

Nigeria

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1 Policy and law

What is the government policy and legislative framework for the electricity sector?

The Nigerian government's current policy focus is to establish a segmented and liberalised electricity sector. From 1972 to 2005, the entire electricity sector was unified and run principally by a federal government-owned corporation, the National Electric Power Authority (NEPA). This was a statutory company, with its powers deriving from an Act of the legislature (including periodic evolution and successive amendments). The general burden of generating, transmitting, distributing and retailing electricity was statutorily the exclusive preserve of NEPA, a vertically integrated corporation. With significant growth in the population and lack of adequate funding, NEPA gradually became more incapable of performing its functions effectively. By 1998, power generation had fallen as low as 1,700MW, even with an installed capacity of 6,000MW and a near-peak demand of about 7,000MW. Additionally, there was an estimated suppressed demand of 5,000MW being met by oil and gas exploration and production companies. The transmission and distribution networks were equally based on obsolete and inadequate infrastructure, especially with the several developmental advances that had occurred over the years.

Addressing the significant deficit of electricity supply was at the centre of the previous administration's reform agenda from its accession in 1999, and is still a substantial component of the present administration's policy. The evidence of this was its inclusion in the National Economic Empowerment and Development Strategy (NEEDS) document, the government's economic reform framework. The objective was to achieve a complete overhaul of the power sector. A working group specifically focusing on power and the adoption of the National Electric Power Policy was established, and it defined the framework for power sector reform. The working group known as the Electric Power Sector Reform Implementation Committee (EPIC) was set up to recommend measures for sector reform, promote the policy of liberalisation, competition and private sector-led growth and assist with drafting new power sector legislation.

Before 2005, the legal framework for electricity in Nigeria was guided by the following legislation:

- the Electricity Act, cap 106 LFN 1990;
- the NEPA Act;
- the Energy Commission of Nigeria Act, cap 109 LFN 1990;
- the Utilities Charges Commission Act No. 104 of 1992;
- the Electricity (Amendment) Act No. 28 of 1998; and
- the NEPA (Amendment) Act No. 29 of 1998.

In 2005, the Electricity Power Sector Reform Act (EPSR Act) Cap E7 LFN 2004 was enacted and the major goal of this Act was the liberalisation of the power sector through the unbundling and privatisation of NEPA and the encouragement of private enterprise in

capacity development along the functions of the vertically integrated NEPA. Major features of the Act include:

- the dissolution of NEPA by repealing the enabling statute and the establishment of successor companies to which assets could be transferred and that could continue the activities of NEPA;
- the introduction of competition in the electricity markets during both the pre-and post-privatisation periods;
- establishment of the Nigerian Electricity Regulatory Commission (NERC) as the agency responsible for regulating generation, transmission, distribution and supply of electricity;
- provision for rural electrification through the establishment of the Rural Electrification Agency (REA); and
- stipulations for consumer protection, setting of performance standards, fixing of tariffs, etc.

Although there was some level of private-sector participation in generation before the EPSR Act, such operations were insignificant in the context of national consumption or on-grid availability and there was no clearly defined framework for such participation. These players were known as the independent power producers (IPPs). The EPSR Act defines a phased and strategic implementation of the electricity reform until an optimal capacity generation and full competitive market is achieved. The major phases are:

- pre-transitional (a vertically integrated service structure);
- transitional (unbundled service provision);
- medium term (limited retail competition); and
- long term (full competitive generation and retail supply).

The current stage appears to be complementary migration of the pre-transitional and transitional phases and a limited component of the medium-term phase. It remains pre-transitional in the sense that the Power Holding Company of Nigeria (PHCN), the successor company to NEPA, is still a vertically integrated entity and continuing the services of NEPA within that structure. However, PHCN has been unbundled to 18 successor companies, comprising six generation companies, one transmission company and 11 distribution companies. The sector has also been deregulated, leading to private sector participation in the generation sector and the operation of a number of independent power plants in the country today. The establishment of NERC is also in line with the reform programme. NERC has started operations, prescribing regulations and licensing PHCN, existing private-sector operators and completely new entrants. This is a component of the medium-term phase.

In addition to existing NERC licence-related and consumer protection regulations, there are other rules and regulations that govern the electricity industry, principally the Market Rules, the Grid Code, the Metering Code, the Distribution Code and the Metering Market Procedures. The Market Rules define the electricity trading arrangements for the wholesale electricity market; the Grid Code

defines the rules for administration and operation of the transmission system, as well as technical procedures for the planning, coordination, supervision and operation of the system; and the Distribution Code is designed to facilitate an efficient usage of electricity for all users of the distribution networks and competition in the generation and supply of Electricity. The Metering Code is designed to ensure the financial viability of the electricity industry after the unbundling by requiring a regime of modern accurate meter systems with reliable communication facilities across the industry production and supply chain to measure and record energy production and utilisation.

