

ENERGY COMMISSION



LICENSING MANUAL

for
SERVICE PROVIDERS
in the

ELECTRICITY SUPPLY INDUSTRY

December 2006

PREFACE

The Licensing Manual for Service Providers in the Electricity Supply Industry was developed and issued by the Energy Commission of Ghana to formally establish the framework for licensing electricity production, supply, distribution and sale services in the power sector of Ghana as stipulated by the Energy Commission Act (Act 541), 1997. The Energy Commission has issued provisional licenses to existing service providers in order to regularize their operations under the Act, pending the development and establishment of a suitable licensing and monitoring framework to guide operations within the sector.

The issue of the Licensing Manual for Service Providers in the Electricity Supply Industry marks a significant development in the pursuit and implementation of reforms in the Power Sector which is aimed at opening up the sector to attract private capital injections and thereby introduce competition into the sector. These are expected to be achieved through the development and introduction of regulatory and institutional reforms that would assure open access and transparency of transactions and operations within the sector.

With the publication of the Licensing Manual, the EC is now in a good position to issue permanent licenses to existing and prospective operators within the sector to replace the existing regime of provisional licenses.

The 2006 Version is the first edition of the Licensing Manual to be issued by the Commission. The Commission will subject the manual to periodic review in order to improve its quality and to make it more amenable to its objects and functions as and when it deems it necessary. Portions of the Licensing Manual that may be affected by subsequent reviews will be prominently highlighted in the subsequent versions of the manual.

Finally, users of the manual are highly encouraged to make submissions on any part or portion of it that needs improvement and refinement to assist in the establishment of a versatile licensing framework for the electricity supply industry in Ghana. Submission of any relevant comments and ideas in this regard should be forwarded to: ***The Executive Secretary, Energy Commission, Frema House, Spintex Road, Private Mail Bag, Ministries Post Office, Accra;*** or by E-mail to the address: info@energycom.gov.gh or contact by telephone on ***Tel. No.:(233-21)-812756 -7 or 812374.***

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Definitions

"Access Code	<i>means</i> Electricity Networks (Third Party Access) Code.
"Act "	<i>means</i> the Energy Commission Act, 1997 (ACT 541).
"Applicant"	<i>means</i> a person who has applied for a license under the Act or exempted from the requirement to be licensed under Part II of the Act.
"Bulk Customer"	<i>means</i> a customer that purchases or receives electric power and energy of such amount or level as the Commission may specify.
"Commission"	<i>means</i> the Energy Commission of the Ghana as established under section 1 of Act 541.
"Distributed Generation"	<i>means</i> production of electricity utilizing a generation facility that is electrically connected to a stand-alone or isolated distribution network that is serving a localized or restricted area.
"Distribution System"	<i>means</i> electrical power and energy delivery system consisting of interconnected substation and network facilities operated at voltages of 34.5 kilovolts or less located within the boundaries of the Republic of Ghana.
"Embedded Generation"	<i>means</i> production of electricity utilizing a generation facility that is electrically connected directly to a distribution system and for which the total output of the facility is distributed and utilized locally without any requirement for use of the national interconnected transmission system.
"National Interconnected Transmission System (NITS)"	<i>means</i> electrical power and energy delivery system consisting of interconnected generation, substation and network facilities operated at a voltage above 34.5 kilovolts located within the boundaries of the Republic of Ghana.
"Person"	<i>means</i> any person, natural or corporate.
"Power System"	<i>means</i> generation, transmission and distribution network facilities which together are integral to the supply of electricity and are operated as an integrated arrangement.
"System Operator"	<i>means</i> the licensed service provider entrusted with responsibility for operational planning and dispatch of electric power/energy to ensure that generation and demand are matched at all times while maintaining quality and security of supplies at an economic cost and for the reliable operation of the transmission grid for the purpose of providing open access to all market participants in a non-discriminatory manner.
" Wholesale Supplier"	<i>means</i> a person licensed under the Act to install and operate facilities to procure or produce electricity for sale to bulk customers or to a distribution company for distribution and sale to consumers.

CHAPTER

1

BACKGROUND

Introduction

- 1.1. The Energy Commission was established by an Act of Parliament, Energy Commission Act (Act 541), 1997 to, among other things, license and regulate the technical operations of service providers in the electricity supply industry. The Commission performs these regulatory functions through elaborations and enforcement of licensing conditions, technical rules of practice and standards of performance rules.
- 1.2 The Commission became operational in 1998 and has since then, issued provisional licenses to service providers engaged in operations in the industry. The provisional licenses issued included three thermal generation licenses issued to Takoradi Power Company (TAPCO), Takoradi International Company (TICO) and Western Powers Company and one distribution license issued to the Electricity Company of Ghana (ECG). The provisional licenses are expected to be replaced with permanent final licenses

Purpose of Licensing Manual

- 1.3 The purpose of this Licensing Manual is to outline the EC's framework for licensing of service providers in the electricity supply industry. The Manual provides an outline of procedures and processes involved as well as highlights of terms and conditions that should be expected in the various types of license that the Commission is mandated to grant in order to ensure safe, reliable, economic and cost effective operation of the electricity supply industry.
- 1.4 The Manual is essentially a document developed to guide the Commission in the performance of its licensing obligations and also intended to serve as a source of information to both licensed operators and prospective applicants that wish or intend to engage in operations in the industry.
- 1.5 The rest of the chapter discusses a range of issues which, while not specifically dealt with in this manual, may be relevant in considering whether a license is required; and if so, what other matters need to be addressed to commence operations in Ghana's electricity supply industry.

Obligation to be licensed

- 1.6 Section 11 of the Act provides that a person must not carry on operations in Ghana's electricity supply industry for which a license is required unless the person either:
 - (a) holds a license granted under the Act authorizing the relevant operations; or
 - (b) is exempted from holding a license.

A breach of this requirement is an offence under the Act and may be sanctioned accordingly.

Exemptions

- 1.7** The Commission may grant an exemption from some or all of the requirements in Part II (General Provisions on Licenses) of the Act.
- 1.8** A request for an exemption under clause 1.7 should be made to the Commission in a form similar to an application for a license.
- 1.9** An application for an exemption will be considered on its merits in the light of the relevant legislation. Exemptions would be granted by the Commission only under exceptional circumstances.

Requirement for Transmission Interconnection Service and Access Agreements

- 1.10** The acquisition of a distribution or wholesale supply license does not authorize the prospective electricity service provider to have access to the national interconnected transmission system in Ghana. An *Access Agreement* or *Interconnection Service Agreement* (entered into in accordance with the Network Access Code) with the relevant network service provider is required for that purpose.
- 1.11** Pursuant to Section 24 of the Act, all prospective participants in the deregulated segment of Ghana's electricity supply industry must negotiate and conclude Interconnection Service Agreement with the Electricity Transmission Utility (ETU) contemporaneously with seeking a license from the Commission.
- 1.12** To ensure transparency and non-discriminatory access to the relevant information, the Electricity Transmission Utility shall make available to the public at its offices the procedures for obtaining and terminating Transmission Interconnection Services Agreements with any licensee.
- 1.13** Participants seeking to engage in embedded generation or distributed generation services must negotiate and conclude a Distribution Network Access Agreement with the relevant licensed distribution entity contemporaneously with seeking a license from the Energy Commission.
- 1.14** The conditions for interconnection service and access agreements shall at all times be in full compliance with the Network Access Code component of the legislative instrument on the "Technical and Operational Rules of Practice - Grid Code" for Ghana's electricity supply industry. The Commission will be available to facilitate these negotiations as and when required.
- 1.15** Without prejudice to clause 1.11, the scope of an interconnection service or access agreement, shall among other things, seek to secure a network user's agreement to:
- (a) Pay for services provided by the network operator according to negotiated prices up to the maximum prices approved by the Public Utilities Regulatory Commission (PURC);
 - (b) Use all reasonable endeavors to ensure that:
 - i) The user's actual demand at a connection point does not exceed the contract maximum demand for that connection,

- ii) The quantity of electricity transferred to the electricity network by the supplier or on behalf of the user at a connection point does not exceed the declared sent-out capacity from the user in respect of that connection, and
 - iii) The user's use of the network is in 'balance' such that, after allowing for network energy losses, the quantity of electrical energy transferred into the network in respect of each of its access agreements for each energy usage period is equal to the quantity of electrical energy transferred out of the network for that period;
- (c) Arrange the supply and transportation of standby power to satisfy this 'balancing' obligation, and to keep the power system operator informed of such arrangements and any material changes;
- (d) Arrange payment for any balancing amount of electricity;
- (e) Comply with good electricity industry practice in operating, maintaining, constructing and commissioning of the plant or equipment connected to the electricity network to facilitate the transfer of electricity to or from the network;
- (f) Comply with all technical rules and codes of practice to be issued by the Commission and any other relevant agency regarding connection to and the use of the electricity network; and
- (g) Make a capital contribution in respect of the capital investment associated with the designing, constructing, installing and commissioning of the connection equipment or network system assets where the granting of access necessitates the augmentation of connection equipment or network system assets that would otherwise not be 'commercially viable' (as defined by the Network Access Code).

Obligation to purchase electricity from embedded & distributed energy facilities

1.16 Licensed distribution service providers shall be obliged to connect embedded and distributed energy installations (especially, renewable energy sources and cogeneration facilities) to their distribution network and, as priority, purchase electricity from and compensate them for the supplies in accordance with the national energy policy and tariffs approved by the PURC.

1.17 This obligation shall apply to the licensed distribution service provider, whose franchise or operational area is closest to the location of the embedded or distributed generation facility, providing that the network is technically suitable to receive generation from the facility.

1.18. A distribution network shall be considered to be technically suitable or feasible even if the network operator (or licensee) needs to upgrade its network at reasonable economic expense in order to accept the electricity in-feed. In such a case, the licensee shall be obliged to upgrade its network without delay if this is requested by a party interested in feeding in electricity. Relevant data on both the network and the embedded or distributed generation facility shall be disclosed for both parties to do their respective planning and to determine the technical suitability of the connection arrangement.

1.19 The embedded generation or distributed energy generation companies shall be compensated in accordance with agreed terms and conditions set by the Commission and the PURC.

CHAPTER

2

ROLE OF THE COMMISSION

Guiding principles

- 2.1** In its decision making with respect to its licensing (and other) functions, the Commission must have regard to the general factors specified in the Act.
- 2.2** The Commission, in performing its functions, will:
- (a) promote competitive and fair market conduct;
 - (b) prevent misuse of monopoly or market power;
 - (c) facilitate entry into and exit from the relevant markets;
 - (d) ensure consumers benefit from competition and efficiency;
 - (e) collaborate with the PURC to protect the interests of consumers with respect to reliability and quality of electricity supply services;
 - (f) collaborate with the PURC to promote economic efficiency, fair, transparent and competitive operations in the electricity supply industry;
 - (g) collaborate with the PURC in facilitating the maintenance of a financially viable electricity supply industry; and
- 2.3** The Commission further will:
- (a) ensure the safe and efficient generation, transmission, distribution and sale of electricity in the power system;
 - (b) establish and enforce proper standards of safety, reliability and quality in the electricity supply;
 - (c) establish and enforce proper safety and technical standards for electrical installations;
 - (d) establish and enforce standards to ensure efficient electricity end-use practices and promote productive uses of electricity;

Licensing functions

- 2.4** The Commission has responsibility for a number of licensing functions under the Act, notably:
- (a) granting license;
 - (b) specifying license conditions;
 - (c) varying licensing terms and conditions;
 - (d) maintaining a register of issued licenses;

- (e) compliance monitoring and enforcement of license conditions; and
- (f) suspension and cancellation of licenses.

Granting of licence

2.5 The Commission may issue a license if satisfied that:

- (a) the applicant is a suitable person to hold the license; and
- (b) specified requirements are met for each license type

The application process is detailed in *Chapter 4*.

Specifying license conditions

2.6 The Act provides that the Commission, in granting a license, may make the license subject to certain statutory and other conditions in a manner determined by the Commission. The nature of license conditions is detailed in *Chapter 6*.

Varying license conditions

2.7 The Commission may vary license conditions by written notice to the electricity service provider involved, as the Commission considers appropriate. A variation may be made only if the Commission considers it necessary to further the objects of the Act.

Register of issued licenses

2.8 The Commission shall keep a register of the licenses granted to electricity service provider under the Act. A copy of the register will be available at the Commission's web site (www.energycom.gov.gh) to facilitate access by the public for inspection.

Compliance monitoring and enforcement

2.9 The Commission shall monitor and enforce compliance with all license conditions. A contravention of the license is a breach of the Act, which could give rise to penalties. The Commission may suspend or cancel the license of an electricity service provider where that licensee contravenes a condition of the license.

2.10. As part of the compliance monitoring procedure, the licensee shall be required to submit to the Commission a detailed corporate performance statistics half-yearly and an annual report at the end of each financial year.

2.11 The Performance Statistics shall include, but shall not be limited to, the benchmarks stipulated in the *Electricity Supply and Distribution (Technical & Operational) Rules 2005, - LI 1816-* and other relevant legislation as well as the benchmarks stipulated in **Appendix A** of this manual.

2.12 Authorized officers of the Commission shall have the right of free access to the premises and/or operational area of the licensee for the purpose of inspecting and ensuring compliance with the license conditions. In the course of such inspections, the Licensee is required to co-operate with and render assistance to such authorized officers.

2.13 While on the premises of the licensee, the authorized officers shall monitor and adhere to the licensee's internal rules and regulations, particularly relating to health and safety.

Suspension and cancellation of license

- 2.14** The Commission has the mandate under section 19 of the Act to suspend or cancel a license when it is convinced that there has been:
- (a) an act of default meaning that the licensee is not complying or has not complied with any of the conditions stipulated in its license; or
 - (b) a change in circumstances such that the electricity service provider would no longer be entitled to a license.
- 2.15** Prior to suspension or cancellation of a license, the Commission shall serve the licensee with written notice specifying:
- the cause of dissatisfaction;
 - the directives for rectification of the breach; and
 - the Commission's proposed line of action in the event that the licensee does not comply within the period specified in the written notice.
- 2.16** The defaulting licensee served with a notice under clause 2.15 shall be given an opportunity to respond to the Commission's written complaint and the proposed action of remedy.
- 2.17** The Commission shall take into consideration in its determination to suspend or cancel a license, the extent to which any person is likely to suffer loss or damage as a result of the suspension or cancellation of a license.
- 2.18** A license that has been granted but has not been utilized within one (1) year from the date of issue may be cancelled by the Commission after giving thirty (30) days notice to this effect.

CHAPTER

3

TYPES AND DURATION OF LICENCES

Types of license

3.1 The operations and services in the electricity supply industry for which a license is required are:

- (a) wholesale supply operations and services;
- (b) transmission operations and services; and
- (c) distribution and sale operations and services.
- (d) embedded or distributed generation license

3.2 The Commission may create licenses for any other market activity in the electricity industry for which a license may be required and for which, at present, provision or regulation has not been made.

