NOTE OF DG ENERGY & TRANSPORT ON DIRECTIVES 2003/54/EC AND 2003/55/EC ON THE INTERNAL MARKET IN ELECTRICITY AND NATURAL GAS

THIS DOCUMENT IS NOT BINDING ON THE COMMISSION

PRACTICAL MEASURES FOR DISTRIBUTION RESULTING FROM THE OPENING UP TO COMPETITION

16.1.2004

A. ELECTRICITY and GAS

The questions considered here relate more to electricity. The first chapters which are of a more general nature, also concern gas. The articles referred to are those in the Electricity Directive.

1. INTRODUCTION

The opening up of the markets to all non-domestic consumers from July 2004 and to all consumers in July 2007 requires a series of measures (procedures and methods) to be put in place to enable new operators, the drivers of competition, to enter the market and serve the very many new eligible customers. We will have to deal with a completely different scale of things. In France for example, there will be almost 3 million new eligible electricity consumers in July 2004, whereas 3 200 consumers are eligible in 2003.

It is essential to establish operational procedures to enable small consumers to genuinely choose their supplier. The internal market will only deliver its potential benefits if consumers participate actively in the internal market. Consumers must be able to influence suppliers though their choices, bringing forward innovation, diversity and the improvement of products and services, in terms of both quality and price. The necessary procedures will have to be put in place from July 2004 and then on a larger scale for households. They involve among other things consumer information, metering, simple and straightforward procedures for changing suppliers and settlement between suppliers.

The Gas and Electricity Directives do not expressly cover the metering of consumption, which is in principle one of the tasks of the distribution system operator. Although the transposition of these measures is a question of subsidiarity, the Commission identifies in this document a number of measures and actions which are required for genuine opening up of the market.

2. CONSUMER INFORMATION

Article 3(5) lays down that *"Member States shall ensure high levels of consumer protection, particularly with respect to transparency regarding contractual terms and conditions, general information and dispute settlement mechanisms."* Annex A c) lays down that *"the measures referred to in Article 3 are to ensure that customers receive transparent information on applicable prices and tariffs and on standard terms and conditions, in respect of access to and use of electricity[gas] services"..*

Clear and complete information for consumers is one of the keys to successful opening up of the markets. The new entrants will conduct marketing campaigns, but neutral and appropriate information provided by an independent body will be necessary to reassure the public. General information at national or regional level should inform consumers of the opening up to competition, mentioning expressly that the procedure for changing supplier is simple and free and that there is no risk of an interruption in supply or of lower quality supply and that there is, moreover, a last resort supplier or similar mechanism.

A system for providing more detailed information, via a telephone help line to provide information and deal with requests, may be set up by the distribution system operator and/or also at the various suppliers. The consumer must receive a personal reply to a specific request.

The creation of a website will complete the information system.

Annex A a) states: "*customers have a right to a contract with their electricity[gas] service provider that specifies the types of maintenance service offered*"

This applies for example to connected services, such as "demand site management" or global energy supply and management services. This does not concern the metering of consumption which is carried out by a body independent of the supplier.

3. FLEXIBILITY IN THE POSSIBILITY OF SWITCHING SUPPLIER

"Member States shall ensure that the eligible customer is in fact able to switch to a new supplier" (Article 3(5)). The procedures for switching supplier must be simple, rapid and free of charge, as specified in Annex A e). *"The measures referred to in Article 3 are to ensure that customers …shall not be charged for changing supplier.*

The competent authorities will have to decide the arrangements for the switchover, such as the date on which it takes effect, the reading of the meter, registration of the change of supplier and the necessary information exchanges. For operational reasons, in order to avoid constant recalculation of the supplier's profiles, the date on which the switchover takes effect may be a fixed day, every week or at most every fortnight

Where the contract of a consumer has expired and has not been renewed, that consumer will continue de facto to be supplied by the network. This may be the responsibility of the old supplier, or a "supplier by default" designated by the authorities. This is generally the local supplier. This de facto designation is sometimes refused by the authorities to avoid strengthening the dominant position of the local operator. The role of "distributor by default" could be assigned by invitation to tender and/or through a series of obligations.

The switch of supplier also means that suppliers have to exchange the requisite amount of reliable information rapidly, in coordination with the distribution system operators.

In order to facilitate the opening up of the market, the global costs of switching supplier will be assumed by the distribution system operator. An excessive number of switches may be charged specifically to the customer. Assigning these costs to the new entrant would reduce the economic advantage of its offer, thus restricting the opening up to competition.