2 Organisation of the market

What is the organisational structure for the generation, transmission, distribution and sale of power?

The first major stride made after the enactment of the EPSR Act was the formation of the initial successor company for NEPA, the PHCN. This is a vertically integrated company continuing all the previous functions of NEPA. In order for PHCN to carry out these activities legally during the unbundling and sale period, it received an automatic licence for a period of 18 months. The unbundling has occurred and is divided as follows:

- six generating companies (gencos), to be privatised;
- one transmission company, the Transmission Company of Nigeria (TCN), to be operated by concession; and
- 11 distribution companies (discos), to be privatised.

In addition to the six gencos to be unbundled, there are IPPs, which currently account for an increasing portion of the market. Twenty-eight IPPs have been licensed by NERC within the past three years. These IPPs have an estimated aggregate potential generation capacity of 10,200 MW. During the transitional phase, a special purpose entity (SPE) created to act as a financial vehicle for stranded liabilities, would also be involved in the generating subsector. The legal stipulation is that the market would be open to entry and trading arrangements which would be based on contractual terms. Given current forms of new generation technology and the price of gas in Nigeria, the NERC has determined that the lowest-cost new entrant generator is an open cycle gas turbine (OCGT) using natural gas. OCGT was selected because it was considered among the most efficient power plant, in addition to availability of natural gas in Nigeria. Therefore, all new entrants are expected to use an efficient technology benchmark for project evaluation and analysis.

TCN would assume the role of a system and market operator and would be responsible for the implementation of the Grid Code and the Market Rules, including custody and control of the existing national grid network. It would also be bound to give economic dispatch priority over commercial agreements. The gencos and discos are required to enter into transmission use-of-system contracts with the transco for use of the transmission system. All end-consumers would buy from discos, which procure electricity from gencos, SPE and existing IPPs. SPE would sell energy to the discos at a uniform bulk supply tariff, regulated and approved by NERC.

The Nigerian electricity supply industry (NESI) is migrating from a vertically integrated monopoly, based on command and control, to a disaggregated industry based on arm's-length relationships as a way of promoting competition and choice for more efficient operation and service delivery. NERC is putting in place structures to ensure properly defined interactions between market participants. These will guarantee efficient and smooth functioning of the industry as well as ensuring viability and long-term sustainable development. One such structure is the trading arrangement and the financial settlement system.

The most important consideration in the choice of appropriate trading arrangement is choice of model (single buyer versus multi-

ple buyers). The choice must take into account the realities of the NESI, and the need to promote competition in the medium term and beyond. In this light, NERC is proposing a hybrid model trading arrangement for use during the transition stage of the NESI. The model that combines elements of the single and multiple buyer models has the following features:

- the purchasing entity, the bulk purchase and resale licensee, Nigerian Electricity Liability Management Company (NELMCO), buys power from independent power producers (IPPs) that are holders of existing power purchase agreements (for example, the oil majors, AES, Shell and Agip);
- other power producers (government and successor generating companies (gencos) and new IPPs) sell power directly to distribution companies (discos) and eligible customers;
- NELMCO sells bulk power to discos and eligible customers; and
- off-takers (discos and eligible customers) purchase power from power producers and NELMCO.

NERC also intends to introduce vesting contracts as regulatory tool in the market. Vesting contracts for electricity are agreements that impose a contractual obligation on electricity producers to produce a specified quantity of electricity at a specified price and a similar obligation on off-takers to take the quantities at the specified price. The counterparties to these contracts are electricity producers (such as successor gencos and IPPs) and off-takers (discos and eligible customers). In addition to providing NERC with an instrument for addressing the two problems of inadequate quantity and price-related risks, they also act as tools for planning the development of a more competitive industry. With the vesting contracts, the terms are not easily modified as in typical bilateral contracts between parties. Regulatory input in the process is always a mandatory requirement. It is envisaged that when the market is fully developed, the vesting contract will give way to bilateral arrangements between the parties.

Regulation of electricity utilities – power generation

3 Authorisation to construct and operate generation facilities

What governmental or administrative authorisations are required to construct and operate generation facilities?

Generally speaking, the construction, ownership or operation of generation facilities requires a licence from NERC, issued pursuant to the EPSR Act. The only exemption to this is in the case of captive generation. The Act defines captive generation as production of no more than 1MW with a distributive capacity of no more than 100KW for the exclusive use of the generator. NERC may issue generation licences to:

- successor companies formed under section 8 of the Act, designated therein as 'successor generation company'; or
- entities that are not successor companies, formed under section 8 and designated 'independent power producer'.

