The Iberian Electricity Market:

Organisational Model

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1 INTRODUCTION

The "Collaboration Protocol between the Spanish and Portuguese Administrations to set up the Iberian Electricity Market", signed on November 14th 2001, sets out that "The Iberian Electricity Market will start operating on January 1st 2003, guaranteeing all agents established in both countries access to the Iberian Market Operator and to the interconnections with third countries under free and equal bilateral trading conditions". Article Five of the Protocol states that "Before March 31st 2002, the regulatory authorities for the electricity industries in Spain and Portugal must submit a model for the organisation of the Iberian Electricity Market, bearing in mind the aims set out above, the applicable Community legislation, recent experience in the way electricity markets work in both countries and good regulatory practices", and that the regulatory authorities should "involve consumer associations, producers, distributors, traders, system operators, market operators and all other interested parties in the development of the said Market".

This document constitutes the joint response from the National Energy Commission of Spain (*Comisión Nacional de Energía* or CNE) and the Portuguese Electricity Industry Regulator (*Entidade Reguladora do Sector Eléctrico* or ERSE) to the application submitted by the Governments of Spain and Portugal.

In pursuance of the stipulations of the Protocol stated above, the views of "consumer associations, producers, distributors, traders, system operators, market operators and all other interested parties in the development of the said Market" have been heard. To facilitate and structure comments, the CNE and the ERSE published a Discussion Paper in late December 2001 and asked for comments to be submitted on it before January 25th 2002. A total of 26 answers were received by the CNE and the ERSE. The Discussion Paper and the input received can be consulted on http://www.cne.es/ and http://www.erse.pt/.

The comments received were duly analysed and a fairly broad set of points about which there was a high degree of agreement together was identified together with some aspects on which differences of opinion were expressed. To gain a better understanding of the arguments proffered by the different parties, the CNE and the ERSE organised a public debate on February 26th in Barcelona, which was attended by representatives of some 40 companies, associations and other bodies. Prior to the public debate, two documents were published jointly: "Follow-up Report on the Iberian Electricity Market – points of agreement and open questions" and "Brief comparison of the electricity systems in Spain and Portugal". Both documents can be consulted through the CNE and the ERSE web pages. After the public meeting, several bilateral working meetings were held at the request of the interested parties, thus allowing more detailed discussion of a number of different relevant aspects.

It should also be mentioned that the Third Portuguese-Spanish Energy Conference held in Lisbon on November 29-30th 2001 was the first and very timely forum for public debate on the Iberian Electricity Market (IBELM or MIBEL in its Spanish acronym form). Since then, numerous political statements have been made reasserting the importance and urgency of setting up the IBELM in the context of the

economic development of the Iberian Peninsula and as an active contribution to the construction of the internal market as well as statements by agents interested in playing an active part in this market.

The CNE and the ERSE believe that they have effectively and transparently prompted the participation of all the interested parties, taking into account the tight deadlines set by the Protocol for them to draw up the organisational model of the IBELM. This document takes into account of all the contributions received that reflect notable efforts on the part of companies, associations and organisations in the construction of an open, efficient market. The CNE and the ERSE would like to thank publicly all those who responded to their call for the support received and their constructive spirit despite the limited time available.

The collaboration of the operators - REE, OMEL and REN - needs to be highlighted for two reasons. Firstly, because right from the outset they have given their full support to the Administrations and the regulatory authorities and that support has been highly open and inspired by a sense of public service. Secondly, because close co-operation between the operators, on the one hand, and between the operators and the authorities, on the other hand, is a pre-requisite for the success of the IBELM and for adequate safety and service quality levels to be maintained. Several meetings have taken place involving the four parties (REE, REN, CNE and ERSE), which have allowed the main concerns expressed by the operators to be incorporated into the IBELM organisational model. Those meetings will continue over forthcoming months to ensure the correct implementation of the model.

In accordance with the mandate granted under Article Five of the Protocol, the organisational model of the IBELM must take into account “the applicable Community legislation, recent experience in the way electricity markets work in both countries and good regulatory practices”, and must not be limited by the legislation currently in force in either country. Indeed, Article Four of the Protocol underlines the willingness of the Governments of Spain and Portugal to remove “any potential legislative and administrative barriers to the full development of the Iberian Electricity Market” and, additionally, to ensure that “legislation shall be adapted as and where necessary to ensure the harmonisation of the management and operational conditions for the economic agents so that the exercising of full business freedom is guaranteed on the basis of common economic principles”.

The organisational model for the IBELM, designed jointly by the CNE and the ERSE, is largely based on recent experiences of the way the electricity markets work on the Iberian Peninsula. Both of these experiences are regarded overall as positive. However, the creation of an integrated Iberian market, together with the correction of some less successful aspects of the current systems, will give rise to the obligation for legislation to be adapted. The CNE and the ERSE will continue to collaborate with the Spanish and Portuguese Administrations to promote the necessary adaptation of legislation and regulations for the ordered implementation of the IBELM before the deadline stated in the Protocol.

International experiences of electricity market organisation and recommendations from the Council of European Energy Regulators have also been taken into account when preparing this document with the

idea of incorporating the “good regulatory practices” referred to in the Protocol into the IBELM. Lastly, the March 2001 European Commission proposals and the conclusions of the European Council meeting held in Barcelona on March 16th 2002 on the internal energy market have also been taken into account.

This paper is divided into 12 chapters dealing with the following topics:

1. Introduction.
2. Reminder of the principles of organisation and regulation of the IBELM set out initially by the November 14th 2001 Protocol and Community legislation.
3. Brief assessment of the current status of the electricity industry in Spain and Portugal, pinpointing the aspects that need to be reviewed and adopted with a view to the construction of the IBELM.
4. Presentation and justification of the major options shaping the IBELM organisational model.
5. Description of the basic organisation of the IBELM due to start up on January 1st 2003.
6. Discussion of aspects connected to the definition and structure of tariffs.
7. Analysis of the way CTCs and PPCs are dealt with.
8. Description of the procedures required for adequate monitoring and supervision of the IBELM.
9. Reminder of essential aspects relating to the technical operation of the IBELM.
10. Indication of some points that must be taken into account when developing special regime production and making it compatible with the IBELM.
11. List of the activities required to implement and develop the IBELM.
12. Presentation of some issues relating to the organisation of the IBELM not covered explicitly by the Protocol and requiring urgent agreement by the Spanish and Portuguese governments.

2 THE IBELM AND ITS PRINCIPLES OF ORGANISATION AND REGULATION

The organisational model of the IBELM described in this document is based on the following principles:

- realisation of the internal market: as a transnational market, the IBELM entails an active contribution from Spain and Portugal to achieving the European internal market;
- efficient competition: the promotion of efficient forms of competition that benefit all consumers;
- phased approach: the proper functioning of a wholesale electricity market on an Iberian scale as of January 1st 2003 does not entail immediate harmonisation of all aspects relating to the electricity sector – the harmonisation process can be gradual and does not need to be complete;
- simplicity: simple regulation facilitates understanding of the rules, makes their evolution more flexible and allows the way the market functions to be brought into line with technological change and the behaviour of the agents and favours simplification of legislation in line with community guidelines;
- transparency: this is fundamental to guarantee the fairness of laws and their enforcement as well as the credibility of the system;
- efficiency: incentives must be systematically provided for both in the sphere of expansion and use of networks (monopolies) and in the competitive sectors (production and trading);
- stability: this is essential for the orderly development of the market and for the necessary investments to be encouraged;
- security: because the functioning of the market is not risk free, it is important for the IBELM to be equipped with supervision, alarm and control mechanisms to avoid any risks in the system itself and especially to guarantee adequate levels of security of supply and service quality.

When preparing the IBELM organisational model presented in this paper, the following have been taken into account:

- the objectives and principles stated in the November 14th 2001 protocol;
- applicable Community legislation, particularly Directive 96/92/EC;
- proposals made by the European Commission in March 2001 and the conclusions of the European Council meeting held in Barcelona on March 16th 2002 on the internal energy market;
- energy policies in Spain and Portugal;
- recent experiences of the way the electricity market functions in Spain and Portugal;

- input and suggestions received from operators, companies, consumer associations, research institutes and other interested parties in the framework of the public consultation process organised jointly by the CNE and the ERSE;
- some international experiences on the functioning of electricity markets, specifically the UK, Scandinavia and USA;
- the recommendations from the Council of European Energy Regulators;
- the conclusions from the Electricity Regulators Forum (Florence Forum).

As far as goals and principles are concerned, the Protocol signed on November 14th 2001 characterises the IBELM as follows:

1. It starts operating on January 1st 2003.
2. It allows "all participants equal, transparent and objective access".
3. It guarantees "all the agents established in the two countries access to the Iberian Market Operator and to the interconnections with third countries on equal and free terms and conditions of bilateral trading".
4. It is governed "by the principles of free competition, transparency, objectivity and efficiency".
5. It is a "smooth-running and effective market, equipped with the necessary monitoring and control mechanisms that will guarantee the satisfaction of customer needs, short and long-term supply security and full compatibility with the goals of energy efficiency and promotion of renewable energies in the two countries".

In addition, the Protocol sets out that:

1. The Iberian Market Operator (IMO) is to act with strict impartiality and that its capital must be open to companies from the two countries.
2. Electricity interconnections are to be reinforced between Spain and Portugal.
3. "Potential legislative and administrative barriers to the full development" of the IBELM are to be removed.
4. "Legislation shall be adapted as and where necessary to ensure the harmonisation of the management and operational conditions for the economic agents so that the exercising of full business freedom is guaranteed on the basis of common economic principles".
5. REE and REN should harmonise procedures "allowing for the joint operation of the two systems in optimal efficiency, economy and safety conditions".

6. "The regulatory authorities in the two countries shall reach an agreement on the sharing out of the costs associated with the implementation of the Iberian Electricity Market by the operators in both countries".