3.3 Separate licences shall be required for each market activity and where the activity is carried out follows:

- for wholesale supply activity – separate licences are required for each generation facility;
- for transmission activity – only one license shall be issued;
- for distribution activity – separate licences are required for each concession area; and
- for embedded/distributed generation activity– separate licences are required for each facility.

3.4 A **wholesale supply license** will authorize the licensee to install and operate facilities to:

- (a) produce; or
- (b) procure

electricity for sale to bulk customers or to a distribution company for sale to consumers.

3.5. A wholesale supply license may be classified under one of the following categories:

- (a) Thermal Generation Licence;
- (b) Hydro Generation Licence;
- (c) Wholesale Supply Broker Licence; or
- (d) Embedded Generation Licence.

3.6 The Commission shall grant a **transmission license** to only one operator, the Electricity Transmission Utility, in accordance with section 24 of the Act.

3.7 A **transmission license** will authorize the licensee:

- (a) to monitor and control the operation of the national interconnected network for the transmission of electricity in areas within Ghana, and to ensure the safe, reliable and economic dispatch of all electricity generation facilities connected to the national interconnected transmission system as stated in the license;
- (b) to provide open access transmission and interconnection services without discrimination to other licensees in the Ghanaian electricity supply industry; and
- (c) to provide open access transmission and interconnection services to operators of electricity networks and/or power systems in ECOWAS member states, subject to the ECOWAS Energy Protocol.

3.8 A **distribution and sale license** will authorize the licensee:

- (a) to operate a distribution network;
- (b) to distribute, sell or retail electricity

without discrimination to consumers who own or occupy premises within a designated area or zone, as stated in the license.

3.9 A license shall be site specific and with the location, geographical limits and scope of each license clearly specified. A new license shall be required if an entity decides to engage in a similar industry operation at a different location or to expand or extend its operations beyond the boundaries of its licensed area of operation.

3.10 An **embedded or distributed generation** license will authorize the licensee

- (a) generate electricity at agreed points of injection in a distribution network and utilizing a specific small scale embedded or distributed generation facility with clearly specified technical details; and
- (b) sell electricity:
 - i. to any electricity bulk customer; or
 - ii. to electricity entities holding a distribution license; or
 - iii. provision may be made for specific sales;

in accordance with agreed terms and conditions negotiated in line with the national energy policy.

Duration of Licences

3.11 A license shall be granted for a definite period.

3.12 The duration of a license shall be as indicated in Table 1 and shall be renewable upon compliance with the conditions of the license. Applicants may make submissions in relation to the term that they wish the license to be granted

Table 1: Duration of Licences

Type of Licence	Recommended Duration
Wholesale Supply (Thermal-based)	Up to 20 years
Wholesale Supply (Hydro-based)	Up to 25 years
Transmission or Distribution	Up to 25 years
Distribution & Retail	Up to 20years
Embedded or Distributed Generation	Up to 15 years

Renewal of Licence

3.13 A license shall be renewed subject to equipment or facility having been certified to be in good technical operating condition by the Commission. The procedure for renewal of a licence shall be the same as that applicable to the grant of the original licence.

CHAPTER

4

APPLICATION FOR AND APPROVAL OF LICENCE

Applications and fees

- 4.1 An application for a licence shall be made in writing addressed to the Office of the Executive Secretary of the Commission and should be submitted together with all relevant information as specified in Chapter Five of this manual.
- 4.2 An application for a licence shall be made on forms approved and supplied by the Commission. The application form can also be accessed from the Commission's website www.energycom.gov.gh. A sample of the form is provided as **Schedule 1: "Filing Instructions and Application Form for Service Providers in the electricity industry"** of the manual.
- 4.3 The applicant shall complete the appropriate application form in its entirety and submit all required attachments, affidavits, and evidence of capability specified by the form at the time an application is filed.
- 4.4 An incomplete application will not be processed or may be rejected. All specified exhibits required under Part A of the filing instructions shall be submitted together with the formal duly signed application form for consideration for the issue of a licence to undertake the prescribed operations in the electricity supply industry in Ghana.
- 4.5 Separate applications are required from an applicant to engage in different market activities that fall within different segments of the industry. The Commission will accept a single application from an applicant in respect of multiple activities in the same segment of the industry. While the Commission will accept applications in this form, separate licences will be issued for each market activity and for each facility where the activity is carried out and the appropriate fees charged.
- 4.6 The applicant must pay to the Commission an application fee determined by the Commission.
- 4.7 The application fee to apply is stated in **Schedule 2: Schedule of Licence Fees**. The application fees as stated in the Schedule shall be valid for the period from January 1 through to December 31 of each year
- 4.8 Application fees may be revised by the Commission and announced by Public Notice.
- 4.9 Application fees are also payable for an application to transfer a licence.
- 4.10 The stipulated application fee will be payable in respect of each type of licence sought, regardless of whether or not applications are made separately or are aggregated into a single application document.

- 4.11** An applicant will be required to furnish the Commission with further information where necessary.
- 4.12** An application shall be deemed to have been successfully lodged only if all relevant supporting documentation required as indicated in Chapter 5 are attached in addition to full payment of the required application fee.
- 4.13** The Commission shall acknowledge receipt of an application for a licence **within 10 working days** of submission of an application and indicate whether the applicant's submissions fully satisfy the requirements expected of the relevant type of licence or otherwise.

Consideration and approval of application

- 4.14** The Commission shall issue a licence only if it is satisfied that:
- (a) The applicant is suitable to hold the licence;
 - (b) In the case of a wholesale supply licence or embedded generation licence - the generating plant supporting the supplier will have the necessary and relevant characteristics to generate electricity of the appropriate quality for the relevant electricity network in a safe manner;
 - (c) For a transmission licence - the network must have the necessary characteristics to guarantee a safe, reliable and economic transmission of electricity and the applicant has capacity to adequately exercise system control functions and operations in an efficient, transparent and fair manner; and
 - (d) For a distribution and retail licence – the network must have the necessary characteristics and integrity to distribute electricity to consumers efficiently and the applicant must be able to reasonably meet foreseeable obligations for the sale of electricity.
- 4.15** In deciding whether an applicant is suitable to hold a licence, the Commission will consider:
- (a) The applicant's previous commercial and other dealings, within and outside Ghana, as may be deemed appropriate by the Commission (including that of its major officers, principals and shareholders) in order to determine and/or assess the applicant's standard of honesty and integrity and to ascertain, among other things, possible past breaches of statutory and other legal obligations in previous dealings.
 - (b) The financial & technical capability of the applicant and the human resources available for the operations under the licence.
 - (c) Other matters as prescribed by the Act or any other relevant laws and Regulations.

Notice of licence decision

- 4.16** The Commission shall **within 60 working days** after acknowledging receipt of an application provide an applicant with a written notice of the Commission's decision on the determination of the status of an application for a licence.

CHAPTER

5

INFORMATION REQUIREMENTS

General

- 5.1** The Commission requires information to be provided by applicants to enable it :
- (a) assess the suitability of an applicant for a licence; and
 - (b) specify the appropriate licence conditions to apply, if a licence were to be granted.
- 5.2** This chapter details the Commission’s information requirements and some guidance in the manner in which applications should be presented.
- 5.3** Applicants are reminded that it is an obligation of the applicant to ensure that all information furnished to the Commission is complete and correct. Providing false, misleading or incomplete information would go directly to question the suitability of an applicant to hold a licence.

List of requirements

- 5.4** **Part A and Part B** of Schedule 1: “*Filing instructions and application form*” provide details of the information to be provided both on a standard application form and as marked exhibits by a service provider seeking to secure a licence to engage in any type of operation in the electricity supply industry in Ghana.
- 5.5** **Part A** of the filing instructions including the submission of all required exhibits (A1-A24) shall constitute the basic information requirements to be considered for the issue of a licence to undertake specific prescribed activities or operations in the electricity supply industry in Ghana.
- 5.6** **Part B** of the filing instructions shall be integrated as conditions of the licence which shall be fulfilled at various stages of project implementation, but definitely, prior to commencement of operations.
- 5.7** The Commission shall issue an *authorization to operate* under the regime of the licence **ONLY IF** all the requirements under Part B are satisfactorily fulfilled.

Contact details

- 5.8** Applications should provide the name and title of a nominated contact officer, and their telephone and fax numbers and e-mail address.
- 5.9** A postal and street address to which correspondences can be sent should also be provided.

Licence types

- 5.10** The applicant must state clearly the type of licence (or licences) being sought.

- 5.11** For each type of licence sought, the applicant must state details of the facilities concerned and details (as applicable) of the location or area in which the licensed activities are to be carried on.
- 5.12** In light of paragraph 3.11 of this manual, the applicant should state the term (in years) for which they wish the licence to be granted.

Licensee's details

- 5.13** The applicant must be able to show that:
- (a) he/she is a citizen of Ghana;
 - (b) it is body corporate registered under the Companies Code, 1963 (Act 179) or under any other law of Ghana; or
 - (c) a partnership registered under the Incorporated Private Partnerships Act, (Act 152);
 - (d) a public institution such as a hospital, school, municipal/local government authority (**applicable ONLY in the case of an embedded generation licence**).
 - (e) if a natural person, he/she is not an un-discharged bankrupt person; and
 - (f) he/she (the applicant) has a credit rating or financial situation commensurate with the potential financial exposure.
- 5.14** If the applicant is a company, applications for licence should include a copy of the *Certificate of Incorporation and the Certificate to Commence Business* of the company.
- 5.15** If the applicant is a wholly owned subsidiary of another company, or one of a group of related companies, summary information about the parent company and the ownership structure or the related companies must be provided.
- 5.16** The applicant together with the directors, senior management and major shareholders should be made known to the Commission and stated in the application. Any breach of a statutory or legal obligation by any of these persons in any past dealings must be revealed to the Commission.

Nature of industry participation

- 5.17** The applicant should provide general information about its existing activities, both within and outside the electricity supply industry. The application should summarize the reasons why the applicant intends to participate in the Ghanaian electricity industry, and the broad nature of that participation.
- 5.18** In providing the above explanation, the applicant should address the Commission's objectives as set out in Section 2 of the Act and the objects of the Act, and explain how the granting of a licence would be consistent with those requirements.

Technical capacity

5.19 Applicants must show that they have the technical capacity to comply with the conditions of the licence of the relevant type being applied for (as set out above) and any associated codes and guidelines published at the time.

5.20 In order to demonstrate the technical capacity of the applicant and its agents to the Commission, applicants are encouraged to provide the following information:

- (a) details of their experience in and knowledge of the electricity supply industry;
- (b) a summary of the skills and experience of the directors and senior managers, and their relevance to meeting the requirements of the licence;
- (c) evidence that the applicant has the capacity to comply with the licence conditions, codes and guidelines relevant to its application; and
- (d) if the applicant is to rely on another entity to provide staff and resources, a summary of the relationship between the applicant and this entity, including any formal agreements to provide services, and a summary of this other entity's experience in and knowledge of the electricity supply industry, and technical capacity to meet the relevant requirements of the licence should be provided.

Financial viability

5.21 The financial resources available to the applicant should be addressed in considerable detail. Audited financial reports for at least, three years should be provided in the first instance. The requirement for audited reports is waived in the case of newly incorporated bodies, but equivalent information should be provided in relation to the other corporations in the applicant's group.

Cross-ownership and ring-fencing

5.22 Applicants should outline the following:

- (a) The basis on which services and resources will be transacted between relevant operating areas of the applicants, or the applicant and its other related entities;
- (b) In the case of applicants that are wholly owned subsidiaries, information on proposed audit arrangements should be provided and also stated whether separate reports for the licensee and its parent company (if applicable) are to be prepared and made publicly available; and
- (c) Other guidelines or standards relating to financial separation, ring-fencing and separate audit arrangements which the applicant intends to follow.

Specific conditions of licence

5.23 Where the applicant is seeking particular licence conditions, the nature and reasons for seeking those conditions should be explained. In such circumstances, the applicant should also provide a draft outline of the proposed licence condition(s).

Exemptions to licence conditions

5.24 The Commission reserves the right to waive any of the above requirements for any specific applicant.

- 5.25** Where an applicant seeks to be exempted from some of the requirements of the Commission or where it seeks modifications to, or exemptions to, or from applicable codes or rules as they would otherwise apply to the applicant, the application should indicate those provisions and detail the specific circumstances giving rise to the request. The applicant should also provide a draft text of the form of the proposed exemption or modification.

Commercially sensitive information

- 5.26** The Commission may make public the information included in an application for a license. Where the applicant considers information contained in an application to be commercially sensitive, the applicant should clearly identify such information and state the reasons why they are to be regarded as commercially sensitive, to enable the Commission determine its consideration of the confidentiality request.

Environmental Management Plan

- 5.27** A license for commercial operations of an electricity facility shall be granted subject to the licensee having secured an *environmental permit* or a *permanent environmental certificate* issued by the Environmental Protection Agency (EPA).
- 5.28** Where an environmental permit is issued subject to the licensee having to prepare and submit a satisfactory *Environmental Management Plan (EMP)*, the operational license granted by the Commission shall be made subject to the condition that the licensee submits a satisfactory EMP for EPA approval and is issued with a *permanent environmental certificate* within **six (6) months** of commercial operations under the license.

CHAPTER

6

LICENCE CONDITIONS

General

- 6.1** Licenses granted shall be subject to conditions. These conditions may include limitations and/or constraints that are determined and imposed by the Commission or statutory requirements stipulated by the Act or any other relevant legislation.
- 6.2** A licensee shall not contravene a condition of its license. A licensee that contravenes a condition of its license may be subject to:
- a) an order for compensation payment;
 - b) the recovery of any profits realized by the licensee from the contravention of a license condition; and/or
 - c) The suspension or cancellation of the license for a material contravention of a license condition.

Initial and Annual license fees

- 6.3** A new license shall not be granted unless the appropriate *Initial License Fee* is paid by the licensee.
- 6.4** The Initial License Fee for a particular type of license shall be the fee determined by the Commission to be paid by the licensee prior to the issue and commencement of a license.
- 6.5** All licenses shall be subject to payment of an annual fee called *Annual License Fee* payable annually during the commercial operations period of the license.
- 6.6** A license issued that includes construction of the facility shall be exempted from payment of the annual license fee during the construction period. A licensee shall commence payment of the annual license fee on the issue of an authorization by the Commission to start commercial operations.
- 6.7** The Annual License Fee for a particular type of license shall be the fee determined by the Commission.
- 6.8** The Commission may consider a request for payment of an Annual License Fee in feasible installments.
- 6.9** Annual License Fees shall be demanded by the Commission by **November 15** and shall be considered due on **January 1** of the following year.
- 6.10** The Commission shall base its assessment of the Annual License Fee invoiced for the forthcoming License Year on actual returns submitted by the licensee for the 1st, 2nd and 3rd quarters and an estimate for the last quarter of the current License Year.

