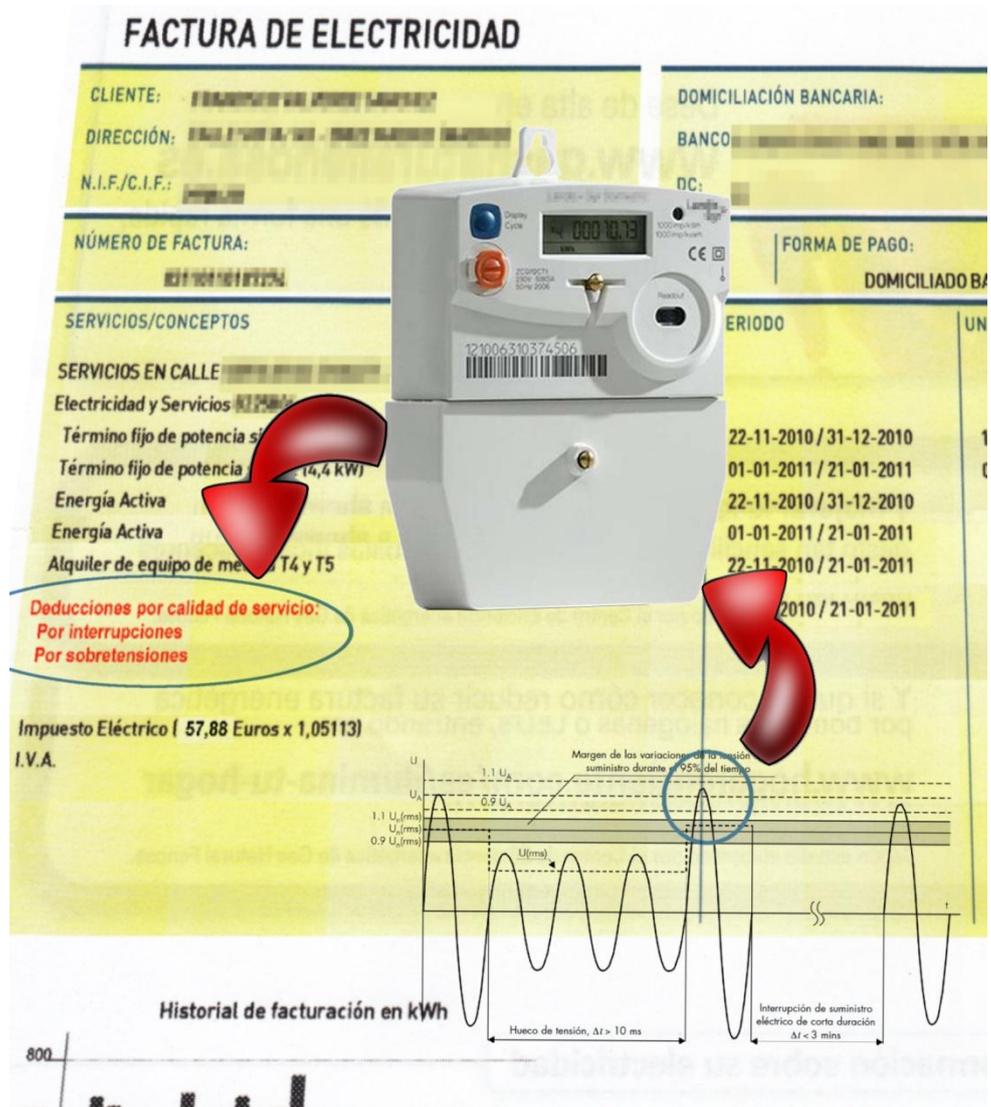


REQUEST AND PROPOSAL FOR REGULATION CHANGE



September 2011

A fairer system might be possible



Introducing the proposed regulation change requested to ACER and the European Parliament on consumer bill deductions for breach in the electricity supply quality.

