



REGULATION STUDIES – Lot 2

ACTIVITY 3: DEFINITION OF RULES OF ACCESS BY ELIGIBLE CUSTOMERS TO THE REGIONAL NETWORK

REPORT 1: NATIONAL STRATEGY NOTE (INTERIM REPORT)

JANUARY 2013



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1 - INTRODUCTION

This report is the first ever on Activity 3 relating to the Laying down of Rules of Access by Eligible Customers to the National Network.

ERERA's objective is to reach a consensus on regional criteria and rules accepted by all for access to the interconnected regional network. These rules will in the long run form an integral part of the Regional Network Code.

Before giving details of the process to be implemented at country level, the ToR require that a national strategy note to open the electricity sector including regional points of view should first be designed for ECOWAS Member States.

As part of the design of the national strategy note to open the electricity sector, the consultant will have to:

- i) Describe the institutional frameworks governing the electricity sector of countries with regard to opening markets and tariff regulation;
- ii) Analyse current potential suppliers, especially their capacity to guarantee uninterrupted supplies;
- iii) Study the likely development of national and sub-regional generators by 2015 and beyond, supposing that, as from 2015, there will be a short term regional or sub-regional market;
- iv) Identify eligible customers with their main profiles (volume and fluctuation of demand, continuity of supply, delivery points, etc.) and their consumption projections;
- v) Propose eligibility criteria and thresholds in Member States where there are no eligibility provisions;
- vi) Propose relevant reforms and the development scenarios of eligible customers.

Special attention will be paid to evaluating the Ghanaian and Nigerian experience.

This report is drafted with documentation collected from ERERA in December 2012 and that in the Consultant's keeping. Also for the purpose of this report, a questionnaire to gather data on the current situation and on projects of access to networks in various countries was sent to the focal points of ECOWAS Member States. The results of that questionnaire will enable us to have a clear knowledge of each country concerning access to networks, such as with regard to the items in (iv) and (v) of the ToR and come up with appropriate measures to facilitate the process in various countries. As these results will only be available as from mid-February, they will be considered only in subsequent reports.

The report falls in line with the ToR.

The first table (Appendix 1) presents the main data showing the scope and especially the possibilities of opening up networks from a regulatory viewpoint, and possibilities of competition in supply. The data on this table are commented in section 2 of the report.

Appendix 2 is a second table indicating projections on demand and supply trends, including the competition in supply parameters up till 2020. This table is commented in section 3.

Sections 4 and 5 deal with special aspects:

- OMVS and OMVG cross border networks whose management is likely to be reviewed within the context of regional interconnection;

- The possible opening of a cross-border wholesale market, simplified at first but bound to evolve and likely to become a driving force in the process of access to the regional network.

Section 6 carries our recommendations on the substance of the Regional Note requested, the conclusion, previous observations and analyses.

If “the contracting parties to the ECOWAS Protocol agreed to provide open access, without discrimination whatsoever, to generation sources and transmission equipment in their respective areas to the other contracting parties and to any other investor”, wide divergences can be noted in the implementation terms and conditions as well as extreme diversity in the pace of progress. We recommend that a new road map should be provided to States in the form of a special ECOWAS Commission Directive.

Appendix 3 is a very rough draft of the recommended Directive.

2 - PRESENTATION OF THE EXISTING SITUATION OF ACCESS TO NETWORKS

2.1 - Overview Table

Appendix 1 presents in a table some important parameters that characterize, in each ECOWAS country, the present situation of access to networks as well as the perspectives in that respect opened by the regulations in force:

- ✓ Reminder of the baseline law and its year of enactment;
- ✓ Regime of the historical operator
- ✓ Key elements of the sector's situation that are relevant to access to the network:
 - Level of historical operator's vertical de-integration
 - IPP possibility and if yes, the existence of IPPs and their number, as the case may be,
 - The existence of many major distributors connected to the NTN
 - Scheme of the Transmission System Operator (TSO)
 - Access to the network by third parties
 - Existence of an independent regulator
 - Private sector share in the main operator

2.2 - Comments on the Overview Table

2.2.1 - Ghana and Nigeria

In the ECOWAS region, only Ghana and Nigeria have really ensured that third parties have access to HV transmission and MV distribution networks.

In each of these countries can be noted that:

- ✓ the presence of a national Transmission System Operator (TSO) that is legally and functionally independent of generation and distribution actors ;
- ✓ the presence of several generation companies that are independent of one another and compete to win bilateral supply contracts with eligible customers registered with the TSO. In Nigeria, generation companies now at work are basically "successor companies" among whom the historical operator NEPA's plants have been distributed; but many applications for licences to start IPP have been submitted to the National Regulator. In Ghana, the incumbent vertically integrated VRA remains 100 % a public corporation, but its sphere of activity has been limited to generation. It should be noted that the authorities avoided creating a national hydroelectric power generation monopoly within VRA by

establishing the new authority, BUI, that will exploit the hydroelectric plant (400 MW) under construction ;

- ✓ As regards distribution, Nigeria has created 11 regional distribution companies, all having access to the national transmission network ;
- ✓ In Ghana, the largest distribution company (ECG, a public corporation, historically independent institutionally, that supplies the south of the country) was maintained. A second legally independent distribution public corporation was established from the de-integration of VRA (NED, mainly active in the north of the country). A third corporation has just been set up to carry out distribution in the TEMA free zone ;

Also in Ghana, during the year 2011, 27 customers, mainly industries connected either to the HV network or to the MV network of distribution companies, used their eligibility status, and consumed almost 11 % of the energy transmitted to the network. At the end of 2012, there were 28 private consumers having signed supply contracts directly with the generator of their choice;

- ✓ In both countries, distribution companies are at the same time network managers and energy suppliers, at regulated rates, to customers not eligible;
- ✓ The increase of access to the market (by reducing the eligibility threshold) is in the pipeline but now remains suspended due to lack of generation, making load shedding compulsory (a very common practice in Nigeria);
- ✓ In Ghana, we noticed the activity of ENERGY COMMISSION (a branch of the Ministry of Energy) in line with its duty of planning and granting licences;
- ✓ In Ghana we also noticed the activity of PURC, the independent (multi-sectoral) regulatory body, in keeping with its duty of fixing an updating rates:
 - Transfer by generators to distribution companies for resale to regulated customers;
 - Rates of sale to regulated customers;
 - of use of transmission networks ;
 - of use of distribution networks.

2.2.2 - Senegal and Mali

Only two other countries (Senegal and Mali) have explicitly included in their baseline law relating to organization of the national electricity sector (Mali) or in the public utility concession agreement (Senegal) the obligation of providing access to the network for customers selected to enable them conclude supply contracts with generators. The instruments lay down the initial criterion of eligibility for customers (5 MW of power subscribed) as well as a time-limit for the measure to be implemented (2009 for Senegal, 2011 for Mali),

In both countries, the public utility was transferred (respectively in 1998 and 2001) over the long term (20 years) to a vertically integrated company: SENELEC in SENEGAL, EDM in Mali. The concession agreements stipulate that any additional electricity generation plant will be preferentially granted to new operators (IPP). The (implicit) hypothesis relating to the time-limit for granting this eligible customer status is that it will be sufficient to build a generation system comprising a sufficient number of independent operators to ensure real competition.

