns. EDC’s generation facilities and its share in

energy produced consist of hydropower (12.7 percent), mainly the Kirirom 1 Hydropower Station; steam (23 percent), in the Chak Ang Re Krom Steam Turbine Power Station; diesel (64 percent); and gasoline (0.30 percent). In 1970 there was only one transmission line in Cambodia connecting Kirirom 1 Hydropower Station to Phnom Penh City through Prek Tnout. The Kirirom-Prek Tnout-Phnom Penh transmission line had a voltage rating of 110 kV, a length 120 km, and transmission capacity of approximately 50,000 kVA.

1.27 The EDC system has the following features:

- The system in Phnom Penh was rehabilitated under a World Bank Credit.<sup>4</sup> EDC has a new 115 kV system interconnecting the three grid substation and the Kirirom 1 hydropower station, a 22 kV system for taking supply to different areas, and an LV system with Ariel Bunched Conductor to supply electricity to consumers. In Phnom Penh, EDC generates its own power and also purchases power from three IPPs (including the 12 MW Kirirom 1 hydropower station) to meet its demand. The available capacity is not enough to meet the demand during peak hours, and EDC resorts to load shedding.
- The system in Siem Reap and Sihanoukville was rehabilitated under an ADB loan<sup>5</sup> and consists of an MV (22 kV) and LV system in good condition.
- The system in Battambang and Takeo consists of MV (15 kV) and LV lines and has old as well as new facilities. The system in Takeo is being rehabilitated under a new cofinanced loan.<sup>6</sup> In Battambang, EDC gets electricity from leased generator sets.
- The system in Kampong Cham consists of MV (6.3 kV) and LV lines and has old as well as new facilities. In Kampong Cham, EDC purchases power from an IPP.
- The power in the border districts of Pohnea Krek, Memot, Bavit, and Kampong Trach is imported by EDC from Vietnam at a voltage of 22 kV or 15 kV.

### ***Supply from Neighboring Countries***

1.28 Cambodia imports power from Vietnam and Thailand. Power from Vietnam is imported by EDC for Pohnea Krek, Memot, Bavit, and Kampong Trach.

1.29 Power from Thailand is imported at seven locations at 22 kV for Kamrieng, Phnom Preuk, Sampeou Loun, Phum Phsar Prum, Ochraov, Koh Kong, and Osmarch. Power is imported by four private operators under authorization from MIME and distribution licenses issued by EAC. Each system consists of MV (22 kV) and LV lines and is generally in good condition.

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4. Phnom Penh Power Rehabilitation Project (Credit 2782) of September 28, 1995, which closed on June 30, 2000.

5. ADB Provincial Power Supply Project (SF 1794).

6. International Development Association Rural Electrification and Transmission Project (credit 3840-KH), Global Environment Facility (TF 053036), ADB Power Distribution and Greater Mekong Sub-Region Transmission Project, and Nordic Development Fund.

### ***Isolated Systems for Other Towns and Villages***

1.30 The supply systems of other towns and villages have its own generation and LV network. Very few towns have MV network of voltage of 22 kV or 15 kV or 6.3 kV. Most of the systems are in poor condition.

### ***Independent Power Producers***

1.31 Although EDC is the dominant supplier of power, IPPs provide a substantial part of EDC's generation. As of the end of 2004, IPPs supplying to EDC account for about 48 percent of EDC's installed capacity and 60 percent of generation. IPPs also feature in EDC's future plans and have further power purchase agreement (PPA) contracts under discussion with potential IPPs and joint venture partners. The following IPPs are supplying power to EDC:

- Cambodia Utilities Pte Ltd., a Malaysian/Cambodian company operating a power plant since 1996. In accordance with the original power purchase agreement in 1994, EDC is obligated to purchase from Cambodia Utilities on a take or pay basis all of the power to be generated by the 37.1 MW diesel plant. The agreement has a term of 18 years, and the plant will be transferred to EDC at the end of the term of the project.
- Jupiter Power Cambodia Co. Ltd. a Canadian/Cambodian company that entered into a PPA with EDC in 2000 and agreed to finance, install, operate, and supply 15 MW of electric power for 36 months to meet the shortage in supply of electricity to Phnom Penh. EDC had the option to relocate some of the generator sets to provinces to meet the shortage of power in those areas. In 2002 and 2003, Jupiter and EDC agreed to several amendments and expansion of the existing PPA to include a new project, the C1 Expansion Project, where the minimum output was increased to 22 MW.
- China Electric Power Technology Import and Export Corp., a Chinese company that was granted by MIME the exclusive rights to develop, design, finance, rehabilitate, construct, own, operate, maintain, and manage the existing and newly constructed facilities of the Kirirom 1 hydropower plant with a capacity of 12 MW; to develop, design, finance, and construct transmission facilities and then transfer the plant to EDC after completion of commission; and to sell to EDC all generated electricity from Kirirom under a 30-year PPA.

1.32 EDC will start purchasing power in 2005 from the newly constructed 32 and 15 MW power plant of Khmer Electrical Power Co. Ltd., in accordance with a PPA signed in September 2003. Khmer Electrical Power will design, finance, build, own, operate, and maintain the facility with an initial generating capacity of 30 MW and deliver capacity to EDC. EDC is also expected to purchase an additional 5 MW of power from City Power Co., Ltd. Both IPPs are Cambodian companies.

### ***Captive Supply***

1.33 Most of the industries, big hotels, and big establishments have their own generation to meet their own power requirement. Most of these are not connected to the public supply system.

### **Power Sector Issues**

1.34 The power sector is confronted by the following key issues and challenges:

- *Paucity of energy resources:* Cambodia's commercial fossil fuel resources such as coal, oil, and natural gas are limited and currently largely unexplored and unexploited. Its hydropower potential is vast, about 10,000 MW, but only about 15 MW has been developed.
- *Under-exploitation of renewable energy resources:* There is a growing awareness toward utilizing renewable energy resources, especially for the rural areas, where 85 percent of the population resides. Prospects for utilization of biomass and biogas are very promising, and significant progress has been made. Tapping of wind and solar energy resources is also being evaluated.
- *Heavy dependence on fuel imports:* All commercial fuels are imported in the form of liquefied petroleum gas (LPG), gasoline, diesel, and miscellaneous petroleum products (totaling about 1.2 million tons per annum), which heavily exposes Cambodia to international price fluctuations.
- *Inefficient and underdeveloped electricity supplies:* Cambodia's power supply facilities, heavily damaged during the war years, have started to recover admirably since the mid 1990s, under support from the International Development Association (IDA), ADB, Japan, the United States, and European countries. The 24 fragmented and isolated systems centered in provincial towns and cities are all reliant on expensive diesel power generation. Per capita electricity consumption is only about 48 kWh / year, and fewer than 15 percent of the households have access to electricity (urban 54 percent, rural 9 percent). Owing to the small size of generating units dependent on high cost imported oil, the lack of an HV transmission grid, and large losses in distribution, electricity costs are very high. Average grid-based tariff is 16 USc/kWh (range 9–23 kWh) and tariff in rural areas range from 30 to 90 USc/kWh. As a measure of poverty alleviation, the government plans to increase rural electricity coverage from about 10 percent today to 70 percent by 2030. This will pose a serious financial and institutional challenge. With power demand expected to grow at about 13 percent per year, it is critical that Cambodia looks for major sources of supply for meeting demand beyond 2007. Prospects for imports from Vietnam and Thailand are high and are being actively pursued, with support from IDA and ADB.
- *Electricity sector reform:* Cambodia has made considerable progress in reforming the power sector, particularly in passing the Electricity Law in 2001

and establishing EAC as a regulator. Further strengthening of the new sector structure and commercialization of EDC are priority needs.

- *Contracting for electricity supplies through IPPs:* Contracting of IPP generation has hitherto been on a negotiated basis and has resulted in high purchase tariffs and lack of transparency. This situation is now changing, and IPP supplies are now being contracted through a much more transparent competitive bidding process.

# 2

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## **EAC Technical Assistance Project**

### **Basic Law and Regulations in the Power Sector**

2.1 Cambodia established the Electricity Law to attract private investors to participate in the development of the power sector. The Electricity Law was adopted by the National Assembly on November 6, 2000, and was ratified by the senate on December 13, 2000. The law was issued on January 15, 2001, by the Constitutional Council, to be consistent with the constitution and was finally promulgated by Royal Decree No. NS/RKM/0201/03 dated February 2, 2001, by Preah Bath Samdech Preah Norodom Sihanouk, King of Cambodia.

2.2 The law covers all activities related to the supply, provision of services, and use of electricity and other associated activities of the power sector and establishes the principles for operation. It establishes favorable conditions for investments in and the commercial operation of the electric power industry including the principles for the protection of the rights of consumers and the promotion of private ownership of the facilities for providing electric power services to promote competition.

2.3 The enactment of the Electricity Law is a big leap forward in bringing reforms in the electricity sector. The law will encourage private investment in the power sector in a fair, just, and efficient manner for the benefit of the country.

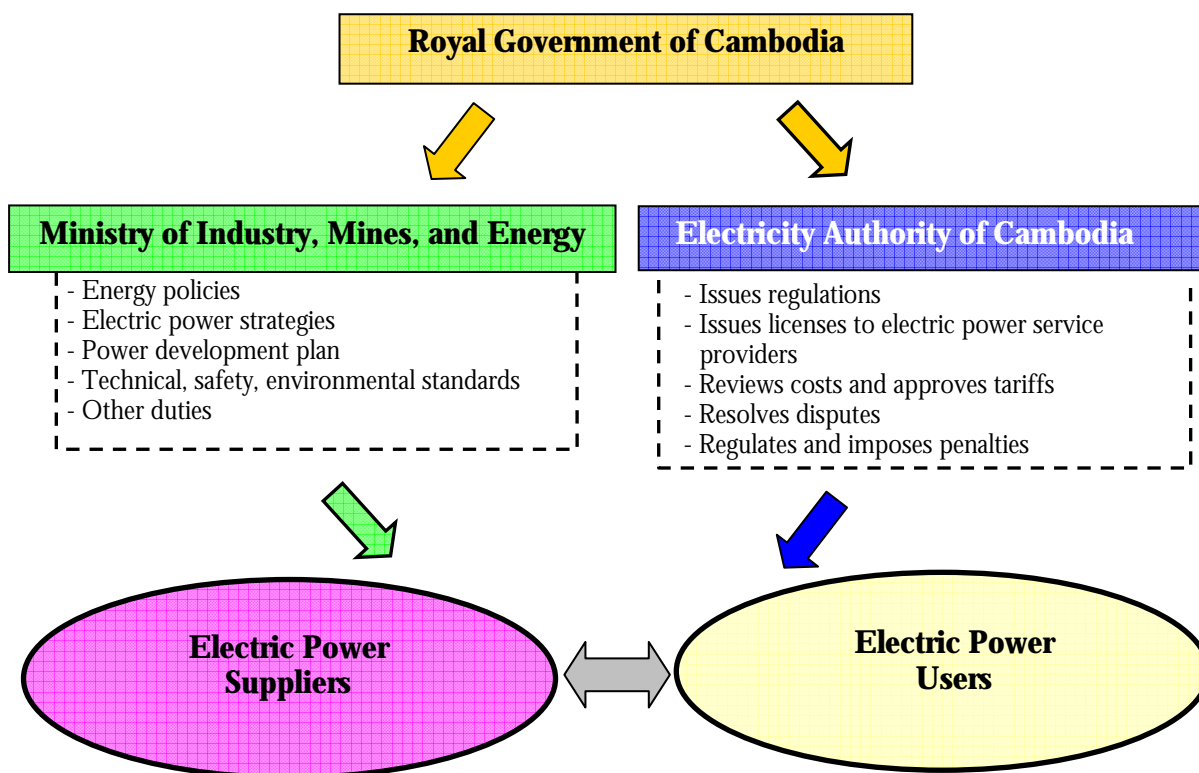
2.4 The Electricity Law provides for the rights and obligations of the services providers as well as the consumers in establishing a fair condition in the business and in the use of electricity. It separates the setting and administering of government policies, strategies, and planning, which is the responsibility of MIME, from regulating, liaising, and arbitrating between the provision of services and the use of electricity, which is the responsibility of the EAC. The law provides that MIME shall transfer in an orderly manner the functions and duties defined in this law to the EAC as soon as the EAC is fully operational.

2.5 The EAC is a legal public entity and is an autonomous agency. The EAC ensures that the provision of services and the use of electricity will be performed efficiently, qualitatively, sustainably, and in a transparent manner. The EAC issues licenses to the electric power service providers, approves tariff rates and charges, issues regulations, procedures, rules, orders, and decisions, and has the right to resolve complaints and disputes.

2.6 The EAC regulates the provision of services and the use of electricity. Regulations, orders, and decisions issued by the EAC are enforceable. The EAC may file complaints in the courts for any violation of the law or any violation of the regulations, orders, decisions, as well as licenses it has issued.

2.7 The differentiated roles of MIME and the EAC are presented in Figure 2.1.

**Figure 2.1: The EAC and MIME: Duties and Responsibilities**



2.8 Granting the right and autonomy to the EAC to regulate these services does not mean that the EAC should get involved in or manage the internal business of the electric power service providers. The law allows the EAC to advise or guide or order the supplier to modify or cease any activity that is against the public interest and to protect the interest of the consumers.

2.9 The EAC governs the relation between generators and transmitters, between generators and distributors, between transmitters and distributors, and between suppliers and consumers. These relate only to the cycle of delivery, receiving, and use of electricity and includes the conditions of delivery and receiving electric power services, the obligations and rights in delivery and receiving electric power services, the cost of electric power services that one party pays to the other party, and the quality of electric power services that one party provides to other parties.



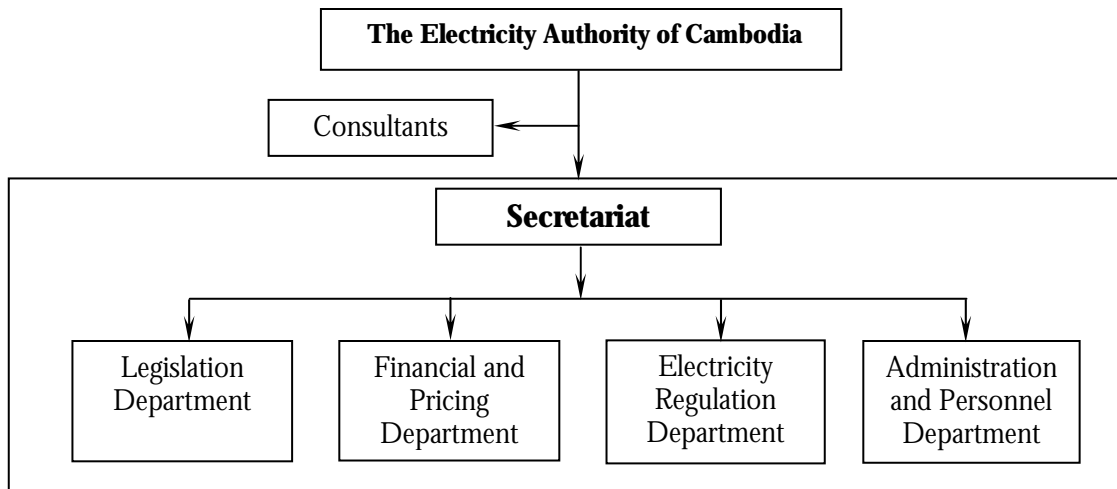
## The Electricity Authority of Cambodia

2.10 The EAC consists of three members who will be designated and proposed by the prime minister and will be appointed by the Royal KRET. Presently, the regulators for the power sector are as follows:

- H.E. Dr. Ty Norin, Chairman
- H.E. Yak Bunmeng, First Vice Chairman
- H.E. Dr. Ouch Thong Seng, Second Vice Chairman

2.11 The EAC has a secretariat to assist in legislation, financial and pricing, electricity regulation, and administration and personnel. The secretariat will be headed by an executive director who is appointed by the EAC chairman after consulting with other members. (See figure 2.2 for a schematic of the EAC.) The EAC's highest authorities are the chairman of the EAC and the two vice chairmen. Under them is the secretariat.

**Figure 2.2: The EAC Organization at Present**



2.12 The Electricity Authority of Cambodia is an autonomous agency working for the interest of all electric power service providers and electricity users in the Kingdom and its expenditure for its operation is borne by all electric power service providers in the form of payment of the license fees. Article 27 of the

2.13 The EAC has an autonomous budget that comes from the license fees paid by applicants and by licensees as determined by the EAC. License fees charged by the EAC are within rates decided by the sub-decree of the government.

2.14 As of 2003, the license fees paid by licensees were as follows:

- Generation or power purchased from any other country: 1.60 riels per kWh of power generated or purchased
- Transmission: 0.60 riels per kWh of power transmitted

- Distribution and sale: 1.10 riels per kWh of power sold
- Retail: 0.50 riels per kWh of power sold
- Other services: 0.1 percent of the service fee

2.15 The duties of the EAC are given in Article 7 of the Electricity Law and include licensing, tariff, performance standards, complaints and disputes, issue of rules and regulations and procedures and monitoring of compliance.

2.16 The EAC started operations on September 3, 2001. Since its initial formation, the EAC has made strenuous efforts in preparing the basic framework required to fulfill its obligations and duties. Its priority remains in issuing the licenses to the electric power service providers so that all service providers are brought under the purview of the Electricity Law and issuing the codes, regulations, and procedures for regulating and monitoring the activities of electric power services and governing the relation between the delivery, receiving, and use of electricity.

**Article 7 of the Electricity Law**

The Electricity Authority of Cambodia shall have the following duties:

- (a) To issue, revise, suspend, revoke or deny the licenses for the provision of electric power services as provided in article 29 of this law
- (b) To approve tariff rates and charges and terms and conditions of electric power services of licensees, except where the authority considers those rates or charges and terms and conditions are established pursuant to a competitive, market-based process
- (c) To enforce regulations, procedures, and standards for investment programs by licensees
- (d) To review the financial activities and corporate organization structure of licensees to the extent that these activities and organization directly affect the operation of the power sector and the efficiency of electricity supply
- (e) To approve and enforce the performance standards for licensees
- (f) To evaluate and resolve consumer complaints and contract disputes involving licensees, to the extent that the complaints and disputes relate to the violation of the conditions of license
- (g) To approve and enforce a uniform system of accounts for all licensees
- (h) To prepare and publish reports of power sector and relevant information received from licensees for the benefit of the government and the public
- (i) To prescribe fees applicable to licensees
- (j) To determine the procedures for informing the public about its activities within its duties, in order to ensure that the Electricity Authority of Cambodia complies with the principle of transparency as set forth in Article 3 of this law
- (k) To issue rules and regulations and to make appropriate orders, and to issue temporary and permanent injunction for electric power services
- (l) To impose monetary penalty, disconnect power supply, suspend or revoke the license for the violations of this law, standards, and regulations of the Electricity Authority of Cambodia
- (m) To require the electric power service providers and the consumers to obey the rules relating to the national energy security, economic, environmental, and other government policies
- (n) To perform any other function incidental or consequential to any of the duties as describes above
- (o) To establish the terms and conditions of employment of the officers or employees including experts/advisors of Electricity Authority of Cambodia

2.17 In establishing the EAC as an independent regulatory body to license operating entities and establish electricity prices, the passage of the Electricity Law and the subsequent implementation steps has set the power sector on a path of reform that will lead to a largely unbundled sector with substantial private participation in generation and distribution of electricity.

2.18 On its part, the EAC has already begun to make an impact on sector operations. With the support of ESMAP, the EAC is currently issuing licenses, developing standard power purchase agreements, and licensing guidelines and policies, specifically for small rural electricity enterprises. This continued support to the EAC is instrumental in increasing its capacity and effectiveness in licensing and implementation of technical and pricing regulations.

2.19 The EAC's achievements measured against the deliverables under the ESMAP-assisted project are provided in the following retrospective.

### **Objectives of the Project**

2.20 The overall objectives of the technical assistance project were to support the EAC in developing and implementing regulatory guidelines and licensing procedures for small-scale operators (less than 5 MW) in rural and peri-urban areas of Cambodia, assist initiating the process of licensing the operators in rural areas, assist in defining technical standards and tariff setting procedures, and facilitate the overall functioning and coordination of sector activities.

2.21 The project financed the assistance of a technical advisor to undertake the following specific tasks:

- *Licensing:* (a) Review the licensing process, streamline procedures, and report (through brief monthly reports) the adequacy of existing licensing procedures and suggest changes, if any are required, and (b) draft and produce, in collaboration with permanent EAC staff and in coordination with the consultants working under the Bank-financed Private Power Policy Framework, special licensing formats for the small-scale operators in rural areas.
- *Performance standards:* (a) Define and apply minimum technical performance standards based on the principle of light-handed regulation to cover at least the areas of voltage variation, interruptions to power supply, attending to complaints on bills and meters, and observation of requirements on new connections, (b) consider lessons learned from other countries that have gone through similar upgrading of technical standards, and (c) report progress on a monthly basis.
- *Complaint handling procedure:* Draft procedures for making a complaint to the EAC and resolving the complaint based on the principle of subsidiarity in order to resolve potential conflicts as close as possible to the affected stakeholders and wherever possible resolution at the lowest legal level.

- *Procedures for tariff application and setting:* Draft procedures to (a) obtain additional information from the applicant as necessary to evaluate tariff applications, (b) allow consumers and other interested parties to comment on the tariff application, and (c) define time frames for decisions.
- *Rural Electrification Fund coordination:* (a) Participate actively in piloting the fund through the process of licensing of prospective operators and (b) actively promote coordination of various technical assistance programs to the electricity sector.<sup>7</sup>

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7. At the close of the project in 2004, the Rural Electrification Fund has not yet started operations.

# 3

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## Project Milestones

### Licensing

#### ***Licenses for Providing Electric Power Services***

- 3.1 The EAC issues and regulates the following types of licenses:
- *Generation license:* Grants the right to generate electricity power from specifically fixed identified generation facilities.
  - *Transmission license:* Grants the right to provide the transmission service. There are two types of transmission licenses, a national transmission license and special purpose transmission license. A national transmission license can be issued only to a state power transmission company, under government control. The company is granted the right to provide the transmission service for delivering the electric power to the distribution companies and bulk power consumers. A special purpose transmission license grants the right to construct, own, and operate specifically fixed identified transmission facilities.
  - *Distribution license:* Grants the right to provide the electricity distribution services in a determined contiguous territory.
  - *Consolidated license:* A license that may be the combination of some or all types of licenses. A consolidated license can be issued to EDC and to the isolated systems to grant the right to generate, transmit, dispatch, distribute, and sell electric power to consumers.
  - *Dispatch license:* Grants the right to control manage and operate the dispatch facilities for facilitating the delivery and receiving the electricity from generation, transmission, and distribution systems.
  - *Bulk Sale license:* Grants the right to buy electricity from any generation licensee or from the power systems of a neighboring country for sale to distribution licensees or to the large customers in one connected power system.
  - *Retail license:* Grants the right to engage in the sale of electric power to consumers in a contiguous service territory.
  - *Subcontract license:* Grants the right to supply electric power services according to the subcontract agreement with an existing licensee.

3.2 In accordance with the Electricity Law, each license has two main elements: a decision to grant the right to provide the electric power service and the conditions of license.

**Critical Mass of Licensed Operators**

3.3 The Terms of Reference for the technical assistance project required achieving a critical mass of licensed operators such that more than 100 operators will be licensed by the end of the assignment. The number of licenses issued by the EAC increased from 42 at the start of the assignment (June 2003) to 101 at the end of the assignment (September 2004). The type and number of licenses issued up to September 2004 is given in Table 3.1.

**Table 3.1: Number of Licenses Issued (September 2004)**

| Type of license  | Number issued |
|--|---------------|
| Generation license   | 10            |
| Distribution license   | 8             |
| Consolidated license consisting of generation, national transmission, and distribution | 1             |
| Consolidated license consisting of generation and distribution                         | 82            |
| Total  | 101           |

3.4 Of the 10 generation licenses, 2 licenses expired at the end of the license period, and, hence, only 8 are valid. Tables 3.2 and 3.3 show the licensed generation capacity by type of license and by type of generation, respectively.

**Table 3.2: Licensed Generation Capacity**

| Type of license   | Licensed generation capacity, kW |
|---|----------------------------------|
| Generation license  | 85,272                           |
| Consolidated license consisting of generation, national, transmission, and distribution | 82,732                           |
| Consolidated license consisting of generation and distribution                          | 16,615                           |
| Total   | 184,619                          |

**Table 3.3: Generation Capacity by Type of Generation**

| Type of generation          | Capacity, kW |
|-----------------------------|--------------|
| Hydropower                  | 12,000       |
| Steam (burn heavy fuel oil) | 18,000       |
| Diesel/heavy fuel oil       | 154,619      |
| Total                       | 184,619      |

3.5 Four distribution licensees import power from Thailand, two licensees purchase power from generation licensees (IPP), one licensee purchases power from EDC, and one licensee purchases power from another distribution licensee, who imports power from Thailand.

3.6 Table 3.4 gives the number of licensees (a consolidated license consisting of generation and distribution licenses) for different generating capacity bands. The table

shows that most of these licensees, who mostly operate in small towns and villages, have small businesses.

**Table 3.4: Number of Licensees in Generating Capacity Bands**

| Generation capacity band, kW | Number of licensees |
|------------------------------|---------------------|
| 20–50                        | 8                   |
| 51–100                       | 44                  |
| 101–500                      | 23                  |
| 501–1000                     | 5                   |
| More than 1000               | 2                   |

3.7 Even though the license issued to EDC includes the areas of Banteay Meanchey, Kampot, Kep, Prey Veng, Ratanakiri, Steung Treng, Svay Rieng, and Kampong Speu, EDC has not yet started operation in those areas. It is constructing facilities and is expected to start operation in 2005.

3.8 The details of licenses valid in September 2004 are given in Appendix 2, and a map showing the location of the licensees is given in Appendix 3. The locations are marked by the license number.

### ***Issues in Licensing***

#### *Simplification of Procedure for Issuing License*

3.9 The EAC has approved the Procedures for Issuing, Revising, Suspending, Revoking, or Denying Licenses.<sup>8</sup> These procedures contain the format of application for license. There are two formats for application: existing service providers and new service providers. The procedures also contain separate bulletins detailing the information/documents to be furnished with the application for each type of license.

3.10 The procedures were examined under the technical assistance project for any possible simplification, particularly the formats for use by small operators. The procedures were also discussed with the EAC. It was concluded that the procedures are working well with applicants applying for grant of licenses. In view of this, the EAC decided that no modification is required to the formats. The formats are simple, easy to fill, and cover only the essential information.

3.11 However, the EAC felt that there was a need to simplify the Procedure for Revision of Licenses. The license application fee need not be paid for the revision of license, and public consultation need not be required for changing generation capacity up to 200 kW. Accordingly, a draft to replace the relevant part of the procedures relating to revision of license was prepared under the project and was submitted to the EAC. The draft was processed for approval through internal discussion and public consultation, and the amendment was approved in the 35th session of the EAC held on March 16, 2004. Appendix 4 gives the decision of the EAC on the amendment.

#### *Term of the Licenses*

8. Available on the EAC web site [www.eac.gov.kh](http://www.eac.gov.kh).

3.12 Many of the consolidated licenses issued during the first half of 2003 were for a term of up to two years, which could be renewed further. Concerns were raised about its effect on the business of the licensee. The issue also came up during discussions held by the consultants for Private Power Policy for Cambodia.<sup>9</sup> The facilities of the applicants in most cases were not of a desired standard. This led to poor levels of safety, inefficient operation, and higher tariffs.