As far as Community legislation is concerned, it should be recalled that Spain and Portugal brought forward by a few years the date set out for the enforcement of Directive 96/92/EC, and the two countries have opened their electricity markets more than the minimum threshold required. Spain and Portugal have backed the proposals made by the European Commission in March 2001, drawn up as a consequence of the European Council meeting held in Lisbon on March 23rd and 24th 2000 and essentially approved by the European Council meeting held in Barcelona on March 15th and 16th 2002, with a view to speeding up the liberalisation and integration of the internal electricity market. Those proposals specifically cover the following points:

- progressive eligibility of all energy consumers;
- legal unbundling of transmission and distribution activities from electric power supply sales/trading and production;
- transparency of network access and usage tariffs approved by independent regulatory authorities;
- existence of interconnection capacity concerning at least 10% of the installed production capacity by 2005.

Spain and Portugal have ambitious goals as regards the promotion of electric power generation using renewable sources and co-generation plants, as well as the promotion of the efficient use of energy and demand-side management. As the Protocol states, it is important for the IBELM to be fully compatible with the achievement of those goals.

The general interest missions assigned to the electricity industry in Spain and Portugal that the IBELM has to safeguard also include universal service, uniform tariffs and protection of vulnerable consumers.

From January 1st 2003, the Iberian Peninsula will become an integrated electricity market, interacting as a homogeneous unit with the rest of the European Union through the interconnections between Spain and France. That reality must then be taken into account, especially in the framework of cross-border electricity trade mechanisms and when dealing with cases of interconnection congestion.

3 BRIEF ASSESSMENT OF THE CURRENT SITUATION IN THE ELECTICITY INDUSTRY IN SPAIN AND PORTUGAL

Electricity consumption in Spain and Portugal is characterised by:

- very similar sectorial segments (residential: 25%; industry: 40%; services: 30%; agriculture and transportation: 5%);
- annual average growth rates much higher than the European average (during the ten-year period 1990-1999: 4.9% in Portugal; 3.9% in Spain and 1.8% in the European Union EU15) – although per capita consumption values are lower than the European average (3677 kWh in Portugal, 4694 kWh in Spain and 5681 kWh in the European Union);
- annual average growth rates considerably higher than the respective GDP growth rates (which were 2.5% between 1990-1999 in Portugal and 2.4% in Spain) – consequently, with growing electricity intensities;
- growing and similar degree of penetration in final consumption of energy in both countries (almost 18%).

Currently, the only customers who are still not free to choose their supplier are low voltage customers. The percentage of consumption corresponding to eligible customers - i.e. above low voltage – is 58% in Spain and 45% in Portugal. Eligible customers who effectively have switched supplier account for almost 32% of consumption in Spain and 4% of total consumption in Portugal.

According to data from 2001, the big four distribution companies – all of which belong to business groups that also own production and supply sales branches – supply close to 94% of electric power consumers in the Iberian Peninsula and hold 33%, 32%, 16% and 13% market shares respectively.

Production under special arrangements known as the special regime (SRP) – co-generation and renewable energy sources, excluding large-scale hydroelectric output – currently corresponds to approximately 14% of total electricity production in each country and the trend is growing. Spain and Portugal have set goals for 2010 for the percentage of total production to be accounted for by renewable energies (including large-scale hydro) to reach 29% and 39% respectively. As far as co-generation is concerned, the goal is 18% in both countries.

Installed hydroelectric capacity (including mini-hydro) corresponds to almost one third of the total installed capacity of each system and hydroelectric productivity is very similar in the two countries with huge annual variations. Output from coal-fired plants accounts for almost one third of total production which, in addition, includes natural gas, fuel-oil and nuclear power (in Spain).

Both Spain and Portugal are self-sufficient in electric power supply and have sufficient reserve margins (although they are sensitive to irregular hydrological patterns) and are building several electricity plants, most of which are CCGT and wind-power plants.

The four largest production companies – all of which belong to business groups that also own distribution, supply sales and production companies using renewable energies – are responsible for approximately 71% of total production in the Iberian Peninsula (or for approximately 81% of production in the ordinary regime), according to data from 2001, with shares totalling 31%, 20%, 10% and 10% respectively.

Most electricity production companies operating under the ordinary regime that are currently installed in the Iberian Peninsula enjoy revenue protection. In Spain, that protection is given especially for the so-called 'Costs of Transition to Competition (CTC)', to be recovered before 2010. In Portugal, each bound electricity plant has an exclusive contract to sell to the REN to supply the Public Service Electricity System, although the term of the contract varies according to the life cycle of the plant (the last contract expires in 2024).

The Spanish transmission grid consists of 400 kV and 220 kV installations, which belong to several companies although they are mostly the property of REE, which is the sole system operator. The Portuguese transmission grid consists of 400 kV, 220 kV and 150 kV installations that belong to REN, which is also the sole system operator. REE and REN booth have diversified shareholding structures but they also include a public stake (majority in the case of REN) and stakes held by the existing electricity companies.

Interconnection between Spain and Portugal takes place through two 400kV and three 220 kV, which can take up to a maximum 3300 MW in thermal capacity. The indicative value of the capacity available for commercial purposes varies, according to the system operators, between 550 MW (summer, from Portugal to Spain) and 850 MW (winter, from Spain to Portugal). The values recorded during 2001 fell somewhere between 50 MW and 1500 MW.

Interconnection between Spain and France takes place through two 400 kV lines, two 220 kV lines, one 132 kV line and one 110 kV line.

The legal and regulatory framework of the electricity sector in both Spain and Portugal provides for free bilateral trading arrangements together with an organised market or pool managed through exclusivity arrangements (by OMEL in Spain and by REN – Bids Manager in Portugal). However, the legal and/or regulatory provisions have ended up by determining the specific development of the market, giving preference to one regime over the other; in Spain the organised market or pool was favoured whereas bilateral trading was given preference in Portugal. As market liberalisation moves forward, it is becoming more and more obvious that there is a need for the effective coexistence of both trading forms: trading organised through a pool and bilateral trading.

The following main conclusions can be drawn from the brief analysis of the electricity industry in Spain and Portugal:

- Absence of structural imbalances both individually and overall for the two systems. Despite their different size (almost 5 to 1), the two systems have similar structures and backgrounds and this helps in the construction of the IBELM.
- Very high growth in electricity consumption and peak consumption (maximum capacity), which makes it compulsory to make substantial investments in new production capacity.
- Very high growth in – directly or indirectly – subsidised investment in new electricity production capacity using renewable energy sources and co-generation plants (generation under the special regime).
- Need to consider and harmonise the rules for recovery of investments made by producers operating under the ordinary regime, thus guaranteeing that the effective recovery of costs of transition to a market environment does not distort competition between producers or the formation of electricity prices in the market.
- The business panorama is dominated by the existence of four large groups, forcing adequate control and action mechanisms to be provided for as well as effective incentives to the development of competition between them and for the entry of new operators. One positive element, however, is that some of these groups have already started their 'Iberianisation' process even before the signing of the Protocol through the acquisition of assets, investment in new electricity plants, cross-border wholesale trade and sales to final customers in both countries.
- Need to speed up the construction of new interconnection lines and to reinforce existing ones, both on the Spanish-Portuguese border and on the Spanish-French border. The current interconnection capacities are insufficient for the development not only of the IBELM but also of the internal energy market.

4 MAIN OPTIONS SHAPING THE IBELM ORGANISATIONAL MODEL

The preparation of the IBELM organisational model described in the next chapter is based on the principles set out in chapter 2 and on the joint assessment of the current situation in the electricity industry in Spain and Portugal, which is presented in chapter 3. The suggestions gathered in the framework of the public consultation process have been analysed and weighed up by the CNE and the ERSE and have been included extensively in the model. The main options adopted jointly by the CNE and by the ERSE when preparing the IBELM organisational model are presented and justified below.

b) Put the pool and bilateral trading on an equal footing

The Protocol signed on November 14th 2001 is quite clear when it puts freedom of access to the Iberian Market Operator and freedom to enter into bilateral trading on an equal footing. Therefore, all the obstacles likely to foster one trading relationship form over another must be removed and the appearance of trading forms that act as a bridge between existing spot trading and physical bilateral contracts must be stimulated, such as the specific case of a forward market which is due to be introduced as early as the initial phase of the IBELM.

c) Ensure the transparency of the IBELM and the liquidity of the pool

The CNE and the ERSE believe that given the level of concentration and vertical integration that currently exist, the IBELM needs to be guaranteed a high degree of transparency and the pool needs to be guaranteed adequate liquidity. As it is likely, in view of recent experiences in Spain, Portugal and the countries that have liberalised their electricity market by 100%, that consumers will switch to alternative suppliers in a gradual fashion, the supplying of consumers who remain in the regulated tariff regime is taken advantage of to ensure the pool has minimum liquidity levels.

d) Offer all consumers the same opportunities

The balanced development of the IBELM requires equivalent levels of eligibility in the two countries. This equality is currently ensured in the sense that all consumers linked to the grid at a voltage higher than 1 kV are eligible. It is important that the right to choose their own supplier of electricity is made general and widespread to cover all consumers simultaneously in Spain and Portugal and that it is put into practice with identical procedures and as soon as possible. As this is a universe of some 25 million consumers, the technical and organisational measures to be adopted are highly complex and entail costs that cannot be ignored. Widespread opinion holds that the effective eligibility of low voltage customers on January 1st 2003 in both countries is desirable, but it is not a determining condition for the success of the IBELM. The actual materialisation of eligibility of low voltage

customers at a later date - although as soon as possible - does not constitute a risk for the correct functioning of the IBELM.

e) Provide incentives for investment through a payment to producers known as 'capacity payment'

The high growth of electricity consumption in the Iberian Peninsula and the low interconnection capacity between it and France, which does not allow the potential advantages resulting from excess existing production capacity in Central Europe to be exploited, make it necessary for considerable new investment in new electricity plants. The payment to all producers operating under the ordinary regime that are already established on the Iberian Peninsula or that come to set up their installation during the first period of regulation, of a premium equivalent to the 'capacity payment' constitutes a necessary incentive for the construction and start-up of electricity plants, although it may not be sufficient as a condition on its own to guarantee supply. For that reason, the introduction of adequate supervisory and control mechanisms for the expected reserve margins is necessary and in line with the proposals made by the European Commission in March 2001.