In fact:

- ✓ Senegal has persistently been facing supply shortages, only slightly were they reduced through SENELEC's investments in new plants. Two IPP are now operational:
 - The first operates a combined cycle, and SENELEC is responsible for providing fuel;
 - The second generates from Diesel groups, and buys its HFO directly.

The Consultant will look for information concerning the terms and conditions for setting up and exploiting the new coal-fired plant announced in Senegal, hence, of course, the energy transfer terms under a concession agreement that can only be over a very long term, depending on the type of plant ;

- ✓ Mali also witnessed supply shortage periods, reduced basically by new investments in generation by EDM. Here also, a single IPP is now operational, under an exclusive agreement with EDM that is responsible for providing fuel. Moreover, big potentially eligible customers (mines) have continued to generate their own electricity, and are not connected to the network.

At the same time, the other provisions necessary for entry into force of (limited) customer access to the network are still to be fully implemented, notably:

- ✓ The functional and accounting restructuring of SENELEC and EDM, to separate generation, transmission and distribution functions, has not been implemented at all;
- ✓ Consequently, the bases of calculation used in fixing rates for the use of transmission and distribution networks have not been laid down ;
- ✓ The provisions guaranteeing the independence and neutrality of the Transmission function are still to be introduced and implemented.

2.2.3 - Togo and Benin

Togo and Benin long established CEB, a public corporation with a multinational status responsible for mass generation and HV electricity transmission in the two countries as well as for selling to (public) national distribution companies, respectively CEET in Togo and SBEE in Benin. CEB also enjoys the import/export monopoly for both countries. It has used its large importation capacity from Côte d'Ivoire, Ghana and Nigeria in the form of long term bilateral purchase agreements but has never successfully created a significant local basic electricity generation capacity. The Benin-Togolese Code to establish CEB has been reviewed several times in order to enable CEET and SBEE to directly or indirectly create new large-scale generation sources, using the CEB network to distribute this electricity in respective countries. Consequently, IPP Contour Global has constructed a 100 MW thermal plant in Lomé and signed a PPA with CEET.

It should also be noted that the Benin-Togolese Code:

- ✓ Provided for "customers" before the letter, namely industrial consumers, situated both in Togo and Benin, who negotiate an electricity purchase agreement directly with CEB. As of now, 3 industrial consumers (2 in Togo, 1 in Benin) are direct CEB customers;
- ✓ Grants to CEB wide regulation responsibilities over the expanse of both countries.

Mass electricity generation conditions in Togo and/ or Benin are now changing. Both countries are members of the organization that built the natural gas transmission pipeline between Nigeria

and Ghana and have the right of deducting sufficient gas quotas to supply large-scale electric plants.

The conversion to natural gas of the Contour Global plant in Lomé should be its first achievement. The Maria Gletta 450 MW combined cycle project in Benin, supported by WAPP should be its second achievement.

Togo has established an independent electricity regulator but this regulator is not competent to control CEB. Benin is still to establish its own independent regulator, though this is provided for in the 2006 electricity law. As CEB has a supranational status, jurisdiction of the future regulator in Benin over CEB will also not be possible.

Benin's electricity law provides for access to networks by eligible customers but Togo's law does not mention that.

The Consultant needs further details (last description of CEB's responsibilities and prerogatives, possibility of dissociating CEB's generation from transmission, status of the Maria Gletta project, instruments delegating management of the public utility to CEET in Togo and SBEE in Benin ...) in order to make recommendations on access by customers to both HV and MV networks in Togo and Benin.

2.2.4 - Côte d'Ivoire

In Côte d'Ivoire, the whole electricity public utility has been leased for 15 years (up till at least 2020) to a private company, vertically integrated, CIE. A State-owned corporation, SOGEPE, manages the whole leased property. The only limit on the SOGEPE and CIE monopoly is in generation. The State of Cote d'Ivoire has granted generation to independent companies who have constructed and now exploit local natural gas plants. The State has concluded a long-term agreement (20 or 24 years) with each of these companies, often called IPP contract but which are really contracts for the transformation of domestic natural gas supplied by the State into electricity, the State thus transferring this production to CIE for retail sale inside Côte d'Ivoire. The financial transactions relating to this process are permanently controlled by a State-owned company, SOPIE. Production surpluses are sold to neighbouring countries through long term bilateral agreements co-signed on the Ivorian side by CIE, SOGEPE and SOPIE. The way the sector is organized will however have to be confirmed during the circular mission, for a reform is underway at the end of which its organization will be modified.

It should also be noted that Côte d'Ivoire has sometimes overestimated its exportation capacity. Historical customers have suffered water shortages several times as Côte d'Ivoire. Since 2010, Côte d'Ivoire has not respected its additional quantities contractual clauses accompanying extension right to Ouagadougou of the 225 KV network connected to the Ivorian network.

There is neither provision in the law nor clause in the leasing agreement stipulating access by customers to the network, nor is there accounting and functional separation within the CIE. Anyhow, another possibility indispensable to any opening would be a thorough revision of contracts accompanying "IPP" concession agreements and the terms and conditions for providing and selling their energy.

The central location of Côte d'Ivoire in the region makes this country's policy critically important with regard to liberalization of the electricity sector. It would however be worthwhile to explore the following points:

- ✓ Does Côte d'Ivoire have plans of kick-starting its electricity sector liberalization process by restructuring CIE before the lease commitment expires?

- ✓ Will significant investments to be made in order to complete the IPP operators' plants be possible if the existing contractual clauses are maintained, or will these contracts be revised to widen responsibility / scope of "IPP"?
- ✓ As part of on-going negotiations with Contour Global for the construction of a third plant following the IPP regime, the Ivorian Government plans to renew a commitment similar to those in existence for the CIPREL and AZITO plants or a type of contract closely similar to the IPP standard type?

2.2.5 - Burkina Faso

Burkina Faso plans (Law of 2007) to establish a national corporation, SONABEL, an institutional framework that closely resembles that of the neighbouring Côte d'Ivoire, with 100 % publicly managed sector heritage, with SONABEL becoming a shareholder with the participation of a private strategic partner. This needs to be clarified, including State-company heritage and leasing commitment issues.

The law provides for the granting of IPP licences but an additional legislative provision will be required to enable the access of customers to the network and lay down eligibility criteria. SONABEL will continue to be the central Buyer but, should the law not state that, it will be necessary that heritage and lease agreements specify the obligations concerning accounting and functional de-integration.

2.2.6 - Guinea Conakry, Liberia, Sierra Leone

These three countries have common or nearly similar characteristics:

- ✓ "Poor" electricity baseline law (Guinea¹), former (Sierra Leone - 1986) or nonexistent (Liberia) ;
- ✓ Current absence of IPP, even though Sierra Leone tried (in vain) in 2006 to place the Bumbuna site under private concession, and though the Guinean law provides for the granting of generation concessions to operators other than *Electricité de Guinée*;
- ✓ Lack of an independent operator ;
- ✓ Lack of provisions for a vertical de-integration of existing national operators and access of eligible customers to networks;
- ✓ Low coverage of the national territory by the public utility;
- ✓ Very poor quality of facilities (consequences of the war in Sierra Leone and in Liberia, poor historical management in Guinea).