3.13 The term of the license was determined by the EAC on the basis of the reports on the condition of the facilities that were submitted by the staff of the EAC after its field visit and the commitment of the applicant to improve the facilities and services. To induce the licensee to improve the condition of facility and give a better service to the consumers, the EAC was faced with the option to grant the license for a longer duration with a threat that the license will be revoked if the licensee failed to improve or to grant the license for a shorter duration and to reward the licensee with longer extensions if the licensee improves the facility. The EAC opted for the latter as suitable for Cambodian conditions.

3.14 Currently, a number of licensees are making additions to their generation capacity and improving facilities. As of September 2004, 12 licensees have increased their generation capacity while 2 licensees have improved their facilities and applied for extension of the term of their license. Nevertheless, the coming years will show how successful this strategy has been and how many licensees will have been able to improve their facilities in spite of the difficulties in arranging financing for these investments.

3.15 Table 3.5 shows the number of distribution and consolidated licenses issued for different durations as of September 2004.

**Table 3.5: Duration of Licenses**

| Duration, years | Number of licenses |
|-----------------|--------------------|
| 2               | 66                 |
| 3               | 5                  |
| 4               | 1                  |
| 5               | 11                 |
| 7               | 2                  |
| 10              | 3                  |
| 15              | 1                  |
| Until revoked   | 2                  |

## **Overall Performance Standards**

### ***Definition of Technical Standards***

3.16 The Terms of Reference required the drafting of minimum technical performance standards covering voltage variation, interruptions to power supply, attending to complaints on bills and meters, and observation of requirements on new connections. Lessons learned from other countries were considered when drafting the standards.

### ***Localizing Technical Standards***

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9. Cambodia PPIAF: Private Power Policy Framework (P077529).



3.17 The standards should be suitable to Cambodian conditions, be realistic, and should ensure quality supply and service. To achieve this end, a field visit to three licensees and discussions with licensees and consumers elicited the following important points:

- The size of the conductor and length of LV lines is not always decided on the basis of load flowing through it and the voltage drop in the line.
- Consumers complain about the state of the LV line and accuracy of the meter.
- Incorrect meter reading, incorrect billing, or interruptions to supply are not main issues.
- Licensees suffer cash flow problems because many consumers do not pay their bills on time. In rural areas, disconnection of supply because of nonpayment of bills is rarely done. The licensee relies on convincing consumers.

### ***Explanatory Notes***

3.18 The chairman of the EAC required an explanatory note to be circulated along with the draft of the Regulations on Overall Performance Standards during the internal discussion in the EAC and during the public discussions so that consumers and licensees could easily understand the provisions. The explanatory notes are given below.

#### ***Performance Standard***

3.19 Performance standards for a supplier define the standard or level of service that the licensee shall provide to its customers. The standard or level of service is defined to maintain transparency and secure the responsibility of the supplier to its customers in accordance with the Electricity Law, regulations, and technical standards.

3.20 There are two types of performance standards that are now implemented in many countries:

- *Guaranteed performance standard*: The standard or level of service fixed by regulators and guaranteed by the licensee to be provided to each customer. This means the licensee is responsible directly to each customer. The licensee must make a specified payment to the affected customer if the licensee fails to fulfill its obligation.
- *Overall performance standard*: Individual guarantees are not given to each customer. Rather, an overall standard or level of service is fixed by regulators for a licensee to implement. The customer in general has a right to expect service providers to deliver predetermined, minimum levels of service.

3.21 Currently, the EAC does not require fixing guaranteed performance standards to EDC and the private service providers because most of the distribution infrastructure (facilities) and management is not yet fully developed, data for evaluation of performance is not maintained and is, hence, not available, and licensees are not aware of their level of performance and scope of improvement.

3.22 The EAC will need more time to collect the required data to be able to issue the guaranteed performance standard in line with developed countries. Initially, the aim of issuing an overall performance standard is to ensure that suppliers are aware of the importance of these service areas and to maintain records and data of performance. When the overall performance standard is properly and widely implemented, the EAC will review the performance data and then issue the guaranteed performance standard.

*Provisions Related to Performance Standards in the Electricity Law and Regulations*

Electricity Law

3.23 Article 5 of the Electricity Law provides that the EAC shall ensure that the licensees shall use the standards relating to technical operation, safety, and environment issued and published by MIME.

3.24 As per Article 7(e) of the Electricity Law, one of the duties of the EAC is to approve and enforce the performance standards for licensees.

Regulations on General Conditions of Supply of Electricity

3.25 (Paragraph 98) The supplier shall maintain the quality of supply as per standards issued by MIME or norms fixed by the EAC in respect of the following:

- Variation in the voltage of supply
- Variation in the supply frequency
- Limitation on the duration of scheduled outage
- Time limit within which to restore supply in case of interruption

3.26 (Paragraph 102) The supplier is required to maintain minimum standard of performance for all consumers as fixed by the EAC. The EAC may fix standards of performance from time to time and may fix different standards of performance for different suppliers and different areas. The standards of performance fixed by the EAC shall at least include standards on the following key service areas:

- Attending to complaints on supply voltage
- Restoring power supply after interruptions caused by fault
- Attending to complaints on meters and meter reading
- Attending to complaints on bills
- Attending to complaints on disconnection and reconnection of the supply
- Giving new connections for small and medium consumers

3.27 (Paragraph 103) The supplier shall keep proper records about its performance in the service areas for which standards of performance have been fixed. The supplier shall submit the information on its performance during a year with reference to the standards of performance by March 31 of the following year.

*Services to be Covered by Overall Performance Standards*

3.28 The services covered by the performance standards for the service providers are dependent on the need and concern of the consumers for that service and the availability of the data and information for evaluating performance. Unlike in developing countries, some services exist in industrialized countries that consumers consider necessary and important and for which standards are required to be fixed. Therefore, there are some services common in the standards of some countries but not in others.

3.29 For example, many industrialized countries have considered fixing performance standards on services such as to be on time for appointments, responding to all customers, and reliability ratings of electricity supply. But for some developing countries, these are not important and necessary. What matters to these electricity users are supplier's obligation to supply, quality of supply, and resolution of consumer complaints on the quality of supply, billing, and payment.

3.30 Performance standards for suppliers in Cambodia are:

- Maximum duration and notice for scheduled outage
- Restoration of supply in case of interruption
- Investigation into complaints on voltage
- Investigation into complaints on incorrect meter reading
- Replacement of defective meters
- Meter testing
- Response to consumers complaint on billing
- New connections
- Refund of deposit
- Reconnection after temporary disconnection

#### *Should There Be Different Standards for Urban and Rural Areas*

3.31 Standards developed for urban areas, if followed blindly for rural areas, can be an excessive burden; that is, it may increase costs but have little benefit. Even so, ensuring safe and a quality power supply to rural consumers cannot be neglected.

3.32 Cambodia has a large number of service providers in the rural areas, each covering a small geographical area. Management is on site, enabling the utilities to make speedy decisions and then implement those decisions.

3.33 Thus, if initially the coverage of performance standards as proposed become the overall performance standards and not guaranteed performance standards, then it may not be necessary to have two different standards. In fixing the common overall performance standards for urban and rural areas, all issues involved were carefully considered in order that the standards are achievable for both urban and rural areas.

#### ***International Experience and Proposed Overall Performance Standards***

*Standard for Planned Outage*

3.34 Electrical equipment and lines are prone to failure without proper maintenance. Therefore, regular and periodic maintenance has to be carried out to preserve the condition of the facilities to a detailed level to maintain quality supply to consumers.

3.35 The maintenance work is planned in advance. In general, to carry out any maintenance work the electric power facilities are required to be disconnected from the power source. If adequate reserve/alternate capacity is not available, the maintenance work may cause a discontinuity of electricity supply to consumers. The outage of supply owing to planned maintenance is called planned outage. Normally, the regulator should fix the conditions to avail the planned outage in such a way that minimum inconvenience is caused to consumers.

### *Standards in Different Countries*

(As of 2002. The performance standard for Hong Kong specifically was for 2002. Other countries' standards were current and valid in first part of 2003 when the report was prepared.)

#### ***Thailand***

The supplier shall notify the consumers at least two days in advance by printed matter, radio, loudspeaker, or poster (guaranteed performance standard). The number of interruptions and the duration are fixed on the average supply reliability indices as follows:

#### Metropolitan Electricity Authority

System Average Interruption Frequency Index:

Urban areas: 4.71 times/year/user  
Industrial areas: 5.60 times/year/user  
Rural areas: 8.47 times/year/user

System Average Interruption Duration Index:

Urban areas: 113.89 min./year/user  
Industrial areas: 153.94 min./year/user  
Rural areas: 240.84 minutes/year/user  
(technical standard)

#### Provincial Electricity Authority

System Average Interruption Frequency Index:

Urban areas (municipalities): 13.70 times/year/user  
Industrial areas: 4.95 times/year/user  
Rural areas: 21.28 times/year/user  
Average: 18.85 times/year/user

Average Interruption Duration Index:

Urban areas (municipalities): 884 min./year/user  
Industrial areas: 324 min./year/user  
Rural areas: 1,615 min./year/user  
Average: 1,496 min./year/user  
(technical standard)

#### ***Vietnam***

Notify planned outage to the electricity buyers at least five days before the time of the planned outage in the following forms:

- Sending written notices to organizations and individuals that use electricity for production activities and electricity users that are organizations and individuals that have exclusive transformer stations
- Publishing announcements in the mass media for organizations and individuals using electricity in their daily life

(Decree on electricity activities and use)

#### ***Hong Kong (Hong Kong Electric Co., Ltd.)***

Notify to customer at least seven days in advance. Reliability rating of electricity supply is better than 99.998 percent. This means that in the case of maintenance the supply of electricity is not interrupted to the consumer (service standard).

#### ***Orissa, India***

The licensee shall provide not less than 24 hours notice prior to a scheduled outage exceeding 30 minutes. Period of interruption owing to a scheduled outage shall be specified in the notice and shall not exceed 12 hours on any day. In each event the licensee shall ensure that supply is normally restored by 6:00 P.M. during summer and by 5:00 P.M. during winter (overall performance standard).

#### ***Victoria, Australia***

Licensee shall give at least two working days notice of planned interruptions (this guarantee does not apply in emergency situations, where equipment or people are in danger and immediate action is required) (guaranteed performance standard).

#### ***United Kingdom***

- Northern Electric: Two working days notice is given and supplies will not be interrupted to the consumer for more than three hours on four occasions in a year (guaranteed performance standard).
- East Midlands Electricity: Five working days notice is given and there will not be more than three interruptions of three hours in a year (guaranteed performance standard).
- Office of Gas and Electricity Markets: Not less than two days notice is given by the distributor. The supply to a customer's premises shall not be interrupted for more than three periods (guaranteed performance standard).

Proposed Standard for Cambodia

- The scheduled outage shall not be for a continuous period of more than 12 hours. In cases where the supply is not round the clock, the period of scheduled outage together with the period of non-supply in continuity with the scheduled outage, if any, shall not exceed 12 hours.
- In each case of scheduled outage of one hour or more, the supplier shall notify the consumers at least two days in advance by radio, television, newspaper, loudspeaker, poster, pamphlets, or any other suitable process.
- The supplier shall keep record of all scheduled outage. The record should show date and period of the scheduled outage, the details of the facility maintained, maintenance work carried out, and the date and method of notifying the consumers.

*Standards for Restoration of Supply in Case of Interruption*

3.36 Interruption to power supply is the discontinuity of supply to consumers owing to the failure of a facility or because a facility is taken out of service in an emergency or to prevent damage to the facility or life or property. Such interruptions are unplanned, unexpected, and unanticipated. In cases of interruption to supply, the supplier shall restore the supply.

*Standards in Different Countries*

**Thailand**

Metropolitan Electricity Authority: (a) Must be able to restore 60 percent of supply within 3 hours (overall standard); (b) power must be restored within 24 hours after being notified of the incidents, except in the cases of accidents, force majeure, natural disasters, or generator failures (guaranteed performance standard).

Provincial Electricity Authority: (a) Must be able to restore 60 percent of supply within 4 hours (overall standard); (b) power must be restored within 24 hours after being notified of the incidents, except in the cases of accidents, force majeure, natural disasters, or generator failures (guaranteed performance standard).

**Vietnam**

Must be able to handle and solve the incident within 2 hours after receiving the electricity buyers report on power failure. When the incident cannot be overcome within the time limit, the electricity sellers have to promptly inform the electricity buyers thereof (decree on electricity activities and use).

**Hong Kong**

Average time for supply restoration after interruption is within 2 hours (service standard).

**Orissa, India**

The licensee shall restore the power supply to the consumer within 24 hours of receipt of the complaint except in case of transformer failures and failures of 11 kV feeder or terminal equipment, in which case it shall be within a maximum of seven days. The licensee shall restore supply within 3 hours of fault in 50 percent of the cases. This shall not apply to scheduled outages or outages under force majeure conditions. The licensee shall restore supply within 3 hours of fault in 80 percent of the cases. This shall not apply to scheduled outage and outages under force majeure conditions (overall performance standard).

**United Kingdom**

Northern Electric, East Midlands Electricity, and Office of Gas and Electricity Markets: The distributor shall restore supplies within 18 hours of being notified or of becoming aware of loss of supply (guaranteed performance standard).

Proposed Standard for Cambodia

- In the event of interruption to supply, the supplier shall restore the supply in 60 percent of the cases within 6 hours after being notified of the incident. The supplier shall restore the supply in all cases within 24 hours after being notified of the incident.
- In cases where the normal supply is not round the clock, and the limiting period stated above ends in a period of no supply, and the consumer gets the next normal supply, it will be considered that the supply has been restored within the allowed time limit. The supplier shall keep a record to show the date and time when the interruption to supply was reported, the name of the consumer, the date and time of restoration of supply, and work done to restore the supply.

*Standards for Response of Suppliers in Case of Complaints on Voltage*

3.37 See Table 3.6 for the permitted variation in the voltage in different countries.

**Table 3.6: Permitted Variation in the Voltage in Different Countries**

| Utility/country                              |                     | Nominal, volts | Minimum percent variation | Maximum percent variation |
|--|---------------------|----------------|---------------------------|---------------------------|
| Metropolitan Electricity Authority, Thailand | Normal condition    | 230            | -7.0                      | +3.0                      |
|  |                     | 400            | -7.3                      | +2.5                      |
|  | Emergency condition | 230            | -9.1                      | +4.3                      |
|  |                     | 400            | -9.5                      | +4.0                      |
| Provincial Electricity Authority, Thailand   |                     | 220            | -9.1                      | +9.1                      |
|  |                     | 380            | -10.0                     | +10.0                     |
| Vietnam                                      | Normal condition    |                | -5.0                      | +5.0                      |
|  | Unstable grid       |                | -10.0                     | +5.0                      |
| Victoria, Australia                          |                     | 240            | -6.0                      | +6.0                      |
|  |                     | 415            | -6.0                      | +6.0                      |
| India  |                     | 230            | -6.0                      | +6.0                      |
|  |                     | 400            | -6.0                      | +6.0                      |

*Determination of Variation in the Voltage of Supply in Cambodia*

3.38 The voltage at the point of supply should not vary beyond the limits allowed in the standards issued by MIME. Until the standards are issued, the voltage at the point of supply should not vary beyond +10 percent or -10 percent of the declared voltage.

*Standards in Different Countries*

*Thailand*

Metropolitan Electricity Authority: Able to resolve 60 percent of complaints within six months (overall performance standard). Investigation into complaints on voltage within 10 working days (guaranteed performance standard).

Provincial Electricity Authority: Able to resolve 60 percent of complaints within six months (overall performance standard). Investigation into complaints on voltage within 15 working days (guaranteed performance standard).

***Orissa, India***

Within four working hours the licensee shall respond to consumer's complaint regarding variations of voltage and frequency of supply at the point of commencement of supply.

Within 15 (fifteen) days of original complaint, the licensee shall either improve the quality of power supply or furnish a written reply to the consumer giving the causes of poor quality of power supply if it is beyond the licensee's control. Provided that the complaint regarding low voltages arises owing to inadequacy in the distribution system requiring up gradation of distribution lines, transformers, or installation of capacitors, the complaint shall be resolved within six months. The licensee shall bring voltage variations within limits of declared voltage within 15 working days of complaint in 60 percent of the case (overall performance standard).

***Victoria, Australia***

Will investigate and respond to quality of supply problems within 10 working days. If there is a risk to public or safety response will be immediate (guaranteed performance standard).

***United Kingdom***

Northern Electric: Will provide information within five working days. If a visit is required then must offer and make an appointment within seven working days (guaranteed performance standard).

East Midlands Electricity: Explanation within five working days or visit within seven working days (guaranteed performance standard). Percentage of cases corrected within six months: 100 percent (overall performance standard).

Office of Gas and Electricity Markets: The distributor shall within seven working days offer to visit the customer's premises to investigate the matter during a specified time (guaranteed performance standard).

***Proposed Standard for Cambodia***

- In case of complaints relating to voltage at the point of supply the supplier shall contact the consumer and investigate the complaint in all cases within 10 working days of receipt of the complaint.
- The supplier shall resolve 60 percent of complaints on voltage within six months of receipt of the complaint.
- The complaint on voltage is considered resolved if the voltage at the point of supply is within the limits given in the technical standards issued by MIME.
- The supplier shall keep a record to show the date of receiving complaint on voltage, name of the consumer, nature of complaint, dates of investigating, and resolving the complaint and work done.

***Standards for Response of Suppliers to Complaints on Incorrect Meter Reading***

***Standards in Different Countries***

***Thailand***

Metropolitan Electricity Authority: Investigate or contact customers into complaints on meter reading and billing within 10 working days (guaranteed performance standard).

Provincial Electricity Authority: Investigate and contact customers into complaints on meter reading and billing within 10 working days (guaranteed performance standard).



Proposed Standard for Cambodia

- In case of complaints on incorrect meter reading the supplier shall investigate the complaint and inform the consumer the correct meter reading in all cases within 10 working days of receipt of the complaint.
- The supplier shall keep a record to show the date of receiving the complaint about incorrect meter reading, name of the consumer, nature of complaint, and date of notifying the consumer of the correct meter reading.

*Standards for Suppliers to Replace Defective Meters*Determination of a Meter as Defective in Cambodia

3.39 Unless an exemption is granted by the EAC, the supplier shall not give supply without a proper meter. A meter is considered as defective if on testing the error of the meter is found to be beyond the permissible limit as given in the technical standards issued by MIME. Until the technical standards are issued by MIME, for small and medium consumers the permissible limit shall be (+/-) 3 percent at all loads in excess of one-tenth of full load and up to full load. For big and bulk consumers, the permissible limit shall be (+/-) 1 percent or as agreed and stated in the supply agreement.

*Standards in Different Countries****Vietnam***

For meters lost or damaged not due to the electricity buyers' faults, and placed outside the electricity buyers' property management areas electricity sellers shall have to install other meters and re-supply electricity to the buyers within no more than seven days as from the date of making records confirming that the meters are lost or damaged (decree on electricity activities and use).

***Victoria, Australia***

If the test demonstrates that any metering equipment is defective, a distributor or a responsible person (as the case may be) must as soon as possible but no later than six working days after the test repair the metering equipment so that it meets the minimum standards of accuracy required under the applicable provisions of the NEC, the Metrology Procedure and this Code, or replace the metering equipment by installing new metering equipment (Electricity Customer Metering Code).

Proposed Standard for Cambodia

- If a meter provided by the supplier is found to be defective, the supplier shall replace it within 30 days.
- The supplier shall keep a record to show the date when the meter was found to be defective, the name of the consumer, and the date of replacing with a good meter.

*Standards for Testing of Meters When Requested by the Consumer*

3.40 Regulation 69 of the Regulations on General Conditions of Supply of Electricity provides that the supplier shall, upon request of the consumer and on payment of prescribed fees, test the meter serving the consumer. If the meter is to be removed for testing, a temporary meter shall be installed. The supplier shall serve due notice to the consumer of the time and place of the test and permit the consumer or authorized representative to witness the test. The supplier shall inform the consumer of the test results in writing. Upon testing, if the error of the meter is found to be beyond the

permissible limits, the meter shall be replaced and the fees paid by the consumer for testing the meter shall be refunded. The bills for the period the meter was defective shall be revised as per regulations in the General Conditions of Supply.

*Standards in Different Countries*

***Vietnam***

When there is any doubt about the inaccuracy of meters, electricity buyers may request the electricity sellers to check it. Within three days at most after receiving the request from the electricity buyers, the electricity sellers shall have to inspect and fix it. The electricity sellers must pay all expenses for inspection and repair of meters (decree on electricity activities and use).

***United Kingdom***

Office of Gas and Electricity Markets: The supplier shall, within seven working days, offer to visit the domestic consumer's premises to investigate the matter during a specified time (guaranteed performance standard).

*Proposed Standard for Cambodia*

- The supplier shall get the meter tested and inform the consumer of the test results in writing within 30 days of application by the consumer and payment of meter testing fees, if any.
- The supplier shall keep a record to show the date when the consumer requested to test the meter and made payment of the meter testing fees, the name of the consumer, the date of meter testing, and the date informing the test results in writing to the consumer.

*Standards for Response of Suppliers to Consumer's Complaints on Bills*

*Standards in Different Countries*

***Thailand***

Supplier shall investigate or contact customers into complaints on billing within 10 working days (guaranteed performance standard).

***Orissa, India***

The licensee shall reply to the consumer's complaint within seven working days of the receipt of the complaint. The licensee shall resolve consumer complaint regarding electricity bills within two months of receipt of complaint (overall performance standard).

*Proposed Standard for Cambodia*

- In case of consumers' complaints on non-receipt of bill or incorrect bill the suppliers shall convey its decision on those complaints in 40 percent of all cases within 15 days and in 90 percent of all cases within 30 days.
- The supplier shall keep a record to show the date of complaint about incorrect billing, the name of the consumer, the nature of complaint, and the date informing the decision to the consumer by the supplier.

*Standards for Response of Suppliers to Customers' Application for New Connections*

### *Standards in Different Countries*

#### ***Thailand***

Metropolitan Electricity Authority: Time to connect new customers after payment is made in the case where a distribution system exists and not requiring new service connection (LV system):

- Consumption less than 15 (45) ampere, both 1 phase 2 lines and 3 phase 4 lines: Connected within 5 working days
- Consumption 30 (100) to 50 (150) ampere, both 1 phase, 2 lines and 3 phase, 4 lines: Connected within 10 working days
- Consumption from 200 to 400 ampere, 3 phase, 4 lines: Connected within 23 working days (guaranteed performance standard)

Provincial Electricity Authority: Time to connect new customers after payment is made in the case where a distribution system exists and not requiring new service connection (LV system):

- Municipal areas: Consumption less than 30 ampere, 3 phases,—connected within two working days; consumption more than 30 ampere, 3 phases—connected within two working days
- Outside municipal areas: Consumption less than 30 ampere, 3 phases—connected within five working days; consumption more than 30 ampere, 3 phases—connected within five working days (guaranteed performance standard)

#### ***Hong Kong***

Connection of supply not requiring inspection or after satisfactory inspection shall be within the next working day. Inspection appointment time for customer installation shall be within a two hour time frame (service standard).

#### ***Orissa, India***

For 230 V/400 V supplies, the licensee shall deal with consumer's application for new connection as follows:

- Within three days of receipt of application, the licensee shall send three clear days notice to the applicant for the purpose of inspection of premises and setting the position of circuit breakers and meters.
- Charges for providing connection and security deposit required to be paid by applicant shall be advised within seven days.
- Within three days of receipt of completion report and the test report of the licensed contractor, the licensee will give three days notice to the applicant of the time and the date to inspect and test the installation. The licensee shall complete the inspection of the installation within a period of 10 days from the date of receipt of the test report of the licensed contractor. The licensee shall notify the applicant in writing of any defect noticed within seven days of inspection.
- After completion of all other formalities within seven days of approval of applicant's installation, the licensee shall commence supply of power to the applicant. The licensee shall process and provide new connections to consumers within 40 working days of date of application in 85 percent of the feasible cases (overall performance standard).

#### ***Victoria, Australia***

Where electricity has been previously supplied to a home or business and the consumer contacts the licensee before 1:00 P.M. on a working day, the electricity will be reconnected within four hours, or as agreed. A visual safety inspection is required if electricity supply at the property is disconnected at the time of application. An after-hours fee is required to reconnect electricity on a weekend or public holiday. Where the electricity network already exists outside a home or business and an LV connection only is required, the electricity will be connected within three working days of the appropriate forms being completed and lodged, or as agreed. Where there are no electricity mains outside a property or additional reinforcement works are required, the licensee shall contact the consumer within 10 working days of the date of the application to advise the consumer on what is required to make supply available (guaranteed performance standard).

#### ***United Kingdom***

- Northern Electric: Will provide an estimate tariff within 5 working days and connecting of supply within 30 working days for domestic, 40 working days for other (guaranteed performance standard).
- East Midlands Electricity: Will provide an estimate tariff within 5 working days if no extension to system required and 15 working days if extension to system is required (guaranteed performance standard). For domestic, will connect supply within 30 working days for 100 percent of the time and for others, will connect supply within 40 working days 100 percent of the time (overall performance standard).
- Office of Gas and Electricity Markets: The distributor will provide an estimate tariff within 5 working days if no extension to system is required and 15 working days if extension to system is required (guaranteed performance standard).

Proposed Standard for Cambodia

- For small or medium consumers, the supplier shall notify the applicant the amount of the connection fee and deposit to be paid by applicants in 80 percent of the cases within the time limit provided in the Regulations on General Conditions of Supply of Electricity.
- For small or medium consumers, the supplier shall connect the consumer within the time limit provided in the Regulations on General Conditions of Supply of Electricity in 80 percent of the cases, provided the consumer's installation is found satisfactory.
- The supplier shall keep a record to show the new connection to small and medium consumers, the name of the applicant, the date of application, the date informing the consumer of the amount of connection fee and deposit, the date of payment, and the date of supply.

*Standards for Refund of Deposit to Consumers*

*Standards in Different Countries*

**Thailand**

The payment guarantee deposit shall be refunded by the supplier to the consumer within 20 working days (guaranteed performance standard).

**Hong Kong**

The security deposit shall be returned by the supplier to the consumer within five working days after account closure (service standard).

Proposed Standard for Cambodia

- The security deposit shall be returned by the supplier to the consumer within 15 days after the termination of the supply agreement and after adjustment of outstanding dues, if any, in 90 percent of the cases. For the other 10 percent of the cases, the deposit shall be returned within the next 15 days.
- The supplier shall keep a record to show the name of consumer, date of termination of supply agreement, and date of return of the security deposit to the consumer.

*Standard of Reconnection after Temporary Disconnection*

3.41 Regulation 99 of the Regulations on General Conditions of Supply has permitted the supplier to make the temporary disconnection to the consumer by prior notice for these reasons:

- When the consumer refuses to allow entry to the premises or refuses to allow the supplier or an authorized representative to perform any act authorized under these regulations and the Electricity Law
- When the insulation resistance at the consumer's installation is so low as to prevent safe use of energy
- When the consumer fails to make payment of the electricity bill

- When the consumer neglects to pay the additional security deposit as per regulation 52 or any sum other than a charge for energy due from the consumer to the supplier in respect of supply of energy
- When the supplier inspects that the meter and finds that the meter is tampered with by the consumer or when the replacement of an obsolete or defective meter by the supplier is resisted by the consumer
- When the consumer uses any electrical appliances or uses energy supplied unduly or improperly that interferes with the system or efficient working of the supplier's system or to the supply of energy to any other consumer
- When a consumer assigns the supply agreement to any other consumer without the written permission of the supplier

3.42 Regulation 100 of the Regulations on General Conditions of Supply has permitted the supplier to make the temporary disconnection to the consumer without notice where the consumer's installation poses a danger to the health or safety of the consumer's or supplier's employees or to the public.