This will be done upon application and payment of the requisite fees stipulated in the Nigerian Electricity Regulatory Commission (Licence and Operating Fees) Regulations 2006. Any such application shall be in the form prescribed in the NERC (Application for Licences: Generation Transmission, Systems Operations, Distribution & Trading) Regulations, 2006. The licence is for a maximum of 10 years and renewable for a further term of five years. In applying for a licence, a feasibility study of the ability of the venture is recommended. The application goes through the process of evaluation by three divisions of NERC: legal, engineering and market competition

divisions. Upon determination that all relevant information have been provided in an application, the following steps will be taken:

- The applicant will publish notices of application both in the local newspaper widely circulated in the area where the project is to be situated and in a newspaper with national circulation. This is to give members of the public the opportunity of raising objections to the application, if any.
- The commission will hold a hearing on any objection based on the published notice where it considers it necessary.
- The commission will then consider the application taking into consideration submitted documents along with the proceedings of hearing and decide if the licence is to be granted or refused.
- If the commission intends to refuse the application, it will notify the applicant (in writing) of its intention to refuse, stating the grounds and giving the applicant an opportunity to make representations in the matter. If after representations NERC refuses the application, the applicant has the right to appeal against the decision before the commission.
- If the application is granted, the applicant will pay the licence fee and is issued a licence.

In addition, there is the regulatory requirement of submitting an environmental impact assessment report (EIAR) to the Federal Environment Protection Agency (FEPA). The EIAR shall give extensive consideration to the likely effect of any construction project on the environment.

4 Interconnection policies

What are the policies with respect to interconnection of generation to the transmission grid?

The overall power policy discourages vertical integration or licence cross-holding. This is essentially to secure a competitive market. Licensees are required to make their operations open to the execution of agreements with other operators for the provision of equipment to foster economic efficiency. Interconnectivity is obligatory in the public interest. There are also the ancillary requirements of operational transparency and the reference of disputes to NERC for arbitration, mediation and determination.

NERC has made regulations regarding its business rules. These rules make it mandatory for NERC to conduct prior consultations or hearings before making any decisions that affect the rights and interests of licensees.

5 Alternative energy sources

Does the government policy or legislation encourage power generation based on alternative energy sources such as renewable energies or combined heat and power?

The EPSR Act does not make any distinction as to sources of energy and the priority to be accorded to any source. Most of Nigeria's electricity is derived from gas, thermal and hydroelectric plants. The federal government is, however, making significant efforts to advance alternative and renewable energy initiatives. Some of the efforts include the works of the Nigerian Energy Commission and the Nuclear Power Regulatory Commission. This will be complimentary to electricity from the traditional sources. The federal government has drafted and adopted a detailed report outlining a 10-year Renewable Energy Policy Guideline and a proper action plan for executing the recommendations contained therein. Mapping of onshore wind resources has been concluded recently, and the government has also commissioned a consultant to undertake an offshore wind resources study. The resource map shows that the country has a number of zones with viable wind speeds of up to 6.5m per second, suitable

for the generation of electricity. Following this development, wind farms, in the megawatt class are being planned for execution as pilot schemes all over the country.

The government recently completed the master plan on the utilisation of solar cooperation energy, fully financed by the Japan International Cooperation Agency. The study has clearly articulated a long-term vision and action plan that would enable the nation to take maximum advantage of solar energy, thus creating a proper framework for private-sector and community-led utilisation of solar energy. Hopefully, the medium-term projection of generating up to 5 per cent of the nation's power needs from renewable energy will be achieved through a combination of policy initiatives, investment incentives and regulatory direction.

In addition, the Nigerian National Petroleum Corporation (NNPC) has made significant strides in renewable energy initiatives. Its renewable energy programme was established to develop biofuel, ethanol and biodiesel. Through the recently established renewable energy division, the programme aims at achieving inter-sectoral links by producing these fuels in collaboration with the agricultural sector. It is expected to expand the country's energy base and create commercial opportunities for the corporation through partnerships with the private sector, mostly in the form of joint ventures (JVs), and agencies with the requisite expertise, such as the country's various agricultural research institutes. The programme is expected to improve the agricultural sector's ability to create jobs in the rural areas, maximise the country's carbon credits, and attract grant funds to the corporation, while creating an opportunity for earning foreign exchange for the country by exporting surplus products and freeing crude oil that would otherwise be used in the country. It is estimated that Nigeria will earn US\$150m annually from the biofuel initiative after takeoff.

Two kinds of alternative energy fuel are to be produced under the NNPC plan: ethanol fuel and palm-oil diesel. Ethanol fuel will be derived from sugarcane and cassava (yuca). Palm-oil diesel will be derived from palm oil through a chemical process that removes glycerin, which is then mixed with any concentration of petroleum-based diesel to yield palm-oil diesel 'with little or no modification'.