These three countries have another common characteristic: they all have rich mining resources. Mining companies already operating there are purely auto productive, without any link to the national network. This is the case, since 30 years, with the biggest bauxite exploitation in Guinea. It was also the case for iron ore mines in Liberia before the civil war. Moreover, development projects for new mining sites (and a re-opening of old mines in Liberia) are numerous.

¹ We do not yet have the 2003 law for Guinea: the classification "poor" was drawn from NODALIS Report 2011

The sites are distributed throughout the territories of each of the countries. Their cumulated demand is far above the expected demand for individual, craft industry and standard small industrial needs.

Each of the countries, most especially Guinea, has abundant hydro-electric resources.

The real challenge for these three countries is therefore to put in place conditions that would enable the mining sector to become a fundamental actor in the enhancement process of hydro-electric sites, the setting up of a transmission network both industrially and nationally as well as the organization, exploitation and maintenance of the facilities. One could expect (and we should work towards that) that the public utility for distribution (which will normally remain the responsibility of the existing restructured public companies) shall benefit from the following:

- ✓ Lower price per kwh considering the size (enhancement of significant hydro-electric sites with lower cost prices);
- ✓ Better quality capable of meeting the demands of a modern industry;
- ✓ More rapid coverage of the biggest part of the national territory by the public utility.

2.2.7 - Gambia and Guinea Bissau

These two relatively small countries do not have any significant natural resources (gas, hydro-electricity) and do not own any High Voltage transmission network for the moment.

Both of them have an organization law of the electricity sector which allows for private management. Pure and outright privatization in Gambia which ushers in competition at the level of generation and the granting of specific licenses for generation, transmission, dispatch and distribution activities; leasing in Guinea Bissau of various areas of activity/geographical zones.

Gambia received an IPP which provided a 21 Mega Watts power. This represents a third of the total power installed for public utility. Gambia equally put in place a regulator (multi-sectoral).

The two countries currently have 100% dependence on production from petroleum products; both of them are OMVG members which should normally become their main supplier in electricity for an unbeatable price with the existing standard sources. More so, the OMVG transmission system should normally ensure the following:

- ✓ Enable purchase from Senegal, for example from the coal-fired plants;
- ✓ Make up a major part of the basic framework of the national transmission network within each country, but most of it shall be managed by specialized OMVG emanations (to be created).

The medium term future therefore seems to be based on importation, with local production being limited to lead units and/or back-up units

The following should be taken into consideration:

- ✓ The narrowness of each of the two national markets;
- ✓ The scarcity² (absence) of eligible clients with attractive capacity for electricity providers (national or foreign);
- ✓ The fundamental changes expected in the years ahead as concerns electricity supply and change in prices;

²We do not take into consideration preliminary studies for the exploitation of bauxite deposits in Guinea Bissau.

- ✓ Terms and conditions for the establishment and management of the first embryonic transmission system (on this matter, refer to section 3 of this report);
- ✓ The high cost of establishing an open structure for the commercialization of electricity without presently knowing neither the details nor the timing for OMVG's presence in the electric landscape of these two countries;

We consequently recommend that the existing companies (NAWEC for Gambia, EAGB for Guinea Bissau) continue their activities in their capacity as companies centred essentially on distribution, in the position of sole buyer, until the institution of a wider market under new and more stabilized conditions.

2.2.8 - Niger

The main features of the public electricity sector in NIGER are:

- ✓ It imports electricity from Nigeria to the tune of more than 80% of its sales.
- ✓ It has no real national transmission network: the 3 main areas of consumption in the south of the country are supplied separately from Nigeria. The only line of 132 KV of the country is an antenna supplying Niamey from Nigeria. From Niamey, a regional network of 60 KV supplies two secondary cities.
- ✓ The SONICAR Company operates a private power station (coal) and a local transmission network, too far in north of Niamey to justify an interconnection with the network of the national public utility operator, NIGELEC.
- ✓ The State granted a concession of public utility electricity for a period of 50 years to NIGELEC Company, vertically integrated company. The law does not require NIGELEC to de-integrate, not even at the accounts level. By law, NIGELEC does not have a monopoly on domestic production destined for public utility, but there is not yet any IPP connected to NIGELEC network.
- ✓ NIGELEC is the sole importer, following contracts resulting from agreements between the State of Niger with neighboring countries.
- ✓ There is an independent multi-sectoral regulator
- ✓ Currently, Niger does not have a considerable size of customers to attract foreign suppliers. The first potentially interesting customer could be a cement company, currently planned.

We can therefore say that Niger does not currently meet the minimum requirements to justify opening clients to networks (no competition in generation, lack of a real national transmission system).

The question could be raised again when Nigeria will have reached a supply - demand balance and will truly have experienced an internal electricity market. Eligible customers in Niger could be a target for electricity retailers in Niger or Nigeria provided that NIGELEC loses its import monopoly.

3 - FUTURE TRENDS IN ELECTRICITY NEEDS AND SUPPLY ADAPTATION

3.1 - Overview table

The table in Appendix 2 presents:

- ✓ The projections of installed capacity and peak power for the countries in 2010, 2015 and 2020, projections obtained from the WAPP Master Plan for 2011;
- ✓ The number and total installed capacity of IPPs in each country in 2010 and planned for 2015.

We arrive at the remarks below.

3.2 - Remarks on overview table

3.2.1 - Country lacking internal generation competition

Until 2015 at least, the following countries are not likely to have IPP installed on their respective territories to provide internal competition: Guinea Conakry, Guinea Bissau, Liberia, and Sierra Leone.

Moreover, in Burkina Faso and Niger, independent producers will produce from renewable energy sources, which does not actually create conditions of competition with the national standard generation techniques and even less with the energy that can be imported from neighboring countries.

3.2.2 - Countries that will be net importers

Guinea Bissau, Guinea Conakry, Liberia and Sierra Leone are expected to remain net importers. In these three countries, it is unlikely that the pace of the development of local hydroelectricity resources will be as fast as the expected growth rate of mining demand.

We should therefore expect competition for access to the projected CSLG line (under the supervision of WAPP) and the energy that this line will permit to import in these three countries. Competition could occur both between the three countries and within each of them. Guidelines for access to the network and in particular to this line must be specified in terms of the participation policy of the mining sector in the development of electrical infrastructure as suggested in 2.2.6 above.

In Gambia and Guinea Bissau, the supply and demand balance depends largely on the implementation pace of the two successive phases of the OMVG program mentioned in the WAPP Master Plan. It is not insignificant to note that for both countries, the interest of the OMVG program is probably first in the transmission network. In fact, this network will also provide access to alternative sources of generation plants to OMVG, thus limiting the risk of such delays in the construction of the (many) plants planned by the OMVG.

3.2.3 - Countries whose equilibrium depends on the implementation of major generation projects by WAPP

- ✓ The long-term equilibrium in Mali largely depends on the implementation pace of the OMVS program. Between 2015 and 2020, if Mali completes its mines supply program from an interconnected network, the supply/demand balance will depend on the realization of a combined cycle power plant of 150 MW, which is mentioned in the Master Plan sponsored by WAPP within the framework of an Emergency Program.
- ✓ Mali is nevertheless in a good position to import, if necessary, quantities of electricity that can be significant, from Senegal as well as from Côte d'Ivoire and/or Ghana.
- ✓ Finally, the Togo-Benin pair can become self-satisfied only through the realization of the Maria Gleta combined cycle project in Benin, sponsored by WAPP.