3.43 Regulation 101 of the Regulations on General Conditions of Supply define that supply disconnected for any of the above reasons shall not be restored until the cause of disconnection has been removed or remedied.

3.44 Standard that the supplier shall apply for restoration of supply when the reasons of temporary disconnection has been removed or remedied is called the Standard of Reconnection after Temporary Disconnection.

#### *Standards in Different Countries*

##### ***Thailand***

Metropolitan Electricity Authority: The supply shall be reconnected after the payment is made. Disconnection less than six months, 1 phase: connection within one working day; 3 phases: connection within 3 working days. Disconnection more than six months: connection within 20 working days (guaranteed performance standard)

Provincial Electricity Authority: The supply shall be reconnected after the payment is made. Small consumers (consumption less than 30 kW) within municipal and outside municipal areas, connection within two working days. Large consumers (consumption of 30 kW and more), connection within five working days (guaranteed performance standard).

##### ***Hong Kong***

Reconnection of supply after payment of outstanding charges: Same day as payment is received (service standard).

##### ***Orissa, India***

The licensee shall reconnect supply if disconnected for nonpayment of electricity charges as billed in 80 percent of cases within 24 hours of proof of payment where period of disconnection of supply does not exceed two months (overall performance standard).

##### ***Victoria, Australia***

Where electricity has been previously supplied to a home or business and the consumer contacts the licensee before 1:00 P.M. on a working day, the electricity will be reconnected within four hours, or as agreed. A visual safety inspection is required if electricity supply at the property is disconnected at the time of application. An after-hours fee is required to reconnect electricity on a weekend or public holiday (guaranteed performance standard).

### *Proposed Standard for Cambodia*

- The temporary disconnection could be due to reasons stated in Regulation 99 of the Regulations on General Conditions of Supply of Electricity.
- In cases of temporary disconnection owing to nonpayment, when the consumer gives proof of payment during working hours before 12:00 P.M. on a working day, the supplier shall reconnect the supply within six hours in 90 percent of the cases. When the consumer gives proof of payment at any other time, the supplier shall reconnect the supply within 24 hours in 90 percent of the cases.
- In cases of temporary disconnection owing to other reasons, the supplier shall reconnect the supply within 24 hours after verification of the removal of the cause of disconnection in 90 percent of the cases.
- The supplier shall keep a record to show the name of consumer, the date and time of receipt of information about removal of cause of disconnection, and the date and time of restoration of supply.

### **Approved Overall Performance Standards**

3.45 The draft of the Regulations on Overall Performance Standards was discussed in an EAC internal meeting and was put to public consultation and modified as required on the basis of comments received. It was approved by the EAC in its session No. 36 dated April 2, 2004. The decision of the EAC and the approved document is given in Appendix 5.

## **Complaint Handling Procedures**

### ***Provisions in the Electricity Law***

- 3.46 As per the Electricity Law, the EAC has the following duties and functions:
- Evaluation and resolution of consumer complaints and contract disputes involving licensees
  - Investigation and determination whether any person has violated or is about to violate any provision of this law or any implementing sub-decree, regulation, order, or judgment of the EAC
  - The Electricity Law also provides that the sessions of the EAC for hearing of any complaint shall be public, the party against whom the complaint has been lodged has an opportunity to give evidence and opinion, and that the affected party has the right of appeal to the courts.

### ***Procedure Followed in the Courts***

3.47 No law has been promulgated on civil procedures in recent times under the present constitution. The Kram dated February 8, 1993, on the organization of the courts deals with some aspects of judicial procedures like jurisdiction of different courts. Cambodian courts normally follow the guidelines of the Ministry of Justice and common practice that still prevails. Part of the Code of Civil Procedure of 1963 is still used by the

courts. The steps being followed by the provincial and municipal courts in a civil case are:

- Lodging a complaint
- Reconciliation by the reconciling judge
- Registration of complaint and court fee
- Investigation by the inquiring judge
- Civil trial by the trial judge and the judgment
- Filing of an appeal against the judgment

### ***Procedures for Filing Complaint to the EAC and for Resolution of the Complaint by the EAC***

3.48 The draft of the Complaint Handling Procedure has been based on the present practice being followed in the provincial and municipal courts with the additional provision of deliberations among members. As the EAC has three voting members judgment is based on majority vote.

3.49 Complaints by a consumer about voltage, interruption in supply, meter, meter reading, bills, disconnection, reconnection, or delay in receiving a new connection shall be first made to the supplier. If the consumer is not satisfied with the final response of the supplier or if the supplier is delayed in addressing the grievance beyond the time specified in the Regulations on Overall Performance Standards, the consumer can make complaint to the EAC. However, a complaint against a licensee for violation of any provisions of the Electricity Law, license conditions, or regulations issued by the EAC can be filed to the EAC directly by any interested person.

3.50 The draft was put to public consultation and modified as per the comments received from respondents including the Ministry of Justice. The procedures were approved in session No. 36 of the EAC on April 2, 2004, and were adopted by the EAC. The decision of the EAC and the procedures are given in Annex 6.

### **Procedure for Application and Determination of Tariff**

3.51 An initial draft of the Procedure for Application and Determination of Tariff was submitted on November 28, 2003, for discussion. Subsequently, the consultant under ADB funding started work on tariff-related matters including a draft sub-decree and draft regulations. The draft regulations provided for different levels of annual data submission by larger licensees and smaller licensees and setting the tariff of smaller licensees through a tariff table. This called for related changes in the procedures. Because the annual data submission was made a part of the tariff process in the draft regulations, it was required that the formats for submission of the data along with the formats for tariff application be included. These formats are included with the procedures as Appendices 1, 2, 3, and 4. of Annex 7

3.52 The EAC desires that the procedures for application and determination of tariffs should be approved after the sub-decree for data submissions and tariff setting is approved by government and the related regulation is approved by the EAC. If the approved sub-decree and regulations are different than the draft sub-decree and draft regulations, then corresponding changes may have to be incorporated in the tariff procedures. The final draft of the procedures is given in Annex 7.



# 4

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## Conclusion

4.1 The autonomy of the EAC is a key requirement in attracting private capital and ensuring efficient development and operation of the power sector. The Electricity Law ensures achievement of this objective when it appointed a well-respected and capable power sector professional to act as regulator whose decisions could not be revoked by the executive branch, who will operate with budgetary autonomy, and whose office could attract qualified technical staff.

4.2 Experience in other countries have shown that, even under the protection of the law, regulatory bodies have suffered arbitrary political pressures that undermined their autonomy because of lack of commitment to respect regulatory authority and a strong office to support its daily operation.

4.3 The technical assistance project contributed to the success of regulatory reform by providing the necessary technical assistance and support that ensured that the EAC remain a technically competent and independent organization able to attract and retain qualified staff.

4.4 To sustain the benefits of this ESMAP assistance through the project, it is of utmost importance that the technical advisor actively promote coordination with numerous technical assistance programs in support of regulatory reform, rural electrification, power sector reform, among others, to ensure that the EAC continues to play a central regulatory role in the development of the electricity sector in Cambodia.

4.5 The implementation of this project has been successfully undertaken by the EAC. The technical advisor, in particular, performed the task as defined in the Terms of Reference very satisfactorily.



# Annex 1

## Households and Population in Provinces

| Province/ municipality | Regular households |            | Total number of ouseholds |           | Total population |           |
|------------------------|--------------------|------------|---------------------------|-----------|------------------|-----------|
|                        | Number             | Population | Urban                     | Rural     | Urban            | Rural     |
| Banteay Mean Chey      | 110,994            | 569,361    | 18,374                    | 93,482    | 98,848           | 478,924   |
| Bat Dambang            | 146,661            | 773,048    | 25,584                    | 122,772   | 139,964          | 653,165   |
| Kampong Cham           | 311,151            | 1,591,973  | 8,236                     | 304,605   | 45,354           | 1,563,560 |
| Kampong Chhnang        | 81,201             | 407,583    | 7,692                     | 74,946    | 41,703           | 375,990   |
| Kampong Speu           | 114,959            | 589,480    | 7,552                     | 108,176   | 41,478           | 557,404   |
| Kampong Thum           | 105,583            | 558,790    | 12,295                    | 94,613    | 66,014           | 503,046   |
| Kampot                 | 104,498            | 523,215    | 6,060                     | 98,933    | 33,126           | 495,279   |
| Kandal                 | 203,357            | 1,053,716  | 10,266                    | 195,923   | 58,264           | 1,016,861 |
| Kaoh Kong              | 24,125             | 124,575    | 5,400                     | 19,564    | 29,329           | 102,777   |
| Kracheh                | 48,761             | 258,990    | 14,791                    | 34,535    | 79,123           | 184,052   |
| Mandol Kiri            | 5,615              | 31,825     | 1,276                     | 4,381     | 7,032            | 25,375    |
| Phnom Penh             | 167,758            | 950,542    | 97,296                    | 76,382    | 570,155          | 429,649   |
| Preah Vihear           | 21,007             | 115,748    | 4,133                     | 17,358    | 21,580           | 97,681    |
| Prey Veang             | 192,735            | 934,782    | 10,918                    | 183,267   | 55,054           | 890,988   |
| Pousat                 | 67,022             | 350,655    | 10,856                    | 57,379    | 57,523           | 302,922   |
| Rotanak Kiri           | 16,646             | 93,507     | 3,193                     | 13,565    | 16,999           | 77,244    |
| Siem Reap              | 125,387            | 677,436    | 20,985                    | 106,230   | 119,528          | 576,636   |
| Krong Preah Sihanouk   | 27,351             | 149,921    | 28,015                    | 0         | 155,690          | 0         |
| Stueng Traeng          | 14,126             | 79,747     | 4,426                     | 9,897     | 24,493           | 56,581    |
| Svay Rieng             | 97,795             | 474,052    | 4,112                     | 94,132    | 21,205           | 457,047   |
| Takaev                 | 153,863            | 781,614    | 7,257                     | 147,773   | 39,186           | 750,982   |
| Otdar Mean Chey        | 12,208             | 64,653     | 4,027                     | 8,504     | 22,361           | 45,918    |
| Krong Kaeb             | 5,282              | 28,028     | 5,369                     | 0         | 28,660           | 0         |
| Krong Pailin           | 4,000              | 20,749     | 4,133                     | 0         | 22,906           | 0         |
| Total                  | 2,162,085          | 11,203,990 | 322,246                   | 1,866,417 | 1,795,575        | 9,642,081 |



# Annex 2

## Details of Generation Licenses

| License number/<br>date issued | Name of licensee  | Validity<br>period                    | Location of<br>generation facility                 | Fuel/licensed<br>capacity | PPA/ date   |
|--------------------------------|---|---------------------------------------|--|---------------------------|---|
| 002 LD, Feb. 1,<br>2002        | Cambodia Utilities<br>Pte Ltd.                                | Term of PPA                           | EDC C2 Phnom<br>Penh                               | HFO/LDO,<br>37.1 MW       | EDC, Sept. 15, 1994   |
| 003 LD, March<br>29, 2002      | Jupiter Power<br>(Cambodia) Co.,<br>Ltd                       | Term of<br>respective<br>PPAs         | EDC C1 Phnom<br>Penh                               | LDO, 24.95<br>MW          | EDC, March 21,<br>2000; May 7, 2002;<br>May 21, 2003        |
|                                |   |                                       | Kampong Chhnang<br>power plant                     | LDO, 0.75<br>MW           | Sovanny Electricity<br>Development Co.<br>Ltd, June 2, 1997 |
| 004 LD, March<br>29, 2002      | Global<br>Technological<br>Support SDN BHD                    | Term of<br>interim PPA                | Kampong Cham<br>power plant                        | LDO, 4100<br>kVA          | EDC, May 6, 1998  |
| 005 LD, April 1,<br>2002       | Mr. Chea Sopha  | Term of<br>General lease<br>agreement | Battambang power<br>plant                          | LDO, 4000<br>kVA          | EDC, Sept. 27, 2002   |
| 007 LD, April 5,<br>2002       | Cetic International<br>Hydropower<br>Development Co.,<br>Ltd. | Term of PPA                           | Kirirom Plateau,<br>Koh Kong<br>Province           | Hydro, 12<br>MW           | EDC, July 28, 2000  |
| 024 LD, Feb. 11,<br>2003       | Global Power<br>System Pte Ltd.                               | Term of PPA                           | Prey Veng power<br>plant                           | Diesel, 1230<br>kVA       | MIME, Jan. 17,<br>2001                                      |
| 094 LD, May 6,<br>2004         | Edward Energy<br>Supply Co., Ltd.                             | Term of PPA                           | Road No.1, Phum<br>Pea Nheak 1,<br>Pursat Province | HFO/LDO,<br>2350 kVA      | Nareth Electricity<br>Development Ltd.,<br>April 5, 2004    |
| 100 LD, Sept. 15,<br>2004      | J.P.N. Cambodia<br>International Co.,<br>Ltd                  | Term of PPA                           | Power plant in<br>Phum 2, Takeo<br>Province        | 1410 kVA                  | EDC, Aug. 28, 2004  |

*Note:* HFO, heavy fuel oil; light diesel oil; PPA, power purchase agreement. EDC, Electricite du Cambodge; MIME, Ministry of Industry, Mines, and Energy.

### Details of Distribution Licenses

| License number/<br>date      | Name of licensee                             | Validity period,<br>years | PPA/date  | Area of distribution  |
|------------------------------|--|---------------------------|---|---|
| 008 LD,<br>April 10,<br>2002 | Franasie Import<br>Export Co., Ltd.          | 10                        | Power<br>purchase from<br>Thailand                    | District center of Kamrieng, Phnom<br>Proeuk, and Sampeou Loun in Battambang<br>Province  |
| 009 LD,<br>May 27,<br>2002   | M.S.P.Development<br>Co., Ltd.               | 5                         | Power<br>purchase from<br>Thailand                    | Areas along Road No.10 from Phum Phsar<br>Prum to Sangkat Tuol Lavear, Pailin City,<br>and to provide bulk sale service to<br>surrounding Distribution Network at 22 kV |
| 011 LD,<br>Aug. 9,<br>2002   | Anco Brothers Co.,<br>Ltd.                   | 5                         | Power<br>purchase from<br>Thailand                    | Ochraov District, Bantea Meachey<br>Province and to provide bulk sale service to<br>surrounding distribution networks through<br>22 kV line                             |
| 014 LD,<br>Nov. 22,<br>2002  | Duty Free Shop Co.,<br>Ltd.                  | 5                         | Power<br>purchase from<br>Thailand                    | Koh Kong provincial town, Koh kong<br>Province; Osmarch town, Khum Osmarch,<br>Samrong District, Oddor Meanchey<br>Province   |
| 050 LD,<br>Sept. 9,<br>2003  | Reeco Co.                                    | 15                        | EDC, June, 27,<br>2003                                | Area in Khum Prekthmey and Khum Chheu<br>Teal, Keansvay District, Kandal Province   |
| 051 LD,<br>Sept. 9,<br>2003  | Sovanny Electricity<br>Development Co., Ltd. | 10                        | Jupiter<br>Provincial<br>MIME, June,<br>2, 1997       | Kampongchnang Provincial town   |
| 052 LD,<br>Sept. 9,<br>2003  | Nareth Electricity<br>Development Co., Ltd.  | 5                         | Jupiter<br>Provincial<br>MIME, May 8,<br>1996         | Pursat Provincial town  |
| 089 LD,<br>Feb. 9,<br>2004   | Vanakpheap<br>Development Co., Ltd           | 5                         | M.S.P.<br>Development<br>Co., Ltd., Sept.<br>29, 2003 | Pailin City   |

Note: PPA, Power purchase agreement; EDC, Electricite du Cambodge; MIME, Ministry of Industry, Mines, and Energy.

### Details of Consolidated License Consisting of Generation, National Transmission and Distribution Licenses

| License number/date  | Name of licensee    | Validity period  | Area of distribution   | Remarks                                 |
|----------------------|---------------------|------------------|--|---|
| 001 LD, Feb. 1, 2002 | EDC                 | Until terminated | Phnom Penh   |   |
|                      |                     |                  | Sihanoukville  |   |
|                      |                     |                  | Siem Reap  |   |
|                      |                     |                  | Battambang   |   |
|                      |                     |                  | Takeo  |   |
|                      |                     |                  | Kampong Cham   |   |
|                      |                     |                  | Ponhea Krek and Memot district, Kampong Cham Province  | Power purchase from Vietnam Power No. 2 |
|                      |                     |                  | Bavit District, Svay Rieng Province  | Power purchase from Vietnam Power No. 2 |
|                      |                     |                  | Kompong Trach district town, Khum Oeuseysrok Khanglech and Khum Kompong Trach Khangkeut, Kompong Trach District, Kampot Province | Power purchase from Vietnam Power No. 2 |
|                      |                     |                  | Banteay Meanchey   | Not yet operational                     |
|                      |                     |                  | Kampot and Kep   | Not yet operational                     |
|                      |                     |                  | Prey Veng  | Not yet operational                     |
|                      |                     |                  | Ratanakiri   | Not yet operational                     |
|                      |                     |                  | Steung Treng   | Not yet operational                     |
| Svay Rieng           | Not yet operational |                  |  |   |
| Kampong Speu         | Not yet operational |                  |  |   |

Note: EDC, Electricite du Cambodge.

### Details of Consolidated License Consisting of Generation and Distribution Licenses

| License number/date    | Name of licensee                       | Validity period, years | Fuel /licensed capacity | Area of distribution   |
|------------------------|--|------------------------|-------------------------|--|
| 006 LD, April 1, 2992  | Mr. Huor Peng                          | 5                      | Diesel, 600 kVA         | Kampong Thmar town consisting of Khum Balang Baray District and Khum Kampong Thmar, Sontuk District, Kampong Thom Province |
| 012 LD, Aug. 9, 2002   | Chilbo Industrial (Cambodia) Co., Ltd. | 5                      | Diesel, 1.6 MW          | Capital of Kampong Thom  |
| 013 LD, Sept. 6, 2002  | Mr. Mak Thorn                          | 3                      | Diesel, 635 kVA         | Phsar Tonlap town, Khum Preah Bathchanchum, Kirivong District, Takeo Province  |
| 015 LD, Nov. 22, 2002  | Mr. Srey Sokhom                        | 2                      | Diesel, 100 kVA         | Phsar Samrongyong town, Khum Trapaingsab, Baty District, Takeo Province  |
| 016 LD, Nov. 22, 2002  | Mr. Ke Kuyhuoy                         | 2                      | Diesel, 100 kVA         | Phsar Kompongchrey town, districts of Trang and Koh Andet, Takeo Province  |
| 017 LD, Nov. 29, 2002  | Mrs. Bun Liv                           | 5                      | Diesel, 2590 kVA        | Neak Loeung town (east of Mekong River) Peam Ro District, Prey Veng Province   |
| 018 LD, Nov. 29, 2002  | Mr. Ky Sophear                         | 2                      | Diesel, 345 kVA         | Phsar Snaypul town, Khum Roka, Pearang District, Prey Veng Province  |
| 019 LD, Dec. 12, 2002  | Mr. Te Kok Eng                         | 2                      | Diesel, 275 kVA         | Khum Treal town, Baray District, Kampong Thom Province   |
| 020 LD, Dec, 30, 2002  | Mr. Chhou Lay                          | 2                      | Diesel, 107 kVA         | Phsar Preylvear town, Khum Preylvear, Preykabas District, Takeo Province   |
| 021 LD, Dec. 30, 2002  | Mr. Nov Sokha                          | 2                      | Diesel, 560 kVA         | Neak Loeung town (west of Mekong River), Leukdek District, Kandal Province   |
| 022 LD, Feb. 11, 2003  | Mr. Kong Phat                          | 2                      | Diesel, 52.5 kW         | Phum Thmarsor, Khum Korkpor, Boreycholsar District, Takeo Province   |
| 023 LD, Feb. 11, 2003  | Mr. Khun Sambo                         | 3                      | Diesel, 464 kVA         | Phsar Preytoteung town, Preychhor District, Kompong Cham Province  |
| 026 LD, March 12, 2003 | Mr. Chang Bunnaret                     | 2                      | Diesel, 120 kVA         | Phsar Phaav town, Khum Phaav, Batheay District, Kampong Cham Province  |
| 027 LD, March 12, 2003 | Mr. Kuy Suor                           | 2                      | Diesel, 740 kVA         | Phsar Suong town, Khum Suong, Tbongkhmum District, Kampong Cham Province   |



|                              |                       |   |                      |  |
|------------------------------|-----------------------|---|----------------------|--|
| 028 LD,<br>March 12,<br>2003 | Mr. Samreth Sothy     | 2 | Diesel, 850<br>kVA   | Sre Ambel District town, Koh<br>Kong Province                                    |
| 029 LD,<br>March 12,<br>2003 | Mr. Sok Thy           | 2 | Diesel, 860<br>kVA   | Phsar Vealrinh town, Khan<br>Preynob Sihanoukville                               |
| 030 LD,<br>March 13,<br>2003 | Mr. Ly Bunthy         | 2 | Diesel, 470<br>kVA   | Sangkat Tumnub Rolok and<br>Sangkat Kampenh, Khan Stoeung<br>Hav, Sihanoukville  |
|                              |                       |   |                      |  |
| 031 LD,<br>March 13,<br>2003 | Mr. Chan Thun         | 5 | Diesel, 575<br>kVA   | Preah Vihear provincial town   |
| 032 LD,<br>March 12,<br>2003 | Mr. Nhen Kong         | 2 | Diesel,<br>237.5 kVA | Phsar Tangkok town, Khum<br>Soyong, Baray District, Kampong<br>Thom Province     |
| 033 LD, April<br>9, 2003     | Mr. Chhuor Nguon      | 2 | Diesel, 90<br>kW     | Phsar Boeung Khna town, Khum<br>Boeung Khna, Bakan District,<br>Pursat Province  |
| 034 LD, April<br>9, 2003     | Mr. Toem Touch        | 2 | Diesel, 115<br>kVA   | Khum Trapaing Chong, Bakan<br>District, Pursat Province                          |
| 035 LD, April<br>9, 2003     | Mrs. Chhuoy<br>Phoout | 2 | Diesel, 368<br>kVA   | Pourk District town, Siem Reap<br>Province                                       |
| 036 LD, April<br>9, 2003     | Mrs. Pauch Kim        | 5 | Diesel, 215<br>kVA   | Kar-Andoeuk town, Khum Brasat,<br>Kompong Trabek District, Prey<br>Veng Province |
| 037 LD,<br>March 20,<br>2003 | Mr. Kry Bunthong      | 2 | Diesel, 120<br>kVA   | Phsar Rokakang town, Muk<br>Kompul District, Kandal Province                     |
| 038 LD March<br>20, 2003     | Mr. Khut Bunpech      | 2 | Diesel, 295<br>kVA   | Phum Thnalbek, Khum Svayteab,<br>Chamkaleu District, Kampong<br>Cham Province    |
| 039 LD,<br>March 20,<br>2003 | Mr. Kim Chantara      | 2 | Diesel, 145<br>kVA   | Phsar Baray town, Khum Baray,<br>Baray District, Kampong Thom<br>Province        |
| 040 LD,<br>March 26,<br>2003 | Mr. Mak Heat          | 2 | Diesel,<br>117.5 kVA | Phsar Punley town, Khum Punley,<br>Boribo District, Kampong Chnang<br>Province   |
| 041 LD,<br>March 26,<br>2003 | Mr. Ty Sokorn         | 2 | Diesel, 509<br>kW    | Kampong Tralach District town,<br>Kampong Chnang Province                        |
| 042 LD,<br>March 26,<br>2003 | Mrs. Muy Kuan         | 2 | Diesel, 240<br>kVA   | Phum Trapaing Ropao, Khum<br>Prekthnot, Kampot District,<br>Kampot Province      |
| 043LD, July,<br>1, 2003      | Mr. Lay Se            | 2 | Diesel, 440<br>kVA   | Thmor Kol town, Thmor Kol<br>District, Battambang Province                       |
| 044 LD, July<br>1, 2003      | Mr. Kong Puthy        | 2 | Diesel, 320<br>kVA   | Phsar Chhouk town, Chhouk<br>District, Kampot Province                           |

|                       |                                |               |                   |   |
|-----------------------|--------------------------------|---------------|-------------------|---|
| 045 LD, Aug. 18, 2003 | Mr. Keo Dara                   | 2             | Diesel, 85 kVA    | Phsar Kampong Popel, Khum Kampong Popel, Pearang District, Prey Veng Province   |
| 046 LD, Aug. 18, 2003 | Mr. Seng Sokun                 | 2             | Diesel, 137.5 kVA | Phsar Svay Antor town, Khum Svay Antor, Prey Veng District, Prey Veng Province  |
| 047 LD, Aug. 18, 2003 | Mr. Mom Dara                   | 2             | Diesel, 100 kVA   | Phsar Skun town, Khum Soteb, Chheung Prey District, Kampong Cham Province   |
| 048 LD Aug. 8, 2003   | Mr. Chhom Sophay               | 2             | Diesel, 200 kVA   | Phsar Domdek town, Sot Nikum District, Siem Reap Province   |
|                       |                                |               |                   |   |
| 049 LD, Aug. 18, 2003 | Mrs. Khiev Nareth              | 2             | Diesel, 415 kVA   | Tambon Treuy Sla, Sa Ang District, Kandal Province  |
| 053 LD, Sept. 9, 2003 | Mr. Long Nget                  | 2             | Diesel, 115 kVA   | Phsar Thnal Tatoeung town, Khum Damnak Ampil, Angsnoul District, Kandal Province and Khum Trapaing Krong, Somrong Trong District, Kampong Speu Province |
| 054 LD, Sept. 9, 2003 | Mrs. Ouch Por                  | 2             | Diesel, 70 kVA    | Phsar Sayva town, Prey Kabas district, Takeo Province   |
| 055 LD, Oct. 7, 2003  | Mr. Pak Hien                   | 2             | 35 kVA            | Psar Prey Sandek town, Khum Pry Sleuk, Trang District, TakeoProvince  |
| 056 LD, Oct. 7, 2003  | Sieng Khun                     | 2             | 115 kVA           | Phsar Bos Knor town, Khum Bos Knor, ChamKar Leu District, Kg Cham Province  |
| 057 LD, Oct 7, 2003   | Mrs. Heng Phirun               | 2             | 50 kVA            | Phsar Stung Trang town, Khum Prek Kok, Stung Trang District, Kg Cham Province   |
| 058 LD, Oct. 7, 2003  | Mr. Lor Nguon                  | 2             | 50 kVA            | Phsar Kampong Kantuot town, Khum Bakour, Kandal Stung District, Kandal Province   |
| 059 LD, Oct. 7, 2003  | Electricity of Kratie Province | Until revoked | 200 kVA           | Kratie provincial town  |
| 060 LD, Nov. 20, 2003 | Mr. Lim Sokhon                 | 2             | 90 kVA            | Khum Mesorchrey, Stung Trang District, Kg Cham Province   |
| 061 LD, Nov. 20, 2003 | Mr. Khoeun Sambath             | 2             | 95 kVA            | Phsar Ang Snoul town, Khum Peuk, Ang Snoul District, Kandal Province  |
| 062 LD, Nov. 20, 2003 | Mr. Keb Borey                  | 2             | 120 kVA           | Eastern Phsar Prek Kdam town, Khum Kohchen, Ponhealeu District, Kandal Province   |
| 063 LD, Nov. 20, 2003 | Mr. Ong Hok Sin                | 7             | 375 kVA           | Stong District town, Kg Thom Province   |