NNPC had launched feasibility studies and identified locations for plantations and plants in the various zones of the country germane for the growth of the respective crops, with an aim to have at least two JV-operated plants running by 2009. NNPC has memoranda of understanding in place with two Brazilian companies, Petrobras and Coimex, 'to leverage their experience and marketing respectively'. In February 2007, Nigeria revived talks with Venezuela's PDVSA for the transfer of technology for converting cassava to ethanol. Given that the clean development mechanism (CDM) of the Kyoto Protocol obliges 15 rich countries to invest in green energy in developing countries and that Africa has largely missed out in these investments, NNPC's renewable energy programme is set to attract grants to the corporation. Already, NNPC is in partnership with Germany's Renewable Energy and Energy Efficiency Partnership (REEEP). There is also considerable domestic interest in NNPC's alternative fuels.

Regulation of electricity utilities – transmission

6 Authorisations to construct and operate transmission networks

What governmental or administrative authorisations are required to construct and operate transmission networks?

The construction, ownership or operation of transmission facilities is feasible only upon acquiring the requisite regulatory consent and licence from NERC. In this regard, what the EPSR Act prescribes is single-firm participation. The only entity that qualifies for this licence is the successor transco, which is also responsible for obtaining the

systems operator licence. Presumably, the transco will have to secure NERC, and FEPA approval to expand its grid infrastructure.

The application for a transmission licence shall be in conformity with the NERC (Application for Licences: Generation Transmission, Systems Operations, Distribution and Trading) Regulations 2006 (the NERC Licence Regulations). Such licence is for a maximum length of 10 years and is renewable for a further term of five years.

7 Eligibility to obtain transmission services

Who is eligible to obtain transmission services and what requirements must be met to obtain access?

Under the Grid Code, all the gencos and discos (users) are eligible to obtain transmission services from the Transmission Company of Nigeria (TCN). This is, however, subject to the basis of operation, and terms and conditions as specified under the Grid Code and any transmission use-of-system contracts with TCN for use of the transmission system.

8 Government incentives

Are there any government incentives to encourage expansion of the transmission grid?

NERC has adopted the following incentives under its tariff methodology:

- a licensee that operates efficiently is to recover the full costs of its business activities, including a reasonable return on the capital invested in the business;
- incentives for continued improvement of the technical and economic efficiency with which services are provided; and
- incentives for continued improvement of quality services.

There are specific targeted incentives to lower transaction cost and also a multi-year tariff for cost recovery, margins and affordable rates.

9 Rates and terms for transmission services

Is there any tariff or other regulation regarding the rates and terms for the provision of transmission services?

Pursuant to the EPSR Act, NERC is responsible for creating the relevant tariff methodology and ensuring that it accomplishes the following:

- full cost recovery plus reasonable return on investment;
- promotion of technology and market efficiency through incentives;
- fairness and openness to consumers; and
- reduction or elimination of cross-subsidies.

Recently, NERC issued the multi-year tariff order (MYTO) for the determination of charges and tariffs for electricity generation, transmission and retail tariffs for the period from 1 July 2008 to 30 June 2013.

The building-block approach was used as a regulatory method to set tariffs and charges for transmission, distribution and retail activities in the MYTO. This approach is simply a way of bringing together all of the industry's costs in a consistent accounting framework. The standard building blocks used in this approach are:

- the allowed return on capital, being the return necessary to achieve a fair (market-based) rate of return on the (necessary) assets invested in the business;
- the allowed return of capital, associated with recouping the capital over the useful lives of the assets (depreciation); and
- efficient operating costs and overheads.

In the MYTO, the demand on the NESI as a whole was projected over the next 15 years. The costs incurred in meeting this forecast load were brought together in a financial model using the building-blocks framework to produce a 15-year tariff path for the generation, transmission, distribution and sale of electricity. Load forecasts, new capital expenditure, improvements in industry performance with respect to losses and billing and revenue collection and the required return on capital and depreciation were projected for the 15-year period for this tariff order

Transmission network users will be subject to three forms of payment for transmission services:

- a connection charge for new generators,
- a transmission use of system (TUOS) charge paid by distributors or retailers; and
- a loss factor applied to generation so that generators provide for transmission losses.

This pricing structure is intended to assign charges for system use to the user or group of users who are incurring those costs. If generators are exposed to connection charges they may wish to choose a location that minimises these charges. Similarly, if they are exposed to the costs associated with the losses incurred in transmitting their generation they will have an appropriate incentive to locate so as to minimise transmission losses. These mechanisms will begin to work more effectively when marginal loss factors (MLFs) are set for various injection points on the network. The distributors or retailers will be effectively paying for the fixed costs of the transmission network, analogous to paying for the power delivery system to be available to them.