4. QUALITY OF SUPPLY

"Member States may impose …, in the general economic interest, public service obligations which may relate to security, including security of supply, regularity, quality …" (Article 3(2)).

Member States may impose on the system operators the quality standards to be achieved as well as the required meters. It is necessary to impose quality standards on the distribution system operators, accompanied by economic incentives (or penalties). The system operators have to install the necessary meters, and procedures for recording, following up and registering incidents and drawing up statistics.

5. SUPPLIER OF LAST RESORT

… Member States may appoint a supplier of last resort. (article 3(3))

The supplier of last resort has to be appointed in a non-discriminatory and transparent way. The specific conditions of supply need to be predefined, non-discriminatory and transparent.

Member States shall …in particular ensure that there are adequate safeguards to protect vulnerable customers, including measures to help them avoid disconnection. … Member States may take measures to protect final customers in remote areas. (art 3(5)
The regulatory authorities shall be responsible for fixing or approving, prior to their entry into force, at least the methodologies used to calculate or establish the terms and conditions for connection and access to national networks, including transmission and distribution tariffs. (Article 23(2)(a))

The main rights of the final consumers are so safeguarded. The interpretative note on Public Service Obligations analyses the obligations of the Member States to inform the Commission.

In order to avoid excessive connection costs for the distribution system, the connection may be made conditional upon the existence of a building permit. The regulatory authorities shall determine the charging of connection costs.

6. METERING

Opening up to competition requires more precise metering of consumption, either in quasi-real time, or through estimation (load profile). The metering implementation is left to subsidiarity. However, for obvious reasons of independence, the metering of consumption must be carried out by an entity which is independent of the supply business. Metering services for non-domestic customers must be set up by July 2004 at the latest. This may be the system operator or an independent company, preferably designated by invitation to tender rather than by private contract. In some countries, there is competition between a number of companies to meter consumption. This is a market with significant potential. It is estimated that it will amount to £500 million in the United Kingdom in 2005.

Where several metering companies carry out this activity in the same area, adequate procedures have to be put in place, since the procedures for switching suppliers become more complex and are much more difficult to synchronise. If a consumer changes electricity supplier and metering company at the same time, all the parties involved change which makes it difficult to deal with errors.

Consumers cannot be required to pay for a change of meter where they change the metering company. A new more performing meter may be installed at no cost by a new supplier, but without linking too long (two to three years for example) the customer to this supplier.

For reasons of economic efficiency, that company could carry out the metering of gas and electricity, or even water.

In all cases, including distribution companies which have been granted exemption from legal unbundling, the metering service must preserve the confidentiality of data concerning commercial services (Article 16).

"Without prejudice to Article 18 or any other legal duty to disclose information, the distribution system operator must preserve the confidentiality of commercially sensitive information obtained in the course of carrying out its business, and shall prevent information about its own activities which may be commercially advantageous being disclosed in a discriminatory manner".

Consumers must have access to data concerning their consumption, either on the spot or by telephone or Internet. This is particularly necessary where frequent metering is carried out, as is the case for large consumers.

The processing of personal data has to comply with the Community law relating to the protection of data, in particular the directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data). (cfr http://europa.eu.int/comm/internalmarket/privacy/index.en.htm).

Metering covers the collection of data (by telemetry or reading on the spot), data management and the assignment of consumption to the respective suppliers. Where there are several companies metering consumption, it is necessary to centralise such consumption data to be able to effect the settlement.

The settlement is the financial compensation mechanism between the various suppliers and the distribution system operator which may be called on to cover differences, for the electricity [or gas] supplied and consumed by their respective customers. The associated costs of covering additional differences between forecasts and actual consumption may either be divided between the various suppliers or borne by the system operator which will recover them in its transmission tariff. We will not go into the settlement mechanisms in this note.

Metering costs must remain reasonable. This is a quasi-regulated and very stable activity. Even if they can be billed separately, it is preferable that they be included in the system costs along with billing costs, customer management costs (changes of all types ...) and settlement costs. These costs will thus be better regulated and costs for individual billing of metering avoided.

7. METERS

The meter is the interface between the distribution system and the premises of the consumer.

Small consumers, whether household or non-household, do not generally own the meters. Ownership of the meters should preferably be transferred to the distribution system operator or possibly the metering company if the duration of its activity is sufficiently long.