The proceeds of the capacity payment must be established through a regulated tariff, which is identical in Spain and Portugal and applicable to all customers regardless of the way they contract their supply of electric power.

f) Avoid the recovery of 'stranded costs' distorting the market

The modification of the legal framework of the Spanish electricity industry which took place in 1998 and the re-negotiation of the linkage or binding contracts which should take place in Portugal in 2002, give rise to the recognition of 'stranded costs' which have to be paid by all consumers to the producers of electricity in the corresponding country. The way the amount to be recovered is determined and the method of payment to producers must be transparent and ensure the correct functioning of the market

g) Guarantee the IBELM stability and predictability through the definition of an initial four-year regulation period (2003-2006)

The CNE and the ERSE agree that the IBELM needs an initial phase with a pre-defined duration during which time no changes are made to the 'rules of the game' except for the measures whose deferred introduction is scheduled at that time or possible essential measures to re-establish the correct functioning of the market in the case of a manifest "market flaw". During the period 2003-2006, tariffs charged to all consumers and relating to the amounts paid to producers for 'capacity payment' and for 'stranded costs' should remain unaltered and any possible adjustments should only be reflected in the following period.

In the period 2003-2006, regulated traders or supply sales agents must offer regulated tariffs to all customers who wish them. At the end of that period, the question of what is the desirable direction for this regime to move in must be examined.

5 INITIAL ORGANISATION OF THE IBERIAN MARKET

5.1 MARKET ORGANISATION

The organisation proposed for the IBELM is based on freedom for the participants in the market to enter into trading contracts. The sole constraint on that freedom are the measures that are necessary to foster an adequate degree of liquidity and competition pursuant to the stipulations of the collaboration Protocol, in line with the experience of the countries and in accordance with the developments planned for the Spanish system in 2003.

Electricity trading in the IBELM may take place through the following main markets:

- free physical bilateral contract market;
- markets managed by the Market Operator (pools):
  - physical forward markets;
  - daily (day-ahead) market.

These trading options are supplemented by an intra-day market (pool for differences) managed by the Iberian Market Operator where the agents can adjust the contractual positions they have taken up in the main markets, and by system operation processes or markets organised by each system operator in its own control area.

An explicit tariff as a capacity payment will also exist, charged to power purchases regardless of the contracting form used.

The existence of only limited interconnection capacity in the start-up phase of the IBELM means that joint mechanisms are going to be set up for explicit capacity auctions and market splitting. Those mechanisms will be removed as and when the new interconnection lines render them unnecessary.

5.1.1 BILATERAL TRADING

Bilateral trading is one of the mainstays of the IBELM like in the majority of European electricity markets. In this way, contracts between all kinds of producers and the other qualified agents will be allowed and the terms and conditions will be established for traders and producers to sell power previously purchased from other producers or external agents.

To maintain the transparency, liquidity and proper functioning of the market from the point of view of freedom to enter into bilateral trading contracts, a set of measures is proposed on the making public of trading information and terms and conditions as described in chapter 6.

5.1.2 FORWARD MARKETS

The existence of a forward market managed by the IMO is anticipated for the provision of standardised products. These products may take the form of 'power blocks' with a fixed, pre-defined term.

5.1.3 DAY-AHEAD MARKET

The existence of a short-term market which will be organised by the IMO is planned to supplement bilateral trading. This market will take the form of a daily or day-ahead market for the delivery of power the following day and with a similar format to most of those existing in Europe. It would mean almost no change to the market that exists in Spain today.

Its basic characteristics will be the independent trading of power for each one of the 24 time intervals of the following day, the use of simple bids (solely stating volume and price), consolidated into a portfolio or with one agent, with a marginalist convergence algorithm and congestion resolution through market splitting-type mechanisms. The price would always be fixed for the sale offer in line with the definition of a market that includes a capacity payment.

The IMO will notify the System Operators about the outcome of the market, expressed as energy bids accepted by the agent, and they will also receive bilateral trading notifications from agents broken down by physical units.

5.1.4 ADJUSTMENT MARKETS

The existence of a sole adjustment market or market for differences is proposed for the Iberian system. That would be the intra-day market which will be managed by the IMO. All agents will be able to participate in that market, regardless of the type of trading they had previously chosen: bilateral, forward or day-ahead markets.

It will hold several sessions during the day and the matching mechanism will be similar to the day-ahead market. The exact details of how it would work require an in-depth technical analysis and this could be carried out by a working group co-ordinated by the System Operators and by the IMO after it has been set up, with the participation of the market agents and under the supervision of the regulatory authorities.

5.1.5 SYSTEM SERVICES MARKETS

The ideal situation for the functioning of the IBELM would be for the system services to be managed in a unified way in the two electricity systems, based on transparent market rules as if there were just one single Iberian system operator.

Nevertheless, the initial situation does not make it a feasible option to organise things in that way because of the short amount of time available before the start-up of the IBELM (as any major modifications to the way the systems work would trigger unnecessary risks) and because of the existence of limited interconnection capacity which would prevent de facto use of common system operation services.

Over forthcoming years, in the light of the experience obtained and, in particular, after the commissioning of the 'Alqueva – Balboa' line, the operating procedures will be reviewed and the possibility of unifying the system operation processes will be considered.

5.1.6 CAPACITY GUARANTEE

It is fundamental for the security of electricity supply in the Iberian Peninsula to be guaranteed. Therefore, the existence of sufficient production capacity in the short and long term has to be promoted.

An adequate level of investment in production capacity and technology type exists theoretically for each electricity system that depends on the value of the energy not supplied. There are some dififculties involved in the market working out this level of investment, specifically:

- Forecasting consumption.
- Determining the value of the energy not supplied.
- The deadline for construction of new production capacity.
- The stochastic nature of hydrological conditions.
- The stochastic nature of renewable generation under the special regime.
- Forecasting future prices of primary energy.

These difficulties, linked to the existence of a significant proportion of hydroelectric production, throw up a high risk of prolonged periods of shortage occurring when a major portion of demand will not be satisfied even when prepared to pay a high price for no interruptions. The existence of those periods when supply does not match demand may lead to high market price volatility because the response time for the

matching of energy supply to demand is much longer than the response time for matching demand to the price.

To minimise this risk, a regulated payment for capacity will exist for all producers operating under the ordinary regime or the special regime who participate in the market using any of its types of trading that are already installed or that eventually become installed on the Iberian Peninsula during the first regulatory period (2003 to 2006), depending on their availability in the periods of greatest demand.

The proceeds of this regulated payment to producers will be set in a regulated capacity payment tariff which will be identical in Spain and in Portugal and will be charged to all customers regardless of the way they contract their electricity supply.

5.2 ENTITIES PARTICIPATING IN THE MARKET

There will be a single, common procedure in both countries for agents participating in the IBELM to obtain authorisation to carry out their activities. That means that an authorisation granted in Spain or in Portugal would allow the activity covered by the authorisation to be carried out in the whole Iberian Peninsula.

5.2.1 UNBUNDLING OF ACTIVITIES

The proper functioning of the electricity market requires the legal and accounting separation or unbundling of, on the one hand, liberalised activities (production and trading/supply sale), whose prices are set according to market criteria and, on the other hand, regulated activities (distribution, transmission, system operator and market operation), for which public prices are set by the Administration. Otherwise, cross-subsidies and conflicts or interests may arise and make the agents less inclined to place their trust in the market, thus reducing its efficiency. Therefore, full legal unbundling between the two kinds of activities is necessary, although the same business group may hold stakes in subsidiaries or companies whose corporate purpose can be either in the regulated or liberalised sphere. However, it would be better if production, distribution or trading companies did not have a share in the capital of the system and market operators. In any event, that share will be limited overall and individually for the electricity system agents.

5.2.2 IBERIAN MARKET OPERATOR

The Iberian Market Operator (IMO) will be the entity responsible for managing the day-ahead, intra-day and forward markets. Its functions include acceptance of the purchase bids and sale offers for energy from the market agents, the matching of the bids and offers and the settlement of the transactions made

in the markets it manages on the basis of the energy purchase and sale schedules. There will only be one IMO and it will carry out its activities under exclusivity arrangements. Its activity will be regulated and it will be governed by the principles of transparency, objectivity and independence.

Adequate procedures need to be set up for the relationship between the IMO and System Operators to facilitate the communication of information about physical amounts transacted.

The IMO must ensure the recording and dissemination to the agents participating in the market, to the public and to the regulatory authorities, of the relevant information concerning the functioning of the market. Information must be disclosed on the basis of the following principles:

- the information to be systematically disclosed will include all the facts that are deemed important for the setting of prices on the market;
- the information will be disclosed simultaneously to all those involved in the market;
- the information must be consolidated at a level that ensures the confidentiality of the information about any one particular agent;
- all agents involved must have access to the information about their participation in the market.

The IMO must ensure total transparency and independence when performing its functions, specifically through the implementation of complementary information and audit mechanisms.

In addition, the IMO must justify to all those involved in the market any decisions taken.

The procedures followed by the IMO will be included in the Iberian Market Operator Procedures Manual.

All the agents involved in the markets managed by the IMO must accept the working and settlement rules and conditions set out in the Iberian Market Operator Procedures Manual. The responsibilities, rights and obligations together with the participation terms and conditions of the different bidding agents in the wholesale electricity markets managed by the IMO will be defined in the Bidding Agent Membership Contract which it is mandatory to sign in order to participate in those markets.

The IMO will match the purchase bids and sale offers for electric power issued by the bidding agents in accordance with the rules set out in the Iberian Market Operator Procedures Manual and will inform all the agents who intervene about the outcome of that matching process.

The IMO is also responsible for settling the purchase bids and sale offers on the basis of the schedules for power contracted in its markets and in accordance with the rules to be set out in the Iberian Market Operator Procedures Manual.

The bidding agents who participate in the markets managed by the IMO, either as purchasers of electric power or as vendors, must provide the IMO with the proper guarantees to cover the financial obligations

arising out of their own participation in the markets in which they intervene. The provision of such guarantees must form part of the membership contract and will be established pursuant to the rules in the Iberian Market Operator Procedures Manual.

The agents intervening in the market may appeal to the IMO against any decision that affects them. The IMO must keep a record of claims that may be audited by the regulatory authorities.

The regulatory authorities will supervise the functioning of the IMO through a Monitoring Committee ('IBELM Regulation Committee') whose responsibilities will include dispute resolution using extrajudicial mechanisms without prejudice to appeal to the courts. The regulatory authorities in both countries must establish the composition and competences of this Committee before the end of 2002.