10 Entities responsible for assuring reliability

Which entities are responsible for assuring reliability of the transmission grid and what are their powers and responsibilities?

Responsibility for reliability of the transmission grid lies with a single entity regarded as the system operator. Under the EPSR Act, TCN carries out the functions of the system operator. The Act also recognises that, when the electricity market is fully developed, it may be prudent that the system operator evolve into an independent body separate from TCN. In spite of this fusion of duties, TCN is required to obtain a systems operation licence from NERC that authorises it to carry out systems operations in the electricity market. See question 17.

Essentially, the Grid Code, which sets out the handling of the day-to-day operating procedures and principles regarding the transmission system, is implemented by TCN. Under the Grid Code, TCN functions are bifurcated regarding network and system operation activities.

First, as transmission service provider (TSP), it shall:

- admit users in accordance with the Market Rules;
- evaluate and accept grid connections;
- ensure proper metering at all connection points; and
- obtain necessary information from users of transmission networks to enable it perform adequate planning and development of the transmission network.

Second, as system operator, it shall:

- dispatch generating units in accordance with the Grid Code at least cost;
- procure ancillary services and recover the costs of ancillary services;
- handle power system emergencies and restore the power system
- perform demand forecasting;
- coordinate generation and transmission outages;
- supervise compliance with, and enforce the Grid Code and Market Rules;

- test and monitor users' equipment to ensure standards;
- report of planned or scheduled actions such as system maintenance or unexpected actions to NERC and users; and
- outline procedure for conducting systems tests pertaining to the network.

NERC has issued a specific tariff order on transmission pricing that sets out TUOS charges, among other things.

Regulation of electricity utilities – distribution

11 Authorisation to construct and operate distribution networks

What governmental or administrative authorisations are required to construct and operate distribution networks?

Like the other segments of the electricity market, any company intending to construct a distribution network must obtain the requisite approval and licence from NERC. The applicable rules are contained in the NERC Licence Regulations. The licence is for a maximum period of 10 years and renewable for a further term of five years. The licence has the following obligations:

- connection of customers for the purpose of receiving supply of electricity;
- installation, maintenance and reading of meters, billing and connection; and
- where a licensee has a trading licence in addition to the distribution licence, the providing of electricity to its customers in accordance with the terms of the trading licence (tenure of trading licences are similar to distribution licences).

Other relevant authorities and agencies include FEPA.

12 Access to the distribution grid

Who is eligible to obtain access to the distribution grid and what requirements must be met to obtain access?

Access to the distribution grid is open and equal to all end-consumers and trading licensees. There is a congruent accessibility of supply granted to discos and IPPs. The Distribution Code sets out elaborate requirements regarding access. With respect to access on the distribution grid, the Distribution Code specifies elaborate rules and requirements split into the following segments:

- the Distribution Planning and Connection Code, containing technical and design criteria, procedures to be followed by the discos in planning and development of the distribution system and connection conditions specifying the technical, design and operational criteria to be complied with by any user connected or seeking connection with the disco;
- the Distribution Operation Code, containing the day-to-day operating procedures and principles governing the development, operation and maintenance of an effective, well coordinated and functional distribution networks for the electricity sector in Nigeria;
- the Construction and Maintenance Code, containing guidelines for construction and maintenance of the distribution system; and
- the Data Registration Code, containing the schedule and templates for the data to be interchanged among discos and users.

13 Rates and terms for distribution services

Is there any tariff or other regulation regarding the rates or terms for the provision of distribution services?

See question 9 on MYTO. Under MYTO, distribution and retail prices are treated similarly. Retail tariffs reflect the costs of the whole supply chain for the NESI, beginning with generation and

transmission, distribution metering and billing to the final consumer. The components of cost taken into account in constructing the retail tariff are as follows:

- payment for electricity supplied into the transmission network;
- payment of a TUOS charge to TCN for each MWh delivered to the distributors or retailer's bulk supply points;
- the cost of electricity distribution through the local distribution network owned and operated by the distributor or retailer;
- the cost of marketing, metering, billing and revenue collection (retailing);
- administration, market operation and regulatory charges collected by the market operator.
- payments or distributions, administered through the market operator (MO) to provide for a national uniform tariff; and
- in the years 2008, 2009 and 2010, payments from the FGN fund for tariff support allowing for the gradual introduction of viable tariffs over three years.