3.2.4 - Countries that will be net exporters

Ghana and Côte d'Ivoire should remain net exporters. The 225 kV network existing between these countries and their immediate neighbors (Mali, Burkina Faso, Togo and Benin) has already achieved the most significant exchanges in the ECOWAS region. The commissioning of the Nigeria_Ghana_Côte d'Ivoire 330 KV lines, the South-North Ghana 330kV line (to Burkina), the CLSG 225 KV will increase export opportunities from these two countries.

Ghana's position as a net exporter will be strengthened with the creation of a 400 MW plant of natural gas sponsored by WAPP.

Senegal should also become a net exporter in case of achievement of the huge generation complex from coal (800 MW) sponsored by WAPP.

3.2.5 - The special case of Nigeria

The size of the power sector in Nigeria cannot be compared with that of any other country in the region. This is why the lack of generation currently afflicting this country cannot practically be resolved by neighboring countries,.... who are also often dependent on imports from Nigeria (Benin, Niger).

This incomparable size will remain a constant in the foreseeable future.

We can also emphasize Nigeria's respect of its export contract to Niger whereas the country daily experiences internal power failures.

On the other hand, when Nigeria would have achieved a balance between domestic supply and demand and would have established comfortable powers reserve, in fact, it will automatically have significant export opportunities to each of its neighbors. It will actually be in the position to set **THE** regional reference price.

3.2.6 - Conclusion (interim)

All countries (but to a lesser extent Nigeria) will be impacted by the construction and connection to the regional network of large plants that have the ability and priority to provide electricity to several countries in the region. Of course, this will have an influence on the organization of access to national networks and probably the types of actors with access to networks such as brokers (electricity retailers currently an unknown profession in the region).

The Consultant will first seek more information from WAPP on the status that will be assigned to plants of regional interest sponsored by it and, in particular:

- ✓ Their status (national or international, in connection with their role of producer at the regional level)
- ✓ Modes of ownership
- ✓ The contractual terms of provision of/access to generation and flexibility of these access conditions, for example in comparison to the conditions of access to OMVS generation plants
- ✓ The specific terms provided for the transfer of energy from huge projects also sponsored by WAPP for generation from renewable sources (large wind farms in The Gambia and Nigeria, solar farms in the Sahel ...).

4 - THE QUESTION OF OMVS AND OMVG NETWORKS

Senegal, Mali and Mauritania (Mauritania is not an ECOWAS member state) are interconnected through a 225 KV transmission network belonging to OMVS – SOGEM. This OMVS network is evidently distributed in each of the countries through a national network which is being managed respectively by SENELEC, EDM and SOMELEC.

Access to the OMVS network is limited to national operators of these countries which exclusively share the products of these OMVS plants at fixed rates and according to fixed proportions, with the quantities being decided upon depending on hydrologic conditions with SOCEM and its network manager in charge of the operation and maintenance of facilities belonging to OMVS.

Independent producers do not have direct access to OMVS network but the network can be used to transmit energy through the execution of contracts between the national operators and independent producers.

There are no provisions in OMVS texts for client access to OMVS network.

In a typical situation, the entire public transmission system of a country is placed under the sole responsibility of a systems operator and all the plants that are linked to it are coordinated by this operator. With OMVS, the situation is unusual given that the responsibility for the exploitation of the transmission network in each of the countries is shared between Sogem and its operator on the one hand, and between each national operator on the other.

The three countries (Mali, Mauritania, and Senegal) shall comprise a regulatory zone within the WAPP framework, with the SENELEC load dispatching centre being responsible for the functions of the regulatory zone.

Two options are being envisaged in order to manage access to OMVS transmission network with the prospect of enabling free access:

- a) Giving Sogem and its operator a cross-border geographical responsibility covering its transmission network with the management of its access in a manner similar to that of EDM-SA, SENELEC or SOMELEC or, in a more general manner, to that of the WAPP zone,
- b) Giving national operators the management of segments of the Sogem transmission network on their national territory, wherein the latter has the possibility to continue its exploitation and maintenance.

In solution a), logically, Sogem (and its operator) could at least sell directly to customers who will be connected to its network. This solution shall cause a more thorough revision of agreements signed between the three countries.

In solution b), the product of Manantali (and, as time goes by, also that of the other OMVS plants) could continue to be reserved at the discretion of the transmission system operator (TSO) of the three countries. The three countries could decide on the free marketing of part of the energy from OMVS plants, or each country could increase, to the limit of its energy quota from OMVS, the number of persons benefitting from this energy. There would be across-the-board access by independent producers or eligible clients to parts of the OMVS network throughout their entire countries.

Solution b) corresponds to a more standard situation which presents a unique responsibility in the management of each national system, similar to the other WAPP member countries. It would however be necessary to maintain within the new set up, the distribution of energy to Mauritania on Senegalese territory.

We recommend option b), knowing that with the (limited) revision of the current agreements, the roles, functionalities and hierarchical relations of the three national load dispatching centres would have to be equally revised in relation to the Manantali load dispatching centre which remains essential for coordinating the operation of OMVS plants.

The consultant shall verify that the proposed solution is in compliance with the terms and conditions for access to new international lines which are currently being set up by WAPP, particularly the Cote d'Ivoire- Liberia-Sierra Leone-Guinea line (CSLG)

In addition, the Consultant shall seek for information on the conditions of the contract for the establishment and exploitation of the ALBATROS project in Kayes, Mali: this is an HFO diesel electric plant destined (mainly) for supplying electricity to several gold mines situated in the region. The gold mines are presently auto productive. The consultant's analysis shall focus on:

- ✓ Terms and conditions for funding, ownership as well as the exploitation and maintenance of the sub regional transmission system between the plant and the mines,
- ✓ Connection between the plant and the Kayes station which belongs to OMVS,
- ✓ Possibilities (and terms and conditions?) for eventual exchanges between the mines which have significant plants and an inter-connection network,
- ✓ Possibilities (and terms and conditions?) for exchanges, including relief supplies, between the ALBATROS power plant and the OMVS system,
- ✓ Terms and conditions for exchanges, including back-up supplies, between the ALBATROS plant and EDM (through the OMVS network.)

There is the possibility that the ALBATROS project could constitute a model as far as access to international lines is concerned and could quickly solve the problem of electricity supply to subscribers, who are potentially reliable clients, yet victims of the financial limitations of national electricity companies, as stated earlier concerning the Guinea, Sierra Leone and Liberia mines.

To the best of our knowledge (2007 instruments), insofar as the management measures for the OMVG system are widely inspired by those of OMVS, we recommend that the following rules be applied as far as access to the OMVG network within each country benefitting from the network is concerned. The consultant therefore has to first of all verify if the 2007 provisions organizing the OMVG still apply or if they have been amended.

5 - SUMMARY OF THE IMPACT OF LAUNCHING A REGIONAL WHOLESALE MARKET ON ACCESS TO THE NETWORK IN SOME COUNTRIES

In 2012, WAPP received the report it commissioned on the establishment of a regional wholesale market and the terms and conditions for organizing such a market. The recommendations of the report's author are to set up very progressive market, as concerns the actors of the market as well as the products to be exchanged within it.