- 6.11** A reconciliation of the Annual License Fee amount due shall be effected and differences settled by April 15 following the submission of Annual Performance Statistics which is required to be lodged with the Commission by March 15 each year.
- 6.12** Payment of outstanding Annual License Fees shall be made not later than **April 15 of each calendar year (i.e. 15 clear days after the deadline for lodgment of the annual returns with the Commission)** after which the Commission may sanction the licensee as deemed necessary in line with Section 19 of the Act.
- 6.13** The annual license fee to apply is stated in **Schedule 2: Schedule of License Fees**. The annual license fees as stated in the schedule shall be revised by the Commission and announced by Public Notice.
- 6.14** The Annual Fees of all licenses granted after commencement of a license year will be apportioned on the basis of the formula:
- $$\text{Fee Payable} = \text{Full Year Fee} \times Z/12 \quad \text{where}$$
- Z** = the number of months remaining in the license year for which the license fee is payable.
- 6.15** Any fee payable for a part of a license year will be calculated in accordance with the formula above.
- 6.16** The License Year for all licenses shall be the period from **January 1** up to **December 31** of each calendar year.
- 6.17** There will be no refund of fees, whether in whole or in part on cancellation of a license.
- 6.18** Market share will be calculated on the basis of energy sales data provided by licenses to the Commission as the percentage of total kWh in both the contestable or non-contestable market that the licensee's sales represent.
- 6.19** All energy sales, installed capacity and circuit kilometer data used to calculate an annual fee payable will be based on the latest available actual values prior to the commencement of the license year.
- 6.20** Only one fee amount per license type will be payable each year by a licensee.

Types of License conditions

- 6.21** License conditions are of three broad types:
- (a) *'Statutory conditions'*, which the Act imposes or requires the Commission to impose;
 - (b) *'Mandatory Conditions'* prior to "*Authorization to Operate*"; and
 - (c) *'Other conditions'* which are within the discretion of the Commission to apply.

Statutory conditions

6.22 The Act provides that the Commission shall grant a license subject to specific conditions stipulated in the Act.

6.23 A **wholesale supply license** shall include conditions specifying:

- i) the location of the wholesale supply facilities or stations;
- ii) the duration of the license; and
- iii) that charges for its services to distribution companies shall be subject to the approval of the Public Utilities Regulatory Commission.

6.24 A **transmission license** shall include conditions specifying that:

- i) the tariffs to be charged by the licensee for its services shall be subject to approval by the Public Utilities Regulatory Commission;
- ii) the licensee shall establish and make available to the public at its offices
 - the procedure for obtaining and terminating transmission and interconnection services for electricity;
 - the method of response to the request for its service; and
 - maps and diagrams of its electricity transmission facilities in the country.
- iii) the Licensee shall provide such information as the Commission may require in respect of its capital expenditure programme

6.25 A **distribution and sale license** shall include conditions specifying that:

- i) the rates or charges for its services shall be subject to the approval of the Public Utilities Regulatory Commission;
- ii) the licensee shall make available to the public for inspection at its offices diagrams and maps of the electricity facilities authorized to be operated in the designated area or zone relevant to the license.

6.26 All licenses shall be subject to conditions that require licensees to:

- i) Comply with applicable codes or rules made under the Act as in force ;
- ii) Comply with protocols, standards and codes applying to the electricity entity as well as existing and/or future statutory Regulations that may be developed to improve developments in the industry;
- iii) Meet specified requirements relating to the entity's financial or other capacity to continue operations under the license;
- iv) Have all or part of the operations authorized by the license audited and report the results of the (technical and/or financial) audit to the Commission;
- v) Notify the Commission about changes to officers and, if applicable, major shareholders of the entity;
- vi) Develop and comply with customer- related standards, charters and procedures; and

- vii) Monitor and report on the levels of compliance with minimum standards specified for service delivery and safety with respect to all customer categories.

Mandatory Conditions prior to “Authorization to Operate”

- 6.27** A licensee shall prepare and submit for approval all the requirements listed under Part B of *Schedule 2: “Filing instructions for service providers”* prior to the commencement of commercial operations of the licensed facility.
- 6.28** Provision of satisfactory information to the Commission on *Exhibit B1: “Plant layout and machinery specifications”* detailing relevant information on engineering design and equipment specifications” **AND** *Exhibit B2: “Construction Contract”* are triggers for the Commission to issue a **Construction Permit** authorizing the licensee to construct the licensed facility.
- 6.29** The Commission shall issue an *authorization to operate* when the requirements under Part B are satisfactorily fulfilled.
- 6.30** A licensee shall not commence commercial operations unless the licensee has applied for and obtained a sealed authorization from the Commission to operate.

Safety & Technical Management Plan

- 6.31** A licensee shall prepare and submit for the Commission’s approval a Safety and Technical Management Plan as one of the conditions prior to the commencement of commercial operations of a licensed facility (*See Schedule 1: Exhibit B6*)
- 6.32** The Safety and Technical Management Plan shall essentially deal with matters prescribed in *Schedule 3: “Safety & Technical Management Plan Outline”* and other issues prescribed by the Regulations.

Other conditions

- 6.33** The Commission shall, on granting a license, make the license subject to further conditions that the Commission may consider appropriate.
- 6.34** A **wholesale supply license** shall be subject to conditions determined by the Commission requiring the licensee to:
- (a) Comply with directives given by the Electricity Transmission Utility in compliance with the regulations for the operation of the Electricity Transmission Utility made under sections 56(1.a.vi) of the Act.
 - (b) Provide electricity of a quality suitable for the national interconnected power system as stated in the license;
 - (c) Avoid any act or omission that may affect the compatibility of the entity's electricity generating plant with any electricity network so as to prejudice public safety or security of supply; and
 - (d) Grant to the Electricity Transmission Utility those rights to use or have access to the generation entity's plant that are necessary for the purpose of ensuring the proper integrated operation of the national interconnected power system

and the proper carrying on of the operations expected from the Electricity Transmission Utility and authorized by its license.

6.35 Appendix B sets out some of the conditions of a wholesale supply license

6.36 The Act indicates that a **transmission license** shall be subject to conditions determined by the Commission requiring the Electricity Transmission Utility to:

- (a) Operate the electricity network in co-ordination with other electricity networks of ECOWAS member states to which it is connected directly or indirectly;
- (b) Exercise the functions and the powers of the system operator in the best interest of all parties operating in the national interconnected transmission system;
- (c) Consult with the Energy Commission when establishing and varying the application of any technical and/or operational rules of practice concerning the dispatch and security of the national interconnected transmission system;
- (d) Grant to each wholesale supply license those rights to use or have access to those parts of the electricity network that are necessary for the purpose of ensuring the proper integrated operation of the interconnected power system and the proper carrying on of the operations authorized by the wholesale supply license;
- (e) Take responsibility for control and maintenance of the national interconnected transmission system for the transmission of electricity throughout Ghana;
- (f) Maintain specified accounting records and prepare accounts according to specified principles;
- (g) To have no stake or interest (e.g. financial, ownership etc.) in any other business dealing with another segment of the electricity supply industry
- (h) Follow a specified process to resolve disputes it may have with other licensees concerning the provision of transmission and interconnection services.

6.37 Appendix C sets out some of the conditions of a **transmission license**

6.38 The Act indicates that a **distribution & sale license** shall be subject to conditions determined by the Commission requiring the distribution entity to:

- (a) Take reasonable steps to ensure that it has in place at all times arrangements to procure, supply and sell electricity to all categories of customers located within the distribution entity's designated zone or areas of operation without discrimination;
- (b) Make necessary arrangements and take precautions to ensure adequate maintenance of the distribution network to maintain the integrity of the

network to supply safe, reliable and standard quality of service to all categories of its customers;

- (c) Request its bulk customers to give written consent to the distribution entity to provide their names, addresses and other contact details to the Commission and the Commission providing that information to other distribution entities;
- (d) Take reasonable steps to identify when its customers will or could become bulk customers, and give those customers at least 28 days notice of that fact;
- (e) Enter into and comply with an agreement with each generation and network entity providing services to the distribution entity's customers as to the co-ordination of the provision of services to those customers, including arrangements for handling any complaint that a customer has about the quality of the services.
- (f) Enter into and comply with distribution network access agreements relating to activities and operations of embedded or distributed generation entities located within the distribution entity's designated zone or areas of operation
- (g) Comply with minimum standards of service and safety with respect to all customers in accordance with the Electricity Distribution & Supply (Technical & Operational) Rules, 2005 - LI 1816 and other legislation as set by the Commission.

6.39 Appendix D sets out some of the conditions of a **distribution & sale license**.

6.40 An **embedded or distributed generation license** shall be subject to conditions determined by the Commission requiring the licensee to:

- (a) Comply with directions of the distribution network (or franchise) operator to which the small scale electricity generator is connected or located as may be specified in the access agreement;
- (b) Provide electricity of a quality suitable for the electricity network as stated in the license and access agreement;
- (c) Not do anything affecting the compatibility of the small scale electricity generating plant with any electricity network so as to prejudice public safety or security of supply; and
- (d) Grant to the distribution network or franchise operator those rights to use or have access to the embedded or distributed generation entity's plant that are necessary for the purpose of ensuring the proper carrying on of the operations expected from the distribution network provider and authorized by its license.

6.41 Appendix E details some of the conditions of an **embedded or distributed generation license**.

6.42 Paragraphs **6.3 – 6.41** above do not limit the sorts of conditions that may be imposed by the Commission.

Liability for damages

- 6.43** Any person licensed to carry on operations in the electricity supply industry shall be liable for damages:
- (a) arising out of a partial or total failure to supply electricity to a customer; or
 - (b) for supplying electricity to an irregular or fluctuating voltage/frequency, **unless** the failure or irregular or fluctuating voltage/frequency is due to an act or omission **NOT** done or made by the electricity service provider in bad faith or through negligence.

Reporting

- 6.44** All holders of a license granted for **ONE** year or more are required to lodge with the Commission **on or before March 31** an annual return each year containing information specified in the license or requested by written notice relating to the previous year's operations and future projects.
- 6.45** Licensees who fail to submit returns for a particular year shall be deemed to have not utilized the license and may be sanctioned in line with Section 19 of the Act.

CHAPTER

7

REVIEW OF DECISION AND APPEALS

Review of decisions

7.1 The Act provides for:

- (a) Persons who are dissatisfied with a decision of the Commission in relation to a license application to have the decision reviewed by the Commission; and
- (b) Persons who have had a decision reviewed by the Commission but are dissatisfied with the results of the review, to appeal the decision to the Minister responsible for Energy who shall within 30 days of receipt of the complaint make a decision. If dissatisfied with the Decision of the Minister, or where the 30 days expire without a decision, the person may pursue the matter in the courts (Refer to Sections 20 & 21 of the Act).

7.2 An application for the review of a Decision may be made to the Commission by;

- (a) An applicant for the grant or variation of the conditions of a license, or for agreement to transfer a license or for review of the decision of the Commission to refuse an application; or
- (b) An electricity entity regarding the decision to suspend or cancel the entity's license or to vary the conditions of the entity's license.

7.3 An application for the review of a Decision shall:

- (a) Be made in writing;
- (b) Set out the decision to which the application relates;
- (c) Set out in detail the grounds on which the applicant seeks a review of the Decision in question;
- (d) Be accompanied by any information or evidence that the applicant considers should be taken into account by the Commission; and
- (e) Be lodged with the Commission within 14 days after the decision is given.

7.4 Once the application for the review of a decision has been received, the Commission:

- (a) May stay the execution of the decision to which the application relates; and
- (b) will take a decision on the review within 30 days of the application being lodged, or otherwise the Commission shall be deemed to have confirmed the decision (on expiry of the 30 days); **OR**
- (c) May confirm, amend or substitute the Decision; and
- (d) will give the applicant written notice of the Commission's decision, and the reasons for the Decision on the review.

Appeals

- 7.5** An applicant who is dissatisfied with a decision of a review by the Commission has a right to appeal to the Minister responsible for Energy, and subsequently to the Courts if not satisfied as set out in Section 20 of the Act.
- 7.6** The appeal must be made within 14 days after receipt of the written notice of the Decision appealed against.

*This manual is based on the Energy Commission Act, 1997 (ACT 541).
If the legislation or other material underlying this manual
is amended, the Commission reserves the right
to amend the manual.*

CHAPTER

8

APPENDICES & SCHEDULES

APPENDICES

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- III. Distribution System Performance Indices**
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SCHEDULES

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APPENDIX A: PERFORMANCE INDICATORS

I. Generation Plant Performance Indices

Item	Indicator	Definition	Formula
1.	Forced Outage Rate of unit – FOR_(u) (%)	Ratio of the <i>unscheduled downtime of a unit</i> to the <i>total number of hours that the unit is required to be in active state</i> within a period.	$FOR_{(u)} = \frac{FOH}{FOH + SH + \text{Synchronous Hrs} + \text{Pumping Hrs}} \times 100\%$ <p>where: FOH= Forced Outage Hours SH = Service Hours</p>
2	Forced Outage Rate for group units – FOR_(g) (%)	Weighted average of the ratio of <i>unscheduled downtime of a group of units</i> to the <i>total number of hours for which the group of units is required to be in active state</i> within a period.	$FOR_{(g)} = \frac{\Sigma FOH}{\Sigma (FOH + SH + \text{Synchronous Hrs} + \text{Pumping Hrs})} \times 100\%$
3	Equivalent Forced Outage Rate for unit – EFOR_(u) (%)	Ratio of the <i>total time a unit is unavailable due to full or partial forced outages</i> to the <i>total number of hours it is required to be in active state</i> within a period.	$EFOR_{(u)} = \frac{FOH + EFDH}{FOH + SH + \text{Synchronous Hrs} + \text{Pumping Hrs} + EFDHRS} \times 100\%$ <p>where: EFDH = Equivalent Forced Derated Hours EFDHRS= Equivalent Forced Derated Hours during Reserve Shutdown Hours</p>
4	Equivalent Forced Outage Rate for group of units – EFOR_(g) (%)	Weighted average of the ratio of the <i>total time a group of units is unavailable due to full or partial forced outages</i> to the <i>total number of hours it is required to be in active state</i> within a period.	$EFOR_{(g)} = \frac{\Sigma (FOH + EFDH)}{\Sigma (FOH + SH + \text{Synchronous Hrs} + \text{Pumping Hrs} + EFDHRS)} \times 100\%$
5	Scheduled Outage Factor for unit – SOF_(u) (%)	Ratio of <i>hours a unit is unavailable due to scheduled (planned or maintenance) outage</i> to the <i>total number of hours in the period</i>	$SOF_{(u)} = \frac{SOH}{PH} \times 100\%$ $SOF_{(u)} = \frac{POH + MOH}{PH} \times 100\%$ <p>where: SOH= Scheduled Outage Hours PH = Period Hours MOH= Maintenance Outage Hours POH = Planned Outage Hours</p>
6	Scheduled Outage Factor for group of units - SOF_(g) (%)	Weighted average of the ratio of <i>scheduled (planned or maintenance) outage hours of a group of units</i> to the <i>total number of hours in the period.</i>	$SOF_{(g)} = \frac{\Sigma (POH + MOH)}{\Sigma PH} \times 100\%$