Payments to generators are set out in NERC's tariff order on wholesale prices. TUOS charges are also set by NERC in the tariff order on transmission pricing. The distribution charges cover the network component of the cost of distribution and are calculated according to the building-blocks methodology, including allowances for a return on capital expenditure, depreciation, operation and maintenance of the network, losses across the distribution networks and metering costs.

Additionally, distribution companies are required to observe the provisions of the Nigerian Electricity Regulatory Commission's Meter Reading, Cash Collections and Credit Management for Electricity Supplies Regulations 2007. These specify applicable metering and service terms within the distribution, retail and consumer chain.

Regulation of electricity utilities – sales of power

14 Approval to sell power

What governmental or administrative authorisations are required for the sale of power to customers and which authorities grant such approvals?

Sale of electricity is subject to a trading licence issued by NERC. This may be in accordance with conditions as NERC deems appropriate. There is also a temporary bulk purchase and resale licence. It empowers the licensee to purchase electrical power and ancillary services from IPPs and gencos for the purpose of resale to other licensees or eligible customers. NERC grants such approval.

15 Power sales tariffs

Is there any tariff or other regulation regarding power sales?

See questions 9 and 11 on MYTO. Retail tariffs reflect the costs of the whole supply chain for the NESI, beginning with generation and transmission, distribution metering and billing to the final consumer.

Retailing costs are brought into the building-blocks framework as ongoing operation and administration costs and added to the costs of distribution companies to provide an overall cost of distribution or retailing. The capital expenditure and operation and maintenance allowance included in the tariff calculation includes an allowance for additional meters and improvements in metering, billing, revenue collection and human capacity building. As a consequence, the tariff calculation also includes rates of losses that reduce each year of the tariff order.

End-trading of power is also subject to the applicable rules under the Nigerian Electricity Regulatory Commission's Meter Reading, Cash Collections and Credit Management for Electricity Supplies Regulations 2007.

16 Public service obligations

To what extent are electricity utilities that sell power subject to public service obligations?

Although there are no express requirements in the EPSR Act for trading licensees to observe public service considerations, this forms an essential part of all licences issued by NERC. In addition, NERC has by its rulemaking authority promulgated a consumer bill of rights known as the Customer Complaints Handling: Standards and Procedure.

Regulatory authorities**17 Policy setting**

Which governmental or administrative authorities determine regulatory policy with respect to the electricity sector?

Prior to the power reforms and enactment of the EPSR Act, the Federal Ministry of Power and Steel served as a regulator of the power sector. Pursuant to part 111 of the EPSR Act, NERC is established as an independent regulator over the power sector and is vested with authority to interpret and implement the national policy for the sector. The Ministry's role is now restricted to general overall government policy direction. TCN's role is significant but limited to monitoring and ensuring the observance of the Grid Code and Market Rules. TCN is also a licensee of NERC and subject to its regulatory oversight. The discos also administer the Distribution Code.

18 Scope of authority

What is the scope of each regulator's authority?

The EPSR Act gives NERC broad powers to carry out its regulatory functions and only subjects its decisions and processes to the Minister of Power in very limited circumstances. These powers include:

- creating, promoting and monitoring market structures;
- securing optimal capacity utilisation;
- ensuring adequate access and supply;
- establishing and promoting competition;
- determining tariffs and ensuring fairness to both operators and consumers;
- monitoring safety, security, reliability and quality of service; and
- making relevant reports to the necessary arms of government.

NERC also has an important role in handling consumer complaints and dispute where it acts in a quasi-judicial capacity.

The systems operator (TCN) implements the Grid Code and the Market Rules, which include scheduling, commitment, dispatch, coordination, and congestion management; payment settlement; and capacity planning and procurement.

19 Establishment of regulators

How is each regulator established and to what extent is it considered to be independent of the regulated business and of elected officials?

NERC is established by the EPSR Act as a body corporate with perpetual succession and a common seal. Structurally, NERC has a chairman and vice-chairman appointed from among the seven commissioners. The Commission has six divisions, each headed by a commissioner:

- legal support and licensing;
- engineering, safety and standards;
- market competition and rates;
- finance and support services;
- government and consumer affairs; and
- research and development.

The terms of the commissioners, like those of the Commission, are statutory and not subject to intervention by the government. NERC's independence appears inviolate as a matter of law.

The system operator shall operate under a licence granted by NERC.

20 Challenge and appeal of decisions

To what extent can decisions of the regulator be challenged or appealed, and to whom? What are the grounds and procedures for appeal?

Where any question of law arises from the decision or order of NERC, it may, on its own initiative or upon the request of any person affected by the decision, refer the question of law to the Federal High Court. This shall be stated in the form of a special case and filed with the registrar of the Federal High Court.