The report considers that it is possible to rapidly set up a market which, in its initial phase, would present the following main characteristics:

- ✓ An actor per country, normally (but not necessarily) the national TSO or the sole buyer available.
- ✓ The products shall exclusively be bilateral contracts signed only between countries sharing a common border, at the outset, contracts existing between countries from the same region.
- ✓ The wide range of current contracts (long term bilateral contracts) should copy from the advent of medium term bilateral contracts (months, weeks) or short term bilateral contracts (weeks, days).
- ✓ All contracts must respect a standard model to be specified.
- ✓ The registration of actors and contracts and the monitoring of their perfect execution shall be centralized at the CIC level of WAPP, with an embryonic operator of the market to be created.

This initial phase of a regional wholesale market has no influence on the access of clients to networks in ECOWAS member states.

Of course, the regional wholesale market is destined to open up, in principle to all producers and all eligible clients from all countries. The evolution rate of the regional wholesale market has not been determined by this report.

It should be noted that the existence of an organized market will normally mount a lot of pressure for its expansion. It is therefore an element to be taken into account in order to accelerate and facilitate network access in most ECOWAS member states.

It is worth noting that ERERA will be called upon to carry out some important tasks which fall in line with its duties, before and after the kick-off of the regional wholesale market. They will include the following:

- ✓ Definition of approval criteria for actors in the regional wholesale market and also approval of the proposed actors;
- ✓ Drawing up of specimen contracts;
- ✓ Validation of the market's rules;
- ✓ Definition of infringement criteria within the market;
- ✓ Definition of a sanctions regime;
- ✓ Reception, treatment and resolution of disputes.

6 - RECOMMENDATIONS ON NATIONAL STRATEGY NOTE FOR ACCESS BY ELIGIBLE CLIENTS TO NETWORK

Access by eligible clients to network constitutes one of the elements (of course very essential) for the liberalization process of exchanges in the electricity sector.

When an opening for network access in an ECOWAS member state matches with an opening at ECOWAS level, where the countries had signed a common protocol on energy and are interconnected, it is important that the opening in each country be done following the most possible harmonized pattern between the different countries. In effect, the ideal is for an eligible client in country A to be able to negotiate, in the same way and with the same ease, with all the other owners of network access whether he is based in the same country A or in another ECOWAS member state.

The organization of network access of eligible clients is however inseparable from other concomitant measures, mainly:

- ✓ The existence of competition in generation (number of suppliers, level of cost price) ;
- ✓ Free network access by producers;
- ✓ The existence of a neutral and independent TSO who is the intermediary charged with enabling the physical transportation of goods between sellers and buyers whom he has duly registered;
- ✓ The respect for a set of technical rules necessary for continuous and harmonious functioning, presented in a network code;
- ✓ The existence of a market operator who registers participants and transaction projects, verifies the conformity of the execution of physical transactions and facilitates financial payments between sellers and buyers;
- ✓ The existence of rules guiding buying-selling transactions: market rules and procedures;
- ✓ The existence of an independent regulator, guarantor of the accomplishment of the duties of all the actors in strict respect of rules and a sensible adaptation of rules when the need arises.

We have seen earlier that the situations in the different countries are extremely varied as far as laws on electricity code are concerned as well as in terms of the effective granting of a public utility or the organization of the different national sectors. Among the countries which have put in place an electricity sector regulator, we can notice the differences that exist between their various responsibilities and powers. No national electricity code or instrument referring to the national regulator makes any reference to ERERA. Finally, we notice that only two countries have actually established controlled or limited network access by third parties.

To ensure, at the regional level, a harmonious change for access to networks that takes into account all aspects that such access involves, not omitting to consider country-specific characteristics, we recommend that a specific Directive should be published by the ECOWAS Commission.

This regional action procedure through the Directive was monitored by the European Union in the yet incomplete process to create a regional electricity market. Besides, it is interesting to note that the EU Commission has issued three successive Directives on that matter between 1999 and 2009.

Preparing a draft Directive is the responsibility of ERERA.

We present Appendix 3 below as a suggestion on the general organization of the Directive and the specific content of certain sub sections, taking into account the comments made above.

APPENDIX 1 : ANALYSIS OF EXISTING SITUATIONS

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to network						
		Vertical de-integration of historical operator	IPP Possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Benin	Law of 2006- Broad liberalization of the sector with the granting of specific concessions	No ³ Obligation for accounting separation	Planned No	No	- Bi-national (CEB) – Legally independent but also producer (peak ; hydro and TG) - CEB has the import-export monopoly for Togo and Benin Gap: last revision of CEB statutes and duties in 2007	Planned CEB directly supplies an industrial client in Benin	Planned Awaiting a special Law	Desired privatization - Conditions not defined Gap : sector policy letter
Burkina Faso	Law of 2007 Separation of assets with a leasing contract on the whole exploitation (not done)	No No accounting procedure	Planned No	No	Sole buyer, integrated in SONABEL Monopoly of import/ export	Possible against issuance of a legal complement	Yes	Planned in the form of majority participation once SONABEL has become leaser

³ The transmission activity is already legally independent (CEB)

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to network						
		Vertical de-integration of historical operator	IPP Possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Côte d'Ivoire	Law of 1985 Concession of the national public utility, without a monopoly on production	No No accounting procedure	Planned Yes 2	No	Sole buyer, integrated in SOGEPE (Assets) and in CIE (operator) Specific control of SOPIE on energy transactions import-export Monopoly	No	Yes	Assets : the State Operation of the national public utility leased to CIE until 2020
Gambia	Law of 2005 Privatize the sector while ensuring competition at the level of generation	Functional de-integration via separate licenses for generation, transmission, dispatch and distrib.	Planned Yes 1	No	- Differentiated operation licenses planned– network maintenance and management of power flows - No real HV transmission network (33 KV only)	Planned	Yes Multisector	Desired total privatization of the national public utility

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to the network						
		Vertical de-integration of historical operator	IPP possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Ghana	Law of 1997 Total liberalization of the sector	Legal de-integration completed	Yes 2	Yes 3 ⁴	- TSO, legally independent - 100% State	Yes 28 eligible clients	Yes Multisector ⁵	No ⁶
Guinea	Law of 1993 (Gap) Authorizes entry of new actors against specific concession Authorizes the entry of private actors	No No accounting procedure	Yes No	No	Integrated in EDG	No	No	Leasing that quickly failed

⁴ A new private company has just obtained a distribution license authorizing it to operate in the TEMA free zone

⁵ The duty of the independent regulator (PURC) is limited to economic regulation, ENERGY COMMISSION, a subsidiary of the Ministry of Energy, provides technical regulation, planning, the process (competitive) to establish additional generation means and the issuance of licenses to all operators in the sector.

⁶ The historical operator vertically integrated and belonging to the State at 100 % (VRA) was limited by the reform to the operation of its two hydroelectric plants (Akosombo and Kpong). To limit VRA competitive advantage in hydro generation, Government decided to give the management of the new hydro plant, under construction (BUI) to a new Authority, which also belongs to the State but not dependent on VRA. VRA is currently investing in thermal protection after securing, in a competitive process headed by ENERGY COMMISSION, licenses to build and operate plants functioning with natural gas.