BACKGROUND

Electricity is an essential and basic good for the current way of life. We have more than a century (since the end of XIX century) of electricity supply to public places, industry and homes or citizens in general. In this time, and just as other sectors, everything related to electricity and its distribution has evolved with the technological development in general. On the other hand, the European Union tends to unify and develop common policies to harmonize the rights and duties of governments and citizens in those countries.

In this respect, the “Common Energy Market” is a milestone of this convergence and should begin to regulate the common standards that will affect not only governments and power companies but also consumers in general and especially to their rights.

At this point, problems with the quality of supply should be made a matter of the past and/or owed to punctual problems. The normal status is, or should be, the availability of a supply with the contracted technical parameters 100% of the time.

Our dependence on this is such that when incidents happen, they often involve economic losses in the form of damage or disruption of production in industries and businesses.

Current regulations in some Eurozone countries, still consider thresholds in number and timing of cuts, as in the times when these were common and taken as something natural. The way to measure the incidents is also based on the existence of almost almighty electricity companies. The status has changed, technology has changed, so it is time to change the rules to adapt it to these changes.

The traditional electricity spinning wheel meter living in borrowed time. At European level there are plans to replace these mechanical meters by other using digital technology¹.

This substitution with different implementation schedules for local countries and at European level can be a unique opportunity for consumers, learning about their own consumption patterns and intensities, a basic fact to take corrective actions thereby increasing their energy efficiency.

To make this a reality, profound changes in the current tariff system should be undertaken, fixed price rates or large off-peak hours ceasing to be valid, in which the real cost of energy can not be taken into account, as well as the necessary feedback system to the consumer in a cost-free way.

For the consumer other aspects arise that should be guaranteed from the administration, as it has been reported by BEUC² (European Consumers Organisation), such as ensuring that meters use an open communication system, universal for any company, but with enough cryptographic security it can't be hacked by others to obtain personal data or acting on them.

This kind of substitution means a radical change in the possibilities of billing for residential users and SMEs. Till now, these consumer's bills were exempt from concepts that in another type of major supplies exist, such as the reactive power or power mismatches.

However, what is valid in a sense, it should be good as well on the contrary sense: the distribution companies are obliged to provide electricity to certain quality parameters³ that are often unfulfilled: excessive cutting of electricity (on number of cuts or length of the cuts), broken appliances or malfunction caused by power surges or voltage dips, etc.

¹ Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity.

² BEUC: Bureau Européen des Unions de Consommateurs. <http://www.beuc.org>.

³ EN 50160

When a company fails to comply with these concepts, among others (frequency stability, harmonics, flicker, etc.) it is required to provide economic compensation to the affected consumer. For this purpose, there are analyzer permanently connected at appropriate points to check all these parameters.

In general, consumers do not have access to the data from these analyzer and therefore they can't compare their incidents with the measures, thus arising real incident situations in which the electric company's response is "we are not aware". Result: there are situations where it is not possible for the average consumer to demonstrate the existence of quality breaches and that, sometimes, involve economic cost to the consumer. Usually, when a consumer wants to connect an analyzer in its supply, it must be a properly approved model and the user has to arrange a visit with the company for the sealing the analyzer.

The new meters to be massively implemented (many European consumers already have them in their homes) will be duly approved, sealed and installed on the user's facilities. These meters have the capacity to measure basic quality parameters: continuity, cuts and their duration, frequency and voltage levels, etc.

Based on the experience gained from many affiliates and consumers in general about incidents in their supplies, ANAE wants to collaborate with the ACER⁴, the European Parliament or any other organization involved, proposing the following changes to the implementation of these counters and the current regulation about electricity billing:

EUROPEAN LEGISLATION UPDATE AS TO THE QUALITY OF SUPPLY

Usually, the formulae of compensation to consumers due to these concepts only contemplate the number and length of interruptions in service and also in some Eurozone countries, they depend on the geographic area (distinguishing between urban zones, semi-urban, rural or dispersed rural). This system as it is designed is not fair and it should be independent of the geographical area, since the consumer has a supply in a remote area pays the same bill as he does in the centre of a big city.