|                       |                    |   |           |  |
|-----------------------|--------------------|---|-----------|--|
| 064 LD, Nov. 20, 2003 | Mr. Ut Thy         | 2 | 100 kVA   | Phsar Tram Khnar town, Khum Chung rouk, Korng Pisey District, Kg Speu Province and Khum Sophy, Baty District, Takeo Province     |
| 065 LD, Nov. 20, 2003 | Mr. Chou Sroan     | 2 | 95 kVA    | Phsar Mean town, Khum Mean and Khum Trapaing Preah, Prey Chhor District, Kg Cham Province  |
| 066 LD, Nov. 20, 2003 | Mr. Pean Sokhalay  | 2 | 112.5 kVA | Phsar Prek Anh Chanh town, Khum Prek Anh Chanh, Muk Kampoul District, Kandal Province  |
| 067 LD, Nov. 20, 2003 | Mr. Sok Hoy        | 2 | 75 kVA    | Phsar Trapaing Kraloeung town, Khum Kirivoan, Phnom Srouch District, Kg Speu Province  |
|                       |                    |   |           |  |
| 068 LD, Dec. 16, 2003 | Mrs.Touch Mantha   | 2 | 112.5 kVA | Khum Phnom Sampov, Banoan District, Battambang Province  |
| 069 LD, Dec. 16, 2003 | Mr. Nop Bin        | 3 | 120 kVA   | Rattanak Mondol District town, Battambang Province   |
| 070 LD Dec. 16, 2003  | Mr. Bou Boeun      | 2 | 37.5 kVA  | Phum Poy Samrong, Khum Tapoung, Thmor Kol District, Battambang Province  |
| 071 LD Dec. 16, 2003  | Mr. Heng Tray      | 2 | 120 kVA   | Southern Phsar Saang town, Khum Prek Koy, Saang District, Kandal Province  |
| 072 LD Dec. 16, 2003  | Mr. Ya Sambat      | 2 | 110 kVA   | Phsar Svay Daun Keo town, Khum Svay Daun Keo, Bakan District, Pursat Province  |
| 073 LD Dec. 16, 2003  | Mr. Treung San     | 3 | 80 kVA    | Phsar Taing krasaing town, Khum Taing Krasaing, Santuk District, Kg Thom Province  |
| 074 LD Dec. 16, 2003  | Mr. Mean Vanna     | 2 | 105 kVA   | Phsar Svay Teab town, Khum Svay Teab, Chamkar Leu District, Kg Cham Province   |
| 075 LD Dec. 16, 2003  | Mr. Chhay Kim Huor | 2 | 100 kVA   | Phsar Speu town, Khum Speu and Khum Chayo, ChamKar leu District, Kg Cham Province  |
| 076 LD Dec. 17, 2003  | Mr. Quach Edward   | 2 | 970 kVA   | Phsar Oudong town, Khum Vaing Chas, O'Dong District, Kg Speu Province and Khum Vihealuong, Punnhea leu District, Kandal Province |
| 077 LD Dec. 17, 2003  | Mrs Chao Nuy       | 2 | 95 kVA    | Phsar O-Snguot town, Khum O-Prasat, Mongkul borei District, Banteay MeanChey Province  |

|                       |                       |    |           |  |
|-----------------------|-----------------------|----|-----------|--|
| 078 LD Dec. 17, 2003  | Mr. Vorn Yeang        | 2  | 50 kVA    | Phsar Kotsat town, Khum Nimit and Khum Kob, O-chrov District, Banteay MeanChey Province  |
| 079 LD Dec. 17, 2003  | Thon Thoeurn          | 2  | 112 kVA   | Phsar Phnom Toch town, Khum Phnom Toch, Mongkul Borey District, Banteay MeanChey Province  |
| 080LD Dec. 17, 2003   | Mr. Sok Vitith        | 2  | 70 kVA    | Phsar Banteay Neang town, Khum Banteay Neang, Mongkul Borei District, Banteay MeanChey Province                                  |
| 081LD Dec. 17, 2003   | Mr. Muon Han          | 2  | 112 kVA   | Phsar Phnom Srok town, Khum Sras Chik, Phnom Srok District, Banteay Meanchey Province  |
| 082 LD Dec. 29, 2003  | Mr. Ly Sok Kry        | 2  | 212.5 kVA | Phsar Treng Trayeng town, Khum Treng Trayeng, Phnom Srouch District, Kg Speu Province  |
| 083 LD Dec. 29, 2003  | Mr. Tun Yoeun         | 2  | 35 kVA    | Phsar Thnal Chek town, Khum Kien Sangke and Khum Dam Dek, Sotnikom District, Siem Reap Province                                  |
| 084 LD Dec. 29, 2003  | Mr. Mok Chin          | 2  | 30 kVA    | Phsar Pangkasey town, Khum Khvao, Samrong District, Takeo Province, and Khum Tuol Ampil, Borseth District, Kampong Speu Province |
| 085 LD Dec. 29, 2003  | Mr. Soem Sokha        | 2  | 90 kVA    | Phsar Thnalto teung town, Khum Chob, Tbongkmom District, Kg Cham Province.   |
| 086 LD Feb. 9, 2004   | Mr. Koeung Rithy      | 2  | 400 kVA   | Northern Phsar Saang town, Saang District, Kandal Province   |
| 087 LD Feb. 9, 2004   | Mr Haing Sovat Sothea | 2  | 93 kVA    | Thmor Puok District town, Banteay Meanchey Province  |
| 088 LD Feb. 9, 2004   | Mr. Khun Sophal       | 10 | 113kVA    | Oreang Ov District town, Kampong Cham Province   |
| 090 LD March 16, 2004 | Mr. Ven Veasna        | 5  | 100 kVA   | Phum Bak Kheng and Phum Ktor, Sangkat Prek Lep, Khan Rusey Keo, Phnom Penh   |
| 091 LD March 16, 2004 | Mr. Sun Pov           | 2  | 100 kVA   | Khum Prek Khpob and Khum Prek Luong, Ek Phnom District, Battambang Province  |
| 092 LD March 16, 2004 | Mr. Som Visal         | 2  | 115kVA    | Phsar Samrong and Phsar Chouk town, Khum Samrong, Samrong District, Otdormeanchey Province                                       |
| 093 LD March 16, 2004 | Mr. Khut Chenda       | 7  | 70 kVA    | Bantay Meas District town, Kampot Province   |

|                      |                 |   |        |  |
|----------------------|-----------------|---|--------|--|
| 095 LD July 30, 2004 | Mrs Chan Simoly | 2 | 85 kVA | Phsar Prey Khmer town, Khum Andong Snay, and Khum Rolea Phear, Rolea Phear District, Kampong Chnang Province                           |
| 096 LD July 30, 2004 | Mr. Chea Sareth | 2 | 40 kVA | Phsar Pong Ro town, Khum Pong Ro and Svay Chrum, Rolea Phear District, Kampong Chnang Province   |
| 097 LD July 30, 2004 | Mr. Yin Ech     | 2 | 75 kW  | Angkor Chey District town, Kampot Province   |
| 098 LD Sept.15, 2004 | Mrs Kun Sivanny | 3 | 85 kVA | Phsar Smachdeng town, Sangkat Ream, Khan Preynop, Sihanoukville  |
| 099 LD Sept.15, 2004 | Mr. Leng Mov    | 4 | 100 kW | Phar Bat Doeun, Udong District, Kampong Speu Province and Ponhea Leu District, Kandal Province   |
| 101 LD Sept.15, 2004 | Mrs. So Rinda   | 2 | 75 kVA | Phsar Thnalbort town, Khum Por Ankrang, Bor Seth District, Kampong Speu Province and Khum Beungtranh, Samrong District, Takeo Province |









# Annex 4

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## **Decision on Revision of Procedures for Revising Licenses**

Decision on Revision of Procedures for Issuing, Revising, Suspending, Revoking, or Denying Licenses for Providing Electric Power Services (Revision 2)

### **The Electricity Authority of Cambodia**

Having seen the Electricity law of the Kingdom of Cambodia, which was promulgated by the Royal KRAM No. NS/RKM/0201/03 of February 2, 2001

Having seen the Royal Decree of Preahbath Samdech Preah NORODOM SIHANOUK, the king of the Kingdom of Cambodia No. NS/RKT/0201/039 of February 17, 2001, on the appointment of Excellency TY NORIN as a chairman of the Electricity Authority of Cambodia

Having seen the Procedures for Issuing, Revising, Suspending, Revoking or Denying Licenses for Providing Electric Power Services (Revision 1), which approved by the EAC session No. 12 dated 12 December 2002 and promulgated by Prakas No. 048SR-02-EAC dated 25 December 2002

Having seen the necessity for revision of the procedures for issuing, revising, suspending, revoking, or denying licenses for Providing Electric Power Services (revision 1), for making the process more simple and transparent

In accordance with the decision of the EAC's session No. 35 dated March 16, 2004, on the revision of Procedures for Issuing, Revising, Suspending, Revoking, or Denying Licenses for Providing Electric Power Services, which was approved by the EAC's session No. 12 dated December 12, 2002.

## Decides

Article 1: To revise the Procedure for Revising the License, in Clause 13 and 14, of the Procedures for Issuing, Revising, Suspending, Revoking, or Denying Licenses for Providing Electric Power Services

Article 2: Decision in Article 1 above has two main purposes: (1) to replace the earlier decision No. 062 SR-03-EAC dated September 30, 2003, for not putting into public consultation of the application for changing or adding of the generating facility of small electric power service providers where the capacity does not increase by more than 200 kW and (2) an application for revision of license shall not require payment of license application fee.

Article 3: Contents of Procedures for Issuing, Revising, Suspending, Revoking, or Denying Licenses for Providing Electric Power Services (revision 1) in Clause 13 and 14 as follows:

13. Initiating the Process of Revision of License

14. Procedure for Revision of License

are replaced by the contents attached herewith.

Article 4: The decision shall come into force for implementation from the signing date until the new decision.

Article 7: Secretariat of the EAC shall publicize the decision to the public.

Chairman of the EAC

16th March 2004

## **New Contents to be Substituted in the Existing Procedures for Issuing, Revising, Suspending, Revoking, or Denying Licenses for Providing Electric Power Services (Revised 1)**

13. Initiating the Process of Revision of License

The process of revision of a license issued by the EAC can be started either:

by an application submitted by the licensee, or

sue moto by the EAC, if in the opinion of the EAC revision of license is required in public interest.

The application for the revision of license by the licensee shall be made stating the amendments required in the license, the terms and condition or the schedules to the license and the reasons for seeking the amendments. The application shall be accompanied with such documents as necessary and shall be submitted to the EAC directly.

In case the EAC initiates the process of revision, the EAC shall send a notice to the licensee stating the amendments proposed in the license, the terms and condition or the schedules to the license and the reasons for seeking the amendments. The licensee can give comments on the proposed amendments during the process of public consultation and/or consultation with the licensee.

14. Procedure for Revision of License

The procedure prescribed for issuance of the license at numbers 6 to 12 of this procedure, in so far as it can be applied, shall be followed for dealing with the application or notice for revision of license. Provided that for change or addition of the generation facility, where the capacity does not increase by more than 200 kW, the application may be examined and decided by the EAC without going through the process of public consultation.

# Annex 5

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## **Regulations on Overall Performance Standards for Distribution Licensees and Retail Licensees in The Kingdom of Cambodia**

### **The Electricity Authority of Cambodia**

Having seen the Electricity law of the Kingdom of Cambodia, which was promulgated by the Royal KRAM No. NS/RKM/0201/03 of February 2, 2001

Having seen the Royal Decree of Preahbath Samdech Preah NORODOM SIHANOUK, the king of the Kingdom of Cambodia No. NS/RKT/0201/039 of February 17, 2001, on the appointment of Excellency Ty Norin as a chairman of the Electricity Authority of Cambodia

In accordance with the consultation with concerned ministries and institutions, licensees and public, made from December 25, 2003, to February 25, 2004

In accordance with the decision of session No. 36 of the EAC dated April 2, 2004

### **Decides**

Article 1: To issue regulations called Overall Performance Standards for Electricity Suppliers in the Kingdom of Cambodia under Electricity Law of the Kingdom of Cambodia, for fixing the overall standards of performance of licensees relating to the quality of supply and services.

Article 2: These regulations have the whole contents as attached document.

Article 3: These regulations shall apply to Distribution Licensees, Retail Licensees, and Consolidated Licensees whose licenses include a Distribution License or Retail License in the Kingdom of Cambodia.

Article 4: These regulations shall come into force from the date of signing and shall remain in force until revised as per a new decision.

Chairman of the EAC

## Chapter 1

### ***Purpose, Title, Jurisdiction, and Definitions***

#### *Purpose*

In exercise of powers conferred by Article 7(e) and 7(k) of the Electricity Law promulgated by the Royal Decree No. NS/RKM/0201/03 dated February 02, 2001, the Electricity Authority of Cambodia hereby makes the following regulations to fix the Standards of Performance of Licensees relating to the quality of supply and services.

#### *Title*

These Regulations shall be called Overall Performance Standards for Electricity Suppliers in the Kingdom of Cambodia.

#### *Jurisdiction*

These regulations shall apply to distribution licensees, retail licensees, and those consolidated licensees whose licenses include a distribution license or retail license in the Kingdom of Cambodia. The licensee is required to maintain minimum standards of performance for all consumers in the manner prescribed hereinafter in these regulations.

Provided that the Electricity Authority of Cambodia, by specific orders, may exempt a licensee or an area from such provisions of these regulations and for such periods as stated therein.

#### *Definitions*

In these regulations, unless the context otherwise requires, the following terms shall have the following meanings:

- Electricity Law: The Electricity Law of the Kingdom of Cambodia promulgated by the Royal Decree No. NS/RKM/0201/03 dated February 2, 2001.
- Performance standard for a supplier: Standard or level of service which a supplier is expected to provide to its customers.
- Guaranteed performance standard: Standard or level of service, which is fixed by regulators and is guaranteed by the supplier to be provided to each customer.
- Overall performance standard: Standard or level of service, which is fixed by regulators for a supplier to implement for overall customers but not give individual guarantees.
- Supplier: A licensee authorized to supply electricity by a distribution or retail license issued by the EAC.

Unless the context otherwise requires, words or expressions occurring in these regulations and not defined above shall bear the same meaning as in the Electricity Law and Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia or in absence thereof, the meaning as commonly understood in the electricity supply industry.

## Chapter 2

### **Overall Performance Standards**

#### Standards for Scheduled Outage

Electrical equipment and lines are prone to failure without maintenance. Regular and periodic maintenance has to be carried out to preserve the fitness of the facilities to an acknowledged level to maintain quality supply to consumers. The work to be carried out and the time when the work is to be carried out are planned in advance. In order to carry out maintenance work, in majority of instances the facilities are required to be taken out of service. Depending on the availability of spare capacity, such maintenance work may or may not cause a discontinuity of electricity supply. As the maintenance is planned in advance, it is possible to fix the timing of work in such a way that minimum inconvenience is caused to the consumers. The outage of supply due to the planned maintenance is called scheduled outage.

The scheduled outage shall not be for a continuous period of more than 12 hours. In cases where the normal supply is not round the clock, the period of scheduled outage together with the period of non-supply in continuity with the scheduled outage, if any, shall not exceed 12 hours.

In each case of scheduled outage of duration one hour or more, the supplier shall notify the consumers at least two days in advance by radio, TV, newspaper, loudspeaker, poster, pamphlets, or any other suitable process.

The supplier shall keep record of all scheduled outage. The record should show date and period of the scheduled outage, the details of the facility maintained, maintenance work carried out, and date and method of notifying the consumers.

#### Standards for Restoration of Supply in Case of Interruption

The discontinuity of supply to consumers due to a failure of a facility or due to a facility taken out of service in an emergency to prevent damage to the facility or life or property is called an interruption to power supply. Such interruptions are unplanned, unexpected and unanticipated.

In case of interruption to supply, the supplier shall restore the supply in 60 percent of the cases within six hours after being notified of the incidents.

The supplier shall restore the supply in all cases within 24 hours after being notified of the incidents. However, in case of MV cable fault, the supplier shall restore the supply within three days.

In cases where the normal supply is not round the clock, and the limiting period stated above ends in a period of no supply, and the consumer gets supply immediately on start of the next period of supply, it will be considered that the supply has been restored within the allowed time limit.

The supplier shall keep record to show the date and time when the interruption to supply was reported, name of the consumer, date and time of restoration of supply and work done to restore the supply.

Standards for Response of Suppliers in Case of Complaints on Voltage

The voltage at the point of supply should not vary beyond the limits allowed in the technical standards issued by Ministry of Industry, Mines, and Energy. Until the technical standards are issued by Ministry of Industry, Mines, and Energy; the voltage at the point of supply should not vary beyond +10 percent or -10 percent of the declared voltage.

In case of complaints relating to voltage at the point of supply, the supplier shall contact the consumer and investigate into the complaint in all cases within ten working days of receipt of the complaint.

The supplier shall resolve 60 percent of complaints on voltage within six months of receipt of the complaint.

The complaint on voltage is considered resolved if the voltage at the point of supply is within the limits given in the technical standards issued by Ministry of Industry, Mines, and Energy.

The supplier shall keep record to show the date of receiving complaint on voltage, name of the consumer, nature of complaint, dates of investigating and resolving the complaint and work done.

Standards for Response of Suppliers in Case of Complaints on Incorrect Meter Reading

In case of complaints on incorrect meter reading, the supplier shall investigate into the complaint and intimate the consumer the correct meter reading in all cases within 10 working days of receipt of the complaint.

The supplier shall keep record to show the date of receiving the complaint about incorrect meter reading, name of the consumer, nature of complaint, and date of supplying the results of the investigation to the consumer.

Standards for Suppliers to Replace Defective Meters

Unless an exemption is granted by the EAC, the supplier shall not give supply without a proper meter. A meter is considered as defective if, on testing, the error of the meter is found to be beyond the permissible limit as given in the technical standards issued by Ministry of Industry, Mines, and Energy. Until the technical standards are issued by Ministry of Industry, Mines, and Energy, for small and medium consumers, the permissible limit shall be (+/-) 3 percent at all loads in excess of one-tenth of full load and up to full load. Provided that for big and bulk consumers, the permissible limit shall be (+/-) 1 percent or as agreed and stated in the supply agreement.

If a meter provided by the supplier is found to be defective, the supplier shall replace it within 30 days.

The supplier shall keep record to show the date when the meter was found to be defective, name of the consumer, and date of replacing the meter with a good meter.

Standard for Testing of Meters When Requested by Consumer

Regulation 69 of the Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia provides that the supplier shall, upon request of the consumer and on payment of prescribed fees, test the meter serving the consumer. If the meter is to be

removed for testing, a temporary meter shall be installed. The supplier shall serve due notice on the consumer of the time and place of test and permit the consumer or his authorized representative to witness the test. The supplier shall disclose the test results in writing to the consumer. If the error of the meter is found to be beyond the permissible limits, the meter shall be replaced and the fees paid by the consumer for test of the meter shall be refunded. The bills for the period the meter was defective shall be revised as per regulations in General Conditions of Supply.

The supplier shall get the meter tested and disclose the test results in writing within 30 days of application by the consumer and payment of meter testing fees, if any.

The supplier shall keep record to show the date when the consumer requested to test the meter and made payment of the meter testing fees, name of the consumer, date of meter testing, and date of supplying the test results in writing to the consumer.

*Standards for Response of Suppliers to Consumers' Complaint on Bills*

In case of consumers' complaint on non-receipt of bill or incorrect bill the supplier shall convey its decision on these complaints in 40 percent of all cases within 15 days and in 90 percent of all cases within 30 days.

The supplier shall keep record to show the date of complaint about incorrect billing, name of the consumer, nature of complaint, and date of supplying the decision of the supplier to the consumer.

*Standards for Response of Suppliers to Customers' Application for New Connections*

The supplier shall notify, in 80 percent of the cases within the time limit provided in the Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia, the applicants in case of small or medium consumers the amount of connection fee and deposit to be paid by applicants.

The supplier shall give the connection to a small or medium consumer within the time limit provided in the Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia in 80 percent of the cases provided the consumer's installation is found satisfactory.

The supplier shall keep record to show for new connections to small and medium consumers the name of the applicant, date of application, date of notifying the consumer of the amount of the connection fee and deposit, date of payment, and date of giving supply.

*Standard for Refund of Deposit to Consumer*

The security deposit shall be returned by the supplier to the consumer within 15 days after the termination of the supply agreement and after adjustment of outstanding dues, if any, in 90 percent of the cases. In the other 10 percent of the cases, the deposit shall be returned within next 15 days.

The supplier shall keep record to show the name of consumer, date of termination of supply agreement, and date of return of the security deposit to the consumer.

*Standard for Reconnection after Temporary Disconnection*

The temporary disconnection could be due to reasons stated in Regulation 99 of the Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia.

In cases of temporary disconnection due to non-payment of charges: When the consumer gives proof of payment during working hours before 12:00 P.M. on a working day, the supplier shall reconnect the supply within six hours in 90 percent cases. When the consumer gives proof of payment at any other time, the supplier shall reconnect the supply within 24 hours in 90 percent of the cases.

In cases of temporary disconnection due to other reasons: The supplier, in 90 percent of the cases, shall reconnect the supply within 24 hours after verification of the removal of the cause of disconnection.

The supplier shall keep record to show the name of consumer, date and time of receipt of information about removal of cause of disconnection, and date and time of restoration of supply.

*Submission of Performance Report to the EAC*

The supplier shall submit the information on its performance during a year with reference to each Standards of Performance to the EAC as provided in Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia. The information shall indicate, for each standard, the total number of cases, number of cases in which the performance of the licensee was within the limits given in the standards, and number of cases in which the licensee failed to perform within the limit.

### **Chapter 3**

#### ***Miscellaneous***

##### *Exemption*

The overall performance standards shall remain suspended during force majeure condition such as war, mutiny, riot, strike, lockout, fire, flood, lightning, earthquake, or accident or cause beyond the control of the supplier.

##### *Power to Remove Difficulties*

If any difficulty arises in giving effect to any of the provisions of these regulations, the EAC may, by general or special order, direct the supplier to take necessary and expedient action consistent with the provisions of the Electricity Law for the purpose of removing the difficulties.



# Annex 6

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## **Procedures for Filing Complaint to the EAC and for Resolution of Complaint by the EAC**

### **A. Provisions in the Electricity Law of the Kingdom of Cambodia**

Under Electricity Law of the Kingdom of Cambodia, the duties of the Electricity Authority of Cambodia (EAC) include evaluation and resolution of consumer complaints and contract disputes involving licensees to the extent the complaints and contract disputes relate to violation of the conditions of license.

The Electricity Law provides that any licensee or consumer, who is party to a dispute regarding the provision of electric power services, under an EAC approved tariff or under a contract, may refer the dispute to the EAC for resolution, provided that the related license requires such dispute to be referred to the EAC.

Any interested person may file to the EAC a written complaint against a licensee alleging a violation of any provision of the Electricity Law. The EAC shall investigate this complaint and determine whether there may have been a breach of the Electricity Law.

The Electricity Law also provides that the EAC may investigate any facts, natures, actions, or matters that it may find necessary or proper to determine whether any person has violated or is about to violate any provision of the Electricity Law or any sub-decree, regulation, order, or judgment of the EAC.

### **B. Phases in the Resolution of Complaints by the EAC**

The procedure of resolution of a complaint filed with the EAC may have the following phases:

- Filing of complaint and notice to defendant
- Reconciliation, if decided
- Investigation
- Session of the EAC and judgment
- Forwarding the case to appropriate court in case an appeal is made

## **C. Procedure for Filing of Complaint and Notice to Defendant**

### ***Subjects on Which Complaint can be Lodged to the EAC***

Complaints by a consumer about voltage, interruption in supply, meter, meter reading, bills, disconnection, reconnection, or delay in giving new connection shall be first made to the supplier as per the procedure given in the General Conditions of Supply approved by the EAC. If the consumer is not satisfied with the final response of the supplier or if the consumer feels that the supplier has delayed in addressing the consumer's grievance beyond the time specified in the Regulations on Overall Performance Standards, approved by the EAC, the consumer can make a complaint to the EAC giving copies of all complaints made to the supplier, action taken by the supplier, and other details.

The supplier has an obligation to give power supply to consumers in its authorized area of supply and can refuse to give power supply to a consumer only under certain conditions stated in the General Conditions of Supply. If the supplier refuses to serve an applicant, the supplier must inform the applicant the reason of its refusal. If the applicant is dissatisfied with the decision of the supplier, the applicant may file a complaint with the EAC, giving copies of the decision of the supplier, other correspondence related to this complaint, and the reason of considering the decision of the supplier incorrect.

For giving a new connection to a medium consumer, if extension/up gradation of network is required, the supplier gives the participation amount in network extension/up gradation cost to be paid by the consumer. If any difference or dispute arises as to the participation amount, the consumer can file a complaint to the EAC for resolution of the dispute, giving copies of the letters in the matter and the reason of disputing the amount.

The General Conditions of Supply provide that if the supplier finds out that any person is taking unauthorized supply, the supplier shall issue a bill for the electricity used. If the consumer disputes the bill, the consumer may file a complaint with the EAC giving full reasons of disputing the bill.

Apart from raising the bill as stated above, the supplier may also file a complaint to the EAC for imposing monetary penalty on the consumer under Article 68 of the Electricity Law of the Kingdom of Cambodia, giving full justification for the same.

Any interested person may file to the EAC a complaint against a licensee alleging a violation of any provision of the Electricity Law of the Kingdom of Cambodia, rules, and regulations issued under the Electricity Law, the license issued by the EAC, or regulations made by the EAC. The person in its complaint should clearly state the provisions of the law, rules, or regulation that have been violated.

When a reference is made to the EAC by the Ministry of Industry, Mines, and Energy or the local authority about violations by a licensee, or when the EAC decides to start proceedings against a licensee or consumer for violations that came to its notice from information derived from any other source, EAC shall designate an officer of the EAC not below the rank of office manager to act as complainant.

Complaints relating to contract disputes can be filed by a party to the dispute provided the related license requires such dispute to be referred to the EAC. The party in its complaint shall state the provisions of the license which require the dispute to be referred to the EAC and details of the dispute.

***Procedure for Filing the Complaint to the EAC***

The complaints on quality of electricity supply service like those listed at C.1 above can be filed with the EAC by the affected consumer only.

The complaint for imposing monetary penalty for unauthorized use of electricity under Article 68 of the Electricity Law of the Kingdom of Cambodia can be filed by the affected supplier only.

The complaint relating to contract dispute can be filed by the party/ parties to the contract only.

The complaint on violation of law, rules and regulations can be filed by any interested person. The complaint on behalf of a legal person can be filed by a person duly authorized for the purpose. The person filing the complaint should be adult and shall not be of unsound mental health. The complaint to the EAC shall be filed in writing. All attachments, if any, should be indicated. Apart from the details stated in clause C.1 above, the complaint should also contain the following information:

- Information about the complainant: Surname, given name, age, business or occupation, nationality, sex, telephone number, present address, and consumer number, if any. If the complaint is on behalf of a legal person, the name and address of the legal person and the name and position held by the complainant.
- Information about the defendant: Name, present address.
- Details of the complaint: The subject matter of the complaint should be specific, clear, and definite and not vague or general in nature.
- If known, specific references to any law, license condition, regulation, code, or standard in support of the complaint.
- The relief asked by the complainant with justification explaining why this should be conceded.
- Copies of the documents the complainant thinks are required for resolving the dispute/complaint.
- Signature or thumbprint of the complainant at the bottom of the complaint.