The meters must be transferred at their residual book value particularly the older design electromechanical meters. New technologies using electronic components now allow the installation of more flexible meters offering many more possibilities. The cost of a new meter for small consumers is estimated at between €60 and €200. It is unreasonable to carry on installing meters using old technology, since this would impede the installation of new more flexible meters facilitating the opening up of the market.

The costs (parts and labour) of installing new, more sophisticated meters providing the basic functions specified by the competent authorities cannot be charged separately to the consumer. Their cost, spread over a number of years should be included in the system tariff. The costs of installing additional options could be billed individually, but their costs should not normally exceed the potential savings that the user could achieve in one year.

The same constraints relating to meters must be imposed on all suppliers, including the incumbent operator. One cannot exempt from a change of meter those customers who remain with the incumbent operator, while also requiring those who change supplier to change their meter. ,For example requiring the installation of an hourly meter when changing supplier should not be permitted unless all customers of that type are required to change in any case.

B. ELECTRICITY

The following points concern more specifically electricity, even if some principles may be applied also to gas.

8. REINFORCEMENT OF THE COMPETITIVE POSITION OF CONSUMERS ON THE ELECTRICITY MARKET

Article 3(3) lays down also '*Nothing in this Directive shall prevent Member States from strengthening the market position of the domestic, small and medium-sized consumers by promoting the possibilities of voluntary aggregation of representation for this class of consumers.'*

This disposition authorises Member States to take appropriate measures to facilitate the representation of household and small consumers. It allows the final consumer to greater influence its supplier and is hence an excellent opportunity to obtain more competitive prices.

9. ORIGIN OF ELECTRICITY

Article 3(6) lays down ' *Member States shall ensure that electricity suppliers specify (a) the contribution of each energy source to the overall fuel mix of the supplier over the preceding year; (b) at least the reference to existing reference sources, such as web-pages, where information on the environmental impact, in terms of at least emissions of CO_2 and the radioactive waste resulting from the electricity produced …Member States shall take the necessary steps to ensure that the information provided by suppliers to their customers pursuant to this Article is reliable'*

A detailed interpretative note on the obligations referred in article 3(6) will be presented later.

10. RIGHT OF UNIVERSAL SERVICE AND CONNECTION TO THE ELECTRICITY SYSTEM

Member States shall ensure that all household customers… enjoy universal service, that is the right to be supplied with electricity of a specified quality within their territory at reasonable, easily and clearly comparable and transparent prices.
… Member States shall impose on distribution companies an obligation to connect customers to their grid under terms, conditions and tariffs set in accordance with the procedure laid down in Article 23(2). (Article 3(3))

As a balance between production and consumption must be achieved at all times, the price of electricity varies in the course of the day. The electricity consumption of large consumers has to be recorded more or less in real time and is much more complex.

Technological progress and the opening up of markets result in far-reaching changes in the meter industry. More sophisticated meters allowing many additional options will play an important role. Companies and suppliers will be able to secure the loyalty of their customers, not only by offering a price based on instantaneous consumption or tariffs geared more to needs, but also by offering new value-added services, such as demand management. Tariffs which vary according to the times of consumption will enable supplies to be better targeted. More precise charging of consumption will encourage the mainly household consumers to adapt their consumption patterns to take advantage of cheaper rates. This may also contribute to more efficient demand management, by shifting part of consumption to off-peak hours. These possibilities are described in detail in the attached document.

11. LOAD PROFILE

The suppliers must be able to determine more or less instantaneously or for each metering interval (10, 15, 30 or 60 minutes) the amount of electricity consumed by their customers in order to be able to provide the required electricity and then proceed with the financial compensation (settlement). However, too frequent metering of the consumption of small consumers is currently too costly in relation to the potential savings. To the costs of installing more sophisticated meters must be added the costs of transmitting and processing the data.

The alternative to such frequent metering of consumption is to make use of estimates of the consumption pattern of consumers at all times of the day. These are "load profiles", defined on the basis of the consumption characteristics of various categories of consumers. There are generally specific load profiles for users with two-rate or three-rate meters.

Consumption profiles are therefore used to estimate consumption on the basis of the time and day for various types of consumers. Suppliers can therefore estimate the amount of electricity that they have to supply at each moment of the day, on the basis of consumption profiles of the various categories of their customers. The load profile method allows new entrants to enter the market of the incumbent distributor and make the necessary financial transactions by way of "settlement". By using load profiles which have been correctly determined, the financial differences will not exceed 2%.