In certain countries of the Eurozone, the consumer compensation for these concepts, is delayed to the end of the year and the bonus comes in the first quarter of next year, several months may have transpired in between. For example, if an incident with right to financial compensation happens in January, the compensation can be done even in March of the following year (14 months later!). This system is totally unfavourable and unfair to the consumers, the bonus should occur in the same month or billing period in which the incident takes place. In the case of incidents caused by major force or scheduled (with notification in advance to the consumer) which originate no compensation, then the company should justify it.

Normally, mathematical formulae are used to compensate the consumer for interruptions in the supply and their times of duration, but they tend to be outdated since they are not periodically updated. There should be also formulae for the variations in voltage and frequency to compensate the consumer, should they happen. As these parameters are especially important for the average-life and survival of electrical appliances in the user's facilities, the chosen compensation formula should be proportional to the magnitude of the deviations in the voltage and frequency.

The creation of a new compensation formula for the European consumer for failure to supply quality is proposed, valid for the entire Eurozone and with updatable parameters on one year periods.

The formula proposed by ANAE for fixed rate supplies is:

⁴ Agency for the Cooperation of Energy Regulators. <http://www.acer.europa.eu>

$$D_t = (D_i + D_s + D_f) * X_{cpi}$$

Where:

- D_t = Total deduction for the consumer (in Euros)
 D_i = Deduction for the consumer due to interruptions (in Euros)
 D_s = Deduction for the consumer due to voltage overshoots (in Euros)
 D_f = Deduction for the consumer due to frequency variations (in Euros)
 X_{cpi} = Accumulative variable of variations of the CPI (Consumer Prices Index) of each country. Must be updated annually. "1" is proposed for the first year of implementation.

Deduction for interruptions:

$$D_i = \left(N_i + P_c * \sum_{p=1}^6 \frac{T_i * P_{kW}}{3600} \right)$$

Where:

- N_i = Total number of interruptions in the billing period
 P_c = Nominal power contracted by consumer (kW)
 T_i = Time of interruptions for the billing period t, in seconds
 P_{kW} = Price of 1 kWh for the consumer in the billing period p

Deduction for voltage deviation:

$$D_s = \left(\left\{ N_{\Delta_v} * \left(1 + \frac{|\Delta_v|}{100} \right) \right\} + P_c * \sum_{p=1}^6 \frac{T_s * P_{kW}}{3600} \right)$$

Where:

- N_{Δ_v} = Number of voltage deviations above or below the nominal supply $\pm 7\%$
 Δ_v = Percentage of maximum voltage variation with respect to the nominal $\pm 7\%$, that the meter is capable of measuring in the billing period.
 P_c = Nominal power contracted by consumer (kW)
 T_s = Time of voltage overshoots for the billing period t, in seconds
 P_{kW} = Price of 1 kWh for the consumer in the billing period p

Deduction for frequency variations:

$$D_f = \left(\left\{ N_{\Delta_f} * \left(1 + \frac{|\Delta_f|}{100} \right) \right\} + P_c * \sum_{p=1}^6 \frac{T_f * P_{kW}}{3600} \right)$$

Where:

- N_{Δ_f} = Number of frequency deviations above or below the nominal supply +4% - 6%

- Δ_f = Percentage of maximum frequency variation with respect to the nominal $+4\%$ o -6% , that the meter is capable of measuring in the billing period.
- P_c = Nominal power contracted by consumer (kW)
- T_f = Time length of frequency deviations for the billing period t, in seconds
- P_{kw} = Price of 1 kWh for the consumer in the billing period p

INCLUSION OF "DEDUCTIONS FOR QUALITY OF SUPPLY" IN BILLING

Like the technical parameters "that add up" are taken into account in the electricity bills (maximum power demanded and active/reactive energy consumed), in this proposal we request to include the new parameters that "subtract", with the corresponding deductions, and in a way "as automatic" as that add up, with the information contributed by the new meters.