The complaint should be sent to the office of the EAC by post or courier or delivered in person.

### ***Procedure for Acceptance of Complaint and Notice to Defendant***

On receipt of the complaint at the EAC office, it shall be recorded in the complaint register and a number shall be allotted.

Complaints not confirming to the provisions of C.2 above are liable to be not accepted. The chairman of the EAC shall make a preliminary examination and decide if the complaint is eligible to be accepted for consideration. Within 15 days of receipt of the complaint, the complainant shall be notified by the EAC if the complaint has been accepted or not and if not accepted, the reasons for non-acceptance.

If the complaint is accepted for consideration, the EAC shall send the copy of the complaint to the defendant to give a reply within a period specified by the EAC. If no reply is received within the specified period, it will be deemed that the defendant has no comments to offer and a decision on the complaint shall be taken by the EAC as deemed fit and proper unless the time for receiving the reply is extended in writing by the EAC.

### **D. Reconciliation**

The first stage of processing the complaint can be the process of reconciliation. Cases of violation of laws, rules, and regulation shall not require reconciliation. The chairman of the EAC shall decide if reconciliation shall be taken up or not. If the chairman of the EAC decides that reconciliation shall be taken up, the chairman shall appoint a reconciliation officer and officers to assist the reconciliation officer to take up the reconciliation. A vice chairman of the EAC or an officer not below the rank of director can be appointed as a reconciliation officer.

The reconciliation officer shall send a notice to the complainant and defendant to attend the reconciliation, giving the time, date, and place for reconciliation. The notice shall be sent by registered letter or delivered in person and receipt acknowledged. In case any party to the dispute refuses to receive the notice to attend the reconciliation session from EAC's messenger, the EAC's messenger shall take that notice to the local authority to certify the refusal.

The complainant and defendant may get a lawyer to represent him or her in the reconciliation session. For this a written authorization shall be given to the EAC.

If the complainant is unable to attend the reconciliation on the date fixed, the complainant shall notify the EAC before the date of the reconciliation the reason and seek another date for the session. If after receipt of the notice to attend the session, the complainant fails to attend the session of the EAC and fails to submit an application seeking another date for the session, it will be deemed that the complainant has dropped the complaint and the complaint shall be cleared from the complaint register.

If the defendant fails to attend the session of the EAC and fails to submit an application seeking another date for the session, the EAC will consider the defendant to be unwilling to reconcile and that the reconciliation has failed.

In case any party is unwilling to reconcile the party may confirm it in writing to the EAC.

During the session the reconciliation officer shall notify both the parties the general position of the law, rules, regulation, and procedure relating to the complaint and the time it may take to investigate and resolve the complaint if reconciliation fails. The reconciliation must be based on free consent of the parties and not on the will of the reconciliation officer.

If the parties come to terms at the reconciliation, the minutes shall include a promise by both parties to abide by the terms of the reconciliation. The EAC shall issue a decision based on the terms agreed by the parties. If the reconciliation fails, it shall be recorded in the case file.

## **E. Investigation**

In cases where reconciliation was not taken up or reconciliation failed, investigation shall be taken up by the EAC. The chairman of the EAC shall appoint one of the officers of the EAC not below the rank of office manager as the investigating officer who may be assisted by other officers of the EAC. If considered necessary experts or consultants may be asked to assist in the investigation. The parties and witnesses, if any, may be asked to appear before the investigating officer on the appointed date to record their statements. If required, the investigating team may also make a field visit to find out the facts in the case. The complainant and the defendant shall cooperate with the investigation and furnish the required information and records. The investigating officer shall record the questions and answers between the officer and each of the appearing parties. The investigating officer may ask for additional information or records from the complainant and defendant that shall be furnished within the time allowed.

The investigating officer shall compile a complete report and submit to the chairman of the EAC for approval. If the report is approved as complete by the chairman, the case will be taken up for hearing in the session of the EAC.

### ***Procedure for Session of the EAC to Resolve the Complaint***

The EAC will fix the date of the session for hearing the dispute and send notices in writing (summons) at least 15 days in advance to the complainant and defendant to attend the session for hearing in the case. The notice shall be sent by registered letter or delivered in person and receipt acknowledged. In case of any party to the dispute refuses to receive the notice to attend the reconciliation session from EAC's messenger, the EAC's messenger shall take that notice to the local authority to certify the refusal.

If the complainant or defendant is not able to attend the session, the complainant or defendant shall notify the EAC in writing at least three days before the date of the session and give the reason to seek another date for the session. The parties to the dispute have right to seek another date for the session of the EAC to resolve the complaint only once. If after receipt of the notification the complainant or defendant fails to attend the session of the EAC, the session shall be held in absentia and the EAC can render the judgment in absentia.

The sessions of the EAC for hearing of any complaint shall be public.

The complainant and defendant may get a lawyer to represent him or her in the session of the EAC to resolve the complaint. For this a written authorization shall be given to the EAC.

In the session the EAC shall hear the complainant, defendant, and others attending the session, examine the evidence, and ask questions to find out the facts of the case. All statements and facts provided by various parties shall be recorded properly and signed by the chairman of the session. After the hearing is over, the members of the EAC shall enter the deliberation room to deliberate. The judgment, based on the majority vote, shall be signed by all members of the EAC present in the session. The judgment with its reasons shall be published as soon as the judgment is made unless the EAC has reasonable cause and decide to delay the publication. If the publication is not to be delayed, the chairman of the session shall read out (pronounce) the judgment in the session. The chairman of the session shall also announce the right to appeal for a party not satisfied with the judgment.

Copy of the judgment shall be given to the interested parties free of charge. A copy of the judgment shall be sent to the government.

## **F. Preservation of Records and Documents**

The EAC shall keep a record of all proceedings, orders, findings, and judgments, and shall preserve all records and documents.

All orders, findings, judgments, records, and other documents, except those determined by the EAC to be confidential, shall be open to public examination in the office of the EAC.

## **H. Appeals**

The complainant or defendant, not satisfied with the judgment of the EAC, has the right of appeal to the courts within three months from the date of the judgment.

The appeal should be made in writing formally expressing the willingness to appeal and delivered to the office of the EAC. The details of the appeal shall be entered in a register. The brief on appeal, the judgment, and the documents of the case shall be forwarded to the clerk's office of the appropriate court not later than two months after receipt of the appeal.

### ***Definitions***

In this procedure, unless the context otherwise requires, the following terms shall have the following meanings:

- EAC: Electricity Authority of Cambodia established by the Electricity Law promulgated by Royal Decree No. CHS/RKT/0201/03, dated February 2, 2001.
- Supplier: A licensee authorized to supply electricity by a distribution or retail license issued by the EAC.

- Small consumer: A consumer supplied power at single phase and low voltage.
- Medium consumer: A consumer supplied power at three phases and low voltage.
- Big consumer: A consumer supplied power at medium voltage.
- Bulk consumer: A consumer supplied power at high voltage.
- General Conditions of Supply: Regulations on General Conditions of Supply of Electricity in the Kingdom of Cambodia issued by the EAC as applicable to the licensee.





# Annex 7

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## Procedures for Application and Determination of Tariff

### Provisions in the Electricity Law of the Kingdom of Cambodia

The Electricity Law has the following provisions on approval of tariff:

Article 7: The Electricity Authority of Cambodia shall have the following duties:

(b) To approve tariff rates and charges and terms and conditions of electric power services of licensees, except where the authority consider those rates or charges and terms and conditions are established pursuant to a competitive, market-based process;

Article 46: The authority shall determine and review the tariff rates, charges, and service terms and conditions of the licensee. Within 90 days from the receiving date of any application by licensees requesting the authority to determine or revise their tariff, the authority shall approve, revise, or disapprove this request.

The authority shall determine the effective date for new tariff or the revised tariff not later than 90 days as stipulated above.

Article 47: The authority shall establish procedures and models for submitting the tariff applications for approval in accordance with the provisions of this law.

The authority shall establish the rules for licensees regarding:

- Evidentiary requirements for tariff applications, including audited financial information
- Time frames for tariff applications and decisions
- Procedures for consumers and other interested parties to comment on tariff applications
- Procedures for the authority to obtain additional information from the applicant as necessary to evaluate tariff applications

### **Regulations on General Principles for Regulating Electricity Tariffs**

The Regulations on General Principles for Regulating Electricity Tariff<sup>10</sup> provide that:

For tariff regulating purpose, the EAC shall designate a licensee as either Larger Licensee or Smaller Licensee.

The EAC will regulate the tariffs of larger licensees individually. All larger licensees will be required to make annual submissions to the EAC of accounting and other data and the procedures and requirements for this will be laid down in the procedures. On the basis of these submissions and other information, the EAC may decide to review tariffs of one or more larger licensees. The licensees themselves may make a submission of applications to the EAC for tariff review whenever they consider it is necessary to do so (Regulation 3.3.1).

In the case of smaller licensees, the EAC will set and regulate tariffs by means of a tariff table, in order to simplify the tariff regulation of smaller licensees. The tariff table will apply to all smaller licensees except where specially ordered by the EAC. This tariff table will contain a number of tariff ceilings (that is, the maximum tariff chargeable to consumers) that would apply for smaller licensees in different circumstances. The tariff table would be disclosed to smaller licensees and published, and the part of the tariff table applicable to each Smaller Licensee will also be disclosed and published (Regulation 3.4.1).

Many smaller licensees who are satisfied with the tariff table will not need to make any applications to the EAC for tariff revisions. They, like all other smaller licensees, will be required to make annual submissions of annual accounting and other data to the EAC, though the EAC will not act on these submissions unless it believes some change is required (Regulation 3.4.3).

Where a Smaller Licensee believes that it is in special circumstances and therefore cannot charge the relevant tariff that appears in the tariff table without damaging its financial viability, it can make an application to the EAC for a different tariff. In that case, the Smaller Licensee will submit an application to the EAC in accordance with the procedures (Regulation 3.4.4).

Smaller licensees' actual tariffs will be monitored on a regular basis by the EAC to ensure the tariffs do not exceed the limits set by the tariff table (Regulation 3.4.6).

#### **Purpose**

The EAC can determine or revise the tariff of a licensee either on a review made by the EAC or on an application by the licensee. In accordance with the provisions of Article 7(k) and Article 47 of the Electricity Law, the EAC hereby establishes the Tariff Procedures containing the procedures for submission of annual data by licensees, monitoring of the data, submission of a tariff application by a licensee for approval of the EAC, and review of tariff by the EAC.

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10. A draft of the regulations is available now, and the contents of this paragraph are based on the draft. The contents may be modified if required after the regulations are issued.

***Power of the EAC to Modify These Tariff Procedures***

The EAC may revise and/or reissue these Tariff Procedures at any time.

**Procedure for Annual Data Submission by Licensees and its Monitoring*****Designation of Larger Licensees and Smaller Licensees for Tariff***

The EAC shall notify the list of licensees designated as larger licensees and smaller licensees for the purpose of these procedures. The EAC may notify a change of designation of a licensee or notify a fresh list at any time.

***Annual Data Submissions by Licensees***

To enable the EAC to have up-to-date data for tariff regulation, all licensees shall submit by March 31 each year to the EAC the data and other information related to its tariffs.<sup>11</sup> The larger licensees shall submit the data and information that are specified in Appendix 1 and the smaller licensees submit the data and information that are specified in Appendix 2. The data and information shall be based on actual operations for the previous year and estimates for the current year.

On receipt of the information the EAC shall examine the data to be in accordance with the requirements of these procedures. If considered necessary, the EAC shall notify the licensee about the missing information and direct the licensee to submit the data within a specified time period.

***Monitoring of Data and Initiating Review of Tariff of a Licensee by the EAC***

The EAC shall monitor the annual submissions of licensees to evaluate the reasonableness of current tariffs and to determine whether a review of the tariffs is to be initiated.

The EAC may also decide to initiate a review of the tariff based on the information provided by consumers, the local authority, or other third parties, or for other reasons.

Where the EAC has determined that a review of the licensee's tariff is to be initiated, the EAC shall notify the licensee of the proposed review and request the licensee to submit within 30 days of the date of the notice the information necessary to review the tariff. The required information may include the formats for tariff application given in Appendix 3 or Appendix 4, and any other information considered necessary. The licensee shall have an obligation to furnish the information within the time specified. Where it considers it necessary, the EAC may also send its officers to observe and collect the data relating to the operation of the licensee. The licensee shall cooperate with the officers in the observation and collection of the data.

The EAC will examine the available data and decide whether to continue with the process of tariff review. Where the EAC decides to continue with the tariff review, the secretariat of the EAC shall draft the proposed new tariff and terms and conditions. The licensee

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11. Article 42 of the Electricity Law provides that the licensees shall submit information to the EAC as per the regulations issued by the EAC. It will be more appropriate if the requirement of submission of information is included in a comprehensive regulation.

shall be notified about the decision of the EAC to continue with the tariff review along with the draft revised tariff and terms and condition and shall be given 14 days from the date of notice to submit any further information it wishes. The end of the period of 14 days in which the licensee is to submit further information is considered as the Date of Completion of Preliminary Review.

#### *Initiating Review of Tariffs of a Group of Licensees through the Tariff Table*

The EAC can regulate the tariffs of smaller licensees through tariff tables in accordance with the provisions in the Regulations on General Principles for Regulating Electricity Tariff.<sup>12</sup> The EAC shall monitor the annual submissions made by licensees to evaluate the reasonableness of the existing tariff table, if any, or the need to set a new tariff table. The EAC shall identify the licensees, which shall furnish the required information to carry out the review. The EAC shall notify the identified licensees of the proposed review and request them to submit, within 30 days of the date of the notice, the information necessary to review the tariff table. The required information may include the formats for tariff application given in Appendix 4 and any other information considered necessary. The licensee shall have an obligation to furnish the information within the time specified. Where it considers it necessary, The EAC may also send its officers to observe and collect the data relating to the operation of the licensee. The licensee shall cooperate with the officers in the observation and collection of the data.

The EAC will examine the available data and decide whether to continue with the process of tariff table review. Where the EAC decides to continue with the tariff table review, the secretariat of the EAC shall draft the proposed or revised tariff table and terms and conditions. All the licensees covered by the tariff table shall be notified about the decision of the EAC to continue with the tariff table review and shall be given copies of the draft revised tariff table, terms, and condition and basis of calculations, giving 30 days from the date of notice to submit any information they wish to submit. The end of the period of 30 days in which the licensee is to submit further information is considered as the Date of Completion of Preliminary Review.

#### *Tariff Review Documents*

All information submitted by the licensee, the draft revised tariff/tariff table with terms and conditions and any other documents as decided by the EAC are called the tariff review documents.

#### *Procedure for Submission of a Tariff Application: Submission of Tariff Application*

Where a licensee wishes to modify its existing tariffs, or a new licensee wishes to have a tariff approved, a tariff application shall be submitted by the licensee at the office of the EAC in the appropriate forms set out in Appendix 3 (for larger licensees) or Appendix 4 (for smaller licensees), together with the following information:

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12. In this process, licensees operating under similar conditions will have the same tariff and hence it may not be necessary to get data from all the licensees covered by the tariff table, and it will be sufficient to get data from one or more licensees from each group having similar operating conditions.

- Existing tariff, if any, together with all applicable terms and conditions.
- Proposed tariff with all proposed terms and conditions.
- Audited accounts for the previous financial year. If an audited account for the previous financial year is not available owing to the audit being not complete, then an unaudited account for the previous financial year along with the audited accounts for the year last available should be submitted. If a licensee is not able to get its accounts audited owing to reasons accepted by the EAC, the licensee should get the accounts checked by the EAC in accordance with the license condition. In such a case instead of audited accounts the licensee can submit the accounts checked by the EAC.
- A statement of any subsidy received or likely to be received from the government or any other organization.
- An explanation of the rationale for the proposed tariff changes including justifications for the expenses and profit being proposed.

A licensee, applying for modification of its existing tariff, should also submit the annual data and information in Appendix 1 (for larger licensees) or Appendix 2 (for Smaller Licensees), as applicable, if it has not submitted it earlier or wishes to modify the information submitted earlier.

Within 15 working days of receipt of the tariff application, the EAC shall examine it and shall notify the licensee whether the application is appropriate and complete or if any information is needed and specify the date by which the missing information is to be submitted. If the licensee is not able to furnish any information by the specified date, the licensee may apply to the EAC for an extension of the due date or for exemption from submission of the information. The EAC may allow extension of the due date or exemption as the case may be. When the EAC allows an exemption, it may use the best estimates made by it in lieu of the information.

#### *Date of Receipt of Tariff Application*

Where the EAC has notified the licensee that additional information is required, on receipt by the EAC of all the additional information from the licensee or on deciding to grant an exemption from the obligation to submit any additional information, within seven days, the EAC shall notify the licensee that the application is now considered as appropriate and complete. The date on which the EAC notifies the licensee that the application is determined as appropriate and complete under this Article 11 or Article 10 shall be considered as the date of receipt of the tariff application for the purposes of these procedures.

#### **Process of Public Consultation and Determination of Tariff**

##### *Publicizing the Tariff Application/Tariff Review*

Not later than five working days after the date of receipt of the tariff application or date of completion of preliminary review the EAC shall publish a notice giving details of the tariff application or tariff review decision and inviting consumers and interested persons

to furnish written comments on the tariff application/tariff review document and to ask if they would like to be heard in person by the EAC. The notice shall include the following information:

- Name and address of the licensee and area of supply for which the tariff application has been received /tariff review is taken up
- List of documents available for perusal by public
- Addresses where the documents can be perused by the public
- The last date by which written comments are to be submitted to the EAC

The EAC shall make the notice public by the following means:

- Displaying the notice in the office of the EAC, office of the relevant local authority, offices of the licensee, and any other suitable location
- Posting the notice on the website of the EAC

The chairman of the EAC may decide on a case-by-case basis to adopt any additional methods considered appropriate including the following:

- By issuing information through radio and/or television
- By publishing the notice in news paper

#### *Period of Public Consultation*

The period between the date of notice of tariff application or tariff review stated in Article 12 and the last date by which written comments are to be submitted as stated in the notice is called the period of public consultation. The period of public consultation shall be decided by the chairman of the EAC in each case, but shall not be less than 30 days.

#### *Documents Made Available for Perusal by Public*

The tariff application along with the enclosures including the wanting information submitted subsequently by the licensee or the tariff review document, as the case may be, shall be available to the public for perusal during the period of public consultation. However, where a licensee requests that certain information should be treated as confidential, and where the EAC agrees that such information should be treated as confidential, it may exclude the same from the documents made available to the public. The EAC and the licensee shall make arrangements so that any interested person can peruse these documents without charge during normal working hours at:

- Office of the EAC
- Offices of the licensee
- Office of the relevant local authority
- Any other location as decided by the EAC

### *Public Consultation*

Any institution of the government, the local authorities, the consumer, the licensee, or any interested person can provide written comments in response to the notice issued by the EAC inviting written comments on the tariff application or documents for review. The comments may be supported with proper reasoning and copies of documents as evidence.

The EAC may also consult any person, institution, or government department by any one or more of the following procedures as decided by the chairman of the EAC:

- Send a letter asking for an opinion
- Interview
- Invite persons, institutions, and concerned parties for discussion and providing opinion

In all the above cases a written statement of the comments with the signature of the person giving the comments or by the chairperson of the meeting shall be kept by the EAC.

### *Evaluation of the Public Comments and Obtaining Additional Information*

The EAC shall examine and evaluate the comments received in the process of public consultation. The EAC may ask for more precise information, clarification, and evidence in relation to the comments from the persons furnishing the comments. The EAC may seek such information in writing or during a discussion and the required information may be provided in writing or during the discussion. Where the information is provided during a discussion, a written record of the discussion may be signed by the person providing the information or by the chairperson of the meeting.

The EAC shall ask the licensee to give additional information as required for evaluating the public comments and tariff application/tariff review document within a specified period, which shall not be less than 15 days. For this purpose, the EAC may provide copies of the comments received during public consultation on which further information/clarifications are being sought from the licensee. The licensee shall furnish the information within the time allowed by the EAC.

### *Evaluation of the Tariff Determination Proposal*

The secretariat of the EAC shall evaluate the tariff application or the tariff review document, the comments received, and all information received and prepare a report for the consideration of the EAC.

### *Consultative Session of the EAC*

The EAC shall hold a public tariff review session to consult the persons who have requested to be heard in person, the licensee, the secretariat of the EAC, and any other person decided by the EAC. The EAC shall consider all facts brought to its notice in taking its decision on the tariff proposal or tariff review.

### *Decision of the EAC*

The EAC shall declare its decision on the tariff application/tariff review in a session. In the case of a tariff application, this session shall be held within 90 days of the date of tariff application.

The decision shall be in one of the following forms:

- The EAC disapproves the proposal made in the tariff application/tariff review document, in which case the existing tariff with all applicable terms and condition will continue to be in force.
- The EAC approves the proposal made in the tariff application/tariff review document, and specifies the details of the new approved tariff with all applicable terms and conditions and the date from which the new tariff shall be effective.
- The EAC decides to revise the proposal made in the tariff application/tariff review document, and approves a revised tariff, and specifies the details of the new tariff with all applicable terms and conditions and the date from which the new tariff shall be effective.

A copy of the decision of the EAC along with the tariff and applicable terms and conditions shall be made available to the licensee and relevant local authority to bring it to the notice of the consumers.

### *Tariff Fixed Where the EAC Has Approved Maximum Tariff*

Where the EAC has determined the maximum tariff, as in the case of tariff tables, the licensee wishes to modify its tariff, while still complying with the orders of the EAC on tariff determination, it need not seek further approval of the EAC, but shall notify the EAC of the proposed changes at least 28 days before the proposed date of change and provide any further information that the EAC may require.

The EAC shall send a copy of the revised tariff to the relevant local authority to bring it to the notice of the consumers.

### *Right of the Consumer to the Information on Tariff*

The licensee shall keep a copy of all current tariffs with all applicable terms and condition in its offices for perusal by any interested person, free of charge during normal working hours.



# Appendix 1

## Forms for Annual Data Submission by Larger Licensees

| Form   | Contents   |
|--------|--|
| AL 1   | Details of Fuel Purchases by the Licensee - Actuals for the Previous Year                |
| AL 2   | Own Generation Data  |
| AL 3   | Power Purchases Details  |
| AL 4a  | Details of Employee related expenses - Common services - Actuals for the Previous Year   |
| AL 4b  | Details of Employee related expenses - Common services - Estimates for Current Year      |
| AL 4c  | Details of Employee related expenses - Generation only - Actuals for the Previous Year   |
| AL 4d  | Details of Employee related expenses - Generation only - Estimates for Current Year      |
| AL 4e  | Details of Employee related expenses - Distribution only - Actuals for the Previous Year |
| AL 4f  | Details of Employee related expenses - Distribution only - Estimates for Current Year    |
| AL 4g  | Abstract of Employee related expenses  |
| AL 5   | Other O&M Expenses   |
| AL 6   | Administrative & General Expenses  |
| AL 7   | Details of Construction Work in Progress   |
| AL 8   | Details of Loans for the Licensee's Licensed Businesses                                  |
| AL 9   | Details of Gross Fixed Assets  |
| AL 10a | Details of Depreciation - Actuals for the Previous Year                                  |
| AL 10b | Details of Depreciation - Estimates for the Current Year                                 |
| AL 11  | Calculation of Profit  |
| AL 12  | Details of Non-Tariff Income, Other Income and Other Informations                        |
| AL 13  | Calculation of Reasonable Costs  |
| AL 14a | Revenue at Current Tariff Charges - Actuals for the Previous Year                        |
| AL 14b | Revenue at Current Tariff Charges - Estimates for the Current Year                       |

Form AL1

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Fuel Purchases by the Licensee**

Actuals for the Previous Year

|                                     | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|-------------------------------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|
| <b>Source 1 [name]</b>              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Quantity (Litres)                   |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Price/Lit. (Riels)                  |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Fuel Cost ('000 Riels)              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| <b>Source 2</b>                     |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Quantity (Litres)                   |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Price/Lit. (Riels)                  |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Fuel Cost ('000 Riels)              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| <b>Source 3</b>                     |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Quantity (Litres)                   |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Price/Lit. (Riels)                  |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Fuel Cost ('000 Riels)              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Etc.                                |         |          |       |       |     |      |      |        |           |         |          |          |       |
| <b>Total Fuel Cost ('000 Riels)</b> |         |          |       |       |     |      |      |        |           |         |          |          |       |

Note: fuel cost should include other incidental charges like transportation, handling costs, etc.

**Form AL2**

Name of the licensee -  
Annual Data for the Previous Year -

**Own Generation Data**

Plant Name -

Capacity -

Fuel -

|    | Description                             | Unit                | Actuals for the Previous Year |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
|----|---|---------------------|-------------------------------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|--|--|--|
|    |   |                     | January                       | February | March | April | May | June | July | August | September | October | November | December | Total |  |  |  |
| 1  | Energy generated                        | kWh                 |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 2  | Auxiliary consumption                   | kWh                 |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
|    | Auxiliary consumption                   | %                   |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 3  | Energy dispatched (1-2)                 | kWh                 |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
|    | <b>Fuel related data</b>                |                     |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 4  | Fuel consumed                           | Litres              |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 5  | Average price of fuel                   | Riels/Ltr           |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 6  | Cost of fuel                            | ('000) Riels        |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 7  | Lubricant consumed                      | Litres              |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 8  | Average price                           | Riels/Ltr           |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 9  | Cost of lubricant                       | ('000) Riels        |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 10 | <b>Total fuel &amp; lubricant costs</b> | <b>('000) Riels</b> |                               |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |

|    | Description                             | Unit                | Estimates for the Current Year |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
|----|---|---------------------|--------------------------------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|--|--|--|
|    |   |                     | January                        | February | March | April | May | June | July | August | September | October | November | December | Total |  |  |  |
| 1  | Energy generated                        | kWh                 |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 2  | Auxiliary consumption                   | kWh                 |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
|    | Auxiliary consumption                   | %                   |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 3  | Energy dispatched (1-2)                 | kWh                 |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
|    | <b>Fuel related data</b>                |                     |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 4  | Fuel consumed                           | Litres              |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 5  | Average price of fuel                   | Riels/Ltr           |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 6  | Cost of fuel                            | ('000) Riels        |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 7  | Lubricant consumed                      | Litres              |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 8  | Average price                           | Riels/Ltr           |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 9  | Cost of lubricant                       | ('000) Riels        |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |
| 10 | <b>Total fuel &amp; lubricant costs</b> | <b>('000) Riels</b> |                                |          |       |       |     |      |      |        |           |         |          |          |       |  |  |  |

Note: The licensee shall provide information for each of its generation plant in this format



**Form AL 4a**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Employee related expenses - Common services**  
**Actuals for Previous Year**

| Employee Category                     | No. of Employees at the end of the year | Payment Details (000 Riels) |                              |                              |                  |                                    |                                    |                                   | Total |
|---------------------------------------|---|-----------------------------|------------------------------|------------------------------|------------------|------------------------------------|------------------------------------|-----------------------------------|-------|
|                                       |   | Basic Pay                   | Allowance 1 [please specify] | Allowance 2 [please specify] | Social Insurance | Advantage in kind [please specify] | Benefits/ Bonuses [please specify] | Other Components [please specify] |       |
| <b>1 Senior Managers &amp; Board</b>  |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 1.1 Managing Director                 |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 1.2 Deputy Managing Director          |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 1.3 Others, by category               |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>2 Technical Staff</b>              |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 2.1 Senior Engineers, by category     |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 2.2 Junior Engineers, by category     |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>3 Non-Technical Staff</b>          |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>3.1 Administrative</b>             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.1.1 Senior Admin Staff, by category |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.1.2 Junior Admin Staff, by category |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>3.2 Accounts &amp; Finance</b>     |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.2.1 Senior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.2.2 Junior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>3.3 Others, please specify</b>     |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.3.1 Senior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.3.2 Junior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>GRAND TOTAL</b>                    |   |                             |                              |                              |                  |                                    |                                    |                                   |       |

**Note:** Where the licensee has operations in more than one location, separate informations on employees common to different locations and on employees common to different businesses at each location be provided.