These differences, determined during the settlement procedure will be borne either by all the suppliers in proportion to the amounts they supply or by the distribution system operator which will recover it in its tariffs.

Establishing load profiles is essential to open up the market to small consumers and facilitate competition.

More technical considerations are described in the attached document.

12. CONCLUSIONS

The opening up of markets to a much greater number of customers requires many rules and procedures to be put in place.

The competent authorities must ensure that consumers have access to clear and transparent information. Information campaigns are desirable.

The competent authorities must draw up guidelines relating to:

– simple and flexible procedures enabling suppliers to be changed without charge;

– metering of consumption

  – designation of who will carry this out as well as their responsibilities and the costs involved,
  – any transfer of ownership of meters to the appropriate company and at what value,
  – definition of load profiles and their application thresholds and if the data is not available, rapid start-up of the process of collecting the necessary data.

– settlement procedures (financial compensation);

– defining service quality standards, which may be accompanied by financial incentives and penalties.

The competent authorities may also:

– designate a last resort supplier,
– define new functions for the meters,
– encourage the introduction of new technologies enabling more sophisticated metering of consumption, which will facilitate opening up to competition.

TECHNICAL ANNEXES

NEW FUNCTIONS OF METERS

There are new models of meters, consisting of a basic module carrying out the measurements, on which it is possible to add various modules for communicating or recording more detailed data. These options make it possible to meet specific requirements and to introduce multiple tariff structures.

Standards have to be drawn up to ensure the compatibility of measures and procedures and for the communication interfaces and the addition of modules and software making it possible to provide the required functions. Procedures for controlling meters should also be put in place.

The data can be transmitted by telephone line, mobile phone, the electricity network (PLC: Power Line Communication) or by radio, allowing, for example, the meter to be read by officials outside buildings which gives significant savings in terms of time and, therefore, money. Automatic Meter Reading (AMR) gives important benefits. A distribution system operator may use a number of different technologies at the same time, inter alia for historical reasons, nature of the installation, whether or not there is access to meters, their location in urban or isolated areas etc.

The remote and computerised metering of consumption makes it possible to read meters more frequently, which enables the process to be refined, particularly on an hourly basis, as well as days and periods of the year.

The first step could be to install hourly or multi-period meters, where consumption would be recorded only annually which would allow the application of two-rate or multi-rate tariffs.

These Demand Site Management actions also allow more efficient use of available production capacities and better use of resources.

LOAD PROFILE

Load profile methods should be harmonised in one country or at least one region, but the load profiles themselves may vary according to areas. The consumption characteristics in the north of a country may for example differ from those in the south.

The load profile should be easily identifiable and their number should be limited (from 8 to 10 maximum).

The load profiles are adapted, for each category, to periods of the year and standard type days (UK: 5 periods of the year, 3 standard type days). The values of the curve are determined by the local day temperature and the local daily number hours of sunshine in order to estimate the consumption curve.

The threshold below which load profiles are used varies according to the country. In Sweden, load profiles are applied to consumers whose connection power is less than 135 kW (200A) and 100 kW in the United Kingdom. In Finland they are applied to consumers whose power is <3*63A (42 kW). Consumers whose installation power is less (but more than 3*30A) may install an hourly meter at their own expense. As an indication, a domestic electrical installation of 3*30A to 3*40A is already fairly powerful, taking an electrical boiler.

Drawing up load profiles requires data to be collected over at least a year. If the data is not available, it has to be collected as rapidly as possible. The load profile should be drawn up by services which are independent of the incumbent supplier so that they are objective and non-discriminatory.

The load profile method may entail certain risks for certain players under certain conditions. These risks are associated with the methods of defining curves and the settlement methods. One of the main risks is the inclusion of major consumers in the load profile method which leads to consumption differing from the estimated load profiles. As these major consumers generally consume more electricity during peak hours, the cost of their more expensive electricity will be borne by small consumers.

Fixing the lowest possible thresholds for load profiles is the objective to be achieved, while ensuring that the higher costs generated by a more precise and more sophisticated metering system are offset by the savings made. Technological progress combined with a reduction in costs through mass production will make it possible to reduce thresholds essentially to the level of investment costs. The costs of transmitting or collecting data are likely to remain significant for small consumers. Simple and inexpensive methods must be assessed.

The choice between hourly metering and load profiles is a fundamental question for the development of the household market and small consumers. If it is clearly defined and properly implemented, the system of load profiles is an efficient and economic solution for giving access to small consumers.