The IMO must publish the Iberian Market Operator Procedures Manual and the Bidding Agent Membership Contract after their approval by the regulatory authorities in Spain and Portugal.

5.2.3 SYSTEM OPERATORS

The two System Operators currently existing in both countries continue to be responsible for the technical management and security of the system in each one of their control areas.

The System Operators must be informed by the IMO of the amounts contracted once the purchase bids and sale offers have been matched in the energy markets. The System Operators also must be informed by the market agents about the production/consumption schedules linked to physical bilateral contracts.

The System Operators must receive from each bidding agent, once the agents have done their internal management of the amounts contracted in the market or bilaterally, notification of the breakdown of those values by plant or by consumption point (transmission grid substation).

The participation of the IMO and the agents in this communication process allows for a cross-checking mechanism to be set up for information on amounts of energy to be delivered to the grid and to be managed by the System Operators.

Once the production scheduling breakdown information has been received the System Operators are responsible for:

- Validating the production schedules, time-wise, through the verification and management of technical constraints in the networks or interconnections;
- Managing the system services;
- Managing the cases of congestion in the interconnections in different time horizons.

The definition of internal and interconnection constraint management procedures, action procedures for emergencies, procedure for reading, gathering and processing measurements, for processing and settling deviations and system services, as well as the procedures for communication with the agents and the provision of information to the agents, the general public and the regulatory authorities amongst other subjects, will be the subject of the Iberian System Operator Procedures Manual, which will be drawn up jointly by the System Operators and will be approved by the regulatory authorities in the two countries.

Pursuant to the November 14th Protocol, the System Operators must set up harmonised procedures for the planning and management of networks and interconnections, taking into account the location of future production centres, forecasts for growth in consumption and the need to reinforce interconnections. In this respect, it is an advantage for the System Operators also to be the owners of the electricity transmission infrastructure.

To ensure the effective management of the IMO, an 'IBELM Technical Management Committee' must be set up consisting of the system operators in the two countries.

5.2.4 PRODUCERS UNDER THE ORDINARY REGIME

Electricity producers operating under the ordinary regime are natural or legal entities whose purpose is to produce electricity in competitive conditions and that can build, operate and maintain the power generation plants they own.

Producers can enter into physical bilateral contracts, negotiated directly with eligible consumers or traders or participate in the organised markets (pools). They can also supply system services, by contracting the supply of those services or by participating in specific markets organised by the System Operators. The sale offers in the wholesale markets may be made in aggregate or consolidated form, as part of a portfolio, or per agent.

Producers operating under the ordinary regime must make all their capacity available at all times in the market. They must participate in the pools by submitting sale offers provided they have the available production capacity.

Their participation in the system services markets is subject to the technical conditions for each type of installation.

5.2.5 ELIGIBLE CONSUMERS

Eligible (or qualified) consumers are entitled to freely choose their electricity supplier. Eligible consumers are deemed to be all those consumers who comply with the conditions established by the competent authorities.

Eligible consumers may purchase electric power through a regulated trader/supply sales agent, from a trader or directly in the organised markets (pools).

When participating in the organised markets (pools), eligible consumers will be under the obligation to comply with the rules and procedures set out for the participation of agents in those markets.

Eligible consumers are currently all those consumers connected to the grid at a voltage higher than 1 kV. In 2003 eligibility is expected to be extended to cover all consumers.

5.2.6 TRADERS

Traders are legal persons, i.e. corporations, that are authorised to supply electric power to eligible consumers and that can sell electricity purchased from producers or other qualified agents.

Trading/supply sales is an activity that takes place under conditions of free competition and should, therefore, be kept separate from distribution.

Anyone interested in carrying out such trading activities must obtain the relevant licence or authorisation from the authority in question. As suppliers of electricity, traders must guarantee all consumers who request it coverage of their electricity needs to abide by the principles characterising universal service, complying with the applicable legislation, particularly legislation on consumer protection.

In the case of supply contracts entered into, traders are responsible for performing commercial relations-related activities, especially the billing of the energy supplied and the collection of the amounts billed. They are subject to the indicators and standards set out for quality of commercial services as well as the special duties to provide information on the conditions for the provision of the service.

Traders are also under the obligation to keep an updated register or record of their customers and to adopt rules and procedures that ensure the development of their activities in line with good commercial and market practices.

Traders can pay the network usage tariffs and other services on behalf of their customers and they can provide any corresponding guarantees that might be demanded by entities holding the transmission and distribution networks.

During this year, procedures and rules must be set that ensure in technical and economically efficient terms the gathering and processing of all the data needed to evaluate the revenue and payments corresponding to all the players in the market and to carry out settlement of all the transactions carried out.

The first hurdle to overcome refers to the measurement or metering of power used in each consumption plant with the time breakdown suited to the participation in the market. Until adequate metering apparatus is installed, steps will have to be taken allowing the participation of these customers in the electric power market, especially through the definition of standard load curves (load profiling). This will have to happen before the eligibility of LV consumers, of course.

The existence of an entity responsible for carrying out activities to gather, communicate and process metering data in close collaboration with the System Operators is an adequate solution from a technical and economic point of view. It might also lead to greater transparency in the way the market works, especially by facilitating access to information for all interested parties.

Traders must keep an updated register of claims submitted by their customers and may also exercise their own right to make a claim to the market agents who they have contact with and the regulatory authorities.

For disputes arising out of the contractual and commercial relationships between traders and other market agents as well as between traders and their customers, swift, safe mechanisms for extrajudicial resolution of disputes should be established, such as voluntary arbitration, notwithstanding any appeals made to the courts.

5.2.7 REGULATED TRADER

In general terms, regulated traders will carry out their activity in a similar way to all other traders. However, they are subject to regulation establishing special obligations for the purchase of electric power for the supplying of their own customers and the compulsory charging of the 'integral' or comprehensive tariff or sale tariff to final customers that has been approved by the regulatory authorities.

Regulated traders ensure a transition from the current system to a new electricity system aiming to be fully liberalised. In this way, customers who do not wish to switch right now to a new electricity supplier may be supplied by the regulated trader initially associated with the entity holding the distribution licence in the area where their facilities are located.

During this transitional period, customers who do not wish to exercise their right to choose a supplier may be supplied through the regulated trader by paying the corresponding comprehensive ('integral') or sale tariff to final customers.

Regulated traders must purchase the necessary power to supply their customers solely and exclusively in forward markets, the day-ahead market and the market for differences, in line with the methodology that the CNE and the ERSE must develop. Those electric power purchases by the regulated trader through

the pool must maximise the transparency of the IBELM and the liquidity of all the organised markets by helping to guarantee that prices formed on those markets actually represent sound, reliable indices.

To avoid any possible opportunistic moves by customers between the market and the tariffs offered by regulated traders, dictated by fluctuations in the electricity price on the market, a minimum term for the contracts entered into by regulated traders and their customers may be set.

As far as the information to be furnished to the regulatory authorities is concerned, regulated traders will have greater responsibilities compared to all the other traders. In fact, regulated traders will be under the obligation to furnish all the information necessary to allow the regulators to publish tariffs and set prices of other services connected to the supply of electric power.

5.2.8 TRANSMISSION AGENT

The company responsible for transmission will possess electricity installations and grids in medium-high voltage (MHV) and its activity will solely and exclusively cover the construction, maintenance and technical management of the grids to allow third party access and to manage the infrastructure and available technical means efficiently. It may not buy or sell power.

The provision of services linked to the transmission of electric power will be remunerated through regulated transmission grid usage tariffs.

5.2.9 DISTRIBUTOR

Distribution companies will be companies owning distribution networks at HV, MV and LV, with regulated activity and remuneration. They may not buy or sell power.

These companies will be responsible for the planning, construction, maintenance and technical management of the networks in such a way as to allow third party access and to manage the available infrastructure and available technical means efficiently.

The provision of services linked to distribution activity will be remunerated through regulated usage tariffs for the use of distribution networks and provision of regular services.

5.2.10 EXTERNAL AGENT

External agents are those authorised to deliver or receive electric power form external systems. The authorisation or procedure that is granted to these agents for the purposes of their participation in the

pool may contemplate the application of intra-Community equal treatment principles or reciprocity in their countries of origin.

6 TARIFFS

6.1 TARIFF SYSTEMS

Tariff structures in Portugal and Spain must be established in line with the following principles:

- Equal treatment and opportunities.
- Transparency and simplicity in the way tariffs are devised and set.
- Efficiency in cost allocation, ensuring the non-existence of cross-subsidies.
- Economic efficiency in the use of networks and electric power.
- Contribution to the improvement of environmental conditions, allowing specifically for greater transparency in the use of renewable and endogenous energies as well as the planning and management of energy resources.

Tariff structure means the set of regulated tariffs charged to all customers regardless of the way they participate in the market, all tariff billing items together, their calculation rules, the associated prices, together with the relationship between item and prices in any one same tariff and between the items and prices of different tariffs.

The definition and publication of the methodology used to calculate different regulated tariffs will ensure the stability of regulation and transparency, contributing to the efficiency of the market and to agents' trust and confidence in the market.

The proper functioning of the electricity market requires the separation or unbundling of regulated activities carried out under monopoly conditions (transmission, distribution, commercial management of networks, system operation and market operation) from liberalised activities (production and trading).

Regulated electricity transmission activity includes the setting up, operation and maintenance of transmission networks.

Regulated electricity distribution activity corresponds to the planning, setting up, operation, maintenance and co-ordination of distribution networks in a way that channels electric power from reception points to final customers.

Commercial network management is a regulated activity that includes, in particular, the contracting, reading, billing and collection of services linked to the use of networks and other regulated services or payments.

System operation is a regulated activity including the technical co-ordination of the electricity system so that adequate levels of quality, security and stability are guaranteed.

Market operation is a regulated activity that includes the commercial co-ordination of the Iberian market.

Electricity production or generation is a liberalised activity that includes the operation and maintenance of electricity production and generation centres for the supply of consumption.

Trading or supply sales of electric power is a liberalised activity that consists of commercial structures for sales of electric power to customers, together with, more especially, the contracting, billing and collection service for electricity going beyond the commercial electricity purchasing structures.

The definition of the amount of revenue from each regulated activity (transmission, distribution, commercial network management, system operation and market operation), based on an adequate allocation of costs, guarantees the non-existence of cross-subsidies between different regulated activities.