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to the network						
		Vertical de-integration of historical operator	IPP possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Guinea Bissau	Law of 2009 Separation of assets and leasing of the exploitation to various actors (not done)	No	Planned No	No	No HV transmission network	No	Possible	Leasing(s) still to be done
Liberia	?	?	Yes No	No	Integrated in LEC See situation	no	no	Under management agreement
Mali	- Law of 1999 - gradual liberalization of the sector - Concession of public utility for 20 years to EDM	No Cost accounting planned (stipulated in the concession contract)	Yes Yes 2	No	- Integrated in EDM - Sole buyer until 2010 - No monopoly on import-export	Planned as from 2011 Criteria for eligibility defined	Yes	EDM is a joint enterprise with private capital

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to the network						
		Vertical de-integration of historical operator	IPP possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Niger	Law of 2003 Slow liberalization Concession of public utility for 50 years to Nigelec	No No accounting procedure	Planned no	No	- Integrated in NIGELEC - Sole buyer. - Imports under conventions between States, delegated against specific license	No	Yes Multisector	Concession for 50 years to Nigelec
Nigeria	Law of 2005 Total liberalization of the sector	Legal de-integration completed (18 « successor companies »)	Yes Yes 2 + 7 generation « successor companies »	Yes 11	- TSO, legally independent - 100 % State - Assisted by Manitoba Hydro	Yes	Yes	Privatization of « successor companies » underway, except for Gridco ⁷

⁷ For political reasons, the process to deregulate and privatize was suspended for about 2 years, in principle

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to the network						
		Vertical de-integration of historical operator	IPP possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Senegal	Law of 1998, amended in 2002 Progressive Liberalisation Public utility Concession to SENELEC for 25 years	Legal de-integration planned cost accounting imposed in the Step 1 Not yet established	Planned yes 2	SENELEC is the sole significant distributor 5 regional distribution companies	Integrated in SENELEC Sole buyer right up to 2019 Without import-export monopoly	Planned Postponed to 2019	Yes	Concession of goods and services of SENELEC to a private company-failed Then (the Law of 2002) , returned the granted goods to the State
Sierra Leone	- Law of 1982 - Creates the Nat. Power Auth. (NPA) with national monopoly - Law of 2006 authorising IPP, - Bumbuna in PPP (aborted)	No	Yes No	NPA is the sole significant distributor in several regional systems not entirely connected	Integrated in NPA See the Statutes of the national company	No	No	No

Country	Baseline Law - Year Baseline guidelines Historical operator scheme.	Relevant elements on the sector situation for access to the network						
		Vertical de-integration of historical operator	IPP possibility IPP Existence / IPP Number	Numerous significant distributors connected to the NTN	TSO scheme	Third party access	Independent Regulator	Private Participation in main operator
Togo	Law of 2000 Confirms CEET concession and authorises the IPP	No No accounting procedure	Yes Yes 1	CEET is the sole significant distributor	Bi-national (CEB) legally independent but equally producer (peak; hydro and TG) Gap : last amendment of the CEB statutes and duties, 2007	No But CEB directly supplies the 2 industrial customers in Togo	Yes Very huge task	- endeavors to privatize CEET- failed - CEET once again became State Company State Company (SECIC)

NTN: National transmission network

APPENDIX 2: SUMMARY TABLE OF CHANGES IN DEMAND AND SUPPLY OF ELECTRICITY IN THE ECOWAS

According to studies for the WAPP master plan the data are as follows:

Countries	Installed capacity/ Peak P. (MW) 2010	IPP : Number/ inst. C (MW) 2010	Installed capacity/ Peak P.(MW) 2015	IPP: Number/ inst. C (MW) 2015	installed capacity/ Peak P. (MW) 2020
BENIN + TOGO	337 / 360 to 390	1 / 100	557 / 507	4/ 240 That is 40 MW renewable	700 / 743 1150 / 743 ⁸
BURKINA FASO	208 / 158	0	339 / 239	1/ 20 renewable solar energy	? / 345
COTE D'IVOIRE	1139 / 800	2 / 722	2324 / 1247	3 / 1544	2744 ⁹ / 1800
GAMBIA	67 / 49	1 / 21	89 / 94	2 / 43	160 / ?
GHANA	2186 / 1506	2 / 420	3621 / 1888	4 / 1225	4601 ¹⁰ / 2550
GUINEA CONAKRY	206 / 110	0	232 / 268... 232 / 600 (including mines)	0	565 ¹¹ / 317 565 / 2000 including mines
GUINEA BISSAU	6 / 5.4	0	12 ¹² / 6.2	0	15 / 7.2
LIBERIA	12.6 / 6.1	0	72.6 / 50 72.6 / 230 including mines	0	273 / 68 273 / 348 including mines

⁸ That is 450 WAPP projects

⁹ That is 1375 IPP

¹⁰ That is 2060 IPP, with xx WAPP projects

¹¹ That is 225 MW used in OMVG projects

¹² That is 8 MW OMVG, but this potential demand (Tractabel figures) is certainly underestimated

Countries	Installed capacity/ Peak P. (MW) 2010	IPP : Number/ inst. C (MW) 2010	Installed capacity/ Peak P.(MW) 2015	IPP: Number/ inst. C (MW) 2015	installed capacity/ Peak P. (MW) 2020
MALI	295 / 199	1 / 57.5	465 / 366	3 / 135 ¹³	570 / 550 720 ¹⁴ / 550
NIGER	66/105	0	210/141	2/80 renewable	340/189
NIGERIA	8364 / 5000	7 ¹⁵ / 8364	16 800 / 7 021	+/-14 / 16 800	23 400 / 11 374
SENEGAL	560 / 423	2/110	980 / 629	3 / 360	1170 / 900 1970 ¹⁶ / 900
SIERRA LEONE	107 / 38	0	147 / 110 147 /310 including mines	0	185 / 170 185 / 935 including mines
TOGO	Attached below with Benin				

¹³ With about twenty MW factory which should operate waste incineration

¹⁴ With about 150 MW WAPP projects

¹⁵ 7 « successor companies »

¹⁶ With 800 MW WAPP coal project

APPENDIX 3: DRAWING UP OF THE ECOWAS COMMISSION'S DRAFT DIRECTIVE ON COMMON RULES FOR THE INTERNAL ELECTRICITY MARKET

The following instrument was written following DIRECTIVE 2009/72/CE OF THE EUROPEAN PARLIAMENT AND COUNCIL of 13 July 2009 concerning common rules for the internal electricity market, thus abrogating directive 2003/54/CE

In order to make it clear and easy, the following instrument has been presented in a very similar form as that of the EC Directive. However, it is only an outline of what an ECOWAS Commission Directive could contain in order to provide answers to the observations and conclusions of this report.

Preamble: reminder of the motives and objectives of the Directive

Section 1

Subject and scope

The Directive falls within the scope of the Community's objective to improve and "extend electricity services to the entire population. Aware that access conditions to electricity are extremely varied, it is paying more attention to those electricity sectors that benefit from a common transmission network.

The Directive spells out common rules concerning generation, transmission, distribution and supply of electricity, as well as the provisions relating to the protection of consumers, in view of improving the integration of competitive electricity markets in the Community. It specifies conditions for the organisation and functioning of the electricity sector, open access to the market, applicable criteria and procedures as far as calls for tenders are concerned and the issuing of authorisations, as well as the operation of the networks. It equally defines universal service requirements and the rights of electricity consumers, and clarifies obligations as far as competition is concerned.

