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INTERRUPTIBILITY SERVICES FOR THE GREEK ELECTRIC SYSTEM

At the end of 2015 the ministerial decision on “Interruptibility service for the electric system, type and content of interruptible load agreement” of Article 17 of Statute No 4203/2013 was set into force. The decision provides for the possibility of conclusion of interruptibility agreements between high and medium voltage consumers connected to the Greek interconnected system (ESMIE) and the Greek Electricity Transmission System Operator (ADMIE SA).

According to interruptibility agreements, the contracting consumers are obliged to reduce their electricity consumption (“load shedding”) for a given period of time, following a notice time stated by ADMIE SA (“power reduction order”). This measure aims to support security of electricity supply and the reduction of energy cost of the Greek industry under the commitments set of the Greek Government according to the bailout deal.

Greece notified this measure to the European Commission according to the provisions of Article 108 TFEU so that state aid could be justified. A measure constitutes state aid if (a) it confers an economic advantage on the beneficiary, (b) it is granted by the State or through State resources, (c) it is selective, and (d) it has an impact on intra-community trade and is liable to distort competition within the EU. The Commission has accordingly decided with decision No C (2014) 7374 of 15.10.2014 that the measure and its financing mechanism do not constitute state aid, given that it addresses a genuine need of the Greek electricity system and is provided in line with transparent criteria and with the

minimum cost. The decision provides that the interested undertakings must participate in a tender and be awarded an interruptible load agreement. The Commission has emphasized that this finding is limited to three years from the date of the decision, i.e. until 15.10.2017, when it will be reviewed.

The interruptibility services

The recent ministerial decision establishes the prerequisites for the conclusion of interruptible load agreements, their mandatory content, the types of interruptibility services to be provided, specifications about the payments to interruptible consumers, as well as the recovery of the amounts paid by ADMIE SA to interruptible consumers from electricity producers.

ADMIE SA may enter into interruptible load agreements with a total requirement for each interruptibility service which shall not exceed 1 GW. Two types of interruptible services are set out in the ministerial decision, depending on the notice time set by ADMIE SA to interruptible consumers, the duration of load shedding and the maximum



duration of load shedding per year. Type 1 service refers to long-term interruptibility, whereas Type 2 service to short-term immediate interrupt. Table 1 shows the main characteristics of these Types of interruptibility services.

Within Type 1 service the reduction of power aims to contribute to system stability, to cover the limited availability of the old existing lignite units, strikes or possible crisis in the supply of natural gas, as well as the volatility of electricity production from RES in case of adverse weather conditions. The minimum period between two consecutive power reduction orders is one day, whereas the maximum number of power reduction orders per month is three. Type 2 service aims to address emergency cases and situations of

unexpectedly high-peak demand combined with a lack of availability of power generation. The minimum period between two consecutive power reduction orders is five days, whereas the maximum number of power reduction orders per month is four.

Interruptible consumers, i.e. providers of each Type of service, are selected on the basis of uniform price auctions, in which the lowest-price bids shall be selected, given the volume of each service requested. The marginal price, i.e. the uniform auction price in which the providers of the services are compensated, is defined by the price of the bid selected, either in full or in part, up to the limit of the offered capacity.

Regarding the first auction for the

provision of interruptible services, which took place on 29.2.2016 for the period from 1.3.2016 to 31.3.2016, the amount of interruptible capacity auctioned was 500 MW for each Type of service. The uniform auction price in which providers of Type 1 service are compensated was €30,000/MW/year, whereas the compensation of providers of Type 2 service was set at €10,000/MW/year.

In order for eligible high and medium-voltage consumers to participate in ADMIE SA's auctions, they must previously register in the interruptible load register kept by ADMIE SA under the following conditions:

- Their installations are connected to the Electricity Transmission System (i.e. the high-voltage network) or the interconnected medium-voltage network, with the exception of non-interconnected islands.
- The interruptible power offered in each consumption location must be at least 5 MW, which may be reduced to 3MW.
- Customers should have advanced

Table 1: Main characteristics of types of interruptibility services

Type	Notice of time	Duration of each power reduction order	Maximum duration of load shedding per year	Minimum period between two consecutive power reduction orders	Maximum nr of power reduction orders/month
1	2 hrs	48 hrs	144 hours	1 day	3
2	5 min	1 hr	24 hours	5 days	4



meters, enabling telemetering and use of IT solutions.