Regulated tariffs are defined for each one of the regulated activities. Those tariffs are calculated in such a way that their charging to deliveries to all customers allows for the recovery of income previously established for each activity.

In addition to recovering income from regulated activities, through the corresponding regulated tariffs, the tariff system will allow other regulated costs to be recovered such as the overcosts of producing electricity under the special regime, the costs of transition to competition, capacity payments and the costs of regulatory authorities. To this end, these regulated costs may be recouped through a specific regulated tariff or be taken into account in the calculation of the revenues of one of the regulated activities.

The regulated tariffs referred to above, corresponding to different activities or different payments, may be consolidated, thereby reducing the number of tariffs to be charged by devising and publishing a:

- Methodology for adding up the different regulated tariffs so that the non-existence of cross-subsidies between customers is guaranteed.
- Methodology to break down revenues earned, by activity or by type of payment, so that the recovery of all the revenue allowed is guaranteed together with the non-existence of cross-subsidies between regulated activities or payments.

For each regulated tariff, the billing or invoicing variables used and their measurement rules must translate the costs actually incurred by the service supplied to each customer or by the planned regulated payment, thus allowing the costs to be properly allocated according to the different customers.

For each regulated tariff, the prices of its billing variables must take into account the marginal or differential costs of supplying the corresponding service, thus guaranteeing that the pricing structure of

each regulated tariff closely matches the structure of marginal or differential costs so that the efficient use of electric power and its associated resources is fostered.

Since the regulated tariffs defined with prices identical to marginal or differential costs could prevent the total recovery of the proceeds of each activity or regulated service increments should be planned. The prices that are identical to the value of marginal or differential costs must be corrected by multiplier or additive factors, or, in other words, they must be staggered or tiered so that the profits allowed in each regulated activity are proportionate. To promote economic efficiency, the steps or tiers must be applied to each tariff concept in line with the inverse of their demand/price elasticities and not by category of consumer. This would keep intact the rule that prices must be independent of the destination given to the power and the fairness of the tariff system would be ensured.

The definition of regulated tariffs relating to other payments as competition transition costs must also take into account the different demand/price elasticities of the consumption of electric power by time interval, and should not be established by category of consumers for the reasons set out above.

Transition phases may be necessary for the inclusion in tariffs systems of methodologies that are fully compatible with the principles above.

6.2 NETWORK ACCESS TARIFF AND USAGE TARIFFS FOR NETWORKS AND OTHER SERVICES

The access tariff is obtained by adding together the different tariffs in each one of the applicable regulated activities: use of the transmission grid, uses of the distribution network by voltage level, commercial management of networks, system operation, market operation and other payments, such as incentives for generation under the special regime, costs of transition to competition, capacity payments and costs of regulatory authorities.

For simplicity purposes, these tariffs must be referenced to each delivery point or, in other words, the payment for each one of the regulated services shall be obtained by applying the regulated tariff corresponding to the amounts measured at the customer delivery point.

This simple charging or application method means that the regulated tariffs relating to activities or services carried out or provided at voltage levels that are higher than the delivery voltage level are converted at the delivery voltage level. The conversion rules must be governed by a clear, transparent, public methodology that reflects the structure of costs of total regulated services throughout the production, transmission and distribution chain and taking into account adjustment factors for losses.

These rules must also take into account the measurements supplied by all the existing metering equipment, especially those facilities installed at low voltage. As a result, some regulated services might

have to be billed in line with load profiling which must be defined by the tariff option regardless of the different destinations given to the electric power in each tariff option.

6.3 'INTEGRAL'/COMPREHENSIVE TARIFF OR SALE TARIFF TO FINAL CUSTOMERS

During the 2003 to 2006 transitional period, regulated electricity supply tariffs to be charged by regulated trading companies will exist.

These regulated tariffs will correspond to the evolution of current 'integral' or comprehensive tariffs or the sale tariff to final customers and will be charged to customers who do not participate in the market. These customers may be eligible customers who have still not exercised their right to choose a supplier.

Regulated tariffs must evolve in the short term towards a tariff structure that reflects the structure of marginal electric power supply costs and costs of associated services by applying the principle of tariff addition detailed below.

6.4 TARIFF ADDITION

The 'integral'/comprehensive tariff or sale tariff to final customers is obtained by adding together the access tariffs as defined in point 6.2 and the regulated electricity purchase and trading items.

The regulated electricity purchase item (energy and capacity tariff) must have a structure that matches the structure of marginal prices verified in the day-ahead market. This regulated energy and capacity tariff must allow for recovery of the costs of purchasing electricity for supplies to customers by the regulated trader.

Periodical price adjustments must be provided for in the case of customers supplied by regulated traders.

For LV customers, whose size is smaller and who are possibly more concerned about tariff stability, these adjustments in the prices of the energy and capacity tariff may be made annually. For all other customers of regulated supply sellers, the adjustments may be made more regularly, cutting down the possible difference between the prices of supplying electric power to those customers and the verified prices in the market. Those adjustments in the energy and capacity tariff will foster the economic efficiency in the use of electricity and the price signals will be quickly reflected in the supply prices for those customers.

The regulated trading or sales item (regulated sales tariff) must be set in a way that allows for the recovery of revenues from electric power trading subject to regulation and carried out by the regulated trader.

Tariff addition must be ensured by an average price, eliminating cross-subsidies between voltage levels and tariff options and by tariff item, eliminating cross-subsidies between customers in the same tariff option. This is the only way to guarantee a transparent, fair tariff system that ensures the non-existence of cross-subsidies between:

- The customers of the regulated trader, by voltage level, tariff option and type of supply.
- The customers who participate in the market and those who have not yet taken up their entitlement to choose their supplier.

6.5 LAST RESORT TARIFF

As eligibility is extended to cover all customers and after a transitional period of customer adaptation to the way the market works when traders define tariffs in a competitive environment, last resort tariffs must be set especially for customers who are not motivated to exercise their right to choose their supplier. These last resort tariffs would be a maximum price resulting from the natural evolution of the comprehensive tariff or the sale tariff to final customers after the transitional period they are in force.

The last resort tariff will be the outcome of charging jointly the network usage tariffs and other services or access tariffs, the price of electricity on the day-ahead market and a reference trading price with prices higher than those of trading in a competitive environment.

6.6 INFORMATION TO BE GIVEN TO CONSUMERS

Information is essential to ensure effective regulation. Full, appropriate information can stimulate competition, providing incentives to companies and protecting consumers, gaining their confidence and trust and that of the other economic agents.

That is why the possibility of breaking down the customer bill must be allowed for if the customer requests it, itemising the different regulated tariff elements chargeable, by average price and tariff item, such as, for instance: regulated transmission, distribution, network commercial management, system operation and market operation activities and, in addition, the amounts for other regulated payments such as overcosts of production in the special regime, costs of transition to competition, capacity payments and the costs of the regulatory authorities as well as the regulated amounts inherent in the purchase of electricity and trading activity carried out by the regulated trader.

7 COSTS OF TRANSITION TO COMPETITION AND POWER PURCHASE CONTRACTS

The liberalisation of electric power production activities and the introduction of free competition are crucial for the creation of an efficient and transparent market. Transition to a free market system must not disregard previously undertaken commitments – the Stable Legal Framework in Spain and the Energy Purchase Agreements in Portugal – and should ensure the recovery of potential stranded costs associated with production activities.

In Spain, these costs are known as 'costs of transition to competition' (CTCs), and have already been identified and partially recovered. In Portugal, such costs will be defined by reviewing the exclusive trading contracts subscribed between Public Service Electric System producers and the REN to guarantee remuneration of investments and payment of variable production costs.

The use of compatible methodologies for determining the total value of stranded costs in each country – those deriving from potential profit losses of producers as a result of the transition to a free market environment – and for establishing mechanisms to recover such costs, becomes especially relevant with regard to creating adequate conditions for the creation of an efficient market that is not hampered by competition distortions, and in which prices can be set freely, this being one of the critical factors for success of the IBELM.

In order that the recovery of stranded costs does not alter the conditions necessary for establishing healthy and effective competition, it is important for these recovery mechanisms to allow:

1. The avoidance of barriers to entry and exit of new producers to and from the system.

   The existence of explicit stranded cost payments to previously installed producers is a barrier to the entry of new players, who will not be entitled to any such remuneration. It may also act as a barrier to their exit from the system, since power stations with poorly efficient technology would be able to continue operating on the market with the aim of recovering stranded costs.

2. The presence of an adequate number of operators in the market.

   If barriers exist against the entry of new operators, the total number of players operating in the market may not be enough to ensure adequate levels of competition.

3. Supply of electric power from production to consumption.

   Access to networks and to the payment of regulated access tariffs makes it possible to place production on the system in physical terms. In commercial terms, however, if the method of payment of stranded costs in the two countries is not harmonised, payment differences might condition each party's ability to place the product on the market, thus distorting competition.

4. Efficient setting of market prices.

The mechanism for stranded cost remuneration should not condition the commercial strategies of producers in the market, and must permit free setting of prices and price transparency.

If the mechanism for stranded cost recovery determines that the value to be recovered is defined beforehand and is not fixed, producers can freely place their offers on the market and attempt to maximise their profits.

If the mechanism allows for subsequent adjustments based on the revenues obtained by producers in the market, eventual market prices might be conditioned.

The methodology for determining the total value of stranded costs to be paid to producers largely depends on the organisational model that is current before liberalisation, and on the type of commitments that are broken (or might be broken in the future). Since under the new regime producers continue to produce and sell power, the value that is paid should equal the difference between estimated profits under the previous regime and estimated profits under the new, free competition regime.

In the case of Spain, the methodology was set down by law. In the case of Portugal, power purchase contracts (PPCs) clearly define the value of estimated profits of producers until contract expiry dates. The difficulty resides in determining estimated profits in a free market regime – that is, in estimating market prices.

Different solutions to the problem may be found. One of them would be to define a reference market price beforehand (the best market-price estimate, for instance), and subsequently adjust the global value to be charged on the basis of actual market prices. If the actual market price is higher than the reference price, the producer is deemed to be receiving part of the CTCs through the market price, and thus the difference between the amount obtained on the market and the amount that would be obtained if the average market price were equal to the reference price is deducted from the total value of CTCs to be collected in the future.