Item	Indicator	Definition	Formula
7	Forced Outage Factor for unit – FOF_(u) (%)	Ratio of <i>unscheduled downtime</i> of a unit to the <i>total number of hours in the period</i> .	$FOF_{(u)} = \frac{FOH}{PH} \times 100\%$
8	Forced Outage Factor for group of units- FOF_(g) (%)	Weighted average of the ratio of <i>unscheduled downtime for a group of units</i> to the <i>total number of hours in the period</i> .	$FOF_{(g)} = \frac{\sum FOH}{\sum PH} \times 100\%$
9	Equivalent Forced Outage Rate demand – EFOR_d (%)		$EFOR_d = \frac{[FOH_d + EFDH_d]}{[SH + FOH_d]} \times 100\%$ <p>where: FOH_d = f x FOH EFDH_d = (EFDH – EFDHRS) if reserve shutdown events reported, or = (f_p x EFDH) -an approx, if no reserve shutdown events reported f_p = (SH/AH) $f = \left(\frac{1}{r} + \frac{1}{T} \right) / \left(\frac{1}{r} + \frac{1}{T} + \frac{1}{D} \right)$ AH= Available hours r = Average Forced outage duration = (FOH)/ (# of FO occurrences) D = Average Demand time = (SH)/(# of unit actual starts) T = Average reserve shutdown time = (RSH) / # of unit attempted starts)</p>
10	Average Run Time – ART (%)	Average of the respective run-times in sub-periods.	$ART = \frac{SH}{AUS} \times 100\%$ <p>where: AUS = Actual Unit Starts</p>
11.	Gross Capacity Factor – GCF (%)	The ratio of the <i>gross actual electricity generated</i> to <i>electricity that could have been generated at continuous gross-power rating</i> during the period.	$GCF = \frac{GAG}{PH \times GMC} \times 100\%$ <p>where: GAG= Gross Actual Generation GMC= Gross Maximum Capacity</p>
12	Net Capacity Factor – NCF (%)	The ratio of <i>net actual electricity generated</i> to the <i>net energy that can be generated at continuous net power rating</i> during the period.	$NCF = \frac{NAG}{PH \times NMC} \times 100\%$ <p>where: NAG = Net Actual Generation NMC = Net Maximum Capacity</p> <p>Note: Net capacity factor calculated using this equation can be negative during a period when the unit is shutdown.</p>

Item	Indicator	Definition	Formula
13	Gross Output Factor – GOF (%)	The ratio of the <i>gross actual electricity generated</i> to <i>electricity that could have been generated at full-power rating</i> for the period that the unit is in service hours.	$\text{GOF} = \frac{\text{GAG}}{\text{SH} \times \text{GMC}} \times 100\%$
14	Net Output Factor – NOF (%)	The ratio of the <i>net actual electricity generated</i> to <i>electricity that could have been generated at net power rating</i> for the period that the unit is in service.	$\text{NOF} = \frac{\text{NAG}}{\text{SH} \times \text{NMC}} \times 100\%$
15	Service Factor for unit – SF_(u) (%)	A multiplier or ratio (<i>service hours to hours in the period</i>) that indicates the amount of overload a unit is capable of handling.	$\text{SF}_{(u)} = \frac{\text{SH}}{\text{PH}} \times 100\%$
16	Service Factor for group of units- SF_(g) (%)	A weighted multiplier or ratio (<i>service hours to hours in the period</i>) that indicates the amount of overload a group of units is capable of handling.	$\text{SF}_{(g)} = \frac{\sum \text{SH}}{\sum \text{PH}} \times 100\%$
17	Fuel consumption Rate – FCR_{thermal} (gm/kWh)	The ratio of the grams of fuel consumed by a thermal unit to gross (or net) actual electricity produced	$\text{FCR} = \frac{\text{Fuel Consumed}}{\text{GAG}}$ OR $\text{FCR} = \frac{\text{Fuel Consumed}}{\text{NAG}}$
18	Water Consumption Rate – WCR_{hydro} (m ³ /kWh)	The ratio of the <i>volume of water utilized by a hydro unit to the kilowatts of electricity produced.</i>	$\text{WCR} = \frac{\text{Volume of Water Consumed}}{\text{GAG}}$ OR $\text{WCR} = \frac{\text{Volume of Water Consumed}}{\text{NAG}}$
19	Self Consumption OR Station Service - SS (%)	The amount of electricity used within a generating power station as a percentage of total electricity generated.	$\text{SS} = \frac{\text{GAG} - \text{Sent Energy}}{\text{GAG}} \times 100\%$ where: Sent Energy = Actual electricity injected into the transmission/distribution system

Item	Indicator	Definition	Formula
Availability of Supply			
20	Availability Factor for unit - AF_(u) (%)	The ratio of <i>hours within a defined period (daily, monthly or annual) during which a power generating unit is available to produce power at the rated capacity to the total number of hours for the same period</i>	$AF_{(u)} = \frac{AH}{PH} \times 100\%$ <p style="text-align: right;">where: AH . = Available Hours RSH = Reserve Shutdown Hours</p> $AF_{(u)} = \frac{(SH + RSH + \text{Synchronous Hours} + \text{Pumping Hours})}{PH} \times 100\%$
21	Availability Factor for group of units – AF_(g) (%)	The ratio of <i>hours within a defined period (daily, monthly or annual) during which a group of power generating units is available to produce power at the rated capacity to the total number of hours for the same period</i>	$AF_{(g)} = \frac{\sum AH}{\sum PH} \times 100\%$ $AF_{(g)} = \frac{\sum (SH + RSH + \text{Synchronous Hours} + \text{Pumping Hours})}{\sum PH} \times 100\%$
22	Equivalent Availability Factor for unit- EAF_(u) (%)	A measure of the actual maximum capability of a unit to generate electricity relative to the rated capacity.	$EAF_{(u)} = \frac{(AH - EPDH - EUDH - ESEDH)}{PH} \times 100\%$ $EAF_{(u)} = \frac{(AH - EPDH - EFDH - EMDH - ESEDH)}{PH} \times 100\%$ <p>where: EPDH =Equivalent Planned Derated Hours EUDH =Equivalent Unplanned Derated Hours EMDH =Equivalent Maintenance Derated Hours EFDH =Equivalent Forced Derated Hours ESEDH = Equivalent Seasonal Derated Hours</p>
23	Equivalent Availability Factor for group of units – EAF_(g) (%)	A measure of the actual maximum capability of a group of units to generate electricity relative to their total rated capacities.	$EAF_{(g)} = \frac{\sum (AH - EPDH - EUDH - ESEDH)}{\sum PH} \times 100\%$ $EAF_{(g)} = \frac{\sum AH - EPDH - EFDH - EMDH - ESEDH}{\sum PH} \times 100\%$

Item	Indicator	Definition	Formula
Reliability of Supply			
24	Starting Reliability of unit - SR_(u) (%)	The percentage of time the unit actually starts when called upon to start over a specified period.	$SR_{(u)} = \frac{\text{AUS}}{\text{Attempted Unit Starts}} \times 100\%$
25	Starting Reliability of group of units – SR_(g) (%)	The percentage of time the group of units actually starts when called upon to start over a specified period.	$SR_{(g)} = \frac{\Sigma (\text{AUS})}{\Sigma (\text{Attempted Unit Starts})} \times 100\%$
26	Load Factor – LF (%)	The ratio of <i>the average energy demand (load) to maximum demand (peak load)</i> during a specific period.	$LF = \frac{\text{Average Load}}{\text{Peak Load}} \times 100\%$
27	Capacity Factor- CF (%)	The ratio of <i>the total energy produced by a generating unit over a designated period of time to the energy that would have been produced if the generating unit had operated continuously at maximum rating during the period.</i>	$CF = \frac{\text{Actual total energy produced}}{\text{Expected total energy output at rated capacity}} \times 100\%$
28	Utilization Factor- UF (%)	The ratio of <i>the maximum demand of a system or part of a system to the rated capacity of the system or part of the system</i> under consideration.	$UF = \frac{\text{Maximum Load}}{\text{Rated system capacity}} \times 100\%$

II. Transmission System Performance Indices

Item	Indicator	Definition	Formula
1	Transmission Losses- T_{x,loss} (%)	The losses occurring in the course of transmission of electrical energy.	$T_{x,loss} = \text{Energy Purchased} - \text{Energy available for sale}$
2	Load/ Customer-LPC (MVA/Customer)	The average amount of energy consumed by a customer.	$LPC = \frac{\text{Total load supplied by the network}}{\text{Total no. of customers served within the network}}$
3	Transmission Labour Productivity- TLP (MWh/Labor)	Energy output transmitted per unit of labor, usually reported as output per hour worked or output energy transmitted per employed person.	$TLP = \frac{\text{Total energy output}}{\Sigma (\text{Employees x hours worked})}$
4	Maximum System Demand		
5	Average Power Dispatched		
6	Total Energy Dispatched		
7	Load Factor- LF (%)	The ratio of average demand (load) to maximum demand (peak load) during a specific period	$LF = \frac{\text{Average Load}}{\text{Peak Load}}$
8	Capacity Factor- CF (%)	The ratio of energy transmitted in an electrical network within a time interval to the total amount of energy that could have been transmitted under full capacity conditions of the network.	$CF = \frac{\text{Actual energy transmitted}}{\text{Expected energy transmitted under full capacity conditions}}$

III.. Distribution System Performance Indices

Item	Performance Index	Definition	Formula
1	Distribution Losses (%)	The total energy lost in the process of distribution of electricity to consumers including losses due to pilferage. [Expressed as a percentage of generated (or purchased) electricity]	$\frac{[\text{Total Purchases (or generation)} - \text{Total Billed}]}{[\text{Total Purchases (or generation)}]} \times 100\%$
2	Customer per Distribution Circuit (Cust/cct)	Total number of customers supplied in a network divided by the total number of circuits in a network	$\frac{\text{Total no. of customers}}{\text{Total no. of circuits}}$
3	System Average Interruption Frequency Index (SAIFI)	The average number of interruptions per customer served from the distribution system per year.	$\frac{\text{Total no. of customer-interruptions}}{\text{Total no. of customers served}}$
4	System Average Interruption Duration Index (SAIDI)	The average interruption duration per customer served.	$\frac{\text{Sum of customer-interruption durations}}{\text{Total no. of customers served}}$
5	Customer Average Interruption Duration Index (CAIDI)	The average interruption durations for customers interrupted during a year.	$\frac{\text{Sum of customer-interruption duration}}{\text{Total no. of customer-interruptions}}$
6	Energy Sales per Circuit (MWh/km)	The quantity of energy sold as calculated per circuit kilometer of the distribution network.	$\frac{\text{Total Energy Sold (MWh)}}{\text{Total circuit-kilometers of network}}$
7	Customer per Employee Ratio	The ratio of <i>total number of customers served</i> to <i>total number of employees</i> in the distribution company.	$\frac{\text{Total no. of customers served}}{\text{Total no. of employees}}$

IV. Financial Performance Indicators

Item	Indicator	Definition	Formula
1	Fixed assets per Total Sent Energy (¢/kWh)	Ratio of <i>Total Fixed Assets</i> to <i>Sent Energy</i>	<p>Sent Energy = Total energy generated or transmitted or distributed LESS Losses (as relevant to the segment of the industry under consideration)</p> <p>Total Fixed Assets = [Intangible Fixed Assets] + [Tangible Fixed Assets] + [Long-term investments]</p> <p>where: Intangible Fixed Assets = [Development Cost] + [Concessions, patents, licences, trade marks etc.] + [Goodwill]; and Tangible Fixed Assets = [Land & building] + [Plant & machinery] + [Fixtures, fittings, tools, equipment, etc.]</p>
2	Total Inventory (Stocks)		<p>Total Inventory = (a) + (b) + (c)</p> <p>where: (a) = Raw materials and components (i.e spares, fuel, lubricants etc) (b) = Works in progress (c) = Office and workshop supplies (d)</p>
3	Total Assets per Sent Energy (¢/kWh)	Ratio of <i>Total Assets</i> to <i>Sent Energy</i>	<p style="text-align: center;"><u>Total Fixed Assets + Total Current Asset</u> Sent Energy</p> <p>where: Total Current Assets = [Stocks] + [Debtors] + [Short-term investments] + [Cash in hand and at Bank]</p>

Item	Indicator	Definition	Formula
4	Wages & Salaries per Sent Energy (¢/kWh)	Ratio of <i>Wages & Salaries</i> to <i>Sent Energy</i>	$\frac{\text{Total Wages + Salaries}}{\text{Sent Energy}}$ <p>where: Total Wages & Salaries = [Production Wages & Salaries] + [Distribution & Marketing Wages & Salaries] + [Administrative Wages & Salaries]</p>
5	Total Expenses per Sent Energy (¢/kWh)	Ratio of <i>Total Expenses</i> to <i>Sent Energy</i>	$\frac{\text{Total Expenses}}{\text{Sent Energy}}$ <p>where: Total Expenses = [Production Expenses] + [Distribution or Marketing Expenses] + [Administrative & General Expenses]</p>
6	Cost of Fuel per Sent Energy (¢/kWh)	Ratio of <i>generation fuel expenses</i> to <i>Sent Energy</i>	$\frac{\text{Total Actual Cost of Fuel Consumed in the production of energy}}{\text{Sent Energy}}$
7	Total Production Cost per Sent Energy (¢/kWh)	Ratio of total cost of production to Sent Energy	$\frac{\text{Total Actual Production Cost}}{\text{Sent Energy}}$
8	Average Sales Price per unit (¢/kWh)	Ratio of <i>Total Sales</i> to <i>Sent Energy</i>	$\frac{\text{Total Sales..}}{\text{Sent Energy}}$
9	Gross Profit Margin (%)	Ratio of Gross Profit to turnover or sales	$\frac{\text{Gross Profit}}{\text{Sales (Turnover)}} \times 100\%$ <p>where: Gross Profit = [Sales (or Turnover) – Cost of Sales]</p>

Item	Indicator	Definition	Formula
10	Net Profit Margin - before tax (%)	Ratio of <i>Profit</i> before tax to <i>turnover or sales</i>	$\frac{\text{Profit before Tax}}{\text{Sales (Turnover)}} \times 100\%$
	Net Profit Margin - after tax (%)	Ratio of <i>Profit</i> after tax to <i>turnover or sales</i>	$\frac{\text{Profit after Tax}}{\text{Sales (Turnover)}} \times 100\%$
11	Net Profit per Sent Energy (¢/kWh)	Ratio of <i>Profit</i> before tax to <i>Sent Energy</i>	$\frac{\text{Profit before Tax}}{\text{Sent Energy}}$
		Ratio of <i>Profit</i> after tax to <i>Sent Energy</i>	$\frac{\text{Profit after Tax}}{\text{Sent Energy}}$
12	Accounts Receivable (Debtors) per Sent Energy (¢/kWh)	Ratio of <i>Accounts Receivable</i> to <i>Sent Energy</i>	$\frac{\text{Debtors figure at end of period}}{\text{Sent Energy}}$
13	Equity to Assets Ratio (%)	Ratio of <i>Total Shareholders Funds</i> to <i>Total Assets</i> as a percentage	$\frac{\text{Total Owners Equity}}{\text{Total Assets}} \times 100\%$ <p>where: (i) Total Owners Equity = [Stated capital + Surplus]; (ii) Total Assets = [Fixed Assets + Current Assets]</p>
14	Debt to Total Assets Ratio (%)	Ratio of <i>Total Debt</i> to <i>Total Assets</i> as a percentage	$\frac{\text{Total Debt}}{\text{Total Assets}} \times 100\%$ <p>Where: Total Debt = [Long Term Liabilities] OR [Long Term Liabilities + Current Liabilities]</p>
15	Interest Cover	A measure of number of times-interest-earned	$\frac{\text{Profit before interest and tax}}{\text{Total Interest Charge}}$

Item	Indicator	Definition	Formula
16	Return on Equity (%)	Ratio of Net Profit to Shareholders' funds as a percentage	$\frac{\text{Net Profit}}{\text{Equity}} \times 100\%$ <p>where:</p> <p>(i) Equity = [Stated Capital + Surplus] (ii) Net Profit could be "before" or "after" tax.</p>
17	Return on Assets (%)	Ratio of Net Profit to Total Assets as a percentage	$\frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$ <p>where:</p> <p>(i) Total Assets = [Total Fixed Assets + Total Current Assets] (ii) Net Profit could be "before" or "after" tax.</p>
18	Average Collection Period	Time period taken to collect monies owed.	$\frac{\text{Debtors} \times 365}{\text{Sales(Turnover)}}$
19	Average Payment Period	Time period taken to settle payments to creditors	$\frac{\text{Liabilities (or Creditors)} \times 365}{\text{Sales(Turnover)}}$
20	Current Ratio	Ratio of <i>current assets</i> to <i>current liabilities</i> which is a measure of ability to pay debts as they fall due.	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$ <p>where:</p> <p>Current Assets = Working Capital + Current Liabilities</p>
21	Quick Ratio	Ratio of <i>Current Assets LESS Stocks</i> to <i>Current Liabilities</i> .	$\frac{\text{Current Assets} - \text{Stocks (Inventory)}}{\text{Current Liabilities}}$

APPENDIX B - Conditions for a Wholesale Supply Licence

The conditions set out in the table include, but are not limited to, the conditions to be imposed by the Commission.