Form AL 4b

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Employee related expenses - Common Services**  
**Estimates for Current Year**

| Employee Category                     | No. of Employees in the beginning of the year | Payment Details ('000 Riels) |                              |                              |                  |                                    |                                    | Total |
|---------------------------------------|---|------------------------------|------------------------------|------------------------------|------------------|------------------------------------|------------------------------------|-------|
|                                       |   | Basic Pay                    | Allowance 1 [please specify] | Allowance 2 [please specify] | Social Insurance | Advantage in kind [please specify] | Benefits/ Bonuses [please specify] |       |
| <b>1 Senior Managers &amp; Board</b>  |   |                              |                              |                              |                  |                                    |                                    |       |
| 1.1 Managing Director                 |   |                              |                              |                              |                  |                                    |                                    |       |
| 1.2 Deputy Managing Director          |   |                              |                              |                              |                  |                                    |                                    |       |
| 1.3 Others, by category               |   |                              |                              |                              |                  |                                    |                                    |       |
| <b>2 Technical Staff</b>              |   |                              |                              |                              |                  |                                    |                                    |       |
| 2.1 Senior Engineers, by category     |   |                              |                              |                              |                  |                                    |                                    |       |
| 2.2 Junior Engineers, by category     |   |                              |                              |                              |                  |                                    |                                    |       |
| <b>3 Non-Technical Staff</b>          |   |                              |                              |                              |                  |                                    |                                    |       |
| <b>3.1 Administrative</b>             |   |                              |                              |                              |                  |                                    |                                    |       |
| 3.1.1 Senior Admin Staff, by category |   |                              |                              |                              |                  |                                    |                                    |       |
| 3.1.2 Junior Admin Staff, by category |   |                              |                              |                              |                  |                                    |                                    |       |
| <b>3.2 Accounts &amp; Finance</b>     |   |                              |                              |                              |                  |                                    |                                    |       |
| 3.2.1 Senior, by category             |   |                              |                              |                              |                  |                                    |                                    |       |
| 3.2.2 Junior, by category             |   |                              |                              |                              |                  |                                    |                                    |       |
| <b>3.3 Others, please specify</b>     |   |                              |                              |                              |                  |                                    |                                    |       |
| 3.3.1 Senior, by category             |   |                              |                              |                              |                  |                                    |                                    |       |
| 3.3.2 Junior, by category             |   |                              |                              |                              |                  |                                    |                                    |       |
| <b>GRAND TOTAL</b>                    |   |                              |                              |                              |                  |                                    |                                    |       |

**Note:** Where the licensee has operations in more than one location, separate informations on employees common to different locations and on employees common to different businesses at each location be provided.











**Form AL 4g**

Name of the licensee -  
Annual Data for the Previous Year -

**Abstract of Employee related expenses**

|   | Location                   | Expenses on Generation in '000 Riels |                             | Expenses on Distribution in '000 Riels |                               |       |
|---|----------------------------|--------------------------------------|-----------------------------|--|-------------------------------|-------|
|   |                            | Share of Common Expenses             | Expenses on Generation only | Share of Common Expenses               | Expenses on Distribution only | Total |
| A | Actuals for previous year  |                                      |                             |  |                               |       |
| 1 |                            |                                      |                             |  |                               |       |
| 2 |                            |                                      |                             |  |                               |       |
| 3 |                            |                                      |                             |  |                               |       |
| 4 |                            |                                      |                             |  |                               |       |
|   |                            |                                      |                             |  |                               |       |
|   |                            |                                      |                             |  |                               |       |
| B | Estimates for current year |                                      |                             |  |                               |       |
| 1 |                            |                                      |                             |  |                               |       |
| 2 |                            |                                      |                             |  |                               |       |
| 3 |                            |                                      |                             |  |                               |       |
| 4 |                            |                                      |                             |  |                               |       |
|   |                            |                                      |                             |  |                               |       |
| C | Total                      |                                      |                             |  |                               |       |

Form AL.5

Name of the licensee -  
Annual Data for the Previous Year -

Other O&M Expenses (in '000 Riels)

|   | Particulars                     | Actuals for Previous Year |              |       | Estimates for current year |              |       |
|---|---------------------------------|---------------------------|--------------|-------|----------------------------|--------------|-------|
|   |                                 | Generation                | Distribution | Total | Generation                 | Distribution | Total |
| 1 | Spare parts                     |                           |              |       |                            |              |       |
| 2 | Materials                       |                           |              |       |                            |              |       |
| 3 | Tools                           |                           |              |       |                            |              |       |
| 4 | Repairs & Maintenance           |                           |              |       |                            |              |       |
| 5 | Rents                           |                           |              |       |                            |              |       |
| 6 | Water, Electricity, etc Charges |                           |              |       |                            |              |       |
| 7 | Bad Debt                        |                           |              |       |                            |              |       |
| 8 | Others, please specify          |                           |              |       |                            |              |       |
| 9 |                                 |                           |              |       |                            |              |       |
|   |                                 |                           |              |       |                            |              |       |
|   |                                 |                           |              |       |                            |              |       |
|   | <b>Total</b>                    |                           |              |       |                            |              |       |

**Form AL 6**

Name of the licensee -  
Annual Data for the Previous Year -

**Administrative & General Expenses (in '000 Riels)**

|    | Particulars                        | Actuals for Previous Year |                             | Estimates for current year    |       |                             |                               |
|----|------------------------------------|---------------------------|-----------------------------|-------------------------------|-------|-----------------------------|-------------------------------|
|    |                                    | Total                     | Apportionment to Generation | Apportionment to Distribution | Total | Apportionment to Generation | Apportionment to Distribution |
| 1  | Licence Fee                        |                           |                             |                               |       |                             |                               |
| 2  | Bank Charges                       |                           |                             |                               |       |                             |                               |
| 3  | Taxes (give details of taxes paid) |                           |                             |                               |       |                             |                               |
|    | Taxes (give details of taxes paid) |                           |                             |                               |       |                             |                               |
| 4  | Legal charges                      |                           |                             |                               |       |                             |                               |
| 5  | Auditor's fee                      |                           |                             |                               |       |                             |                               |
| 6  | Regulatory Expenses                |                           |                             |                               |       |                             |                               |
| 7  | Transportation                     |                           |                             |                               |       |                             |                               |
| 8  | Mission and reception              |                           |                             |                               |       |                             |                               |
| 9  | Post and telecom charges           |                           |                             |                               |       |                             |                               |
| 10 | Stationery and office supplies     |                           |                             |                               |       |                             |                               |
| 11 | Insurance costs                    |                           |                             |                               |       |                             |                               |
| 12 | External labour charges            |                           |                             |                               |       |                             |                               |
| 13 | Other costs                        |                           |                             |                               |       |                             |                               |
| 14 | Study and research                 |                           |                             |                               |       |                             |                               |
| 15 | Commission                         |                           |                             |                               |       |                             |                               |
| 16 | Advertising                        |                           |                             |                               |       |                             |                               |
| 17 | Others, please specify             |                           |                             |                               |       |                             |                               |
|    | <b>GRAND TOTAL</b>                 |                           |                             |                               |       |                             |                               |

**Form AL 7**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Construction Work in Progress ('000 Riels)**

| Project Name                 | Brief description of project | Expenditure up to beginning of previous year | Expenditure during the previous year | Interest Cost on the loan for the project during the previous year | Expenditure capitalised during previous year | Expenditure to end of previous year, incl interest (3+4+5-6) | Expected expenditure during current year | Interest Cost on the loan for the project during the current year | Expected Expenditure capitalisation during current year | Expenditure to end of current year, incl interest (7+8+9-10) |
|------------------------------|------------------------------|--|--------------------------------------|--|--|--|--|---|---|--|
| 1                            | 2                            | 3  | 4                                    | 5  | 6  | 7  | 8  | 9   | 10  | 11   |
| <b>Generation Projects</b>   |                              |  |                                      |  |  |  |  |   |   |  |
| Project 1                    |                              |  |                                      |  |  |  |  |   |   |  |
| Project 2                    |                              |  |                                      |  |  |  |  |   |   |  |
| Project 3                    |                              |  |                                      |  |  |  |  |   |   |  |
| <b>Distribution Projects</b> |                              |  |                                      |  |  |  |  |   |   |  |
| Project 1                    |                              |  |                                      |  |  |  |  |   |   |  |
| Project 2                    |                              |  |                                      |  |  |  |  |   |   |  |
| Project 3                    |                              |  |                                      |  |  |  |  |   |   |  |
| <b>GRAND TOTAL</b>           |                              |  |                                      |  |  |  |  |   |   |  |

Note: Expenditure should only be capitalised when the project is commissioned or partially commissioned.

**Form AL 8**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Loans for the Licensee's Licensed Businesses (in '000 Riels)**

| Loan Identification and Details        |                    | Item                          | Actuals Previous Year | Anticipated Current Year |
|--|--------------------|-------------------------------|-----------------------|--------------------------|
| <b>Loans for Generation Business</b>   |                    |                               |                       |                          |
| 1                                      | Ref No:            | Outstanding at Start of Year  |                       |                          |
|  | Lender             | Loan received during the year |                       |                          |
|  | Amount Borrowed    | Repayments During the Year    |                       |                          |
|  | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|  | Interest Terms     | Interest Payments during Year |                       |                          |
| 2                                      | Ref No:            | Outstanding at Start of Year  |                       |                          |
|  | Lender             | Loan received during the year |                       |                          |
|  | Amount Borrowed    | Repayments During the Year    |                       |                          |
|  | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|  | Interest Terms     | Interest Payments during Year |                       |                          |
| <b>Loans for Distribution Business</b> |                    |                               |                       |                          |
| 3                                      | Ref No:            | Outstanding at Start of Year  |                       |                          |
|  | Lender             | Loan received during the year |                       |                          |
|  | Amount Borrowed    | Repayments During the Year    |                       |                          |
|  | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|  | Interest Terms     | Interest Payments during Year |                       |                          |
| 4                                      | Ref No:            | Outstanding at Start of Year  |                       |                          |
|  | Lender             | Loan received during the year |                       |                          |
|  | Amount Borrowed    | Repayments During the Year    |                       |                          |
|  | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|  | Interest Terms     | Interest Payments during Year |                       |                          |
| <b>TOTAL OUTSTANDING AT YEAR END</b>   |                    |                               |                       |                          |
| <b>TOTAL INTEREST DURING YEAR</b>      |                    |                               |                       |                          |

**Form AL 9**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Gross Fixed Assets ('000 Riels)**

| Reference No. of Asset Class | Description of Assets                           | Assets at beginning of Previous Year | Additions during Previous Year | Retirements during Previous Year | Balance at end of the Previous Year | Additions during Current Year | Retirements during Current Year | Balance at end of the Current Year |
|------------------------------|---|--------------------------------------|--------------------------------|----------------------------------|-------------------------------------|-------------------------------|---------------------------------|------------------------------------|
|                              |   | (a)                                  | (b)                            | (c)                              | (d)=(a)+(b)-(c)                     | (e)                           | (f)                             | (g)=(d)+(e)-(f)                    |
|                              | <b><u>Generation Assets</u></b>                 |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Land  |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Building  |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Generating Sets, by type                        |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Other Generation equipment                      |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Switchgear including Cable Connections          |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Please specify other classes of assets by class |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | <b>GRAND TOTAL</b>                              |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | <b><u>Distribution Assets</u></b>               |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Land  |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Building  |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Switchgear including Cable Connections          |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Lines   |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | Please specify other classes of assets by class |                                      |                                |                                  |                                     |                               |                                 |                                    |
|                              | <b>GRAND TOTAL</b>                              |                                      |                                |                                  |                                     |                               |                                 |                                    |

Note: while listing assets in the above formats, licensees should exclude all consumer contribution and grants.



**Form AL 10a**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Depreciation ('000 Riels)**  
**Actuals for Previous Year**

| Reference No. of Asset Class | Description of Assets                           | Gross Value | Balance of Accumulated Depreciation at beginning of year | Rate of Depreciation | Depreciation provided for the year | Balance of Accumulated Depreciation at end of year | Net Fixed Asset |
|------------------------------|---|-------------|--|----------------------|------------------------------------|--|-----------------|
|                              |   | (a)         | (b)  | (c)                  | (d)=(a)x(c)                        | (e)=(b)+(d)  | (f)=(a)-(e)     |
|                              | <b><u>Generation Assets</u></b>                 |             |  |                      |                                    |  |                 |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Generating Sets, by type                        |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              |   |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |
|                              | <b><u>Distribution Assets</u></b>               |             |  |                      |                                    |  |                 |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Lines   |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              |   |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |

Form AL 10b

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Depreciation ('000 Riels)**

**Estimates for Current Year**

| Reference No. of Asset Class | Description of Assets                           | Gross Value | Balance of Accumulated Depreciation at beginning of year | Rate of Depreciation | Depreciation provided for the year | Balance of Accumulated Depreciation at end of year | Net Fixed Asset |
|------------------------------|---|-------------|--|----------------------|------------------------------------|--|-----------------|
|                              |   | (a)         | (b)  | (c)                  | (d)=(a)x(c)                        | (e)=(b)+(d)  | (f)=(a)-(e)     |
|                              | <b><u>Generation Assets</u></b>                 |             |  |                      |                                    |  |                 |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Generating Sets, by type                        |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              |   |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |
|                              | <b><u>Distribution Assets</u></b>               |             |  |                      |                                    |  |                 |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Lines   |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              |   |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |

**Form AL 11**

Name of the licensee -

Annual Data for the Previous Year -

**Calculation of Profit ('000 Riels)**

| Particulars of Asset Base   | Actuals for Previous Year | Estimates for Current Year |
|---|---------------------------|----------------------------|
| <b><u>Generation Business</u></b>   |                           |                            |
| Gross book value of fixed assets (excluding grants and consumer contribution) |                           |                            |
| Provision for Working Capital   |                           |                            |
| Gross Value of Rate Base  |                           |                            |
| less: Accumulated Depreciation  |                           |                            |
| <b>Net Value of Rate Base</b>   |                           |                            |
| Amount of Loan outstanding for assets in use                                  |                           |                            |
| Net Direct Capital  |                           |                            |
| Rate of profit on NDC   |                           |                            |
| Profit on NDC at rate given above   |                           |                            |
|   |                           |                            |
| <b><u>Distribution Business</u></b>   |                           |                            |
| Gross book value of fixed assets (excluding grants and consumer contribution) |                           |                            |
| Provision for Working Capital   |                           |                            |
| Gross Value of Rate Base  |                           |                            |
| less: Accumulated Depreciation  |                           |                            |
| <b>Net Value of Rate Base</b>   |                           |                            |
| Amount of Loan outstanding for assets in use                                  |                           |                            |
| Net Direct Capital  |                           |                            |
| Rate of profit on NDC   |                           |                            |
| Profit on NDC at rate given above   |                           |                            |
|   |                           |                            |

Note: methodology for the calculation of working capital should be stated.

**Form AL 12**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Non-Tariff Income (in '000 Riels)**

| Particulars  | Actuals of Previous Year | Estimates of Current Year |
|--|--------------------------|---------------------------|
| Meter Testing Charges  |                          |                           |
| Reconnection fees  |                          |                           |
| Rents  |                          |                           |
| Transfer fees  |                          |                           |
| Interst  |                          |                           |
| Sale of parts and materials  |                          |                           |
| Other general receipts arising from and ancillary or incidental to business of electricity supply. |                          |                           |
| Subsidy  |                          |                           |
| Grants   |                          |                           |
| Others   |                          |                           |
| <b>Total of Non-Tariff Income</b>  |                          |                           |

Note: these Non-tariff income are revenues from sources other than tariff charges to consumers, but are derived only from the licensed business and not from any other business of the Licensee

**Details of Other Income (in '000 Riels)**

| Particulars                                 | Actuals of Previous Year | Estimates of Current Year |
|---|--------------------------|---------------------------|
| Charges for Reactive Energy                 |                          |                           |
| Interest paid by consumers for late Payment |                          |                           |
| Penalties                                   |                          |                           |
| Others                                      |                          |                           |
|   |                          |                           |

**Details of Other Informations (in '000 Riels)**

| Particulars   | Actuals of Previous Year | Estimates of Current Year |
|---|--------------------------|---------------------------|
| Amount of Security Deposit from consumers at the end of Year  |                          |                           |
| (i) in cash   |                          |                           |
| (ii) in Bank Guarantee  |                          |                           |
| Amount of connection fees and consumer contributions received |                          |                           |
| Amount of revenue outstanding at the end of year on           |                          |                           |
| (i) Government Consumers                                      |                          |                           |
| (ii) Industrial Consumers                                     |                          |                           |
| (iii) Other Consumers   |                          |                           |
| (iv) Total  |                          |                           |

**Form AL 13**

Name of the licensee -

Annual Data for the Previous Year -

**Calculation of Reasonable Costs ('000 Riels)**

| Particulars                                    | Actuals for Previous Year | Estimates for Current Year |
|--|---------------------------|----------------------------|
| <b><u>Generation Cost</u></b>                  |                           |                            |
| Cost of fuel                                   |                           |                            |
| Cost of Lubricants                             |                           |                            |
| Employees'cost for Generation                  |                           |                            |
| Other Operation & Maintenance Expenses         |                           |                            |
| Administrative & General Expenses              |                           |                            |
| Depreciation                                   |                           |                            |
| Interest                                       |                           |                            |
| Reasonable return                              |                           |                            |
| <b>Total Reasonable Costs for Generation</b>   |                           |                            |
| Energy Sent out in KWH                         |                           |                            |
| Cost of Generation per KWH                     |                           |                            |
|  |                           |                            |
| <b><u>Distribution Cost</u></b>                |                           |                            |
| Cost of Power Purchase                         |                           |                            |
| Employees'cost for Generation                  |                           |                            |
| Other Operation & Maintenance Expenses         |                           |                            |
| Administrative & General Expenses              |                           |                            |
| Depreciation                                   |                           |                            |
| Interest                                       |                           |                            |
| Reasonable return                              |                           |                            |
| <b>Total Reasonable Costs for Distribution</b> |                           |                            |
|  |                           |                            |
| <b>Total Cost (Generation + Distribution)</b>  |                           |                            |
| Less Non Tariff Income                         |                           |                            |
| <b>Total revenue recoverable from tariffs</b>  |                           |                            |
|  |                           |                            |

**Form AL 14a**

Name of the licensee -  
Annual Data for the Previous Year -  
**Revenue at Current Tariff Charges**  
**Actuals for Previous Year**

| CATEGORY                                   | No of consumers at the end of the year | Components of tariff                |                                     |                                     | Relevant sales related data |                  |                  | Full year revenue billed                 |  |  | Amount of revenue collected              |  |  |                    |
|--|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|------------------|------------------|--|--|--|--|--|--|--------------------|
|  |  | Rate of Energy Charges<br>Riels/KWH | Part 2 (specify part name and unit) | Part 3 (specify part name and unit) | Energy Sold<br>KWH          | Item 2 (specify) | Item 3 (specify) | Revenue from Energy Charges<br>000 Riels | Revenue from Part 2 of tariff<br>000 Riels | Revenue from Part 3 of tariff<br>000 Riels | Revenue from Energy Charges<br>000 Riels | Revenue from Part 2 of tariff<br>000 Riels | Revenue from Part 3 of tariff<br>000 Riels | Total<br>000 Riels |
| <b>Domestic</b>                            |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <50 kWh                                    |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| 50<100 kWh                                 |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| >100 kWh                                   |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Government Institutions</b>             |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Embassy, NGO, Foreigner's Residence</b> |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Commercial and Service Sector</b>       |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| Small                                      |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| Medium                                     |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| Big  |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Industrial</b>                          |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| Small                                      |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| Medium                                     |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| Big  |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Medium Voltage</b>                      |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Collective Customers</b>                |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <50 kWh                                    |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| 50<100 kWh                                 |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| >100 kWh                                   |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>Sale to other Licensees</b>             |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |
| <b>TOTAL</b>                               |  |                                     |                                     |                                     |                             |                  |                  |  |  |  |  |  |  |                    |

**Note:** This table shows indicative tariff categories. The licensee shall include all relevant information on categories, sub-categories

**Form AL 14b**

Name of the licensee -  
Annual Data for the Previous Year -  
**Revenue at Current Tariff Charges  
Estimates for Current Year**

| CATEGORY                                   | No of consumers at the end of the year | Components of tariff                |                                     |                                     | Relevant sales related data |                  |                  | Full year revenue billed                 |                               |                               |       | Amount of revenue collected              |                               |                               |       |
|--|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|------------------|------------------|--|-------------------------------|-------------------------------|-------|--|-------------------------------|-------------------------------|-------|
|  |  | Rate of Energy Charges<br>Riels/KWH | Part 2 (specify part name and unit) | Part 3 (specify part name and unit) | Energy Sold                 | Item 2 (specify) | Item 3 (specify) | Revenue from Energy Charges<br>000 Riels | Revenue from Part 2 of tariff | Revenue from Part 3 of tariff | Total | Revenue from Energy Charges<br>000 Riels | Revenue from Part 2 of tariff | Revenue from Part 3 of tariff | Total |
| <b>Domestic</b>                            |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <50 kWh                                    |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| 50<100 kWh                                 |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| >100 kWh                                   |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Government</b>                          |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Institutions</b>                        |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Embassy, NGO, Foreigner's Residence</b> |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Commercial and Service Sector</b>       |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| Small                                      |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| Medium                                     |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| Big  |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Industrial</b>                          |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| Small                                      |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| Medium                                     |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| Big  |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Medium Voltage</b>                      |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Collective Customers</b>                |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <50 kWh                                    |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| 50<100 kWh                                 |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| >100 kWh                                   |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>Sale to other Licensees</b>             |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |
| <b>TOTAL</b>                               |  |                                     |                                     |                                     |                             |                  |                  |  |                               |                               |       |  |                               |                               |       |

**Note:** This table shows indicative tariff categories. The licensee shall include all relevant information on categories, sub-categories





# Appendix 2

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## Forms for Annual Data Submission by Smaller Licensees

| <b>Form</b> | <b>Contents</b>  |
|-------------|--|
| AS 1        | Details of Fuel, Lubricants and Own Generation           |
| AS 2        | Power Purchases Details                                  |
| AS 3        | Details of Employee related expenses                     |
| AS 4        | Other O&M Expenses                                       |
| AS 5        | Administrative & General Expenses and Other Informations |
| AS 6        | Details of Loans for the Licensee's Licensed Businesses  |
| AS 7        | Details of Gross Fixed Assets                            |
| AS 8        | Details of Depreciation                                  |
| AS 9        | Calculation of Profit                                    |
| AS 10       | Calculation of Reasonable Costs                          |
| AS 11       | Revenue at Current Tariff Charges                        |

Form AS 1

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Fuel, Lubricants and Own Generation**  
**Actuals for Previous Year**

|   | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|---|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|
| <b><u>Fuel Data</u></b>                 |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Source [name]                           |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Quantity Purchased(Litres)              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Price/Lit. (Riels)                      |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Fuel Consumed (Litres)                  |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Cost of Fuel Consumed ('000 Riels)      |         |          |       |       |     |      |      |        |           |         |          |          |       |
| <b><u>Lubricants Data</u></b>           |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Source                                  |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Quantity Purchased (Litres)             |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Price/Lit. (Riels)                      |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Lubricant Consumed (Litres)             |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Cost of Lubricant Consumed ('000 Riels) |         |          |       |       |     |      |      |        |           |         |          |          |       |
| <b><u>Energy Data</u></b>               |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Energy sent out (Metered)               |         |          |       |       |     |      |      |        |           |         |          |          |       |
| Energy sent out (Un-metered)            |         |          |       |       |     |      |      |        |           |         |          |          |       |

Note: fuel cost should include other incidental charges like transportation, handling costs, etc.





**Form AS 4**

Name of the licensee -  
Annual Data for the Previous Year -

**Other O&M Expenses (in '000 Riels)**

|   | Particulars                     | Actuals for Previous Year |              |       | Estimates for current year |              |       |
|---|---------------------------------|---------------------------|--------------|-------|----------------------------|--------------|-------|
|   |                                 | Generation                | Distribution | Total | Generation                 | Distribution | Total |
| 1 | Spare parts                     |                           |              |       |                            |              |       |
| 2 | Materials                       |                           |              |       |                            |              |       |
| 3 | Tools                           |                           |              |       |                            |              |       |
| 4 | Repairs & Maintenance           |                           |              |       |                            |              |       |
| 5 | Rents                           |                           |              |       |                            |              |       |
| 6 | Water, Electricity, etc Charges |                           |              |       |                            |              |       |
| 7 | Bad Debt                        |                           |              |       |                            |              |       |
| 8 | Others, please specify          |                           |              |       |                            |              |       |
| 9 |                                 |                           |              |       |                            |              |       |
|   |                                 |                           |              |       |                            |              |       |
|   |                                 |                           |              |       |                            |              |       |
|   | <b>Total</b>                    |                           |              |       |                            |              |       |

Name of the licensee -

**Form AS 5**

Annual Data for the Previous Year -

**Administrative & General Expenses (in '000 Riels)**

|    | Particulars                        | Actuals for Previous Year | Estimates for current year |
|----|------------------------------------|---------------------------|----------------------------|
| 1  | Licence Fee                        |                           |                            |
| 2  | Bank Charges                       |                           |                            |
| 3  | Taxes (give details of taxes paid) |                           |                            |
|    | Taxes (give details of taxes paid) |                           |                            |
| 4  | Legal charges                      |                           |                            |
| 5  | Auditor's fee                      |                           |                            |
| 6  | Mission and reception              |                           |                            |
| 7  | Post and telecom charges           |                           |                            |
| 8  | Stationery and office supplies     |                           |                            |
| 9  | Insurance costs                    |                           |                            |
| 10 | Others                             |                           |                            |
|    | <b>GRAND TOTAL</b>                 |                           |                            |

**Other Informations**

|   | Particulars   | Actuals for Previous Year | Estimates for current year |
|---|---|---------------------------|----------------------------|
| 1 | Amount of connection fee received   |                           |                            |
| 2 | Does the licensee own any other business like Battery Charging, workshop etc to which supply has been given |                           |                            |
| 3 | Is this supply metered  |                           |                            |
| 4 | Is this supply considered as sale and bills furnished   |                           |                            |
| 5 | How many family members are working whole time for the licensed business and not included in the form AS3   |                           |                            |
| 6 | How many family members are working part time for the licensed business and not included in the form AS3    |                           |                            |

**Form AS.6**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Loans for the Licensee's Licensed Businesses (in '000 Riels)**

| Loan Identification and Details      |                    | Item                          | Actuals Previous Year | Anticipated Current Year |
|--------------------------------------|--------------------|-------------------------------|-----------------------|--------------------------|
| 1                                    | Ref No:            | Outstanding at Start of Year  |                       |                          |
|                                      | Lender             | Loan received during the year |                       |                          |
|                                      | Amount Borrowed    | Repayments During the Year    |                       |                          |
|                                      | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|                                      | Interest Terms     | Interest Payments during Year |                       |                          |
| 2                                    | Ref No:            | Outstanding at Start of Year  |                       |                          |
|                                      | Lender             | Loan received during the year |                       |                          |
|                                      | Amount Borrowed    | Repayments During the Year    |                       |                          |
|                                      | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|                                      | Interest Terms     | Interest Payments during Year |                       |                          |
| 3                                    | Ref No:            | Outstanding at Start of Year  |                       |                          |
|                                      | Lender             | Loan received during the year |                       |                          |
|                                      | Amount Borrowed    | Repayments During the Year    |                       |                          |
|                                      | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|                                      | Interest Terms     | Interest Payments during Year |                       |                          |
| 4                                    | Ref No:            | Outstanding at Start of Year  |                       |                          |
|                                      | Lender             | Loan received during the year |                       |                          |
|                                      | Amount Borrowed    | Repayments During the Year    |                       |                          |
|                                      | Repayment Schedule | Outstanding at End of Year    |                       |                          |
|                                      | Interest Terms     | Interest Payments during Year |                       |                          |
| <b>TOTAL OUTSTANDING AT YEAR END</b> |                    |                               |                       |                          |
| <b>TOTAL INTEREST DURING YEAR</b>    |                    |                               |                       |                          |

**Form AS7**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Gross Fixed Assets ('000 Riels)**

| Reference No. of Asset Class | Description of Assets                           | Assets at beginning of Previous Year (a) | Additions during Previous Year (b) | Retirements during Previous Year (c) | Balance at end of the Previous Year (d)=(a)+(b)-(c) | Estimated Additions during Current Year (e) | Estimated Retirements during Current Year (f) | Estimated Balance at end of the Current Year (g)=(d)+(e)-(f) |
|------------------------------|---|--|------------------------------------|--------------------------------------|---|---|---|--|
|                              | Land  |  |                                    |                                      |   |   |   |  |
|                              | Building  |  |                                    |                                      |   |   |   |  |
|                              | Generating Sets, by type                        |  |                                    |                                      |   |   |   |  |
|                              | Other Generation Equipment                      |  |                                    |                                      |   |   |   |  |
|                              | Switchgear including Cable Connections          |  |                                    |                                      |   |   |   |  |
|                              | Lines   |  |                                    |                                      |   |   |   |  |
|                              | Please specify other classes of assets by class |  |                                    |                                      |   |   |   |  |
|                              |   |  |                                    |                                      |   |   |   |  |
|                              |   |  |                                    |                                      |   |   |   |  |
|                              |   |  |                                    |                                      |   |   |   |  |
|                              | <b>GRAND TOTAL</b>                              |  |                                    |                                      |   |   |   |  |

Note: while listing assets in the above formats, licensees should exclude all consumer contribution and grants.