This solution has the advantage of making sure that producers receive their due amount, but may condition the setting of market prices. In fact, if the amount to be collected is defined as the difference between the average market price and the reference price, then due compensations in a given year will increase or decrease respectively depending on whether the market price is higher or lower than the reference price. Thus producers may feel incentivated to increase or reduce their market prices in accordance with their CTC remuneration and their market share. The mechanism for stranded cost payment would in that case condition the market price. If, however, the resulting market price only affects future CTC payments, without altering the amount set for the current year, then market competition disturbances should not occur.

The market, at any rate, will gradually be joined by new producers who have no stranded costs to collect, and who must therefore recover their total costs – except for capacity guarantee payments – through the

market itself. The commercial strategies of these new producers should be more in tune with free-market competition conditions, and market prices will no longer be affected by stranded cost payments.

Another potential solution lies in determining the best market-price estimate, rather than making provisions for subsequent adjustments based on actual market prices. This solution would allow producers to freely make their offers on the market, whose prices would not be conditioned. However, it does have two disadvantages: on the one hand, the total value to be collected by producers becomes uncertain; on the other, if installed players are few, their power over the market may push prices up to inefficient levels.

All these solutions require an estimation of future market-price expectations. The ideal solution for determining stranded cost payments is to let the market decide. In the case of PPCs, an auction of these contracts may be arranged, by virtue of which the REN transfers its contractual position to third parties, who would then own virtual production capacities. Bound producers would continue to collect the agreed amount, while the operators who took over the REN's contractual position would be free to engage in market activities. The value of stranded costs would be determined by the difference between the contract value and the auctioned value. In this case, as in the case of the 'open-chain' solution, subsequent adjustments based on actual market prices would not be required, thus avoiding market-price conditioning.

One way of offsetting the drawbacks of the solution in which a reference price is set beforehand and a subsequent adjustment is made on the basis of actual market prices is to allow adjustments in the amounts that producers are due to collect. These adjustments would be made after an adequate length of time, in such a way as to avoid interfering with the short-term strategies associated with offers placed by producers on the daily (day-ahead) market. Producers would know that what they were to receive would be adjusted, but they would also know that adjustments would be made at the end of a given period. This would create a well-balanced market, where prices would not be conditioned, since producers prefer short-term liquidity and would therefore design their offers to recover part of their stranded costs through the market price as soon as possible; or too high, since producers would be aware of the fact that the total amount they were to receive would be adjusted at the end of the stipulated period.

The following methodology emerges as the best possible compromise for dealing with stranded costs:

1. Annualisation of amounts due within a time period that is predefined in each country.
2. Incorporation of annuities in the access tariff.

   Annuities should be identified clearly, in order to ensure recovery of the relevant sum.
3. If, in Portugal, a reference price is defined beforehand and a subsequent adjustment is made on the basis of actual prices or auction results, no adjustment will be made until the end of the predefined time period.

4. If the 'closed-chain' system has been chosen, as in the case of Spain, the annuity shall be adjusted at the end of a four-year period (2003-2006).

   The annuity shall be adjusted by revising the amount to be recovered in the future, based on market prices and the consequent value that producers have already recovered through market operations. Thus if actual prices were lower than the reference price, CTC payments will not exceed the estimated amounts. If, on the other hand, obtained revenues have resulted from actual prices being higher than the reference price, amounts to be collected in the future shall be reduced.

   The same procedure is applied to the second four-year period (2007-2010), and a readjustment is once again made at the end of the period if necessary.

   Concerning the current CTC system in Spain, the methodology and developments proposed in the above paragraphs shall conform to Spanish legislation.

8 MARKET OPERATION MONITORING

The IBELM is dominated by four business groups that control a very high percentage of production (75% of the ordinary regime), and nearly 96% of trading and distribution activities. In addition to the degree of concentration of the liberalised business activities, these business groups exhibit a high degree of vertical concentration, and are engaged in production, distribution, trading, and in some cases transmission.

This situation could become an obvious potential obstacle to the correct operation of a competitive market, unless measures are introduced to promote competitive behaviour among the players. It should be pointed out that similar measures to those proposed for the IBELM exist or have existed in other electric markets and competition industries, the clearest example of which is the banking and general financial sector. In the opinion of regulatory authorities, such measures allow an ample margin for the development of a competitive market that encourages an efficient utilisation of short-term resources and generates incentives that are adequate to attract the investments necessary for ensuring that future demand is safely guaranteed.

Two types of measures are proposed to promote competitive practices: *ex-ante* measures and *post-ante* measures.

Ex-ante measures are used to reduce the possibilities of poor market operation before the event, by limiting the ability of operators to make extraordinary profits or create access barriers.

In contrast, *ex-post* measures are adopted after the development of the market, and are aimed at correcting imbalances detected during market operation. These types of measures should only be applied in situations of obvious market disturbance, since it is often not possible to correct negative effects that have affected some or all of the operators. However, they also introduce some degree of market control, given the delayed consequences they may have for players in the event of anti-competitive behaviour.

8.1 *EX-ANTE* MEASURES

Ex-ante measures can be divided into two basic types: those that entail actions involving the property and management structure of the sector, and those that have to do with limiting contract possibilities and increasing market transparency.

The proposed measures do not directly address horizontal or vertical concentration aspects, since these are understood to exceed the bounds of the mandate received by the CNE and the ERSE on the development of the IBELM organisation model. Most of the measures, however, arise precisely as a result of the current degree of concentration in the sector, and may be reviewed in the event that the concentration of the different IBELM activities were to differ significantly from its present levels.

All the proposed measures attempt to achieve complementary goals, but can be classified in two large groups: those that are mainly designed to increase market liquidity and transparency, and those that are aimed expressly at limiting opportunities for price alterations.

Within the first group of measures, the following may be highlighted:

1. Publicity for prices offered by producers through bilateral contracts.

   Producers shall be obliged to publish consolidated information on the prices applied for different time periods under bilateral contracts. This will afford useful information for consumers and traders, and prevent smaller players from being left at a disadvantage compared to major operators, for whom it is easier to obtain and estimate these prices. It will also allow public knowledge of market prices while a forward market with adequate liquidity does not exist.

2. Limitation of bilateral trading contract term.

   It is initially proposed to limit to a maximum duration of 2 years the bilateral contracts between producers and traders, and between traders and final customers. This measure is aimed at increasing medium-term market liquidity and avoiding very long term contracts, whose effect is to close the market to new competitors before they have developed activities within the IBELM. The measure would also give regulators greater leeway for redressing market inefficiencies. As the market evolves, contract terms may be increased, or restrictions may even be done away with altogether.

3. Limitation of penalties imposed on consumers for early termination of contracts.

   A limitation is proposed on penalties applied to consumers for terminating contracts before their due expiry date. This is aimed at supplementing the effect described in point 2 above; namely, to ensure that final consumers enjoy the possibility of switching supplier.

4. Limitation of bilateral contracts between companies belonging to the same business group.

   In order to increase both organised and bilateral market liquidity, and to prevent major operators from setting discriminatory prices, limits may eventually be imposed on the amount of power that is bilaterally contracted between companies belonging to the same business group.

Direct price control is proposed as a measure to limit price alteration possibilities, either by setting maximum price levels or by a declaration of service provision costs when services are not supplied under free competition conditions, such as in the case of the resolution of technical constraints in the Spanish market, or of certain system service contracts in Portugal.

8.2 *EX-POST* MEASURES

Ex-post measures refer to the imposition of sanctions or, in certain circumstances, to the correction of market results whenever practices contrary to the principles of a competitive market are detected.

Sectorial regulation modifications may also be introduced if the detected alterations reveal faults in the regulatory design of the market or the lack of appropriate *ex-ante* measures.

It is indispensable that alterations in the normal operation of the market are detected early, in order to adopt appropriate measures and avoid damage to market participants, and especially to consumers. The following steps are, therefore, suggested:

1. Access of regulatory authorities to market information.

   Regulatory authorities shall have full access to amounts and prices resulting from transactions in the IBELM, regardless of the type of contract involved, both at wholesale and final consumer supply levels. Such information is vital in order to detect market alterations, especially as regards the consistent treatment of transactions between companies belonging to the same business group.

2. Joint monitoring of the market by the CNE and the ERSE.

   It is proposed that the CNE and the ERSE jointly perform a systematic analysis of market operation, and if necessary adopt whatever measures come within the competence of electric regulatory authorities in each country.

3. Co-operation between regulatory authorities and Competition Authorities.

   Certain actions are not governed by the rules and regulations of the electric sector, but by the authorities in charge of regulating competition in each country. In such cases, maximum co-operation between these authorities is proposed.

8.3 SECURITY OF SUPPLY

In addition to supervising prices and the behaviour of players, it is important to monitor electric system reserves in the Iberian Peninsula, so that the short- and long-term power supply is guaranteed.

From the long-term perspective, care must be taken to ensure that investments in power production plants and network infrastructure safely guarantee adequate coverage of demand. Investments in network infrastructure are based upon approved and published plans, and are mainly carried out by regulated companies operating as monopolies. Investments in power production plants respond to the logic of investors in the utility sector and their perception of business opportunities.

Although the existence of a capacity guarantee tariff (capacity payment), payable to all effectively available producers, is a strong incentive for the construction of new electric power plants, nothing can guarantee that the necessary levels of coverage will be reached. It is therefore important, from the beginning, to set up mechanisms for redressing potential production investment deficits, in accordance with the conditions proposed by the European Commission in March 2001.

9 TECHNICAL MANAGEMENT OF THE TRANSMISSION SYSTEM

9.1 TECHNICAL MANAGEMENT AND MARKET DEVELOPMENT

The existence of adequate supply and demand, in terms of price and quantity, is not enough to guarantee the efficient functioning of the electricity market. It is also necessary to have a transmission and distribution system that is capable of channelling electric power from production plants to consumption centres at adequate levels of quality, service and safety, so that the planned commercial transactions can materialise.

The electric power transmission system should guarantee transit of power between producers and consumers at national level, and across borders of neighbouring countries. As such, transmission has a key role to play in the development of a transnational market model like the IBELM.