Type of Licence Condition	Nature of Licence condition
General Statutory Conditions	
1.	<p>Grant of Licence</p> <p>A licensee may be authorized by the Commission to:</p> <ul style="list-style-type: none"> (a) produce or generate electricity for wholesale supply utilizing a specific wholesale supply facility at a specific location as described in a schedule attached; and (b) sell electricity to: <ul style="list-style-type: none"> i) bulk customers; or ii) other licensed generation entities; or iii) licensed electricity distribution service providers at PURC approved rates; or (c) provision may be made for specific sales; <p>in accordance with the conditions of this license herein specified.</p>
2.	<p>Duration of license</p> <ul style="list-style-type: none"> (a) This license commences on the date it is issued (<i>including the period of construction of facilities, where relevant</i>) and continues until: <ul style="list-style-type: none"> i) it is surrendered by the licensee; ii) it is cancelled by the Commission under Section 19 of the Act; or iii) expiration of term of years of the license granted by the Commission (b) This license may be suspended or cancelled in accordance with terms provided under Section 19 of the Act.
3.	<p>Transfer of license</p> <p>This license may only be transferred in accordance with terms provided under Section 16 of the Act</p>
4.	<p>Variation of license</p> <p>This license may only be varied in accordance with terms provided under Section 18 of the Act.</p>
5.	<p>Licence fee and other charges</p> <ul style="list-style-type: none"> (a) The licensee must pay an annual license fee or installment of the annual license fee, as the case may be, to the Commission as determined by the Commission. (b) The licensee must pay the System Operator any other charges relating to the operation of system control as may be determined and approved by the PURC.

6.	Compliance with laws	The licensee must comply with all the applicable laws including, but not limited to, the Act, the EPA Act, and the PURC Act.
7.	Compliance with regulatory and legislative instruments	<p>The licensee must comply with all relevant regulations and legislative instruments that may be enacted under the Act [or any other relevant Act) to control and regulate the Electricity Supply Industry.</p> <p>This shall include, among others, compliance with:</p> <ul style="list-style-type: none"> i) all applicable provisions of the network access code, the system operations technical code, the network planning criteria, market settlement code and pricing mechanisms [list other codes or rules as appropriate]; ii) the approved dispatch criteria and/or order; iii) safety standards and safety management plans; <p>all applicable protocols, standards and codes applying to the licensee under the Regulations</p>
8.	Notification of Breach of Compliance	The licensee must notify the Commission within 3 working days if it becomes aware of a material breach by the licensee of any of the regulatory instruments described in this clause.
9.	Compatibility	The licensee must not do anything to its electricity generating plant that will affect the compatibility of its electricity generating plant with any electricity network so as to prejudice public safety or the security of supply
10.	Quality of electricity produced and supplied	The licensee must provide electricity of a quality suitable for the electricity network and as specified in the license.
11.	Follow direction of the System Operator	The licensee must comply with the directions of the System Operator.
12.	Right of Access	<p>The licensee must:</p> <p>(a) grant each electricity service provider holding a network license rights to use or have access to the licensee's electricity generating plant that are interconnected or interfaced with the electricity entity's assets for the purposes of ensuring the proper integrated operation of the power system and the proper conduct of the operations authorized by the electricity entity's license; and</p> <p>(b) in the absence of agreement as to the terms on which such rights are to be granted, comply with any determination by the Commission as to those terms.</p>

13.	Obligation to offer ancillary services	<p>(a) On request by the System Operator, the licensee must provide ancillary services on terms, which are fair and reasonable in the opinion of the Commission. These services include the installation of new compensation equipment on the licensee's main facilities.</p> <p>(b) Ancillary services are those that the Commission decides are necessary or desirable to exercise system control over the power system.</p>
14.	Co-ordination Agreements	<p>For effective coordination of the NITS, the licensee must enter into, and comply with, agreements with each electricity service provider holding a distribution license or network (transmission) license that provides services to the licensee's customers on terms approved by the Commission dealing with such things as:</p> <ul style="list-style-type: none"> i) the co-ordination of information and request for connections, disconnections and reconnections; ii) the request for, and application of , security deposits; iii) the co-ordination of operating procedures and applications of receipt for customers; iv) the co-ordination of customer enquiries and complaints [under which the distributor has responsibility for taking up customer complaints the]; v) the resolution of customer disputes, and participation in the dispute resolution procedures; and vi) the allocation of responsibilities and liabilities for certain customer claims.
15.	Reporting of Performance Statistics	<p>The licensee must lodge an annual return containing the following information:</p> <ul style="list-style-type: none"> i) [specify as appropriate from Appendix A]; and ii) such other information as is required by the Commission by written notice
16.	Provision of information	<p>The licensee must, furnish the Commission, the PURC or the System Operator, in a manner and form to be determined by the Commission, the PURC or the System Operator, such information as may be required.</p>
17.	Inspection & Monitoring	<p>(a) The Commission shall carry out inspection and monitoring of compliance with provisions of this license in accordance with procedures set out by the Commission.</p> <p>(b) Authorized officers of the Commission shall have the right of free access to the premises and operational areas of the licensee for the purpose of carrying out inspections and the licensee is required to cooperate with and render assistance to such officers.</p>

Mandatory Conditions for Commercial Operations		
18.	Plant & Machinery Specifications	<p>(a) Prior to commencement of construction activities, the licensee shall prepare and submit to the Commission the detailed engineering design and specifications of plant and equipment constituting the licensed facility.</p> <p>(b) The licensee shall during (and after) construction request the consent and approval of the Commission for any subsequent major revisions to the original engineering design and equipment specifications submitted.</p>
19.	Construction Contract	The licensee shall deposit with the Commission copies of all construction contracts concluded in relation to the licensed facility detailing the contractor's basic terms with the owner, the contractor's duties and responsibilities including bonds and insurance, progress and final payment terms and substantial completion.
20.	Authorization to construct	Upon satisfactory fulfillment of Condition 18 - Plant and Machinery Specifications and Condition 19- Construction Contract, the Commission shall issue a <i>Construction Permit</i> authorizing the licensee to commence construction of the licensed facility.
21.	Power Purchase Agreements,	Prior to commencement of commercial operations, The licensee shall submit to the Commission Power Purchase Agreements concluded with its potential customers in relation to the licensed facility's operations in the electricity industry
22.	Fuel, water supply and network access agreements	<p>(a) The licensee must enter into, and comply with, agreements with all relevant agencies for the supply of water, fuel and other essential services, such as network access, necessary for the efficient operation of the licensed facility.</p> <p>(b) Copies of such agreements shall be deposited with the Commission as evidence of fulfillment of this condition.</p>
23.	Operations and Maintenance Agreement & Plan	The licensee must enter into, and deposit with the Commission, the operations and maintenance agreement and/or plan for the efficient and effective operation of the licensed facility.
24.	Safety and Technical Management Plan	<p>(a) Prior to commencement of commercial operations under this license, the licensee must prepare a comprehensive safety and technical management plan dealing with matters prescribed by the Commission and submit the plan to the Commission for approval.</p> <p>(b) This condition must also provide for annual review of the plan, compliance with the plan, and that amendment of the plan may only take place with the approval of the Commission.</p>

25	Commissioning Test Report	The licensee shall subject the licensed facility to a commissioning test process and submit a satisfactory commissioning test report on the installed facility to the Commission.
26	Plant Drawings	The licensee shall submit to the Commission, within thirty (30) days after commissioning , (or prior to commencement of commercial operations under this license, where plant already exists) detailed “ <i>As-Built</i> ” drawings and layout of the plant or licensed facility.
27	Authorization to operate	The Commission shall issue the licensee with an authorization to commence commercial operations subject to the licensee having satisfied all stipulated preconditions including evidence of payment of the appropriate license fees.
Other Conditions Contemplated in the Act.		
28.	Environmental Management Plan (EMP)	A licensee that is licensed to operate with an Environmental Permit shall prepare and submit within six (6) months of commercial operations under the license a satisfactory Environmental Management Plan (EMP) for EPA approval and issue of a <i>permanent environmental certificate</i> for its operations.
29.	Capacity to Operate	The licensee must, upon request, furnish the Commission within 20 working days with details of the licensee's financial, technical and any other capacity relevant in order to ascertain the licensee's capacity to sustain the operations under this license.
30.	Audit of Operations	<p>(a) The licensee must undertake annual audits in respect of each financial year of:</p> <ul style="list-style-type: none"> i) all or part of the operations authorized by this license; ii) compliance with obligations under this license and any other regulatory instruments requiring compliance. <p>(b) The licensee must report the results of the audit under this clause in respect of each financial year to the Commission and by a date to be determined and specified by the Commission</p>
31.	Customer-related guidelines and procedures	The licensee must develop and comply with customer-related guidelines, procedures and charters to enhance the efficiency of service delivery.
32.	Operator	(a) The Commission reserves the right to appoint an operator if the licensee contravenes its license or any other conditions, of the Act or its license lapses or ceases to be in force

		(b) If an operator is appointed to the licensee's business, the operator must exercise its functions and powers, in such a manner, as may be specified by the Commission in the instrument of appointment.
33.	Decommissioning (Process) of Plant	(a) A Licensee shall make and implement adequate arrangements and adhere to prescribed procedures for undertaking decommissioning programmes for the plant or any process that may affect safety. (b) Any prescribed programmes and arrangements for decommissioning of a plant or part thereof shall be submitted to the Commission for prior approval before it is undertaken.
Additional Optional Conditions imposed by the Commission		
34.	Corporate structure condition	If two or more persons are granted a single license in partnership or an unincorporated joint venture, the Commission will make the license subject to conditions relating to the carrying on of those activities in that manner.
35.	Changes to officers/shareholders	The licensee must notify the Commission about changes to officers and, if applicable, major shareholders of the licensee, within 20 working days after the change.
36.	Community Service Obligations (CSOs)	The licensee must cooperate and comply with the requirements of implementation of Community Service Obligation (CSO) schemes that may be approved and funded by the Government.
37.	Participation in development of regulatory instruments	The licensee shall participate, to the extent specified by the Commission, in the development, issue and review of any regulatory instrument.
38.	Ring-fencing	In the case of vertically integrated businesses, there is the need to keep the various arms of that business separate. The Act does not specifically contemplate ring-fencing in the case of the generation business; however ring-fencing of licensed operations will be required if the licensee is engaged or intends to engage in other businesses outside the licensed activity which will impact the profitability of the operations of the licensed activity.

APPENDIX C - Conditions for a Transmission Licence

The conditions set out in the table include, but are not limited to the conditions to be imposed by the Commission.

Type of Licence condition	Nature of Licence condition
General Statutory Conditions	
1.	<p>Grant of license</p> <p>A licensee may be authorized by the Commission to:</p> <ul style="list-style-type: none"> (a) build, operate and maintain the national interconnected transmission network within the country (Ghana) (b) provide open access transmission & interconnection services without discrimination to other licensees in the Ghanaian electricity supply and distribution industry; (c) monitor and control the operation of the national interconnected transmission network within a geographic area (Ghana) specified in a schedule attached to the license (which schedule may be modified as such electricity network is extended or augmented within that geographic area); and (d) provide open access transmission & interconnection services without discrimination to operators of other networks and/or power systems in ECOWAS member states in full compliance with the ECOWAS Energy Protocol <p>and in accordance with the conditions stipulated in the license.</p>
2.	<p>Duration of license</p> <ul style="list-style-type: none"> (a) This license commences on the date it is issued and continues until: <ul style="list-style-type: none"> i) it is surrendered by the licensee ii) it is cancelled by the Commission under Section 19 of the Act; or iii) expiration of term of years of the license granted by the Commission. (b) This license may be suspended or cancelled in accordance with Section 19 of the Act.
3.	<p>Transfer of license</p> <p>This license may only be transferred in accordance with terms provided under Section 16 of the Act.</p>
4.	<p>Variation of license</p> <p>This license may only be varied in accordance with terms provided under Section 18 of the Act.</p>

5.	Licence fee and other charges	<p>(a) The licensee must pay an annual license fee to the Commission as determined by the Commission.</p> <p>(b) The licensee must (in addition) pay any other charges that may accrue in respect of its system control operations as may be determined and approved by the PURC.</p>
6	Compliance with laws	The licensee must comply with all the applicable laws including, but not limited to, the Act, the Environmental Protection Agency (EPA) Act, and the PURC Act.
7.	Compliance with regulatory and legislative instruments	<p>The licensee must comply with all relevant regulations and legislative instruments that may be enacted under the Act [or any other relevant Act) to control and regulate the Electricity Supply Industry.</p> <p>This may include, among others, compliance with:</p> <ul style="list-style-type: none"> i) all applicable provisions of the network access code, the system operations technical code, the network planning criteria, market settlement code and pricing mechanisms [list other codes or rules as appropriate]; ii) the approved dispatch criteria and/or order; iii) safety standards and safety management plans; iv) all applicable protocols, standards and codes applying to the licensee under the Regulations
8.	Other Requirements	<p>The licensee shall be subject to any mandatory conditions specified in the Act and any other relevant regulations such as the obligations:</p> <ul style="list-style-type: none"> o for the safe, reliable, economic dispatch and operation of the National Interconnected Transmission System (NITS) without discrimination; o to charge tariffs subject to PURC approval of rates; o for provision of information to the Commission on the Electricity Transmission Utility (ETU)'s capital expenditure program o to comply with regulations on commercial operation and other requirements to be enacted by the Minister of Energy under Section 56 of the Act; and o with regard to West Africa Power Pool (WAPP) Cooperation Agreements operating in line with the ECOWAS Energy Protocol
9.	Non-Discriminatory Operation of System	The licensee shall ensure a transparent “open access” operation of the transmission system and shall not unduly discriminate between any person or class(es) of persons.
10.	Notification of Breach	The licensee must notify the Commission within 3 working days if it becomes aware of a material breach by the licensee of any of the regulatory instruments described in clause 6 of the license.