**Form AS 8**

Name of the licensee -  
Annual Data for the Previous Year -

**Details of Depreciation ('000 Riels)**  
**Actuals for Previous Year**

| Reference No. of Asset Class | Description of Assets                           | Gross Value | Balance of Accumulated Depreciation at beginning of year | Rate of Depreciation | Depreciation provided for the year | Balance of Accumulated Depreciation at end of year | Net Fixed Asset |
|------------------------------|---|-------------|--|----------------------|------------------------------------|--|-----------------|
|                              |   | (a)         | (b)  | (c)                  | (d)=(a)x(c)                        | (e)=(b)+(d)  | (f)=(a)-(e)     |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Generating Sets, by type                        |             |  |                      |                                    |  |                 |
|                              | Other Generation Equipment                      |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Lines   |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |

**Estimates for Current Year**

| Reference No. of Asset Class | Description of Assets                           | Gross Value | Balance of Accumulated Depreciation at beginning of year | Rate of Depreciation | Depreciation provided for the year | Balance of Accumulated Depreciation at end of year | Net Fixed Asset |
|------------------------------|---|-------------|--|----------------------|------------------------------------|--|-----------------|
|                              |   | (a)         | (b)  | (c)                  | (d)=(a)x(c)                        | (e)=(b)+(d)  | (f)=(a)-(e)     |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Generating Sets, by type                        |             |  |                      |                                    |  |                 |
|                              | Other Generation Equipment                      |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Lines   |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |

**Form AS9**

Name of the licensee -

Annual Data for the Previous Year -

**Calculation of Profit ('000 Riels)**

| Particulars of Asset Base   | Actuals for Previous Year | Estimates for Current Year |
|---|---------------------------|----------------------------|
|   |                           |                            |
| Gross book value of fixed assets (excluding grants and consumer contribution) |                           |                            |
| Provision for Working Capital   |                           |                            |
| Gross Value of Rate Base  |                           |                            |
|   |                           |                            |
| less: Accumulated Depreciation  |                           |                            |
| <b>Net Value of Rate Base</b>   |                           |                            |
|   |                           |                            |
| Amount of Loan outstanding for assets in use                                  |                           |                            |
| Net Direct Capital  |                           |                            |
|   |                           |                            |
| Rate of profit on NDC   |                           |                            |
| Profit on NDC at rate given above   |                           |                            |
|   |                           |                            |

Note: methodology for the calculation of working capital should be stated.

**Form AS 10**

Name of the licensee -

Annual Data for the Previous Year -

**Calculation of Reasonable Costs ('000 Riels)**

| Particulars                            | Actuals for Previous Year | Estimates for Current Year |
|--|---------------------------|----------------------------|
| Cost of fuel                           |                           |                            |
| Cost of Lubricants                     |                           |                            |
| Cost of Power Purchase                 |                           |                            |
| Employees'cost                         |                           |                            |
| Other Operation & Maintenance Expenses |                           |                            |
| Administrative & General Expenses      |                           |                            |
| Depreciation                           |                           |                            |
| Interest                               |                           |                            |
| Reasonable return                      |                           |                            |
| <b>Total Reasonable Costs</b>          |                           |                            |
|  |                           |                            |

**Form AS.11**

Name of the licensee -  
Annual Data for the Previous Year -

**Revenue at Current Tariff Charges**  
**Actuals for Previous Year**

| CATEGORY               | No of consumers with metered supply at the end of the year | No of consumers without metered supply at the end of the year | Tariff for metered supply<br>Riels /KWH | Tariff for Un-metered supply<br>Riels /Appliance | Energy supplied for metered supply<br>KWH | Revenue billed for metered supply<br>000 Riels | Revenue billed for Un-metered supply<br>000 Riels | Total Revenue billed<br>000 Riels | Amount of Revenue collected |           |
|------------------------|--|---|---|--|---|--|---|-----------------------------------|-----------------------------|-----------|
|                        |  |   |   |  |   |  |   |                                   |                             | 000 Riels |
| <b>Consumption</b>     |  |   |   |  |   |  |   |                                   |                             |           |
| Less than 20 KWH/Month |  |   |   |  |   |  |   |                                   |                             |           |
| More than 20 KWH/Month |  |   |   |  |   |  |   |                                   |                             |           |
|                        |  |   |   |  |   |  |   |                                   |                             |           |
|                        |  |   |   |  |   |  |   |                                   |                             |           |
|                        |  |   |   |  |   |  |   |                                   |                             |           |
| <b>TOTAL</b>           |  |   |   |  |   |  |   |                                   |                             |           |

**Estimates for Current Year**

| CATEGORY               | No of consumers with metered supply at the end of the year | No of consumers without metered supply at the end of the year | Tariff for metered supply<br>Riels /KWH | Tariff for Un-metered supply<br>Riels /Appliance | Energy supplied for metered supply<br>KWH | Revenue billed for metered supply<br>000 Riels | Revenue billed for Un-metered supply<br>000 Riels | Total Revenue billed<br>000 Riels | Amount of Revenue collected |           |
|------------------------|--|---|---|--|---|--|---|-----------------------------------|-----------------------------|-----------|
|                        |  |   |   |  |   |  |   |                                   |                             | 000 Riels |
| <b>Consumption</b>     |  |   |   |  |   |  |   |                                   |                             |           |
| Less than 20 KWH/Month |  |   |   |  |   |  |   |                                   |                             |           |
| More than 20 KWH/Month |  |   |   |  |   |  |   |                                   |                             |           |
|                        |  |   |   |  |   |  |   |                                   |                             |           |
|                        |  |   |   |  |   |  |   |                                   |                             |           |
|                        |  |   |   |  |   |  |   |                                   |                             |           |
| <b>TOTAL</b>           |  |   |   |  |   |  |   |                                   |                             |           |

Note: This table shows indicative tariff categories. The licensee shall include all relevant information on categories, sub-categories and slabs.

# Appendix 3

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## Forms for Submission by Larger Licensees with Tariff Application

| <b>Form</b> | <b>Contents</b>  |
|-------------|--|
| TL 1        | Own Generation Data                                      |
| TL 2        | Power Purchases Details                                  |
| TL 3a       | Details of Employee related expenses - Common Services   |
| TL 3b       | Details of Employee related expenses - Generation Only   |
| TL 3c       | Details of Employee related expenses - Distribution only |
| TL 3d       | Abstract of Employee related expenses                    |
| TL 4        | Other O&M Expenses                                       |
| TL 5        | Administrative & General Expenses                        |
| TL 6        | Details of Construction Work in Progress                 |
| TL 7        | Details of Loans for the Licensee's Licensed Businesses  |
| TL 8        | Details of Gross Fixed Assets                            |
| TL 9        | Details of Depreciation                                  |
| TL 10       | Calculation of Profit                                    |
| TL 11       | Details of Non-Tariff Income and Other Income            |
| TL 12       | Calculation of Reasonable Costs                          |
| TL 13       | Revenue at Current Tariff Charges                        |
| TL 14       | Revenue at Proposed Tariff Charges                       |

Form TL1

Name of the licensee -

Own Generation Data

Plant Name -

Capacity -

Fuel -

Estimates for the Ensuing Year

|    | Description                             | Unit                | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|----|---|---------------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|
| 1  | Energy generated                        | kWh                 |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 2  | Auxiliary consumption                   | kWh                 |         |          |       |       |     |      |      |        |           |         |          |          |       |
|    | Auxiliary consumption                   | %                   |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 3  | Energy dispatched (1-2)                 | kWh                 |         |          |       |       |     |      |      |        |           |         |          |          |       |
|    | <b>Fuel related data</b>                |                     |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 4  | Fuel consumed                           | Litres              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 5  | Average price of fuel                   | Riels/Ltr           |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 6  | Cost of fuel                            | ('000) Riels        |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 7  | Lubricant consumed                      | Litres              |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 8  | Average price                           | Riels/Ltr           |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 9  | Cost of lubricant                       | ('000) Riels        |         |          |       |       |     |      |      |        |           |         |          |          |       |
| 10 | <b>Total fuel &amp; lubricant costs</b> | <b>('000) Riels</b> |         |          |       |       |     |      |      |        |           |         |          |          |       |

Note: The licensee shall provide information for each of its generation plant in this format



Form TL 3a

Name of the licensee -

**Details of Employee related expenses - Common Services**  
**Estimates for Ensuing Year**

| Employee Category                     | No. of Employees in the beginning of the year | Payment Details (000 Riels) |                              |                              |                  |                                    |                                    |                                   | Total |
|---------------------------------------|---|-----------------------------|------------------------------|------------------------------|------------------|------------------------------------|------------------------------------|-----------------------------------|-------|
|                                       |   | Basic Pay                   | Allowance 1 [please specify] | Allowance 2 [please specify] | Social Insurance | Advantage in kind [please specify] | Benefits/ Bonuses [please specify] | Other Components [please specify] |       |
| <b>1 Senior Managers &amp; Board</b>  |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 1.1 Managing Director                 |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 1.2 Deputy Managing Director          |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 1.3 Others, by category               |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>2 Technical Staff</b>              |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 2.1 Senior Engineers, by category     |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 2.2 Junior Engineers, by category     |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>3 Non-Technical Staff</b>          |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.1 Administrative                    |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.1.1 Senior Admin Staff, by category |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.1.2 Junior Admin Staff, by category |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.2 Accounts & Finance                |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.2.1 Senior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.2.2 Junior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.3 Others, please specify            |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.3.1 Senior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| 3.3.2 Junior, by category             |   |                             |                              |                              |                  |                                    |                                    |                                   |       |
| <b>GRAND TOTAL</b>                    |   |                             |                              |                              |                  |                                    |                                    |                                   |       |

**Note:** Where the licensee has operations in more than one location, separate informations on employees common to different locations and on employees common to different businesses at each location be provided.







Name of the licensee -

**Form TL 3d**

**Abstract of Employee related expenses**  
**Estimates for Ensuing Year**

|   | Location | Expenses on Generation in '000 Riels |                             |       | Expenses on Distribution in '000 Riels |                               |       |
|---|----------|--------------------------------------|-----------------------------|-------|--|-------------------------------|-------|
|   |          | Share of Common Expenses             | Expenses on Generation only | Total | Share of Common Expenses               | Expenses on Distribution only | Total |
| 1 |          |                                      |                             |       |  |                               |       |
| 2 |          |                                      |                             |       |  |                               |       |
| 3 |          |                                      |                             |       |  |                               |       |
| 4 |          |                                      |                             |       |  |                               |       |
|   |          |                                      |                             |       |  |                               |       |
|   |          |                                      |                             |       |  |                               |       |
|   |          |                                      |                             |       |  |                               |       |
|   | Total    |                                      |                             |       |  |                               |       |

**Form TL 4**

Name of the licensee -

**Other O&M Expenses (in '000 Riels)**

|   |                                 | Estimates for ensuing year |              |       |
|---|---------------------------------|----------------------------|--------------|-------|
|   | Particulars                     | Generation                 | Distribution | Total |
| 1 | Spare parts                     |                            |              |       |
| 2 | Materials                       |                            |              |       |
| 3 | Tools                           |                            |              |       |
| 4 | Repairs & Maintenance           |                            |              |       |
| 5 | Rents                           |                            |              |       |
| 6 | Water, Electricity, etc Charges |                            |              |       |
| 7 | Bad Debt                        |                            |              |       |
| 8 | Others, please specify          |                            |              |       |
| 9 |                                 |                            |              |       |
|   |                                 |                            |              |       |
|   |                                 |                            |              |       |
|   | <b>Total</b>                    |                            |              |       |

**Form TL 5**

Name of the licensee -

**Administrative & General Expenses (in '000 Riels)**

|    |                                    | Estimates for current year |                             |                               |
|----|------------------------------------|----------------------------|-----------------------------|-------------------------------|
|    | Particulars                        | Total                      | Apportionment to Generation | Apportionment to Distribution |
| 1  | Licence Fee                        |                            |                             |                               |
| 2  | Bank Charges                       |                            |                             |                               |
| 3  | Taxes (give details of taxes paid) |                            |                             |                               |
|    | Taxes (give details of taxes paid) |                            |                             |                               |
| 4  | Legal charges                      |                            |                             |                               |
| 5  | Auditor's fee                      |                            |                             |                               |
| 6  | Regulatory Expenses                |                            |                             |                               |
| 7  | Transportation                     |                            |                             |                               |
| 8  | Mission and reception              |                            |                             |                               |
| 9  | Post and telecom charges           |                            |                             |                               |
| 10 | Stationery and office supplies     |                            |                             |                               |
| 11 | Insurance costs                    |                            |                             |                               |
| 12 | External labour charges            |                            |                             |                               |
| 13 | Other costs                        |                            |                             |                               |
| 14 | Study and research                 |                            |                             |                               |
| 15 | Commission                         |                            |                             |                               |
| 16 | Advertising                        |                            |                             |                               |
| 17 | Others, please specify             |                            |                             |                               |
|    | <b>GRAND TOTAL</b>                 |                            |                             |                               |

**Form TL 6**

Name of the licensee -

**Details of Construction Work in Progress ('000 Riels)**

| Project Name                 | Brief description of project | Expenditure to end of previous year | Expenditure during the current year | Interest Cost on the loan for the project during current year | Expenditure to be capitalised during current year | Expenditure to end of current year, incl interest (3+4+5-6) | Expected expenditure during ensuing year | Interest Cost on the loan for the project during ensuing year | Expected Expenditure capitalisation during ensuing year | Expenditure to end of ensuing year, incl interest (7+8+9-10) |
|------------------------------|------------------------------|-------------------------------------|-------------------------------------|---|---|---|--|---|---|--|
| 1                            | 2                            | 3                                   | 4                                   | 5   | 6   | 7   | 8  | 9   | 10  | 11   |
| <b>Generation Projects</b>   |                              |                                     |                                     |   |   |   |  |   |   |  |
| Project 1                    |                              |                                     |                                     |   |   |   |  |   |   |  |
| Project 2                    |                              |                                     |                                     |   |   |   |  |   |   |  |
| Project 3                    |                              |                                     |                                     |   |   |   |  |   |   |  |
| <b>Distribution Projects</b> |                              |                                     |                                     |   |   |   |  |   |   |  |
| Project 1                    |                              |                                     |                                     |   |   |   |  |   |   |  |
| Project 2                    |                              |                                     |                                     |   |   |   |  |   |   |  |
| Project 3                    |                              |                                     |                                     |   |   |   |  |   |   |  |
| <b>GRAND TOTAL</b>           |                              |                                     |                                     |   |   |   |  |   |   |  |

Note: Expenditure should only be capitalised when the project is commissioned or partially commissioned.

Name of the licensee -

**Details of Loans for the Licensee's Licensed Businesses (in '000 Riels)**

|   | Loan Identification and Details               |  | Item                          | Anticipated<br>Ensuing Year |
|---|---|--|-------------------------------|-----------------------------|
|   | <b><u>Loans for Generation Business</u></b>   |  |                               |                             |
| 1   | Ref No:                                       |  | Outstanding at Start of Year  |                             |
|   | Lender  |  | Loan received during the year |                             |
|   | Amount Borrowed                               |  | Repayments During the Year    |                             |
|   | Repayment Schedule                            |  | Outstanding at End of Year    |                             |
|   | Interest Terms                                |  | Interest Payments during Year |                             |
| 2   | Ref No:                                       |  | Outstanding at Start of Year  |                             |
|   | Lender  |  | Loan received during the year |                             |
|   | Amount Borrowed                               |  | Repayments During the Year    |                             |
|   | Repayment Schedule                            |  | Outstanding at End of Year    |                             |
|   | Interest Terms                                |  | Interest Payments during Year |                             |
|   | <b><u>Loans for Distribution Business</u></b> |  |                               |                             |
| 3   | Ref No:                                       |  | Outstanding at Start of Year  |                             |
|   | Lender  |  | Loan received during the year |                             |
|   | Amount Borrowed                               |  | Repayments During the Year    |                             |
|   | Repayment Schedule                            |  | Outstanding at End of Year    |                             |
|   | Interest Terms                                |  | Interest Payments during Year |                             |
| 4   | Ref No:                                       |  | Outstanding at Start of Year  |                             |
|   | Lender  |  | Loan received during the year |                             |
|   | Amount Borrowed                               |  | Repayments During the Year    |                             |
|   | Repayment Schedule                            |  | Outstanding at End of Year    |                             |
|   | Interest Terms                                |  | Interest Payments during Year |                             |
| <b><u>TOTAL OUTSTANDING AT YEAR END</u></b> |   |  |                               |                             |
| <b><u>TOTAL INTEREST DURING YEAR</u></b>    |   |  |                               |                             |

**Form TL 8**

Name of the licensee -

**Details of Gross Fixed Assets ('000 Riels)**

| Reference No. of Asset Class | Description of Assets                           | Assets at beginning of Current Year | Additions during Current Year | Retirements during Current Year | Balance at end of the Current Year | Additions during Ensuing Year | Retirements during Ensuing Year | Balance at end of the Ensuing Year |
|------------------------------|---|-------------------------------------|-------------------------------|---------------------------------|------------------------------------|-------------------------------|---------------------------------|------------------------------------|
|                              |   | (a)                                 | (b)                           | (c)                             | (d)=(a)+(b)-(c)                    | (e)                           | (f)                             | (g)=(d)+(e)-(f)                    |
|                              | <b><u>Generation Assets</u></b>                 |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Land  |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Building  |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Generating Sets, by type                        |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Other Generation equipment                      |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Switchgear including Cable Connections          |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Please specify other classes of assets by class |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | <b>GRAND TOTAL</b>                              |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | <b><u>Distribution Assets</u></b>               |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Land  |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Building  |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Switchgear including Cable Connections          |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Lines   |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | Please specify other classes of assets by class |                                     |                               |                                 |                                    |                               |                                 |                                    |
|                              | <b>GRAND TOTAL</b>                              |                                     |                               |                                 |                                    |                               |                                 |                                    |

Note: while listing assets in the above formats, licensees should exclude all consumer contribution and grants.

Form TL 9

Name of the licensee -

**Details of Depreciation ('000 Riels)**  
**Estimates for Ensuing Year**

| Reference No. of Asset Class | Description of Assets                           | Gross Value (a) | Balance of Accumulated Depreciation at beginning of year (b) | Rate of Depreciation (c) | Depreciation provided for the year (d)=(a)x(c) | Balance of Accumulated Depreciation at end of year (e)=(b)+(d) | Net Fixed Asset (f)=(a)-(e) |
|------------------------------|---|-----------------|--|--------------------------|--|--|-----------------------------|
|                              | <b>Generation Assets</b>                        |                 |  |                          |  |  |                             |
|                              | Land  |                 |  |                          |  |  |                             |
|                              | Building  |                 |  |                          |  |  |                             |
|                              | Generating Sets, by type                        |                 |  |                          |  |  |                             |
|                              | Switchgear including Cable Connections          |                 |  |                          |  |  |                             |
|                              | Please specify other classes of assets by class |                 |  |                          |  |  |                             |
|                              |   |                 |  |                          |  |  |                             |
|                              |   |                 |  |                          |  |  |                             |
|                              | <b>GRAND TOTAL</b>                              |                 |  |                          |  |  |                             |
|                              | <b>Distribution Assets</b>                      |                 |  |                          |  |  |                             |
|                              | Land  |                 |  |                          |  |  |                             |
|                              | Building  |                 |  |                          |  |  |                             |
|                              | Switchgear including Cable Connections          |                 |  |                          |  |  |                             |
|                              | Lines   |                 |  |                          |  |  |                             |
|                              | Please specify other classes of assets by class |                 |  |                          |  |  |                             |
|                              |   |                 |  |                          |  |  |                             |
|                              |   |                 |  |                          |  |  |                             |
|                              | <b>GRAND TOTAL</b>                              |                 |  |                          |  |  |                             |



**Form TL 10**

Name of the licensee -

**Calculation of Profit ('000 Riels)**

| Particulars of Asset Base   | Estimates for Ensuing Year |
|---|----------------------------|
| <b><u>Generation Business</u></b>   |                            |
| Gross book value of fixed assets (excluding grants and consumer contribution) |                            |
| Provision for Working Capital   |                            |
| Gross Value of Rate Base  |                            |
| less: Accumulated Depreciation  |                            |
| <b>Net Value of Rate Base</b>   |                            |
| Amount of Loan outstanding for assets in use                                  |                            |
| Net Direct Capital  |                            |
| Rate of profit on NDC   |                            |
| Profit on NDC at rate given above   |                            |
| <b><u>Distribution Business</u></b>   |                            |
| Gross book value of fixed assets (excluding grants and consumer contribution) |                            |
| Provision for Working Capital   |                            |
| Gross Value of Rate Base  |                            |
| less: Accumulated Depreciation  |                            |
| <b>Net Value of Rate Base</b>   |                            |
| Amount of Loan outstanding for assets in use                                  |                            |
| Net Direct Capital  |                            |
| Rate of profit on NDC   |                            |
| Profit on NDC at rate given above   |                            |

Note: methodology for the calculation of working capital should be stated.