Technical management of the transmission system comes within the competence of a single System Operator in each country, whilst management of the distribution system is the responsibility of distribution companies located in the relevant geographical areas. In accordance with the comments on the Discussion Paper published by the CNE and the ERSE, the transmission system will continue to be run on the basis of the current operation model, in conjunction with each of the operators responsible for the control areas of their respective countries.

The unification of the electric power markets of the two countries has the advantage of globally optimising the profile of electric energy production in the Iberian Peninsula. This affords a more efficient solution than that which would result from separate optimisation of the markets.

With a view to improving the efficiency of the system, it is important to globally optimise transmission networks in the two countries, both from the medium-term perspective (planning) and the long-term perspective (operation). Thus in the "Collaboration Protocol between the Spanish and Portuguese Administrations to set up the Iberian Electricity Market" the System Operators of the two countries – Red Eléctrica de España (REE) and Rede Eléctrica Nacional (REN) – are charged with the following tasks:

- *"...*they shall co-ordinate the planning and expansion of the electricity transmission networks. To do so, they shall develop a regular, smooth exchange of information about forecast scenarios, the applied methodologies and the real situation of the way the networks are functioning, drawing up a proposal for forecast demand coverage and joint planning of the Iberian network *...";*
- *"...*draw up harmonised procedures allowing for the joint operation of the two systems in optimal efficiency, economy and safety*...";*

- *"...*must submit before April 30th 2002 a detailed implementation plan for the technical and organisational measures required for the start-up of the Iberian Electricity Market on January 1st 2003…".

9.2 CO-ORDINATION OF TRANSMISSION NETWORK PLANNING AND EXPANSION

Planning of transmission network expansion is aimed at ensuring enough network capacity to enable the transit of electric power at adequate levels of quality, service and safety. To this end, the planning process simulates a series of typical medium-term operative conditions of the network on the basis of estimations regarding future consumption levels and new electric power production plants.

The design of a duly co-ordinated expansion plan, based on harmonised methodologies and scenarios, will allow the medium-term optimisation of the Iberian transmission network. Rules for the approval of such a plan, which should be jointly assessed by the competent authorities of both countries – since any limitation imposed in one country may affect the global coherence of the plan or reduce the value of work already approved in the other country – must be defined and published.

9.3 CO-ORDINATED OPERATION OF TRANSMISSION NETWORKS

Co-ordinated operation of the Spanish and Portuguese transmission networks demands that the REE and the REN develop harmonised criteria and procedures that contemplate the market model, in such a way that implementation of the IBELM model is consistent and may be given efficient technical treatment.

Within this operative structure, each system operator shall be responsible for its respective control area within the Spanish and Portuguese networks. It should be mentioned that the existence of two control areas with harmonised operating criteria will allow an integrated but eventually differentiated development of the two systems.

In this respect, System Operators must draw up and publish a Manual of Operating Procedures for the Iberian System, to be approved by the regulatory authorities. Such manual will cover the different matters that are essential for the co-ordinated functioning of transmission networks, with special emphasis on the issues described below.

9.3.1 HARMONISATION OF SYSTEM SERVICES

Within this the area, it is necessary to harmonise the definition of voluntary and compulsory system services, as well as to define the entity that will be responsible for planning and guaranteeing such services, bearing in mind the need to increase their progressive joint use in some areas.

In each control area, the relevant operator will act as exclusive system service buyer, it being at all times important to harmonise system service remuneration methodologies in each control area and to define what services must be contracted in the market and what time periods should govern such contracts, especially as regards secondary and tertiary reserve services.

System services shall be compulsory or voluntary. The contracting mechanisms used should be compatible with both electric systems. Thus, the following scheme may adopted:

- The primary reserve should be a compulsory, unremunerated service, as is the case at present.
- The secondary reserve supply must be voluntary and subject to market mechanisms. Once the required level of reserve has been defined on an hourly basis by the Operator, service suppliers must be identified in order to ensure that reserve needs are satisfied, and increased or decreased as necessary (using, when appropriate, the criteria defined by the UCTE).
- The tertiary reserve supply must also be subject to market mechanisms, bearing in mind the reserve levels to be set by the System Operators.
- The reactive capacity reserve should whenever possible be based on market mechanisms, although for system safety reasons operators may be obliged to comply with certain minimum compulsory requirements.

Demand may participate in tertiary reserve coverage by subscribing ‘interruptibility contracts’.

A mechanism should be put in place to allow System Operators to set up regulation service contracts, in order to offset imbalances between production and consumption of electric power. This should be aimed specifically at redressing imbalances caused by deviations from trading schedules.

The creation of a ‘deviation management’ market is an efficient solution for regulation service contracting, allowing players to compete for the supply of the service. In this respect, the following should be defined:

- Remuneration of service suppliers;
- Allocation of service costs by consumers and producers, including the definition of deviation margins.

The method applied to system service cost attribution and management must also be harmonised. It would be reasonable for these costs to be included in the calculation of an overall or global system use tariff.

On the basis of past experience and, in particular, after the start-up of the "Alqueva-Balboa" line, operation procedures should be revised over the next few years, and consideration should be given to the possibility of integrating system operation processes.

9.3.2 INTERCONNECTION CAPACITY ESTIMATION

As described above with regard to the transmission network expansion plan, harmonisation of methodologies, security criteria and envisaged scenarios shall contribute to the greater soundness and reliability of interconnection capacity estimations.

The added value of improved capacity estimation is proportional to the scarcity of the relevant resource. Bearing in mind the planned reinforcement of interconnections, which is subject to a chronological schedule under the Protocol, capacity estimation capabilities should develop swiftly during the current year, with a view to achieving a consolidated methodology by January 2003.

9.3.3 CONGESTION RESOLUTION

Co-ordinated resolution of cases of congestion, on the basis of transparent and non-discriminatory regulations to be defined by the System Operators, is crucial if players are to believe in the start-up of the IBELM.

The congestion resolution mechanisms that are introduced over different time periods will have an impact on the operation of the IBELM, and must therefore be developed on the basis of consensus. Different specific measures, such as capacity auctions, market splitting, counter-trading and re-dispatch, may be adopted for dealing with the problem. These methods have been described in detail in the IBELM Discussion Paper.

Types of congestion may be classified on the basis of the different control areas that are affected, as follows:

- internal, when a single control area is affected;
- inter-area, when two IBELM control areas are affected (interconnection between Spain and Portugal);
- extra-area, when control areas outside the IBELM are affected (interconnection between Spain and France or Morocco).

Internal congestion resolution comes within the competence of the System Operator that is responsible for the affected control area. Modifications of defined schedules should result from re-dispatches managed in accordance with market mechanisms.

The choice of methods used for resolving inter-area cases of congestion will depend on the envisaged model and type of contract. The market model comprises bilateral contracts and the day-ahead market. Preference shall be given to market mechanisms that do not encourage discrimination among players or envisaged contract modes, ensuring maximum transparency of the capacity pro-rating process. Capacity auctioning and market splitting mechanisms that are compatible with bilateral contracting and organised markets must therefore be put in place. System Operators will be able to use co-ordinated re-dispatch mechanisms (counter-trading) in real time, provided that interconnection capacity is subject to reductions that do not allow the execution of all commercial transactions accepted through the previously described mechanisms.

Capacity auction time periods may be different; i.e., yearly, quarterly, monthly, weekly or daily. Auction bids shall be firm, based on the ‘use it or lose it’ principle. Participants shall have to decide the amount of capacity to be brought to yearly auction, and whether additional capacity is to be brought to shorter time-period auctions.

Market splitting involves dividing the market into two price ranges, in the event that interconnection capacity restrictions occur.

Given that the forward market and bilateral contracting concur with the day-ahead market, a fair method for short-term sharing out of this capacity must be defined.

As regards extra-area congestion resolution, an agreement based on the principles established for this purpose by the regulatory authorities must be reached between the System Operators and the System Operator that is responsible for the affected external area of control, in such a way as to define congestion resolution measures that promote transparent, efficient and non-discriminatory capacity allocation between players or contracting modes. Any such agreement should be approved by the regulatory authorities, to ensure compatibility with the principles of the Iberian market model.

9.3.4 DISTINCT SIGNALS FOR SYSTEM POWER LOSSES

As regards network power losses, it would be of interest to evaluate the medium-term possibility for access tariffs to include specific components associated with system losses, in such a way that zone differentiation is taken into consideration, with eventual discriminations based on time interval and voltage level. Such components would be applicable both to producers and consumers.

9.3.5 RELEVANT INFORMATION

It is likewise important to define the type of relevant information that should be disclosed in order to ensure transparent operator activities. Specifically, such information should include details concerning network expansion plans, interconnection capacity on a daily, weekly or even seasonal basis, available capacity for connection to new production or consumption centres, network restrictions, contingencies and required safety levels.

Network operators must invest every possible effort in disclosing information on the signals that guide transmission network expansion, and to provide means that enable players to make rational and well-founded choices as to the location of such signals. Especially important is any information on the network node or zone capacity that is available for the reception of new production or consumption in the medium-term, or regarding the probability of eventual restrictions of production ('constrained-on' or 'constrained-off') or consumption (consumption interruptions).

The joint annual publication of Iberian transmission network characteristics is recommended.

10 SPECIAL REGIME PRODUCTION

In addition to ordinary regime producers, there are certain Special Regime Producers (SRPs) who are granted a special production licence for the exploitation of renewable energies (especially mini-hydro plants, wind farms, biomass plants, solar plants or facilities for the utilisation of sea-wave energy) or co-generation installations. Power produced by these operators is remunerated using fixed predefined tariffs in Portugal, and on the basis of the average pool price plus a 'technological premium' in Spain.

10.1 INCENTIVES FOR PARTICIPATION OF SPECIAL REGIME PRODUCERS IN THE MARKET

In view of the high degree of penetration of these producers in the Iberian market, it is important to analyse the adjustment of current incentive systems in order to facilitate effective market integration of such special regime producers, especially through the creation of an Iberian 'green certificate' market.

10.2 DIFFERENCES BETWEEN CONTROLLABLE AND NON-CONTROLLABLE INSTALLATIONS

Technical management of the special regime production (SRP) by the System Operators should be of particular concern, with a view to the progressive and efficient integration of such production in the Iberian Electricity Market. In accordance with the details described above, SRPs are remunerated outside the market, but their operation makes it necessary for the power they produce to be accounted for in terms of the commercial and technical operation of the system.