All the relevant data from the meter, all the influential parameters in the formula of previous paragraph should be shown in the bill of the consumers, that is:

- Number of interruptions.
- Time length of each interruption or summation of all.
- Number of frequency and voltage deviations.
- Value of Frequency and voltage deviations or maximum of them.

For practical purposes, the voltage dips should also be counted as interruptions.

To avoid situations of disagreement between consumers and distributors, since the meters are precision measuring elements, duly certified and sealed, we request that details shown on the bills, especially the surge, have legally justified nature for the above mentioned disagreements. This is especially important in cases of damage to consumer's equipment.

CHANGES IN REGULATION REGARDING TO ENSURE THE RIGHTS OF CONSUMERS

The raised previously functionalities can imply a huge change in the local regulations. Since new regulations might be the cause for many claims to the power companies, marketers and distributors might put the blame to one another and vice versa, even though that these companies often belong to the same business group, extending the resolution of problems more than they should, the consumer suffering the consequences.

ANAE proposes that the electricity companies have a single speaker to the consumer, logically this should be the marketer company. This company shall make it his problem and shall solve the conflict with the distribution company. The time for any penalty should start on the first contact with the marketer.

A new item to add to this article would be the ban to generate profit by companies with the customer services by using premium rate phone numbers. They should use normal or free phone numbers.

In automatic customer service centres, the user shall be able to choose from the main menu if he wants to be serviced by a human operator. Furthermore, the customer care service should be fostered by defining the number of office centres as a function of the number of clients per service area.

CONCLUSIONS

As we have seen, the current system of compensation to consumers is anything but fair. So far, it has been based on an implementation, by the distribution companies, of network analyzer scattered at strategic locations (basically at electric transformers that serve to the consumers in the area), the data being inaccessible to consumers who have no possibility to effectively contrasting the data. With the introduction of the new meters, with digital technology (known as Smart Metering) advantage of this can be taken to change European law to a fairer system for the electricity consumer. To do so, ANAE requests and proposes the introduction of the following measures:

1. Renovation and/or creation of new European regulations in order to:
 - To eliminate the dependence on the geographical area of supply in compensation for incidents.
 - To eliminate incidents thresholds, compensating from the first incident.
 - Reduction of the term of compensation down to the same billing period.
 - Updating formulae for compensation the number of interruptions and time length to new values according to the current status, and the inclusion of the voltage and frequency variations as an economically compensable issue.
 - Elimination of maximum limits of compensation.
 - It shall be mandatory that the new meter (or the existing one with similar performances) is taken as a reference for these purposes.
2. Legislation of new regulations regarding the billing for:
 - The inclusion of power quality parameters in the bills, including deductions.
 - The use of meter data in bills as a legal proof of incidents, especially when these incidences involve economic costs to the consumer (damage or destruction of electrical appliances).
3. Updating or creating new legislation for the quality of consumer care:
 - Having a single partner for the consumer, due to conflicts between marketer-distributor (marketer is the proposed).
 - Elimination of customer care phone numbers with premium rates. Only normal or free rates phone numbers should be available.
 - For automatic telephon systems, to include an option in the main menu to be served by a human operator.
 - Definition of the minimal number of offices for customer service area.

As a final consideration, in addition to the proposed regulation change, we request an energy labeling classification for the digital meters, installing only Class A or higher: This kind of meters, has a continuous consumption (always connected) around 2W (communication systems apart). If some 300 million meters are to be installed on EU27, this means an extra load base at European level of 600 MW, and annual

consumption of 5256 GWh. In the case the meter is for rent, annual consumption (from 1 € to 3 €, dependin on the country, plus tax) should be supported by the distributor.

REGULATION

Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity.

Energy Efficiency Plan 2011: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

ABOUT ANAE

ANAE (Asociación Nacional de Ahorro y Eficiencia Energética) is a Spanish independent non-profit association of power consumers that has the objectives of promoting the energetic efficiency, get savings in the associates energy bills and, in general, to boost the union and energy culture on energy consumers as a way to face the current status of legal and economic lack of protection suffered by the consumers.

More info at: www.asociacion-anae.org