In addition, any person aggrieved by a decision of the Commission may seek additional review before the Commission in the first instance. There is judicial review of final decisions of the NERC by the Federal High Court and additional appellate rights from the Federal High Court in the normal course of judicial review under the Constitution, to the Court of Appeal and ultimately, the Supreme Court.

Acquisition and merger control – competition**21 Responsible bodies**

Which government bodies have the authority to approve or disapprove mergers or other changes in control over businesses in the sector or acquisition of utility assets?

There is more than one agency that would ordinarily receive a merger referral or notice. Under the recently enacted Investments and Securities Act 2007 (ISA), approval must be sought from the Securities and Exchange Commission (SEC) for intermediate and large mergers, determined by an intermittent threshold valuation. For small mergers, notification is voluntary. Under proposed competition legislation, the Federal Competition Commission must be notified of any mergers or arrangements meeting certain thresholds. In addition, under the EPSR Act, any affiliation, merger, acquisition or arrangement that contemplates or involves the transfer or ownership of interest in or by a company that is a licensee of NERC must first be approved by NERC in writing. The EPSR Act is particularly attentive to cross-holdings or ownership among licensees and mandates applicants for licences to disclose interest in any other licensee where such holding meets the minimum statutory threshold, currently 10 per cent.

22 Review of transfers of control

What criteria and procedures apply with respect to the review of mergers, acquisitions and other transfers of control? How long does it typically take to obtain a decision approving or disapproving the transaction?

Under ISA, a party to an intermediate or a large merger is required to notify SEC of that merger in a prescribed form. In the case of an intermediate or a large merger, the primary acquiring company and the primary target company shall each provide a copy of the notice to the following persons: the registered trade union that represents a majority of the employees of that company and the employees concerned where there are no trade unions. The timeline for notification regarding small and intermediate mergers are similar. SEC has 20 working days to conclude its determination after parties have fulfilled all notification requirements. This is however subject to one possible extension of 40 working days.

For large mergers, upon receipt of notice of a large merger, SEC shall refer the notice to the Federal High Court. In addition, SEC

shall within 40 working days after parties have fulfilled notification requirements, transmit a statement to the court in the affirmative or negative of one of three things: whether the implementation has been approved; partially approved subject to conditions; or outrightly prohibited.

This must be complemented by the necessary notification to NERC.

23 Prevention and prosecution of anti-competitive practices

Which governmental or administrative authorities have the power to prevent or prosecute anti-competitive or manipulative practices in the electricity sector?

Until the Competition Act is passed, NERC is solely responsible for enforcing competition in the electricity sector. It has the specific responsibility of ensuring that abuse of market power is prevented or mitigated. The EPSR Act grants robust and extensive enforcement authority to NERC to discharge this function. In the event that the anti-competitive behaviour satisfies the elements of a financial crime, it may become subject to investigation and prosecution by the Economic and Financial Crimes Commission (EFCC).

With respect to mergers and other business combinations, ISA grants SEC certain responsibilities in averting and punishing anti-competitive conduct.

24 Determination of anti-competitive conduct

What substantive standards are applied to determine whether conduct is anti-competitive or manipulative?

Under the EPSR Act, the basic test to determine anti-competitive conduct is considered in the context of market power, exclusivity, tying or disparate treatment. Major indicators are:

- ability of a seller or group of sellers to maintain prices above a competitive level; and
- ability to maintain stable prices while reducing the quality of product or service provided for a significant period of time.

Under ISA, whenever required to consider a merger, SEC initially determines whether or not the merger is likely to substantially prevent or lessen competition by evaluating some relevant factors. Some of these include the strength of competition in the relevant market, and the probability that the emerging company after the merger, will behave competitively in that market. Other factors are:

- the actual and potential level of import competition in the market;
- the ease of entry into the market, including tariff and regulatory barriers;
- the level or trend of concentration and history of collusion, in the market;
- the degree of countervailing power in the market;
- the dynamic characteristics of the market including growth, innovation, and product differentiation;
- the nature and extent of vertical integration in the market;
- whether the business or part of the business of a party to the merger or proposed merger has failed or is likely to fail and;
- whether the merger will result in the removal of an effective competitor.

25 Preclusion and remedy of anti-competitive practices

What authority does the governmental body (or bodies) have to preclude or remedy anti-competitive or manipulative practices?

NERC has the authority to do any of the following in respect of mitigating or preventing anti competitive conduct:

- investigate and or request information from the licensees;
- undertake inquiries; and
- establish or contract with an independent entity to provide monitoring services.

In addition, it can issue cease-and-desist orders to discontinue certain behaviours, impose penalties, levy fines and make any other orders consistent with discharging its role as the regulator.

International

26 Acquisitions by foreign companies

Are there any special requirements or limitations on acquisitions of interests in the electricity sector by foreign companies?