Definitions

Emphasis:

- the importance of definitions taking into consideration the multinational aspect of the directive
- the necessity of respecting the definitions that have already been instituted by the WAPP Manual

Section 2: GENERAL RULES ON THE ORGANISATION OF THE SECTOR

Public utility obligations and protection of consumers

- ✓ In the general economic interest, Member States can require public utility obligations, which could contribute to security, from companies in the electricity sector, including secure supply, regularity, quality and supply price, as well as the protection of the

environment, the effectiveness of energy, energy produced from renewable energy sources and the protection of the atmosphere.

- ✓ When a financial compensation, other forms of compensation or exclusive rights granted by a Member State for the fulfilment of public utility obligations are provided in a non discriminatory and transparent manner.
- ✓ Member States are taking all the necessary measures to protect the final customers.
- ✓ Member States could organise themselves within their national electricity sector in a completely transparent manner with permanent control from the independent regulator:
 - Terms and conditions for participation in developing the public utility electricity in those areas that still have to be supplied (tax for rural electrification, for example);
 - Terms and conditions for financial assistance between the distribution zones in order to minimise tariff differences resulting from cost price which could be very different; (the case of Nigeria)
 - special protection for vulnerable consumers (social rates for example)
- ✓ The Independent Regulator will produce a charter on the rights of consumers

Follow-up of regular supply

- ✓ responsibility: the States (the Ministry of Energy)
- ✓ assignment (possible but also desirable) of the duty to the TSO or the Regulator
- ✓ present a minimum content of the studies and reports, in consonance with the national policy (types of preferential power plant, sites, renewable energies, importation and exportation policies, ...)
- ✓ reference to the WAPP management plan at the regional level
- ✓ frequency of the reports
- ✓ publication and distribution

Technical prescriptions

- ✓ refer to the WAPP Manuals
- ✓ Obligation of a Network Code
- ✓ Coordination of Network Codes by WAPP, to be approved by ERERA

Encouraging regional cooperation

- ✓ Cooperation of national agents involved in the desired regional cooperation has to be made compulsory by the States, themselves (network manager, market manager, regulator, ...)
- ✓ ERERA cooperates with national regulatory authorities and transmission network managers in order to align with the statutory framework, thus creating a competitive internal electricity market

Section 3: GENERATION

Principle

In order to maintain competition and the supply of electricity at the lowest rates possible, Member States and national regulation authorities have to facilitate cross-border access for new suppliers of electricity produced from different energy sources as well as new energy producers.

Licensing procedure for new capacities

- ✓ Constant and available information on the requirements and access conditions
- ✓ Details on the consideration of unsolicited applications
- ✓ Granting of production licenses

Call for bids procedure for the supply of new capacities

- ✓ Official in charge of starting the procedure
- ✓ Details of the call for tenders and an appraisal of the bids
- ✓ Licences
- ✓ Specific procedure for generation from renewable energy sources

Recommendations for renegotiating the existing PPA

- ✓ principle: maintain balance in ongoing contracts

Section 4: SEPARATION OF GENERATION-SUPPLY DUTIES FROM TRANSPORTATION DUTIES IN VERTICALLY INTEGRATED COMPANIES

When transmission duties are carried out in a vertically integrated company, Member States would have to choose between generation and supply units

Separation of priority structures in the transmission network

Separating priority structures means that the owner of the network is not part of the supply and generation mechanism: The owner of the network is then appointed as transmission network manager.

Manager of the independent network

Separation of transmission network managers

The introduction of an independent network manager in charge of supply and generation units enables a vertically integrated company to own greater shares in the network and also ensuring an effective separation of interests, as far as the independent network manager takes up all the duties of a network manager and that there exist specific regulations and complete control mechanisms.

The network manager has effective decision-making rights, separate from those of a vertically integrated company, as far as the assets necessary for exploitation, maintenance or development of the transportation network are concerned:

When an independent network manager is appointed, the owner of the transmission network:

- ✓ finances investments decided by the independent network manager and approved by the regulatory body and/or provides securities to ease financing in all extensions of the network, and/or give the green light for them to be funded by all interested parties, including the independent network manager.
- ✓ ensures that all duties on the network are effectively carried out, excluding duties relating to the job of the independent network manager;

In any case:

- ✓ the same person or people are not allowed to have direct or indirect control on a company in charge of one of the following duties: generation and supply; and also to have direct or indirect control or any other form of influence on a transmission network manager or a transmission network;
- ✓ the same person or people are not allowed to have direct or indirect control on a transmission network manager or a transmission network and also to have direct or indirect control or any other form of influence on a company in charge of one of the following duties: generation and supply

Appointment and licensing of transmission network managers

- ✓ States shall choose the manner in which to introduce a transmission network manager
- ✓ the national regulator is in charge of licensing the manager
- ✓ ERERA shall confirm the licence and register the manager at the level of the Commission

Section 5: OPERATION OF THE TRANSMISSION NETWORK

Tasks and duties of transmission network managers

- ✓ ensure long-term capacity of the network to meet acceptable electricity transmission demands
- ✓ operate, maintain and develop safe, reliable and effective transmission networks within acceptable economic terms, while also preserving the environment;
- ✓ ensure the availability of appropriate means to meet up with work demands;
- ✓ contribute to secure supply thanks to adequate transmission capacity and a reliable network;
- ✓ manage electricity flows on the network while also considering changes on interconnected networks.
- ✓ ensure the availability of all necessary auxiliary services
- ✓ supply the manager of every other interconnected network with enough information in order to ensure safe and effective operation, coordinated development and also shared operation of the interconnected network.

Call of generation units, balance and adjustments, demand-supply, losses

- ✓ The call of generation units and the use of interconnections are done based on criteria approved by the national regulatory authorities if they are competent in that domain, and which have to be objective, published and applied indiscriminately in order to ensure a good functioning of the internal electricity market. These criteria take into consideration the order of economic precedence of electricity from available production units or interconnected transfers, as well as technical constraints on the network.
- ✓ The same economic and transparent rules are applied in order to ensure balance and adjust supply to demand and the supply of energy corresponding to losses on the network.

Confidentiality imposed on transmission network managers and owners of transmission networks

Independence of the staff and the directors of the transmission network manager

Agreement in order to avoid discrimination, official in charge of enforcing the agreement

Member States have to ensure that the transmission network managers draw up and implement an agreement with measures taken to ensure that every form of discrimination is avoided, and that the respect of the agreement be strictly followed up. The agreement shall state the specific duties of the employees in order for the objectives to be met. It shall be submitted to the regulatory authority for approval. Without ignoring the authority of the national regulator, an official in charge of enforcing the agreement shall single-handedly ensure that the agreement is respected.

Network development plan

- ✓ Each year, transmission network managers submit a ten-year network development plan to the regulatory authority based on supply and demand, as well as related forecasts, after consulting all interested parties. The network development plan contains effective measures to ensure the smooth functioning of the network constant supply.
- ✓ The network development plan contains effective measures to ensure the smooth functioning of the network constant supply.
- ✓ The plan falls in line with the WAPP's regional plan
- ✓ The regulator approves this plan each year
- ✓ Moreover, the transmission network managers are responsible for the timely completion of work to be carried out in their regional spheres of influence.