Beneficiaries' compensation refers to their ability to reduce electricity consumption and does not depend on the number or level of power reduction orders issued. This means that they are not entitled to compensation for actually reducing active power following a power reduction order by ADMIE SA.

The cost incurred by ADMIE SA is to be fully recovered through a charge imposed on all electricity producers in the Greek interconnected system,

called Special Charge for Energy Supply Security (SCESS), set out in Article 143B of Statute 4001/2011. The SCESS varies by generating unit, according to the following formula:

$$\text{SCESS} = \text{TF} \cdot \text{CF} \cdot \text{FPF}$$

- TF denotes "Technology Factor", which depends on the risk of system instability and varies according to fuel and technology of each unit.
- FPF denotes "Financial Participation Factor", which equals to the revenues of each generating unit, and

- CF denotes "Common Factor", which is equal to 2%.

According to Article 143B of Statute 4001/2011, the Technology Factor has been defined in a way that the resulting charge takes account of the impact of each category of generation unit on the security of the electricity supply and that the economic consequences are spread out among the categories.

Table 2 summarises the Technology Factors set out for Type1 and Type 2 services:

In the event that the revenue collected by ADMIE SA is higher than the total amount payable to interruptible consumers, the excess amount shall be returned to electricity producers proportionally.

The purpose and the impact

The interruptibility scheme falls within the main commitments that the Greek government undertook under the bailout deal in order to reduce the energy cost of industry. Given that no measure for the reduction of energy cost of the energy intensive industry has been taken so far,

Table 2: Technology Factors for services

Production unit category	Technology Factor for the SCESS
Lignite	0.2
Oil	0.1
Hydro	0.4
Natural Gas	0.2
Wind (onshore)	0.9
PVs	1.8
Small Hydro	0.4
Biomass-Biogas	0.3
Rest RES	0.3



whereas the compensation mechanism defined in Regulation (EC) No 774/2010 relating to “inter-transmission system operator compensation and a common regulatory approach to transmission charging” has never entered into force, the measure of interruptibility is expected to substantially contribute to the reduction of energy cost of the Greek industry.

This measure aims to support security of electricity supply and the reduction of energy cost of the Greek industry under the commitments set of the Greek Government according to the bailout deal

The large industrial consumers, as the main supporters of the measure, claim that it is essential for the reduction of industry’s energy cost, given that the Public Power Corporation S.A (DEI SA) has repealed the discount of about 20% granted to them under the conditions of the Third Bailout Agreement.

On the other hand, representatives of RES producers have opposed the interruptibility arguing that:

(a) The power reduction orders are expected to be activated only on rare occasions, i.e. very few days per year, given that, according to a recent ADMIE SA’s report assessing capacity adequacy for years 2013-2020, Greece enjoys a surplus of installed generation capacity toward projected electricity demand. Indeed, during the last years generation capacity has been estimated at 19.700 MW, whereas electricity demand stands at 9.000 MW.

(b) The high- and medium-voltage consumers enjoy favourable conditions, given that the RES sector-supporting surcharge imposed on electricity bills

is reduced by an average of 8.1% for industrial consumers. Furthermore, the efficiency of RES during peak periods reduces the Marginal System Price and, thus, the energy supply cost.

(c) The measure does not take into account that PVs offer the greater energy efficiency during mid-day hours as natural energy source, contributing to system stability.

(d) The fact that the SCESS will be imposed on all RES producers will discourage investments and reduce any incentives in the field of RES. It should be noted that feed-in tariffs, through which RES producers are paid, have been significantly reduced following Statute No 4254/2014 («New Deal») which reduced feed-in tariffs for the Small Hydro by 5.4%, for Wind to 5.6% and for PVs by 29.9%.