There are no special requirements or limitations on acquisitions of interests in the electricity sector by foreign companies. On the contrary, there are several incentives for direct foreign investment in the electricity sector.

27 Cross-border electricity supply

What rules apply to cross-border electricity supply, especially interconnection issues?

The ECOWAS member states committed themselves in 1999 to set up a regional electricity market called WAPP (West African Power Pool). This framework of exchanges aims at promoting the realisation of regional investments, both in terms of energy production and of interconnection and grid systems. It also aims at setting up a general regulatory framework for regional energy exchanges. The Economic Community of West African States (ECOWAS) comprises the sovereign states of Benin, Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal and Togo. Individually, each country has peculiarity in the reforms of the electricity subsector and hence the operators and institutions vary widely. As electricity exchanges take place across the boundaries, there are also multinational companies involved in the process of service provision as well as ownership of infrastructure.

The implementation of a regional energy market was solidified by a number of arrangements agreed upon by the ECOWAS member states:

- the definition of a general institutional and legislative framework by the ECOWAS Energy Protocol, which enters into force in 2006 after ratification by nine member states;
- the adoption of a master plan for the development of power energy generation facilities and the interconnection of the member states' electricity grids (first programme was adopted in 1999 and revised in 2005);
- the development of a regional regulatory framework for the regional power sector prior to the establishment of a regional regulatory body;
- setting up of the WAPP secretariat as a specialised institution of ECOWAS and adoption of its articles of agreements; and
- the creation of an organising authority for the realisation of the West African Gas Pipeline (WAGP) project (February 2003).

To realise the ideals of the above decisions, the organisation of the sector is such that the following institutions are in place:

- the WAPP, with an information and coordination centre, now operational;
- the regional regulatory body (now being established);
- the WAGP with an operator WAPCo and a regulator WAGPA; and

Update and trends

On 25 August 2008, NERC in its quasijudicial capacity reached a decision with significant implications for existing trading and metering arrangements within gated estates in *Adekoya v VGC*, case no. NERC/H/03/07, Order No. NERC/H/06. Historically, gated estates have, in order to achieve efficiency in electricity supply, utilised self-run power retail and distribution vehicles to provide electricity to residents within these estates. Serving as a single conduit for bulk distribution arrangements

with discos, these vehicles operate the distribution, retail supply and metering to individual residents (end-consumers) within the estate.

NERC decided that this arrangement contravened the provisions of the EPSR. In addition, NERC decided that adherence to the prescribed tariffs in MYTO was mandatory. In effect, the several gated estates in Nigeria, especially in Lagos, would need to regularise any independently run electricity operations with NERC.

- the WAPP Information and Coordination Centre (ICC) took over the former ECOWAS Energy Observatory and serves as an information, monitoring and early warning system on the state of the energy sectors in the region.

Since 1999, the interconnection between member states has made remarkable progress leading to two interconnected subsystems of three and seven countries respectively. The current organisation of the market is based on heterogeneous subgroups as follows:

- **Burkina Faso-Cote d'Ivoire-Ghana-Togo-Benin-Nigeria-Niger:** This consists of five power subsystems managed by separate companies (SONABEL, CIE, VRA, CEB, PHCN and Nigelec) which have bilateral contracts between them and a wheeling contract to enable effective exchanges between CEB and CIE. The exchanges on the Coted'Ivoire-Benin axis foresee storage possibilities by using hydropower storage capacity. Each country is an owner and controls its own national system. The Nigeria-Benin link was commissioned in February 2007, there are plans to develop a wheeling power from Nigeria to Ghana.
- **The Organisation de Mise en Valeur du Fleuve Sénégal (OMVS):** This operates a common power system (hydroelectric dam and transmission line) interconnecting the three member countries (Mali, Mauritania and Senegal) and serves mainly to share output from the hydroelectric station.

The rest of the member states are on their stand-alone electricity grids. The planning horizon of 2007 to 2011 contemplates the strengthening and upkeep of the transmission network, the starting of additional national markets and further progress in the opening up of cross-border transactions. It is expected that the introduction and articulation of competition between 2012 to 2016 would further establish the regional market. By 2016, it is envisaged that the market will be fully liberalised.

Transactions between affiliates**28 Restrictions**

What restrictions, if any, exist on transactions between electricity utilities and their affiliates?

Under the EPSR Act, all licensees are obliged to obtain the written consent of NERC with respect to any affiliation with any other licensee.

29 Enforcement and sanctions

Who enforces the restrictions on utilities dealing with affiliates and what are the sanctions for non-compliance?

NERC enforces the restrictions. The sanctions for non-compliance may range from monetary penalties to prohibition orders or ultimately withdrawal of a licence.

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