**Form TL 11**

Name of the licensee -

**Details of Non-Tariff Income (in '000 Riels)**

| Particulars   | Estimates of<br>Ensuing Year |
|---|------------------------------|
| Connection Fees   |                              |
| Meter Testing Charges   |                              |
| Reconnection fees   |                              |
| Rents   |                              |
| Transfer fees   |                              |
| Interst   |                              |
| Sale of parts and materials   |                              |
| Other general receipts arising from and ancillary or incidental to<br>business of electricity supply. |                              |
| Subsidy   |                              |
| Grants  |                              |
| Others  |                              |
| <b>Total of Non-Tariff Income</b>   |                              |

Note: these Non-tariff income are revenues from sources other than tariff charges to consumers, but are derived only from the licensed business and not from any other business of the Licensee

**Details of Other Income (in '000 Riels)**

| Particulars                                 | Estimates of<br>Ensuing Year |
|---|------------------------------|
| Charges for Reactive Energy                 |                              |
| Interest paid by consumers for late Payment |                              |
| Penalties                                   |                              |
| Others                                      |                              |
|   |                              |

**Details of Other Informations (in '000 Riels)**

| Particulars   | Estimates of<br>Ensuing Year |
|---|------------------------------|
| Amount of Security Deposit from consumers at the end of Year  |                              |
| (i) in cash   |                              |
| (ii) in Bank Guarantee  |                              |
| Amount of connection fees and consumer contributions received |                              |
| Amount of revenue outstanding at the end of year on           |                              |
| (i) Government Consumers                                      |                              |
| (ii) Industrial Consumers                                     |                              |
| (iii) Other Consumers   |                              |
| (iv) Total  |                              |

| <b><u>Form TL 12</u></b>                                   |                              |
|--|------------------------------|
| Name of the licensee -                                     |                              |
| <b><u>Calculation of Reasonable Costs ('000 Riels)</u></b> |                              |
| Particulars  | Estimates of Ensuing<br>Year |
| <b><u>Generation Cost</u></b>                              |                              |
| Cost of fuel   |                              |
| Cost of Lubricants   |                              |
| Employees'cost for Generation                              |                              |
| Other Operation & Maintenance Expenses                     |                              |
| Administrative & General Expenses                          |                              |
| Depreciation   |                              |
| Interest   |                              |
| Reasonable return  |                              |
| <b>Total Reasonable Costs for Generation</b>               |                              |
| Energy Sent out in KWH                                     |                              |
| Cost of Generation per KWH                                 |                              |
|  |                              |
| <b><u>Distribution Cost</u></b>                            |                              |
| Cost of Power Purchase                                     |                              |
| Employees'cost for Generation                              |                              |
| Other Operation & Maintenance Expenses                     |                              |
| Administrative & General Expenses                          |                              |
| Depreciation   |                              |
| Interest   |                              |
| Reasonable return  |                              |
| <b>Total Reasonable Costs for Distribution</b>             |                              |
|  |                              |
| <b>Total Cost (Generation + Distribution)</b>              |                              |
| Less Non Tariff Income                                     |                              |
| <b>Total revenue recoverable from tariffs</b>              |                              |
|  |                              |

**Form TL 13**

Name of the licensee -  
Annual Data for the Previous Year -  
**Revenue at Current Tariff Charges  
Estimates for Ensuing Year**

| CATEGORY                             | No of consumers at the end of the year | Components of tariff                |                                     | Relevant sales related data         |             |                  | Full year revenue billed |  |  | Amount of revenue collected                |  |  |  |       |
|--------------------------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------|------------------|--------------------------|--|--|--|--|--|--|-------|
|                                      |  | Rate of Energy Charges<br>Riels/KWH | Part 2 (specify part name and unit) | Part 3 (specify part name and unit) | Energy Sold | Item 2 (specify) | Item 3 (specify)         | Revenue from Energy Charges<br>000 Riels | Revenue from Part 2 of tariff<br>000 Riels | Revenue from Part 3 of tariff<br>000 Riels | Revenue from Energy Charges<br>000 Riels | Revenue from Part 2 of tariff<br>000 Riels | Revenue from Part 3 of tariff<br>000 Riels | Total |
| <b>Domestic</b>                      |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <50 kWh                              |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| 50<100 kWh                           |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| >100 kWh                             |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>Government Institutions</b>       |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Embassy, NGO, Foreigner's Residence  |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>Commercial and Service Sector</b> |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Small                                |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Medium                               |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Big                                  |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>Industrial</b>                    |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Small                                |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Medium                               |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| Big                                  |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>Medium Voltage</b>                |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>Collective Customers</b>          |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <50 kWh                              |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| 50<100 kWh                           |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| >100 kWh                             |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>Sale to other Licensees</b>       |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |
| <b>TOTAL</b>                         |  |                                     |                                     |                                     |             |                  |                          |  |  |  |  |  |  |       |

**Note:** This table shows indicative tariff categories. The licensee shall include all relevant information on categories, sub-categories

**Form TL 14**

Name of the licensee -  
Annual Data for the Previous Year -  
**Revenue at Proposed Tariff Charges**  
**Estimates for Ensnuing Year**

| CATEGORY                                   | No of consumers at the end of the year | Components of tariff   |                                     |                                     | Relevant sales related data |                  |                  | Full year revenue billed    |                               |                               | Amount of revenue collected |                               |                               |           |
|--|--|------------------------|-------------------------------------|-------------------------------------|-----------------------------|------------------|------------------|-----------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------|
|  |  | Rate of Energy Charges | Part 2 (specify part name and unit) | Part 3 (specify part name and unit) | Energy Sold                 | Item 2 (specify) | Item 3 (specify) | Revenue from Energy Charges | Revenue from Part 2 of tariff | Revenue from Part 3 of tariff | Revenue from Energy Charges | Revenue from Part 2 of tariff | Revenue from Part 3 of tariff | Total     |
|  |  | Riels/KWH              |                                     |                                     | KWH                         |                  |                  | 000 Riels                   |                               |                               | 000 Riels                   |                               |                               | 000 Riels |
| <b>Domestic</b>                            |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <50 kWh                                    |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| 50<100 kWh                                 |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| >100 kWh                                   |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Government Institutions</b>             |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Embassy, NGO, Foreigner's Residence</b> |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Commercial and Service Sector</b>       |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| Small                                      |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| Medium                                     |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| Big  |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Industrial</b>                          |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| Small                                      |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| Medium                                     |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| Big  |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Medium Voltage</b>                      |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Collective Customers</b>                |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <50 kWh                                    |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| 50<100 kWh                                 |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| >100 kWh                                   |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>Sale to other Licensees</b>             |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |
| <b>TOTAL</b>                               |  |                        |                                     |                                     |                             |                  |                  |                             |                               |                               |                             |                               |                               |           |

**Note:** This table shows indicative tariff categories. The licensee shall include all relevant information on categories, sub-categories



# Appendix 4

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## Forms for Submission by Smaller Licensees with Tariff Application

| <b>Form</b> | <b>Contents</b>   |
|-------------|---|
| TS 1        | Details of Fuel, Lubricants & Own Generation                  |
| TS 2        | Power Purchases Details                                       |
| TS 3        | Details of Employee related expenses                          |
| TS 4        | Other O&M Expenses  |
| TS 5        | Administrative & General Expenses                             |
| TS 6        | Details of Loans for the Licensee's Licensed Businesses       |
| TS 7        | Details of Gross Fixed Assets                                 |
| TS 8        | Details of Depreciation                                       |
| TS 9        | Calculation of Profit   |
| TS 10       | Calculation of Reasonable Costs                               |
| TS 11       | Revenue at Current Tariff Charges and Proposed Tariff Charges |

**Form TS 1**

Name of the licensee -

**Details of Fuel, Lubricants & Own Generation**

**Estimates for Ensuing Year**

|   | <b>Estimates for Ensuing Year</b> |
|---|-----------------------------------|
| <b><u>Fuel Data</u></b>                 |                                   |
| Source [name]                           |                                   |
| Quantity Purchased(Litres)              |                                   |
| Price/Lit. (Riels)                      |                                   |
| Fuel Consumed (Litres)                  |                                   |
| Cost of Fuel Consumed ('000 Riels)      |                                   |
| <b><u>Lubricants Data</u></b>           |                                   |
| Source                                  |                                   |
| Quantity Purchased (Litres)             |                                   |
| Price/Lit. (Riels)                      |                                   |
| Lubricant Consumed (Litres)             |                                   |
| Cost of Lubricant Consumed ('000 Riels) |                                   |
| <b><u>Energy Data</u></b>               |                                   |
| Energy sent out (Metered)               |                                   |
| Energy sent out (Un-metered)            |                                   |

Note: fuel cost should include other incidental charges like







**Form TS 4**

Name of the licensee -

**Other O&M Expenses (in '000 Riels)**

|   | Particulars                     | Estimates for Ensuing year |              |       |
|---|---------------------------------|----------------------------|--------------|-------|
|   |                                 | Generation                 | Distribution | Total |
| 1 | Spare parts                     |                            |              |       |
| 2 | Materials                       |                            |              |       |
| 3 | Tools                           |                            |              |       |
| 4 | Repairs & Maintenance           |                            |              |       |
| 5 | Rents                           |                            |              |       |
| 6 | Water, Electricity, etc Charges |                            |              |       |
| 7 | Bad Debt                        |                            |              |       |
| 8 | Others, please specify          |                            |              |       |
| 9 |                                 |                            |              |       |
|   |                                 |                            |              |       |
|   |                                 |                            |              |       |
|   | <b>Total</b>                    |                            |              |       |

**Form TS 5**

Name of the licensee -

**Administrative & General Expenses (in '000 Riels)**

|    | Particulars                        | Estimates for ensuing year |
|----|------------------------------------|----------------------------|
| 1  | Licence Fee                        |                            |
| 2  | Bank Charges                       |                            |
| 3  | Taxes (give details of taxes paid) |                            |
|    | Taxes (give details of taxes paid) |                            |
| 4  | Legal charges                      |                            |
| 5  | Auditor's fee                      |                            |
| 6  | Mission and reception              |                            |
| 7  | Post and telecom charges           |                            |
| 8  | Stationery and office supplies     |                            |
| 9  | Insurance costs                    |                            |
| 10 | Others                             |                            |
|    | <b>GRAND TOTAL</b>                 |                            |

**Other Informations**

|   | Particulars   | Estim |
|---|---|-------|
| 1 | Amount of connection fee received                     |       |
|   |   |       |
| 2 | Does the licensee own any other business like Battery |       |
| 3 | Is this supply metered                                |       |
| 4 | Is this supply considered as sale and bills furnished |       |
|   |   |       |
| 5 | How many family members are working whole time for    |       |
| 6 | How many family members are working part time for the |       |

**Form TS 6**

Name of the licensee -

**Details of Loans for the Licensee's Licensed Businesses (in '000 Riels)**

|   | <b>Loan Identification and Details</b> |  | <b>Item</b>                   | <b>Anticipated<br/>Ensuingt Year</b> |
|---|--|--|-------------------------------|--------------------------------------|
| 1   | Ref No:                                |  | Outstanding at Start of Year  |                                      |
|   | Lender                                 |  | Loan received during the year |                                      |
|   | Amount Borrowed                        |  | Repayments During the Year    |                                      |
|   | Repayment Schedule                     |  | Outstanding at End of Year    |                                      |
|   | Interest Terms                         |  | Interest Payments during Year |                                      |
| 2   | Ref No:                                |  | Outstanding at Start of Year  |                                      |
|   | Lender                                 |  | Loan received during the year |                                      |
|   | Amount Borrowed                        |  | Repayments During the Year    |                                      |
|   | Repayment Schedule                     |  | Outstanding at End of Year    |                                      |
|   | Interest Terms                         |  | Interest Payments during Year |                                      |
| 3   | Ref No:                                |  | Outstanding at Start of Year  |                                      |
|   | Lender                                 |  | Loan received during the year |                                      |
|   | Amount Borrowed                        |  | Repayments During the Year    |                                      |
|   | Repayment Schedule                     |  | Outstanding at End of Year    |                                      |
|   | Interest Terms                         |  | Interest Payments during Year |                                      |
| 4   | Ref No:                                |  | Outstanding at Start of Year  |                                      |
|   | Lender                                 |  | Loan received during the year |                                      |
|   | Amount Borrowed                        |  | Repayments During the Year    |                                      |
|   | Repayment Schedule                     |  | Outstanding at End of Year    |                                      |
|   | Interest Terms                         |  | Interest Payments during Year |                                      |
| <b><u>TOTAL OUTSTANDING AT YEAR END</u></b> |  |  |                               |                                      |
| <b><u>TOTAL INTEREST DURING YEAR</u></b>    |  |  |                               |                                      |

Form TS7

Name of the licensee -

Details of Gross Fixed Assets ('000 Riels)

| Reference No. of Asset Class | Description of Assets                           | Assets at beginning of Current Year (a) | Additions during Current Year (b) | Retirements during Current Year (c) | Balance at end of the Current Year (d)=(a)+(b)-(c) | Estimated Additions during Ensuing Year (e) | Estimated Retirements during Ensuing Year (f) | Estimated Balance at end of the Ensuing Year (g)=(d)+(e)-(f) |
|------------------------------|---|---|-----------------------------------|-------------------------------------|--|---|---|--|
|                              |   |   |                                   |                                     |  |   |   |  |
|                              | Land  |   |                                   |                                     |  |   |   |  |
|                              | Building  |   |                                   |                                     |  |   |   |  |
|                              | Generating Sets, by type                        |   |                                   |                                     |  |   |   |  |
|                              | Other Generation Equipment                      |   |                                   |                                     |  |   |   |  |
|                              | Switchgear including Cable Connections          |   |                                   |                                     |  |   |   |  |
|                              | Lines   |   |                                   |                                     |  |   |   |  |
|                              | Please specify other classes of assets by class |   |                                   |                                     |  |   |   |  |
|                              |   |   |                                   |                                     |  |   |   |  |
|                              |   |   |                                   |                                     |  |   |   |  |
|                              |   |   |                                   |                                     |  |   |   |  |
|                              | <b>GRAND TOTAL</b>                              |   |                                   |                                     |  |   |   |  |

Note: while listing assets in the above formats, licensees should exclude all consumer contribution and grants.

**Form TS 8**

Name of the licensee -

**Details of Depreciation ('000 Riels)**  
**Estimates for Ensuing Year**

| Reference No. of Asset Class | Description of Assets                           | Gross Value | Balance of Accumulated Depreciation at beginning of year | Rate of Depreciation | Depreciation provided for the year | Balance of Accumulated Depreciation at end of year | Net Fixed Asset |
|------------------------------|---|-------------|--|----------------------|------------------------------------|--|-----------------|
|                              |   | (a)         | (b)  | (c)                  | (d)=(a)x(c)                        | (e)=(b)+(d)  | (f)=(a)-(e)     |
|                              | Land  |             |  |                      |                                    |  |                 |
|                              | Building  |             |  |                      |                                    |  |                 |
|                              | Generating Sets, by type                        |             |  |                      |                                    |  |                 |
|                              | Other Generation Equipment                      |             |  |                      |                                    |  |                 |
|                              | Switchgear including Cable Connections          |             |  |                      |                                    |  |                 |
|                              | Lines   |             |  |                      |                                    |  |                 |
|                              | Please specify other classes of assets by class |             |  |                      |                                    |  |                 |
|                              |   |             |  |                      |                                    |  |                 |
|                              |   |             |  |                      |                                    |  |                 |
|                              | <b>GRAND TOTAL</b>                              |             |  |                      |                                    |  |                 |

**Form TS 9**

Name of the licensee -

**Calculation of Profit ('000 Riels)**

| Particulars of Asset Base   | Estimates for Ensuing Year |
|---|----------------------------|
|   |                            |
| Gross book value of fixed assets (excluding grants and consumer contribution) |                            |
| Provision for Working Capital   |                            |
| Gross Value of Rate Base  |                            |
|   |                            |
| less: Accumulated Depreciation  |                            |
| <b>Net Value of Rate Base</b>   |                            |
|   |                            |
| Amount of Loan outstanding for assets in use                                  |                            |
| Net Direct Capital  |                            |
|   |                            |
| Rate of profit on NDC   |                            |
| Profit on NDC at rate given above   |                            |
|   |                            |

Note: methodology for the calculation of working capital should be stated.



**Form TS 10**

Name of the licensee -

**Calculation of Reasonable Costs ('000 Riels)**

| Particulars                            | Estimates for<br>Ensuing Year |
|--|-------------------------------|
| Cost of fuel                           |                               |
| Cost of Lubricants                     |                               |
| Cost of Power Purchase                 |                               |
| Employees'cost                         |                               |
| Other Operation & Maintenance Expenses |                               |
| Administrative & General Expenses      |                               |
| Depreciation                           |                               |
| Interest                               |                               |
| Reasonable return                      |                               |
| <b>Total Reasonable Costs</b>          |                               |
|  |                               |

**Form TS.11**

Name of the licensee -

**Revenue at Current Tariff Charges  
Estimates for Ensuing Year**

| CATEGORY               | No of consumers with metered supply at the end of the year | No of consumers without metered supply at the end of the year | Tariff for metered supply<br>Riels /KWH | Tariff for Un-metered supply<br>Riels /Appliance | Energy supplied for metered supply<br>KWH | Revenue billed for metered supply<br>000 Riels | Revenue billed for Un-metered supply<br>000 Riels | Total Revenue billed<br>000 Riels | Amount of Revenue collected<br>000 Riels |
|------------------------|--|---|---|--|---|--|---|-----------------------------------|--|
| <b>Consumption</b>     |  |   |   |  |   |  |   |                                   |  |
| Less than 20 KWH/Month |  |   |   |  |   |  |   |                                   |  |
| More than 20 KWH/Month |  |   |   |  |   |  |   |                                   |  |
|                        |  |   |   |  |   |  |   |                                   |  |
|                        |  |   |   |  |   |  |   |                                   |  |
|                        |  |   |   |  |   |  |   |                                   |  |
| <b>TOTAL</b>           |  |   |   |  |   |  |   |                                   |  |

**Revenue at Proposed Tariff Charges  
Estimates for Ensuing Year**

| CATEGORY               | No of consumers with metered supply at the end of the year | No of consumers without metered supply at the end of the year | Tariff for metered supply<br>Riels /KWH | Tariff for Un-metered supply<br>Riels /Appliance | Energy supplied for metered supply<br>KWH | Revenue billed for metered supply<br>000 Riels | Revenue billed for Un-metered supply<br>000 Riels | Total Revenue billed<br>000 Riels | Amount of Revenue collected<br>000 Riels |
|------------------------|--|---|---|--|---|--|---|-----------------------------------|--|
| <b>Consumption</b>     |  |   |   |  |   |  |   |                                   |  |
| Less than 20 KWH/Month |  |   |   |  |   |  |   |                                   |  |
| More than 20 KWH/Month |  |   |   |  |   |  |   |                                   |  |
|                        |  |   |   |  |   |  |   |                                   |  |
|                        |  |   |   |  |   |  |   |                                   |  |
|                        |  |   |   |  |   |  |   |                                   |  |
| <b>TOTAL</b>           |  |   |   |  |   |  |   |                                   |  |

Note: This table shows indicative tariff categories. The licensee shall include all relevant information on categories, sub-categories and slabs.

Joint UNDP/World Bank  
**ENERGY SECTOR MANAGEMENT ASSISTANCE PROGRAMME (ESMAP)**

**LIST OF TECHNICAL PAPER SERIES**

| <i>Region/Country</i>           | <i>Activity/Report Title</i>  | <i>Date</i> | <i>Number</i> |
|---------------------------------|---|-------------|---------------|
| <b>SUB-SAHARAN AFRICA (AFR)</b> |   |             |               |
| Africa                          | Power Trade in Nile Basin Initiative Phase II (CD Only):<br><i>Part I: Minutes of the High-level Power Experts Meeting; and Part II: Minutes of the First Meeting of the Nile Basin Ministers Responsible for Electricity</i> | 04/05       | 067/05        |
| Chad                            | Revenue Management Seminar. Oslo, June 25-26, 2003. (CD Only)   | 06/05       | 075/05        |
| Côte d'Ivoire                   | Workshop on Rural Energy and Sustainable Development, January 30-31, 2002. (French Only)  | 04/05       | 068/05        |
| Ethiopia                        | Phase-Out of Leaded Gasoline in Oil Importing Countries of Sub-Saharan Africa: The Case of Ethiopia - Action Plan.  | 12/03       | 038/03        |
|                                 | Sub-Saharan Petroleum Products Transportation Corridor: Analysis And Case Studies   | 03/03       | 033/03        |
|                                 | Phase-Out of Leaded Gasoline in Sub-Saharan Africa  | 04/02       | 028/02        |
|                                 | Energy and Poverty: How can Modern Energy Services Contribute to Poverty Reduction  | 03/03       | 032/03        |
| East Africa                     | Sub-Regional Conference on the Phase-out Leaded Gasoline in East Africa. June 5-7, 2002.  | 11/03       | 044/03        |
| Kenya                           | Field Performance Evaluation of Amorphous Silicon (a-Si) Photovoltaic Systems in Kenya: Methods and Measurement in Support of a Sustainable Commercial Solar Energy Industry  | 08/00       | 005/00        |
|                                 | The Kenya Portable Battery Pack Experience: Test Marketing an Alternative for Low-Income Rural Household Electrification  | 12/01       | 05/01         |
| Malawi                          | Rural Energy and Institutional Development  | 04/05       | 069/05        |
| Mali                            | Phase-Out of Leaded Gasoline in Oil Importing Countries of Sub-Saharan Africa: The Case of Mali - Action Plan. (French)   | 12/03       | 041/03        |
| Mauritania                      | Phase-Out of Leaded Gasoline in Oil Importing Countries of Sub-Saharan Africa: The Case of Mauritania - Action Plan. (French)   | 12/03       | 040/03        |
| Nigeria                         | Phase-Out of Leaded Gasoline in Nigeria   | 11/02       | 029/02        |
|                                 | Nigerian LP Gas Sector Improvement Study  | 03/04       | 056/04        |
|                                 | Taxation and State Participation in Nigeria's Oil and Gas Sector  | 08/04       | 057/04        |
| Regional                        | Second Steering Committee: The Road Ahead. Clean Air Initiative In Sub-Saharan African Cities. Paris, March 13-14, 2003.  | 12/03       | 045/03        |
|                                 | Lead Elimination from Gasoline in Sub-Saharan Africa. Sub-regional Conference of the West-Africa group. Dakar, Senegal March 26-27, 2002 (French only)  | 12/03       | 046/03        |
|                                 | 1998-2002 Progress Report. The World Bank Clean Air Initiative in Sub-Saharan African Cities. Working Paper #10 (Clean Air Initiative/ESMAP)  | 02/02       | 048/04        |
|                                 | Landfill Gas Capture Opportunity in Sub-Saharan Africa  | 06/05       | 074/05        |
| Senegal                         | Regional Conference on the Phase-Out of Leaded Gasoline in Sub-Saharan Africa   | 03/02       | 022/02        |
|                                 | Elimination du Plomb dans l'Essence en Afrique Sub-Saharienne Conference Sous Regionales du Groupe Afrique de l'Ouest. Dakar, Senegal. March 26-27, 2002.   | 12/03       | 046/03        |
| South Africa                    | South Africa Workshop: People's Power Workshop.   | 12/04       | 064/04        |
| Swaziland                       | Solar Electrification Program 2001—2010: Phase 1: 2001—2002 (Solar Energy in the Pilot Area)  | 12/01       | 019/01        |

| <i>Region/Country</i>                | <i>Activity/Report Title</i>   | <i>Date</i> | <i>Number</i> |
|--------------------------------------|--|-------------|---------------|
| Tanzania                             | Mini Hydropower Development Case Studies on the Malagarasi, Muhuwesi, and Kikuletwa Rivers Volumes I, II, and III  | 04/02       | 024/02        |
|                                      | Phase-Out of Leaded Gasoline in Oil Importing Countries of Sub-Saharan Africa: The Case of Tanzania - Action Plan.   | 12/03       | 039/03        |
| Uganda                               | Report on the Uganda Power Sector Reform and Regulation Strategy Workshop  | 08/00       | 004/00        |
| <b>WEST AFRICA (AFR)</b>             |  |             |               |
| Regional                             | Market Development   | 12/01       | 017/01        |
| <b>EAST ASIA AND PACIFIC (EAP)</b>   |  |             |               |
| Cambodia                             | Efficiency Improvement for Commercialization of the Power Sector   | 10/02       | 031/02        |
|                                      | TA For Capacity Building of the Electricity Authority  | 09/05       | 076/05        |
| China                                | Assessing Markets for Renewable Energy in Rural Areas of Northwestern China  | 08/00       | 003/00        |
|                                      | Technology Assessment of Clean Coal Technologies for China Volume I—Electric Power Production  | 05/01       | 011/01        |
|                                      | Technology Assessment of Clean Coal Technologies for China Volume II—Environmental and Energy Efficiency Improvements for Non-power Uses of Coal                       | 05/01       | 011/01        |
|                                      | Technology Assessment of Clean Coal Technologies for China Volume III—Environmental Compliance in the Energy Sector: Methodological Approach and Least-Cost Strategies | 12/01       | 011/01        |
| Thailand                             | DSM in Thailand: A Case Study  | 10/00       | 008/00        |
|                                      | Development of a Regional Power Market in the Greater Mekong Sub-Region (GMS)  | 12/01       | 015/01        |
| Vietnam                              | Options for Renewable Energy in Vietnam  | 07/00       | 001/00        |
|                                      | Renewable Energy Action Plan   | 03/02       | 021/02        |
|                                      | Vietnam's Petroleum Sector: Technical Assistance for the Revision of the Existing Legal and Regulatory Framework   | 03/04       | 053/04        |
| <b>SOUTH ASIA (SAS)</b>              |  |             |               |
| Bangladesh                           | Workshop on Bangladesh Power Sector Reform   | 12/01       | 018/01        |
|                                      | Integrating Gender in Energy Provision: The Case of Bangladesh   | 04/04       | 054/04        |
|                                      | Opportunities for Women in Renewable Energy Technology Use In Bangladesh, Phase I  | 04/04       | 055/04        |
| <b>EUROPE AND CENTRAL ASIA (ECA)</b> |  |             |               |
| Russia                               | Russia Pipeline Oil Spill Study  | 03/03       | 034/03        |

| <i>Region/Country</i> | <i>Activity/Report Title</i> | <i>Date</i> | <i>Number</i> |
|-----------------------|------------------------------|-------------|---------------|
|-----------------------|------------------------------|-------------|---------------|

**MIDDLE EASTERN AND NORTH AFRICA REGION (MENA)**

|          |  |       |        |
|----------|--|-------|--------|
| Regional | Roundtable on Opportunities and Challenges in the Water, Sanitation And Power Sectors in the Middle East and North Africa Region. Summary Proceedings. May 26-28, 2003. Beit Mary, Lebanon. (CD) | 02/04 | 049/04 |
|----------|--|-------|--------|

**LATIN AMERICA AND THE CARIBBEAN REGION (LCR)**

|           |   |       |        |
|-----------|---|-------|--------|
| Brazil    | Background Study for a National Rural Electrification Strategy: Aiming for Universal Access   | 03/05 | 066/05 |
| Bolivia   | Country Program Phase II: Rural Energy and Energy Efficiency Report on Operational Activities   | 05/05 | 072/05 |
| Ecuador   | Programa de Entrenamiento a Representantes de Nacionalidades Amazónicas en Temas Hidrocarbúricos  | 08/02 | 025/02 |
| Guatemala | Evaluation of Improved Stove Programs: Final Report of Project Case Studies   | 12/04 | 060/04 |
| Mexico    | Energy Policies and the Mexican Economy   | 01/04 | 047/04 |
| Nicaragua | Aid-Memoir from the Rural Electrification Workshop (Spanish only)   | 03/03 | 030/04 |
|           | Sustainable Charcoal Production in the Chinandega Region  | 04/05 | 071/05 |
| Regional  | Regional Electricity Markets Interconnections — Phase I Identification of Issues for the Development of Regional Power Markets in South America | 12/01 | 016/01 |
|           | Regional Electricity Markets Interconnections — Phase II Proposals to Facilitate Increased Energy Exchanges in South America                    | 04/02 | 016/01 |
|           | Population, Energy and Environment Program (PEA) Comparative Analysis on the Distribution of Oil Rents (English and Spanish)                    | 02/02 | 020/02 |
|           | Estudio Comparativo sobre la Distribución de la Renta Petrolera Estudio de Casos: Bolivia, Colombia, Ecuador y Perú                             | 03/02 | 023/02 |
|           | Latin American and Caribbean Refinery Sector Development Report – Volumes I and II  | 08/02 | 026/02 |
|           | The Population, Energy and Environmental Program (EAP) (English and Spanish)  | 08/02 | 027/02 |
|           | Bank Experience in Non-energy Projects with Rural Electrification Components: A Review of Integration Issues in LCR                             | 02/04 | 052/04 |
|           | Supporting Gender and Sustainable Energy Initiatives in Central America   | 12/04 | 061/04 |
|           | Energy from Landfill Gas for the LCR Region: Best Practice and Social Issues (CD Only)  | 01/05 | 065/05 |

**GLOBAL**

|  |   |       |        |
|--|---|-------|--------|
|  | Impact of Power Sector Reform on the Poor: A Review of Issues and the Literature        | 07/00 | 002/00 |
|  | Best Practices for Sustainable Development of Micro Hydro Power in Developing Countries | 08/00 | 006/00 |
|  | Mini-Grid Design Manual   | 09/00 | 007/00 |
|  | Photovoltaic Applications in Rural Areas of the Developing                              |       |        |

| <i>Region/Country</i> | <i>Activity/Report Title</i>  | <i>Date</i> | <i>Number</i> |
|-----------------------|---|-------------|---------------|
| World                 |   | 11/00       | 009/00        |
|                       | Subsidies and Sustainable Rural Energy Services: Can we Create Incentives Without Distorting Markets?   | 12/00       | 010/00        |
|                       | Sustainable Woodfuel Supplies from the Dry Tropical Woodlands   | 06/01       | 013/01        |
|                       | Key Factors for Private Sector Investment in Power Distribution   | 08/01       | 014/01        |
|                       | Cross-Border Oil and Gas Pipelines: Problems and Prospects  | 06/03       | 035/03        |
|                       | Monitoring and Evaluation in Rural Electrification Projects: A Demand-Oriented Approach   | 07/03       | 037/03        |
|                       | Household Energy Use in Developing Countries: A Multicountry Study  | 10/03       | 042/03        |
|                       | Knowledge Exchange: Online Consultation and Project Profile from South Asia Practitioners Workshop. Colombo, Sri Lanka, June 2-4, 2003          | 12/03       | 043/03        |
|                       | Energy & Environmental Health: A Literature Review and Recommendations.   | 03/04       | 050/04        |
|                       | Petroleum Revenue Management Workshop   | 03/04       | 051/04        |
|                       | Operating Utility DSM Programs in a Restructuring Electricity Sector  | 12/05       | 058/04        |
|                       | Evaluation of ESMAP Regional Power Trade Portfolio (TAG Report)   | 12/04       | 059/04        |
|                       | Gender in Sustainable Energy Regional Workshop Series: Mesoamerican Network on Gender in Sustainable Energy (GENES) Winrock and ESMAP           | 12/04       | 062/04        |
|                       | Women in Mining Voices for a Change Conference (CD Only)  | 12/04       | 063/04        |
|                       | Renewable Energy Potential in Selected Countries: Volume I: North Africa, Central Europe, and the Former Soviet Union, Volume II: Latin America | 04/05       | 070/05        |

Last report added to this list: ESMAP Technical Paper 076/05.