- ✓ They are therefore supposed to raise money on the financial market, especially through borrowing and an increase in capital.

Execution of the network development plan

- ✓ The regulator shall check the strict execution of the approved plan.
- ✓ The regulator has special powers to impose the implementation of the approved plan on the manager or to organise the setting up of earmarked necessary installations in case the network manager fails.

Duty to connect new electricity plants to the transmission network.

- ✓ The transmission network manager shall spell out and publish transparent and effective procedures to indiscriminately connect new electricity plants to the transmission network. These procedures are submitted for the appraisal of the national regulatory authorities, usually through the Network Code.
- ✓ The transmission network manager has no right to reject the connection of a new electricity plant by raising possible future shortages in capacities available on the network, such as congestions on remote parts of the transmission network.
- ✓ The transmission network manager has no right to reject a new connection point with excuses that it will lead to additional expenditure as a result of the need to increase the capacity of network elements in the area located near the connection point.

Section 6: SEPARATION OF GENERATION and TRANSPORTATION DUTIES FROM THE DISTRIBUTION AND SUPPLY DUTIES IN VERTICALLY INTEGRATED COMPANIES

When a distribution and supply duty is carried out within a vertically integrated company, the Member States shall choose between separating property structures or separately managing the distribution-supply duties.

In this case, the authorities have to make a second choice:

- ✓ The purchase of electricity by the distribution network manager for onward supply to regulated customers is done wholesale
- ✓ Or this purchase is done following conditions (quantity and price) fixed by the national regulator

Separation of priority structures in the distribution and transmission networks

Separating priority structures means that the network owner is separate from the generation and transportation units: The owner of the distribution is then appointed as the manager of that network. He thus automatically becomes a national wholesale agent.

Separation of the distribution network management and related supply

Those in charge of the distribution network should not be part of the integrated electricity company structures which are directly or indirectly involved with generation activities, transmission or the supply of electricity;

The distribution network manager should have effective decision-making powers, different from those of the integrated electricity company, in matters of assets needed to operate, maintain and develop the network. In order to carry out these duties, the distribution network manager has the necessary human and technical, as well as material and financial resources.

Appointment and licensing of distribution network managers

- ✓ States shall choose the manner in which to introduce a distribution network manager. When the distribution network manager is present within a vertically integrated company, Member States see to it that their activities are monitored by the regulatory authorities or other competent bodies to prevent the distribution network manager from taking advantage of his vertical integration to alter competition
- ✓ the national regulator is in charge of licensing the manager

Section 7: OPERATION OF THE DISTRIBUTION NETWORK

Duties of distribution network managers

The distribution network manager is supposed to ensure the long-term capacity of the network to meet reasonable electricity distribution needs, operate, maintain and develop a safe, reliable and effective distribution network in his zone of operation, with acceptable financial resources, while preserving the environment and energy potential.

In any case, the distribution network manager should avoid every form of discrimination between users of the network, especially in favour of related companies.

The distribution network manager supplies useful information to users of the network, which they need to effectively access the network, and also on how to use it.

A Member State can require the distribution network manager to give priority production units that use renewable energy and waste, when he calls production units that are directly connected to his network.

During the planning and development phase of the distribution network, the distribution network manager comes up with effective energy measures/management of demand and/or distributed production which can have an impact on the sizing of the network.

Obligation of confidentiality of distribution network managers

Especially concerning the data of eligible customers supplied via MV distribution networks

Section 8: SEPARATION OF ACCOUNTS AND TRANSPARENCY OF ACCOUNTING PROCEDURES

- ✓ Where the need arises (especially for vertically integrated companies) in their internal accounting procedures, electricity corporations have separate accounts for each of their generation, transmission and distribution activities, just as they would do if the said activities were carried out by specific companies, so as to avoid discrimination, multiple subventions and competition imbalance.
- ✓ If need be, they could have consolidated accounts for other activities apart from electricity
- ✓ Not considering their ownership status and their corporate structure, electricity companies draw up, control and publish their yearly accounts in accordance with the national rules relating to yearly accounts of business corporations.

Section 9: ORGANISING ACCESS TO THE NETWORK

Access to third parties

Member States shall ensure that all eligible customers should be subjected to an access system for third parties to the transmission and distribution networks. This system, based on published rates, should be objectively and indiscriminately applied between the users of the network.

Market openness and reciprocity

As much as possible, Member States shall harmonise progressive eligibility criteria and synchronize their application.

Transparency of the market; market control mechanism

A supervisory committee with representatives' participants in the market, the regulator, and the network manager

Direct lines

They are allowed except they constitute a nuisance to public interest

Section 10: NATIONAL REGULATORY AUTHORITIES

It should first of all be recalled that the Directive is not based on the duties and powers of regulators with regard to rural and/or decentralised electrification, which remain within the competence of Member States

Appointment and independence of regulatory authorities

General objectives of the regulatory authority

Missions and competence of the regulatory authority

As far as centralised electricity is concerned, the Commission has to take basic orientation with regard to the distribution of powers between the independent regulator and the Ministry of Energy.

We think that the ministries should have the following powers:

- ✓ Regulate the technical nature in collaboration with WAPP
- ✓ Evaluate the needs, identify the basis and ways to boost production
- ✓ Record applications for new generation projects
- ✓ Analysis of new generation proposals and select projects
- ✓ Send out calls for tenders for new generation projects, analyse the bids and choose candidates
- ✓ Granting of generation licenses

The national regulators shall therefore be in charge of:

- ✓ Checking the constant existence of ways to boost generation
- ✓ Approving the transmission network development plan and follow up its implementation
- ✓ Setting rules and conditions for grants/possible transfer between centralised and decentralised electricity or for the benefit of vulnerable consumers and ensure its effective execution
- ✓ Providing rules for calculating rates and ensuring their effective implementation
- ✓ Following up the performance of operators, including the body in charge of the functioning of the market and applying possible sanctions
- ✓ Receiving complaints and settling disputes

Regulations applicable to cross-border issues

Regulatory authorities always consult each other and work very closely together, discussing and forwarding to ERERA every piece of information that is needed to carry out their duties based on the directive.

Regulatory authorities cooperate, at least at the regional level, to:

- ✓ encourage the establishment of practical conditions to enable optimum management of the network, promote joint electricity exchanges and granting cross-border capacities, and also to introduce an acceptable level of capacity interconnection, including new interconnections, within the region and between the regions in order to bring in effective competition and step up security in supply without discriminating between the supply companies in the different Member States;
- ✓ coordinate the development of network codes for transmission network managers and all the other actors in the markets concerned; and
- ✓ coordinate the development of rules to manage congestion.

National regulatory authorities have the right to sign cooperation agreements among themselves, so as to encourage cooperation as far as regulations are concerned.

The Commission could adopt orientations for all the cooperation duties among the regulatory authorities, and with ERERA.

Respect for the Directive's orientations

All regulatory authorities and the Commission could seek the opinion of ERERA on the conformity of a decision taken by a national regulatory authority with the orientations targeted in these directives.

Preservation of information

Section 11: FINAL PROVISIONS

Safeguard measures

Dispensations

Revision procedure

Adaptation of the Directive to national law

- ✓ Deadlines for the application of possible exceptions
- ✓ Adaptation deadline