Thus, in order to ensure efficient technical management of the system it is important to define SRPs and classify them as *controllable* and *non-controllable* production facilities, making use of concepts such as *dispatchability*, in such a way as to discipline this type of production and achieve a more efficient global performance in terms of management of deviations or differences. *Controllable* facilities shall be those that it is possible to control, especially as regards active capacity production; some co-generation and larger size biomass plants, and some mini-hydro plants, may be considered controllable facilities. All other production facilities, especially those associated with the exploitation of wind energy, solar energy and sea-wave or tidal energy, shall be deemed *non-controllable*, and as such 'non-dispatchable'.

Controllable facilities shall participate in the IBELM on the basis of current trading models. Given the smaller size of companies responsible for these generation plants, they will be allowed to submit their selling offers through consolidation agents, whose characteristics shall be defined on a short-term basis.

10.3 PROVISIONING OF *NON-CONTROLLABLE* SRP

As regards *non-controllable* facilities, it is deemed necessary to begin to develop procedures for hourly production estimation, on the basis of time periods that coincide with market operation times. The level of SRP consolidation to be considered in these estimations for each control area, and the degree of confidentiality of the relevant information (details of production for each transmission network node) must be carefully evaluated.

These forecasts should be the responsibility of agents engaged in the consolidation of this kind of production. Agents should base their calculations on meteorological and historical data, and whatever other information they consider relevant for the purpose.

10.4 MODES OF MARKET PARTICIPATION

As regards market participation of SRPs, the following aspects should be explored in depth:

- Mode of participation of *non-controllable* SRPs in the day-ahead market.
- Evaluation of the possibilities of SRPs supplying some system services in the future (especially primary and secondary reserve, and control of voltage and reactive capacity).
- Technical management of deviations occurring in the system and financial assessment thereof.
- Capacity guarantee.

11 ACTIVITIES REQUIRED FOR THE IMPLEMENTATION AND DEVELOPMENT OF THE IBELM

11.1 ACTIVITIES PLANNED FOR 2002

The following is a list of activities to be carried out during 2002 in order to ensure start-up of the IBELM on January 1st 2003.

1. Setting up of the 'IBELM Regulatory Committee', formed by the regulatory authorities of both countries.
2. Establishment of the methodology for remuneration of 'CTCs', and for the compensation of bound producers that will be necessary as a result of the revision of Power Purchase Contracts in Portugal.
3. Setting up of regulated traders.
4. Setting up of the Iberian Market Operator (IMO).
5. Setting up of the 'Technical System Management Committee'.
6. Specification and implementation of an IT system that allows for the gathering, processing and storage of all measurements required for the correct operation of the Iberian market, and makes it possible for all consumers to exert their right to choose their supplier.
7. Definition of the Capacity Guarantee tariff (capacity payment) and the mechanism for remuneration of producers.
8. Establishment of the methodology for determining the regulated tariff to be applied by regulated traders.
9. Development of the methodology for power purchase by regulated traders.

As regards the relationship between consumers and traders:

10. Definition of harmonised procedures for change of trader.
11. Establishment of harmonised technical specifications for remote metering systems and equipment.
12. Definition of communication protocols for the standardisation of power-metering data transmission.
13. Harmonisation of metering equipment coding.

Technical and commercial information exchange at the different operative levels of the IBELM is a necessary condition for transparent supervision and control of the market and the electric system (as regards, for instance, follow-up of contracting levels, assessment of price-definition mechanisms, and network-access guarantees). As regards the possibility of some of the major players (the IMO, System

Operators, Producers and Traders) making this information available to the different IBELM agents, it will be necessary to clarify the regularity of any such disclosures and the nature of contents pertaining to:

14. Consolidated information on prices in bilateral contracts established over different time periods.
15. Mechanisms for regular disclosure of information on the operation of System Operators and the IMO.
16. Characterisation of the transmission networks, with detailed information about the different elements that make up the system.
17. Technical information that producers must provide System Operators and regulatory authorities.
18. Information that traders must provide consumers, with special reference to tariffs, average prices and typical trading conditions.
19. Itemised information to be provided in invoices for power supplied by traders to end-users.
20. Information that producers and traders must provide System Operators, the IMO and the regulatory authorities.

In order to define the operation of the IMO and the System Operators, it will be necessary to establish rules on the definition and introduction of:

21. IMO membership procedures.
22. Fees for the Bidding Agent Membership Contracts.
23. Operation of the forward, daily and intra-day markets.
24. Rules and procedures for calculating interconnection capacities, which should be made public.
25. Detailed procedures for congestion management at interconnections.
26. Harmonised procedures for communication between the IMO and the System Operators in situations of standard and emergency operation.
27. Procedures for IMO operation, to be subsequently drawn up in an IMO Manual of Procedures that shall be approved by the regulatory authorities.
28. Harmonised operation procedures for System Operators, to be subsequently drawn up in a Manual of Procedures for the Operation of the Iberian System that shall be approved by the regulatory authorities.
29. Harmonised procedures for advising System Operators of the production schedules for each unit of production.
30. Harmonised mechanisms for the operation of system service markets that must be managed by the System Operators (secondary and tertiary reserve), and definition of system service trading mechanisms.
31. Mechanisms for system service settlement.

32. Harmonised procedures for management of tertiary reserve interruptibility.
33. Deviation management procedures, with special reference to the definition of non-compliance margins and the harmonisation of the financial assessment of deviations.
34. Procedures for the liquidation of commercial transactions carried out within the IMO.

As regards the activities of traders, the following should be defined:

35. Entities responsible for registration and maintenance of each trader's updated lists of consumers.
36. Minimum time period consumers must remain bound to a given contract mode and under the same contractual conditions.
37. Regulated tariff-updating procedures.
38. Mechanisms for the control of the activities of regulated traders and other traders, including the definition of procedures for resolving disputes.

11.2 ACTIVITIES PLANNED FOR 2003 AND SUBSEQUENT YEARS

Presented below is a series of issues that may be subsequently developed during the implementation of the Iberian Electricity Market. The level of complexity and urgency of these issues is different, and relates to the implementation of the IBELM on the one hand and to the definition of the final market model on the other. Among these issues, the following should be mentioned:

1. Creation of a financial derivatives market.
2. Definition of the last resort tariff.
3. Implementation of reserve margin monitoring mechanisms.
4. Creation of a 'green certificate' market.

As regards the participation of the SRP in the IBELM, it is important to clarify the following matters:

5. Definition of installation controllability criteria.
6. Establishment of general guidelines for the development of procedures and mechanisms for *non-controllable* SRP provisioning.
7. Technical treatment of the participation of the *non-controllable* SRP in the market, including the definition of mechanisms for communication of production offers.

12 POINTS TO BE CONSIDERED BY THE GOVERNMENTS OF SPAIN AND PORTUGAL

The CNE and the ERSE are aware of their responsibility in the success of the IBELM and, therefore, believe that it is their duty to submit to the consideration of the governments of Spain and Portugal some points that are not expressly contemplated in the Protocol of November 14th 2001, and which require an urgent decision to be taken.

a) Setting up of the Iberian Market Operator (IMO)

The IMO should create the necessary platforms for the development of organised markets (day-ahead, intra-day, forward market), which it should implement, test and publicise, with a view to starting up the IBELM on January 1st 2003.

It is important for adopted procedures to be transparent and simple, and for use to be made in this respect of the past experience gained by OMEL. Equally important is the existence of clear procedures of communication and interaction between the IMO and the system operators, leading to greater market efficiency within the established safety criteria.

An independent unit must also be created within the IMO to study the introduction, as from January 2003, of financial hedging instruments linked to the organised markets. Such activity could eventually be carried out exclusively by the IMO during the first regulation period (2003-2006).

b) Organisation of low-voltage consumer choice

It is recommended that measures be introduced simultaneously to allow low-voltage consumers in both countries the right to choose their supplier. In order for the IBELM to be fully successful, it is important that whatever system is introduced facilitates consumer choice by making it possible to switch suppliers swiftly and by providing speedy and accurate settlements of accounts and low transaction costs, in identical conditions for all Spanish and Portuguese consumers.

The technical and organisational means required to guarantee the right to choose of almost 25 million consumers will entail a high level of complexity and involve significant costs. It would be desirable, as soon as it is possible, for transmission and distribution network operators to jointly submit to the CNE and the ERSE a detailed, itemised proposal for the implementation of such technical and organisational measures, bearing in mind the preliminary work that has already been carried out to this effect.

c) IBELM supervision

Efficient supervision of the IBELM requires close collaboration between the different regulatory authorities of Spain and Portugal. In the initial stage of the process it is suggested that supervision of the IBELM in general and the IMO in particular comes under the joint responsibility of the CNE and the ERSE – which given their specific knowledge of the electric sector and its main players are in the

best position for swift action and reaction – through an 'Iberian Electricity Market Regulation Committee'.

d) Liberalisation of the natural gas market

In order that competition between producers of electric power based on natural gas, specifically through combined cycle plants, is fair and equal, it is indispensable for access conditions to natural gas transmission infrastructures in Spain and Portugal to be the same. Thus the "study of natural gas market convergence in both countries" described in article 1 of the Protocol of November 14th 2001 becomes extremely urgent with a view to guaranteeing "adequate co-ordination between the liberalisation of the electricity and natural gas markets".

e) Harmonisation of special regime production and tandem hydroelectric utilisation conditions.

Since special regime production must play an increasingly important role in the coverage of electric power demand in the Iberian Peninsula, it is important that the competitive mechanisms and incentives used in Spain and Portugal are coherent and do not distort competition within the IBELM.

The existence of tandem utilisation of hydroelectric facilities – that is, the total or partial use of the same hydraulic flow by different operators for the production of electric power – poses certain difficulties in terms of efficient market and electric system operation. It would be useful for the Administrations of Spain and Portugal to detail the operating procedures of hydraulic resources, preferably on the basis of proposals drawn up by hydroelectric power plant owners, but also bearing in mind environmental and water management policies, in such a way that hydroelectric power production management is transparent and non-discriminatory.

f) Tax regulations

The tax regimes applicable to electric power companies and consumers in Spain and Portugal must be harmonised, in order to prevent potential distortions of competition in energy markets.