11.	Right of Access & Integrated system operations	<p>The licensee must:</p> <p>(a) in accordance with the Network Access Code, grant each electricity entity holding a generation license rights to use or have access to those parts of the licensee's electricity network that are interconnected to or interface with the electricity entity's assets for the purposes of ensuring the proper integrated operation of the power system and the proper conduct of the operations authorized by the electricity service provider's license; and</p> <p>(b) in the absence of agreement as to the terms on which such rights are to be granted, comply with any determination by the Commission as to those terms</p>
12	Compatibility	<p>The licensee must not do anything to its electricity transmission network that would:</p> <p>(a) affect the compatibility of its network with any other electricity network or electricity generating plant and;</p> <p>(b) prejudice public safety or the security of supply.</p>
13.	Development of System Operation Technical Code	<p>(a) Within 3 months after the issue of this license, the licensee must prepare a System Operation Technical Code and submit it for approval by the Commission.</p> <p>(b) The System Operation Technical Code shall include:</p> <ol style="list-style-type: none"> i) Operating protocols; ii) Arrangements for system security and dispatch; iii) Arrangements for disconnection; and iv) Any other matters relating to the monitoring, operation and control of the power system, which is considered appropriate for the reliable, safe, secure and efficient operation of the power system. <p>(c) The licensee may amend the System Operation Technical Code only with the prior written approval of the Commission.</p> <p>(d) If requested to do so by the Commission, the licensee must amend the System Operation Technical Code in the manner suggested by the Commission.</p> <p>The licensee must consult with all electricity entities holding a generation license, distribution and retail license when establishing and amending the System Operation Technical Code.</p>
14.	Coordination of System Operations	<p>In its capacity as System Operator, the licensee must efficiently operate and manage its electricity network in coordination with activities of other electricity networks and generating entities to which it is connected directly or indirectly.</p>

15.	Coordination Agreement	<p>The licensee must enter into, and comply with, an agreement with each electricity service provider holding a distribution license or generation license that provides services to the licensee's customers on terms approved by the Commission, dealing with such things as:</p> <ul style="list-style-type: none"> (a) the coordination of information and requests for connections, disconnections and reconnections; (b) the request for, and application of security deposits; (c) the coordination of Acting procedure and application of receipts from customers; (d) the coordination of customer inquiries and complaints, under which the distributor has responsibility for taking up customer complaints, with the licensee; (e) the resolution of customer disputes, and participation in the dispute resolution procedures; and (f) the allocation of responsibilities and liabilities for certain customer claims.
16.	Ancillary Services	<p>The Licensee is under obligation to make the necessary arrangements to procure and secure commercial and technical conditions for the relevant ancillary services in order to ensure an efficient, secure, reliable, safe and cost effective operation of the power system.</p> <p>The requirement for ancillary services to ensure an efficient and secure system operations may not exclude the installation of new compensation equipment on the licensee's main system installations</p>
17.	Operating security standard	<p>The Licensee shall establish and make sufficient arrangements to meet the Operating Security Standard and shall upon request provide to the Commission with such information that the Commission may require for the purpose of monitoring compliance with this and other conditions to enable it review the operation of the Operating Security Standard.</p>
18	Disconnection	<p>The licensee must not disconnect or discontinue supply of electricity, or take any action which may lead to the disconnection or discontinuance of, supply of electricity to a customer, except in accordance with the Act and the disconnection procedures as prescribed by the System Operations Technical Code where it applies, or otherwise in accordance with the customer's contract and/or regulations established by the PURC</p>
19.	Reporting of Performance Statistics	<p>The licensee must lodge an annual return containing the following information:</p> <ul style="list-style-type: none"> i) [specify as appropriate from Appendix A]; and ii) such other information as is required by the Commission by written notice

<p>20.</p>	<p>Provision of information to the Commission & other relevant agencies</p>	<p>The licensee shall furnish the Commission, the PURC and other relevant agencies with such information as may be required.</p> <p>(a) The Commission shall request the licensee to monitor activities in connection with the operation of the power system. The licensee must comply with a request of the Commission under this clause.</p> <p>(b) The licensee shall keep items of information collected or derived in the course of monitoring the activities of any electricity entity or other persons in connection with the operation of the power system only for a time period determined by the Commission.</p> <p>(c) If the Commission requests the licensee to provide any monitored information, the licensee must provide that information to the Commission as soon as practicable after receiving the request.</p> <p>(d) If:</p> <ul style="list-style-type: none"> i) the Commission requests the licensee to provide any item of information which is not Monitored Information; and ii) that item is in the possession of the licensee or could be obtained by the licensee by taking reasonable steps; and iii) the licensee would not be in breach of an agreement or other confidentiality obligation if it disclosed the item to the Commission, <p>Then the licensee must provide the information to the Commission as soon as practicable after receiving the request.</p>
<p>21</p>	<p>Inspection & Monitoring</p>	<p>(a) The Commission shall carry out inspection and monitoring of compliance with provisions of this license in accordance with procedures set out by the Commission.</p> <p>(b) Authorized officers of the Commission shall have the right of free access to the premises and operational areas of the licensee for the purpose of carrying out inspections and the licensee is required to cooperate with and render assistance to such officers.</p>
<p>Mandatory Conditions for Commercial Operations</p>		
<p>22.</p>	<p>Plant & Machinery Specifications & Drawings</p>	<p>(a) Prior to commencement of commercial operations under this license, the licensee shall prepare and submit to the Commission the detailed engineering design and specifications of plant, transmission lines and other relevant equipment constituting the licensed facility.</p> <p>(b) The licensee shall request the consent and approval of the Commission for any subsequent major revisions to the original engineering design and equipment specifications submitted and/or additions to the licensed facility.</p>

23	Establishment & publication of procedures and guidelines for commercial service delivery	<p>The licensee must within 3 months of being granted a license develop, establish and comply with customer-related guidelines, procedures and charters to enhance the efficiency of service delivery along the lines of commercial operations of the business [in accordance with Section 24(2) of the Act] such as:</p> <ul style="list-style-type: none"> ○ provision of maps, diagrams and other information on the scope of ETU's electricity transmission facilities; ○ establishment of procedures for obtaining and terminating transmission services as well as interconnection services; ○ the establishment and publication of procedures for registering power supply contracts and other relevant requirements to qualify for dispatch; and ○ procedures for resolution of disputes.
24	Access Agreement	<p>(a) Prior to commencement of commercial operations under this license, the licensee must prepare, negotiate and conclude network access and/or interconnection agreements with all interconnected licensed electricity service providers and customers in order to assure effective operation of the NITS.</p> <p>(b) The licensee shall deposit copies of all such agreements with the Commission to facilitate its monitoring responsibilities.</p>
25	Operation and Maintenance	<p>(a) The licensee must operate, maintain (including repair and replacement, if necessary) and protect its electricity network in accordance with the requirements and standards established under the National Grid Code.</p> <p>(b) The licensee shall deposit with the Commission, an operations and maintenance programme or plan that will ensure the efficient and effective operation of the licensed facility.</p>
26.	Safety and Technical Management Plan	<p>(a) Prior to commencement of commercial operations under this license, the licensee must prepare a comprehensive safety and technical management plan dealing with matters prescribed by the Regulations and submit the plan to the Commission for approval.</p> <p>(b) This condition must also provide for an annual review of the plan, compliance with the plan, and that amendment of the plan may only take place with the approval of the Commission.</p>

Other Conditions Contemplated in the Act		
27.	Capacity to operate	If requested by the Commission, the licensee must furnish the Commission within 20 working days with details of the licensee's financial, technical and any other relevant capacity in order to ascertain the licensee's capacity to sustain operations under this license.
28.	Audit of operations	<p>(a) The licensee must undertake annual audits in respect of each financial of:</p> <p>i) all or part of the operations authorized by this license; compliance with obligations under this license and any other regulatory instruments requiring compliance.</p> <p>(b) The licensee must report the results of the audit under this clause in respect of each financial year to the Commission and by a date to be determined and specified by the Commission</p>
29.	Restrictions on trading in electricity	<p>The licensee must not buy or sell electricity directly or indirectly in connection with conducting operations authorized by this licence, except if it is necessary:</p> <p>(a) to operate the electricity network; or</p> <p>(b) for a purpose associated with planning, designing, constructing, maintaining or operating the electricity network;</p> <p>(c) for the licensee's administrative purposes; or</p> <p>(d) or as may be determined by the Commission.</p>
30.	Market Settlement	The Licensee shall establish settlement arrangements for the identification and settlement of imbalances arising from bilateral contracts involving Generators and suppliers for the sale and purchase of electricity to be supplied to eligible customers.
31.	Relations with West Africa Power Pool (WAPP)	The Licensee shall be a member and maintain membership of the West African Power Pool (in accordance with Article 6 of the ECOWAS Energy Protocol) for carrying out electricity trading as may be provided under the WAPP rules and shall comply with all obligations therein.
32.	Decommissioning (Process) of Plant	<p>(a) A Licensee shall make and implement adequate arrangements and adhere to prescribed procedures for undertaking decommissioning programmes for the plant or any process that may affect safety.</p> <p>(b) Any prescribed programmes and arrangements for decommissioning of a plant or part thereof shall be submitted to the Commission for prior approval before it is undertaken.</p>

Additional Optional Conditions imposed by Commission		
33.	Corporate structure	If two or more persons are granted a single licence in partnership or an unincorporated joint venture, the Commission will make the licence subject to conditions relating to the carrying on of those activities in that manner.
34.	Changes to officers/shareholders	The licensee must notify the Commission about changes to officers and, if applicable, major shareholders of the licensee within 20 working days after the change.
35.	Community Service Obligations (CSOs)	The licensee shall cooperate and comply with the requirements of implementation of Community Service Obligation (CSO) schemes that may be approved and funded by the Government.
36.	Consultations	The licensee shall participate, to the extent specified by the Commission, in the development, issue and review of any regulatory instruments relating to the electricity supply industry.
37.	Ring-fencing	<p>The licensee shall keep the business of owning, operating and maintaining the electricity network separate from any other business (of the licensee) or any other person</p> <p>[NB: This condition may be included if the licensee is the same or a related body corporate in relation to an electricity entity granted a generation licence or distribution licence even though such a situation is currently not contemplated by the Act.]</p>

APPENDIX D - Conditions for a Distribution & Sale Licence

The conditions set out in the table include, but are not limited to, the conditions to be imposed by the Commission.

Type of Licence Condition	Nature of Licence condition
General Statutory Conditions	
1.	<p>Grant of licence</p> <p>A licensee may be authorized by the Commission to :</p> <ul style="list-style-type: none"> (a) own and operate an electricity distribution network within the geographic area or zone specified in a schedule attached to the licence (which schedule may be modified as such electricity network is extended or augmented within that area or zone); and (b) distribute and sell electricity without discrimination to all classes of customers that may request for supply and whose installations or premises are located within the area or zone specified in the licence; (c) trade in electricity and/or sell electricity to bulk customers that may be located outside the licensee’s area or zone of operation. <p>The licensee is required to undertake the above activities in accordance with the conditions of this licence.</p>
2.	<p>Duration of licence</p> <ul style="list-style-type: none"> (a) This licence commences on the date it is issued and continues until: <ul style="list-style-type: none"> i) it is surrendered by the licensee ii) it is cancelled by the Commission under Section 19 of the Act; or iii) expiration of term of years of the licence granted by the Commission. (b) This licence may be suspended or cancelled in accordance with conditions provided under Section 19 of the Act.
3.	<p>Transfer of licence</p> <p>This licence may only be transferred in accordance with Section 16 of the Act</p>
4.	<p>Variation of licence</p> <p>This licence may only be varied in accordance with Section 18 of the Act</p>
5.	<p>Licence fee and other charges</p> <ul style="list-style-type: none"> (a) The licensee must pay an annual licence fee (or installment of the annual licence fee), as the case may be, to the Commission as determined by the Commission. (b) The licensee must (in addition) pay the Transmission System Operator any charges relating to the operations of system control as may be determined and approved by the PURC.

6.	Compliance with laws	The licensee must comply with all the applicable laws including, but not limited to, the Act, the EPA Act, and the PURC Act.
7.	Compliance with regulatory and legislative instruments	<p>The licensee must comply with all relevant regulations and legislative instruments that may be enacted under the Act [or any other relevant Act] to control and regulate electricity supply & distribution within the licensed area or zone.</p> <p>This may include, among others, compliance with:</p> <ul style="list-style-type: none"> i) all applicable provisions of the technical and operational rules for electricity supply and distribution (LI 1816); ii) minimum standards of performance as stipulated in standard of performance rules for electricity supply & distribution; iii) the network access code, the system operations technical code, the network planning criteria [list other codes or rules as appropriate]; iv) pricing mechanisms; v) safety standards and safety management plans; and vi) all applicable protocols, standards and codes applying to the licensee under the Regulations
8.	Notification of Breach of Compliance	The licensee must notify the Commission within 3 working days if it becomes aware of a material breach by the licensee of any of the regulatory instruments prescribed by the Commission
9	Establishment & publication of procedures and guidelines for commercial service delivery	<p>The licensee must within 3 months of being granted a licence develop, establish and comply with customer-related guidelines, procedures and charters to enhance the efficiency of service delivery along the lines of commercial operations of the business [in accordance with Section 24(2) of the Act] such as:</p> <ul style="list-style-type: none"> o establishment of procedures for obtaining and terminating distribution services as well as interconnection services for embedded generation facilities; o the establishment and publication of procedures bulk customer classification arrangements; and o procedures for resolution of disputes.
10.	Adequate arrangements to supply customers	The licensee must take reasonable steps to ensure that it has in place at all times reasonably comprehensive arrangements to procure and supply electricity to all of its customers without discrimination.
11.	Obligation to Sell to Customers	<p>(a) A licensee shall sell electricity to all classes of customers, with the exception of bulk customers, located within its distribution area on uniform terms and conditions determined and approved by the PURC.</p> <p>(b) Upon request by a Bulk Customer (located within or outside the licensee’s area or zone of operation), the licensee may negotiate to supply and sell electricity on terms and conditions mutually agreed between the two parties.</p>

12.	Customer's rights & obligations relating to changes in consumer classification	<p>Until otherwise determined by the Commission:</p> <p>(a) The licensee must, at least 28 days prior to the date it expects a customer to become a Bulk Customer:</p> <ol style="list-style-type: none"> i) notify the customer in a manner and form specified by the Commission of the date that it will become or is likely to become , a bulk customer, and ii) notify the customer of its rights and obligations in becoming a bulk customer and the relevant guidelines for transformation into being a bulk customer. <p>(b) The licensee must :</p> <ol style="list-style-type: none"> i) at least 28 days prior to the date it expects a customer to become eligible for classification as a Bulk Customer, request the customer to give its written consent for: <ul style="list-style-type: none"> • the disclosure of its name, address and other contact details to the Commission; and • the disclosure by the Commission to other distributors or suppliers; and ii) the licensee must provide to the Commission with copies of the written consent and information relating to the consenting customer. <p>(c). For the purposes of clause 11, the licensee must take reasonable steps to identify when any of its customers will or is likely to become a Bulk Customer.</p> <p>(d)The licensee must continue to offer to sell electricity to the newly qualified Bulk Customer on the same terms and conditions (including tariff schedule) applicable to the customer previously before becoming a Bulk Customer, until new terms and conditions of supply are mutually negotiated and agreed by the parties.</p>
13.	Obligation to sell to a Stranded Customer	<p>(a) In this clause, a "Stranded Customer " is a bulk customer who:</p> <ol style="list-style-type: none"> i) is located in the licensee's zone or area of operation; ii) was previously sold electricity under a power supply contract which has expired or has been terminated; and iii) has used reasonable endeavors to obtain an offer from distributors/suppliers other than the licensee; and iv) has failed to receive an offer that is reasonable <p>(b) A licensee that receives a request from a Stranded Customer must offer to sell electricity to that customer on terms which are fair and reasonable in the opinion of the Commission.</p> <p>(c) Any question as to whether a Bulk Customer has satisfied any of the criteria set out for it to be described as "Stranded" will be decided by the Commission.</p>

14.	Obligation to grant access to embedded generation entity	<p>(a) The licensee shall enter into and comply with distribution network access agreements relating to activities and operations of potential embedded generation entities that wish to locate and operate within the licensee’s designated zone or area of operation.</p> <p>(b) The licensee shall not do anything to hinder or prevent a potential embedded generation entity from connecting its small scale generating equipment or plant to the licensee’s distribution network unless it has very sound technical and safety reasons to justify its action.</p>
15	Obligation to purchase renewable energy	The licensee shall as a priority purchase electrical energy from embedded or distributed generation service providers and compensate them in accordance with rates and guidelines established by the PURC.
16.	Coordination Agreement	<p>(a)The licensee shall enter into an agreement, on terms approved by the Commission, with each electricity entity holding a generation licence or network licence which provides services to the licensee's customers as to the coordination of the provision of services to those customers, including arrangements whereby the licensee has responsibility for taking up issues with regard to any customer complaints about the quality of services being supplied by the other (electricity) service providers in relation to the agreement.</p> <p>(b) The licensee may be required to enter into an agreement as to the coordination of services to its customers, including arrangements whereby any complaint that a customer has about the quality of the services being rendered is taken up by the licensee with other electricity entities on behalf of the customer.</p>
17	Reporting of Performance Statistics	<p>The licensee must lodge an annual return containing the following information:</p> <ul style="list-style-type: none"> i) [specify as appropriate from Appendix A]; and ii) such other information as is required by the Commission by written notice
18	Provision of information to regulators & other relevant agencies	The licensee shall furnish the Commission, the PURC, the System Operator or any other relevant agency with such information as may be required..
19.	Inspection & Monitoring	<p>(a) The Commission shall carry out inspection and monitoring of compliance with provisions of this licence in accordance with procedures set out by the Commission.</p> <p>(b) Authorized officers of the Commission shall have the right of free access to the premises and operational areas of the licensee for the purpose of carrying out inspections and the licensee is required to cooperate with and render assistance to such officers.</p>

Mandatory Conditions for Commercial Operations		
20	Geographical Scope of Operations	Prior to commencement of operations under this licence, the licensee shall prepare and provide at its offices and to the Commission maps, diagrams and other information on the scope of the service provider's electricity distribution network facilities.
21	Plant & Machinery Specifications & Drawings	<p>(a) Prior to commencement of commercial operations under this licence, the licensee shall prepare and submit to the Commission the detailed engineering design and specifications of plant, transmission lines and other relevant equipment constituting the licensed facility. This shall include, but may not be limited to, “As-built” drawings and layout of plant and/or facilities where relevant.</p> <p>(b) The licensee shall request the consent and approval of the Commission for any subsequent major revisions to the original engineering design and equipment specifications submitted and/or additions to the licensed facility.</p>
22	Access Agreement	<p>(a) Prior to commencement of commercial operations under this licence, the licensee must arrange and conclude network access and/or interconnection agreements with all relevant licensed electricity service providers considered essential in the provision of the services under this licence.</p> <p>(b) The licensee shall deposit copies of all such agreements with the Commission to facilitate its monitoring responsibilities.</p>
23	Operation & Maintenance	<p>(a) The licensee must operate, maintain (including repair and replacement, if necessary) and protect its electricity network in accordance with the requirements and standards established under the National Grid Code.</p> <p>(b) The licensee shall deposit with the Commission before commencement of commercial operations, an operations and maintenance programme or plan that will ensure the efficient and effective operation of the licensed facility.</p>
24	Safety and Technical Management Plan	<p>(a) Prior to commencement of operations under this licence, the licensee must prepare a comprehensive safety and technical management plan dealing with matters prescribed by the Regulations and submit the plan to the Commission for approval.</p> <p>(b) This condition must also provide for an annual review of the plan, compliance with the plan, and that amendment of the plan may only take place with the approval of the Commission.</p>
Other Conditions Contemplated in the Act		
25.	Capacity to Operate	If requested by the Commission, the licensee shall furnish the Commission within 20 working days with details of the licensee's financial, technical and any other relevant capacity in order to

		ascertain the licensee's capacity to sustain operations under this licence.
26.	Audit of Operations	<p>(a) The licensee must undertake annual audits in respect of each financial year of:</p> <ol style="list-style-type: none"> i. all or part of the operations authorized by this licence; ii. compliance with obligations under this licence and any other regulatory instruments requiring compliance. <p>(b) The licensee must report the results of the audit under this clause in respect of each financial year to the Commission and by a date to be determined and specified by the Commission.</p>
27.	Disconnection	The licensee must not disconnect or discontinue supply of electricity, or take any action which may lead to the disconnection or discontinuance of supply of electricity to a customer, except in accordance with the disconnection procedures prescribed by the System Operations Technical Code, the Technical & Operational Rules for electricity supply & distribution (LI 1816) or any other disconnection/termination rules or guidelines that may be legislated by the PURC or by Act.
28.	Operator	<p>(a) The Commission reserves the right to appoint an operator if the licensee contravenes its licence or any other conditions, of the Act or its licence lapses or ceases to be in force</p> <p>(b) If an operator is appointed to the licensee's business, the operator must exercise its functions and powers, in such a manner, as may be specified by the Commission in the instrument of appointment.</p>
29.	Decommissioning (Process) of Plant	<p>(a) A Licensee shall make and implement adequate arrangements and adhere to prescribed procedures for undertaking decommissioning programmes for the plant or any process that may affect safety.</p> <p>(b) Any prescribed programmes and arrangements for decommissioning of a plant or part thereof shall be submitted to the Commission for prior approval before it is undertaken.</p>
Additional Optional Conditions imposed by the Commission		
30.	Corporate structure	If two or more persons are granted a single licence in partnership or an unincorporated joint venture, the Commission will make the licence subject to conditions relating to the carrying on of those activities in that manner.
31.	Changes to Officers / Shareholders	The licensee must notify the Commission of any change to any officer and, if applicable, any major shareholder of the licensee within 20 working days after the change
32.	Community Service Obligations	The licensee shall cooperate and comply with the requirements of implementation of Community Service Obligation (CSO) schemes that may be approved and funded by the Government

33.	Participation in development of regulatory instruments	The licensee shall participate, to the extent specified by the Commission, in the development, issue and review of any regulatory instruments.
34.	Notice of changes.	The licensee must notify its customers of any changes in rights, obligations and charges applicable to the sale of electricity to that customer by including an explanatory notice with the next statement sent to that customer.
35.	Publication of standard terms and conditions	The licensee shall publish the standard terms and conditions applicable to its customers or a prescribed class of customers in the Government Gazette with prior written approval of the Commission.

APPENDIX E: Conditions for an Embedded or Distributed Generation Licence

The conditions set out in the table include, but are not limited to, the conditions to be imposed by the Commission.

Type of Licence Condition		Nature of Licence condition
General Statutory Conditions		
1.	Grant of Licence	<p>A licensee may be authorized by, the Commission to:</p> <ul style="list-style-type: none"> (a) generate electricity at agreed points of injection described in a schedule attached and utilizing a specific small scale embedded generation facility which technical details are described in a schedule attached; and (b) sell electricity: <ul style="list-style-type: none"> i) to any electricity bulk customer; or ii) to electricity entities holding a distribution licence; or (c) provision may be made for specific sales; <p>in accordance with the conditions of this licence herein specified.</p>
2.	Duration of licence	<p>(a) This licence commences on the date it is issued (<i>including the period of construction of facilities, where relevant</i>) and continues until:</p> <ul style="list-style-type: none"> i) it is surrendered by the licensee; ii) it is cancelled by the Commission under Section 19 of the Act; or iii) expiration of term of years of the licence granted by the Commission. <p>(b) This licence may be suspended or cancelled in accordance with Section 19 of the Act.</p>
3.	Transfer of licence	This licence may only be transferred in accordance with Section 16 of the Act
4.	Variation of licence	This licence may only be varied in accordance with Section 18 of the Act.
5.	Licence fee and other charges	<p>(a) The licensee must pay an annual licence fee or installment of the annual licence fee, as the case may be, to the Commission as determined periodically by the Commission.</p> <p>(b) The licensee must pay to the distribution network operator any other charges relating to the use and control of the distribution network in accordance with the access agreement and approved guidelines established by the PURC</p>

6.	Compliance with laws	The licensee must comply with all the applicable laws including, but not limited to, the Act, the EPA Act, and the PURC Act.]
7.	Compliance with regulatory & legislative instruments	<p>The licensee must comply with all relevant regulations and legislative instruments that may be enacted under the Act [or any other relevant Act) to control and regulate the Electricity Supply Industry.</p> <p>This may include, among others, compliance with:</p> <ul style="list-style-type: none"> i) all applicable provisions of the network access code, network access agreement entered into with distribution network operator, the system operations technical code, the network planning criteria, pricing mechanisms [list other codes or rules as appropriate]; ii) safety standards and safety management plans; iii) all applicable protocols, standards and codes applying to the licensee and the distribution network entity made under the Regulations .
8.	Notification of Breach of Compliance	The licensee must notify the Commission within 3 working days if it becomes aware of a material breach by the licensee of any of the regulatory instruments described in this clause.
9.	Compatibility	The licensee must not do anything to its plant that will affect the compatibility of its small scale electricity generating plant with any electricity network so as to prejudice public safety or the security of supply.
10.	Quality of electricity produced & supplied	The licensee must provide electricity of a quality suitable for the electricity network(s) it is connected to and as specified in the licence.
11.	Follow directions of the Distribution Network Operator	The licensee must comply with agreed guidelines, procedures and technical requirements as stipulated in the access agreement with the distribution network operator.
12.	Right of Access	<p>The licensee must:</p> <p>(a) grant each electricity service provider holding a network licence and to which the licensee’s small plant is connected or located, rights to use or have access to its small scale electricity generating plant premises for the purposes of ensuring the proper integrated operation of the distribution system and the proper conduct of the operations authorized by the distribution service provider’s licence; and</p> <p>(b) in the absence of agreement as to the terms on which such rights are to be granted, comply with any determination by the Commission as to those terms.</p>

13.	Co-ordination Agreement	<p>The licensee must enter into, and comply with, an <i>agreement</i> with each electricity service provider holding a distribution network licence that provides services to the licensee's customers on terms approved by the Commission dealing with such things as:</p> <ul style="list-style-type: none"> i) the co-ordination of information and request for connections, disconnections and reconnections; ii) the request for, and application of, security deposits; iii) the co-ordination of operating procedures and applications of receipt for customers; iv) the co-ordination of customer enquiries and complaints [under which the distributor has responsibility for taking up customer complaints the]; v) the resolution of customer disputes, and participation in the dispute resolution procedures; and vi) the allocation of responsibilities and liabilities for certain customer claims.
14.	Reporting of Performance Statistics	<p>The licensee must lodge an annual return containing the following information:</p> <ul style="list-style-type: none"> i) [specify as appropriate from Appendix A]; and ii) such other information as is required by the Commission by written notice
15.	Provision of information	<p>The licensee furnishes the Commission, the PURC and any other relevant agency such information as may be required.</p>
16.	Inspection & Monitoring	<p>(a) The Commission shall carry out inspection and monitoring of compliance with provisions of this licence in accordance with procedures set out by the Commission.</p> <p>(b) Authorized officers of the Commission shall have the right of free access to the premises and operational areas of the licensee for the purpose of carrying out inspections and the licensee is required to cooperate with and render assistance to such officers.</p>
Mandatory Conditions for Commercial Operations		
17.	Plant & Machinery Specifications	<p>(a) Prior to commencement of construction activities, the licensee shall prepare and submit to the Commission the detailed engineering design and specifications of plant and equipment constituting the licensed facility.</p> <p>(b) The licensee shall during (and after) construction request the consent and approval of the Commission for any subsequent major revisions to the original engineering design and equipment specifications submitted.</p>

18.	Construction Contract	The licensee shall deposit with the Commission copies of all construction contracts concluded in relation to the licensed facility detailing the contractor's basic terms with the owner, the contractor's duties and responsibilities including bonds and insurance, progress and final payment terms and substantial completion.
19.	Fuel, water supply and network access agreements	<p>(a) The licensee must enter into, and comply with, agreements with all relevant agencies for the supply of water, fuel and other essential services, such as network access and power purchase and other necessary arrangements with distribution service provider for the efficient operation of the licensed facility.</p> <p>(b) Copies of such agreements shall be deposited with the Commission as evidence of fulfillment of this condition.</p>
20.	Operations and Maintenance Agreement & Plan	The licensee must enter into, and deposit with the Commission, the operations and maintenance agreement and/or plan for the efficient and effective operation of the licensed facility.
21.	Safety and Technical Management Plan	<p>(a) Prior to commencement of commercial operations under this licence, the licensee must prepare a comprehensive safety and technical management plan dealing with matters prescribed by the Regulations and submit the plan to the Commission for approval.</p> <p>(b) This condition must also provide for an annual review of the plan, compliance with the plan, and that amendment of the plan may only take place with the approval of the Commission.</p>
22.	Commissioning Test Report	The licensee shall subject the licensed facility to a commissioning test process and submit a satisfactory commissioning test report on the installed facility to the Commission.
23.	Plant Drawings	The licensee shall submit to the Commission, within thirty (30) days after commissioning , (or prior to commencement of commercial operations under this licence, where plant already exists) detailed " <i>As-Built</i> " drawings and layout of the plant or licensed facility.
24.	Authorization to operate	The Commission shall issue the licensee with an authorization to commence commercial operations subject to the licensee having satisfied all stipulated preconditions including evidence of payment of the appropriate license fees.

Other Conditions Contemplated in the Act		
25.	Capacity to Operate	The licensee must furnish the Commission with details of the licensee's financial, technical and any other capacity relevant in order to sustain the operations under this licence within 20 working days of such request.
26.	Audit of Operations	<p>(a) The licensee must undertake annual audits in respect of each financial year of:</p> <ul style="list-style-type: none"> i) all or part of the operations authorized by this licence; ii) compliance with obligations under this licence and any other regulatory instruments requiring compliance. <p>(b) The licensee must report the results of the audit under this clause in respect of each financial year to the Commission and by a date to be determined and specified by the Commission</p>
27.	Operator	<p>(a) The Commission reserves the right to appoint an operator if the licensee contravenes its licence or any other conditions, of the Act or its licence lapses or ceases to be in force</p> <p>(b) If an operator is appointed to the licensee's business, the operator must exercise its functions and powers, in such a manner, as may be specified by the Commission in the instrument of appointment.</p>
28.	Decommissioning (Process) of Plant	<p>(a) A Licensee shall make and implement adequate arrangements and adhere to prescribed procedures for undertaking decommissioning programmes for the plant or any process that may affect safety.</p> <p>(b) Any prescribed programmes and arrangements for decommissioning of a plant or part thereof shall be submitted to the Commission for prior approval before it is undertaken.</p>
Additional Optional Conditions imposed by the Commission		
29.	Changes to officers/shareholders	The licensee must notify the Commission about changes to officers and, if applicable, major shareholders of the licensee, within 20 working days after the change.
30.	Community Service Obligations (CSOs)	The licensee must cooperate and comply with the requirements of implementation of Community Service Obligation (CSO) schemes that may be approved and funded by the Government.
31	Participation in development of regulatory instruments	The licensee shall participate, to the extent specified by the Commission, in the development, issue and review of any regulatory instrument

SCHEDULE 1
Filing Instructions & Application Form for Service Providers in the
Electricity Supply Industry



Filing Instructions:

I. Where to File: Applications should be sent to:

*Energy Commission,
Plot 40, Frema House, Spintex Road, Accra*

II. What to File: Applicant must submit one original application signed by a principal officer and ten copies including all exhibits, affidavits, and other attachments. All attachments, affidavits, and exhibits should be clearly identified. All pages should be numbered and attached in a sequential order.

III. Application Form: The application form is available on the Commission's web site, www.energycom.gov.gh or directly from the Commission at:

*Energy Commission,
Plot 40, Frema House, Spintex Road, Accra*

IV. Commission Process for Approval: An application for a licence shall be made on forms approved and supplied by the Commission. The applicant shall complete the appropriate application form in its entirety and supply all required attachments, affidavits, and evidence of capability specified by the form at the time an application is filed. An incomplete application may be suspended or rejected. Fulfillment of all the requirements under Part A which must be submitted together with the formal application shall be considered for the issue of a licence to undertake the prescribed activities in the electricity supply industry in Ghana. Part B requirements shall be integrated as licence conditions to be fulfilled at various stages of project implementation prior to commencement of operations. The Commission shall issue an *authorization to operate* under the regime of the licence provided all the requirements under Part B are satisfactorily fulfilled. .

APPLICATION FORM

PART A

A-1 Applicant/Company intends to be licensed for the service of: (check all that apply)

- Wholesale Supply
- Transmission
- Distribution or Sale

A-2 Applicant/Company's legal name, postal address, telephone number and web site address

Legal Name _____
Postal Address _____
Telephone # _____ Fax # _____
Website address (if any) _____

A-3 Office location address

House/Plot Number _____
Street Name _____
Town/City _____ Region _____

A-4 Contact person for regulatory matters

Name _____
Title _____
Business address _____
Telephone # _____ Fax # _____
E-mail address (if any) _____

A-5 Customer Segment (Check all that apply)

- Generation Company
- Transmission Utility
- Distribution Company
- Bulk Customer
- Industrial, Commercial & Residential

A-6 Location of plant where applicant intends to establish generation service (Generation Licence)

Community _____
Town/City _____
District _____
Region _____

A-7 Provide the approximate start date that the applicant proposes to begin delivering services

A-8 Duration in years of license _____

PROVIDE THE FOLLOWING AS SEPARATE ATTACHMENTS AND LABEL AS INDICATED:

Exhibit A1 - "Principal Officers, Directors and Partners" provide the names, titles, nationality, addresses and telephone numbers of the applicant's principal officers, directors, partners, or other similar officials.

Exhibit A2 - "Disclosure of Liabilities and Investigations," provide a description of all existing, pending or past rulings, judgments, contingent liabilities, revocation of authority, regulatory investigations, or any other matter that could adversely impact the applicant's financial or operational status or ability to provide the services it is seeking to be certified to provide.

Exhibit A3 "Company Registration," provide evidence that the applicant has registered with the Registrar General's Department. Exhibits required include

- a. Certificate of Registration
- b. Certificate to Commence Business
- c. Regulations 8 to 82; Second schedule to the Companies Code, 1963 (Act 179)

Exhibit A4 - "Ownership & Corporate Structure," provide a description of the applicant's corporate and ownership structures, including a graphical depiction of such structure, and a list of all affiliate and subsidiary companies.

Exhibit A5 – "Service Coverage Areas," provide list of cities, towns and rural areas (supported with maps) in which the applicant intends to establish and provide the service.

Exhibit A6 – "Statement of Assets," provide a list of major plant and machinery to be installed and proposed layout plan. In the case of **embedded generation** it is important that the site plan describing the generation location should also clearly indicate the nearest or intended point of connection to the public distribution network.

Exhibit A7 – "Scope of Operation," provide a written description of the operational nature of the applicant's business including whether the applicant's operations will include the generation of power for retail sales, the scheduling of power for transmission and delivery, as well as other services used to arrange for the purchase and delivery of electricity.

Exhibit A8 – "Land Conveyance Agreement," provide appropriately approved documentation of proof of title to land, site plan, and relevant municipal permits for construction (i.e. Town & Country Planning Permit) etc.

Exhibit A9 – "Feasibility Report," provide a Feasibility Study Report on the new facility or installations to be used by the applicant. The report should include, among other things, drawings of generator's and/or substation's installations and equipment specifications together with proposed interconnections to the relevant distribution or transmission network.

Exhibit A10 – "Business Plan," provide a written explanation of the company's [business model](#) for the venture.

Exhibit A11 – “Fire Prevention and Fighting Plan,” provide a fire report signed by the Chief Fire Service Officer or Regional Fire Service Officer evidencing that arrangements proposed for the prevention and fighting of fire coupled with good housekeeping at the site are satisfactory.

Exhibit A12 – “Geological Survey,” provide a report from the Geological Survey Department of Ghana attesting to either the absence of or acceptable levels of seismic activity on and around the proposed site.

Exhibit A13 – “Health, Safety & Environmental Plan” provide plans to comply with all legislation and standards relevant to the firm’s activities and implement systems and structures that prevent the recurrence of injuries, ill health and hazardous conditions.

Exhibit A14 – “Environmental Disclosure” provide an Environmental Impact Assessment (EIA) Report certified by the Environmental Protection Agency (EPA) of Ghana and an Environmental Permit or Permanent Environmental Certificate issued by the Environmental Protection Agency.

Exhibit A15 – “Site Layout & Right of way,” provide detailed Site-Layout and “Right-of-Way” drawings. Provide a programme for compensation payments (where relevant).

Exhibit A16 – “Water Resources Commission Permit,” provide a permit from the Water Resources Commission (**applicable ONLY to hydro power generation activities - either conventional hydro or small hydro embedded generation.**)

Exhibit A17 – “Corporate Social Responsibility Plan,” provide documentation of an infrastructural support strategy (community support plan/programme).

Exhibit A18 – “Implementation Agreements,” Provide copies of licences, Memorandum of understanding (MOUs), etc with agencies relevant to the implementation. In the case of **embedded or distributed generation**, this should include evidence of preliminary discussions with the licensed distribution service provider in whose zone or area the embedded or distribution generation facility is intended to be sited.

Exhibit A19 – “Financial Capability and Proposed Financial Plan,” provide the two most recent Annual Reports to Shareholders and copies of the applicant’s three most recent years of audited financial statements (balance sheet, income statement, and cash flow statement). If audited financial statements are not available, provide officer certified financial statements. If the applicant has not been in business long enough to satisfy this requirement, it shall file audited or officer certified financial statements covering the life of the business. Provide copies of the applicant's financial arrangements to conduct electricity business as a business activity (e.g., guarantees, bank commitments, contractual arrangements, credit agreements, etc.). Provide two years of forecasted financial statements (balance sheet, income statement, and cash flow statement) for the applicant’s operation, along with a list of assumptions. Should outline the following:

- (a) The basis on which services and resources will be transacted between relevant operating areas of the applicants, or the applicant and its other related entities;
- (b) In the case of applicants that are wholly owned subsidiaries, information on proposed audit arrangements should be provided and also stated whether separate

reports for the licensee and its parent company (if applicable) are to be prepared and made publicly available; and

- (c) Other guidelines or standards relating to financial separation, ring-fencing and separate audit arrangements which the applicant intends to follow.

Exhibit A20 – “Implementation Schedule,” provide timelines for the specific activities that must be performed to produce the various project deliverables, establishing interdependences and sequencing.

Exhibit A21 – “Company’s History & Existing Activities,” provide a concise description of the applicant’s company history and principal business interests. It should include all jurisdictions in which the applicant or any affiliated interest of the applicant is, at the date of filing the application with respect to licensing or otherwise authorization to provide retail or wholesale electric services.

Exhibit A22 – “Industry Participation,” provide general information about its existing activities, both within and outside the electricity supply industry. The application should summarize the reasons why the applicant intends to participate in the Ghanaian electricity industry, and the broad nature of that participation. In providing the above explanation, the applicant should address the Commission's objectives as set out in Section 2 of the Act and the objects of the Act, and explain how the granting of a licence would be consistent with those requirements.

Exhibit A23 – “Operational Experience & Expertise,” provide names, titles, e-mail addresses, telephone numbers, and the background of key personnel involved in the operational aspects of the applicant’s business. Provide the following information:

- (a) details of their experience in and knowledge of the electricity supply industry;
- (b) a summary of the skills and experience of the directors and senior managers, and their relevance to meeting the requirements of the licence;
- (c) evidence that the applicant has the capacity to comply with the licence conditions, codes and guidelines relevant to its application; and
- (d) if the applicant is to rely on another entity to provide staff and resources, a summary of the relationship between the applicant and this entity, including any formal agreements to provide services, and a summary of this other entity's experience in and knowledge of the electricity supply industry, and technical capacity to meet the relevant requirements of the licence should be provided.

Exhibit A24 – “Specific Licence Conditions,” Where the applicant is seeking particular licence conditions, the nature and reasons for seeking those conditions should be explained. In such circumstances, the applicant should also provide a draft outline of the proposed licence condition(s).

Signature of Applicant and Title

Date

PART B**PROVIDE THE FOLLOWING AS SEPARATE ATTACHMENTS AND LABEL AS INDICATED:**

The following requirements shall be specified as conditions of the licence and shall be fulfilled prior to the issue by the Commission of an *authorization to operate* the facility under the regime of the licence.

Exhibit B1 – “Plant and Machinery Specifications,” Detailed engineering design and equipment specifications.

Exhibit B2 – “Construction Contract,” provide basic terms between the owner and the contractor. This details the contractor's basic duties and responsibilities, including bonds and insurance; progress and final payments; and substantial completion.

(Note: Commission to issue “Construction Permit,” at this stage authorizing licensee to construct new facilities).

Exhibit B3 – “Purchase Agreements,” Power Purchase Agreement (where relevant especially for generators).

Exhibit B4 – “Supply Agreements,” Supply Agreements for fuel, water, network access etc.

Exhibit B5 – “Operations & Maintenance Plans,” Operations and maintenance agreement and plan.

Exhibit B6 – “Safety & Technical Management Plan,” Safety & Technical Management Plan (STMP) approved by the Energy Commission (*NB: STMP is required prior to commencement of commercial operations*).

Exhibit B7 – “Commissioning Report,” Satisfactory commissioning test report.

Exhibit B8 – “Plant Drawing,” As-built drawings and layout of plant and/or facilities.

Exhibit B9 – “Receipt of Licence Fee,” Evidence of payment of the appropriate prevailing licence fee to the Energy Commission.

SCHEDULE 2

Schedule of Licence Fees

Type of Licence	Application Fee	Initial Licence Fee	Annual Fees	
			Fixed**	Variable
1. Wholesale Supply	€10,000,000	€100,000,000	€100,000,000	€500,000 per megawatt equivalent available capacity
2. Transmission	€10,000,000	€100,000,000	€100,000,000	€50,000 per ckm
3. Distribution & Sale	€10,000,000	€50,000,000	€50,000,000	€30 per MWh Energy Sales
4. Embedded Generation with Installed Capacity of:				
a) Less than 1MVA	€5,000,000	€10,000,000	€10,000,000	NIL
b) 1 MVA to less than 3MVA	€5,000,000	€20,000,000	€20,000,000	NIL
c) 3 MVA up to 5 MVA	€5,000,000	€30,000,000	€30,000,000	NIL

Notes:

Transmission ckm = circuit kilometers of transmission line

Distribution

Variable Charge: MWh Energy Sales planned or sold during the previous year.

**** A license issued without a condition for construction authorization is exempted from payment of the fixed component of annual license fee for the initial year of commercial operation.**

SCHEDULE 3**Safety and Technical Management Plan Outline**

- (a) Company Safety Policy Statement
- (b) Company's Safety Codes and practices
- (c) Demarcation, protection and prevention of unauthorized entry of site
- (d) Employee health and safety requirements in accordance with Ghana's labour regulations
- (e) Waste Management policy and plan in line with EPA or WHO regulations & standards (effluents, cooling water, drainage of runoff water etc.)
- (f) Compliance Plan
- (g) Environmental hazards impact mitigation measure, actions and plans (sampling, monitoring analyzing of air, aquatic toxicity, noise etc.)
- (h) Emergency preparedness
- (i) Deployment of disaster management measures
- (j) Fire safety (prevention and fighting measures)
- (k) Precautions for prevention of environmental hazards (oil spills, pollutants etc)
- (l) Operational and maintenance safety rules, procedure and instructions
- (m) Company's operation and maintenance culture
- (n) Adherence to equipment manufacturer's recommended maintenance schedules
Specific commitment and arrangements to operate facilities/installations to ensure safe and reliable electricity supply.