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ON THE DRAFT REGULATION ON GAS SUPPLY SECURITY

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This document comments on the draft EU Regulation on gas supply security as it was on 3rd July 2009. The relevant draft of the Regulation is included as an annex following page 7 of this document.

INTRODUCTION AND SUMMARY

We fully support the Commission's goal of ensuring that all Member States devise and implement appropriate gas supply security policies. The draft *Regulation* contains many valuable provisions and certainly goes in the right direction. Though this note focuses on what we think is wrong with the text we have received, it is meant to be constructive advice to help the Commission achieve its goals.

We have three main points and recommendations:

- I. There are two conflicting approaches in the draft *Regulation*: (1) a supply security rule that all member states have to comply with irrespective of their national situation (ensuring gas supplies to 'protected customers' for 60 days in N-1 situation); (2) 'national preventive action plans' based on an assessment of the risks faced by each member state. *We think that the Commission should abandon the 'N-1 for 60 days' rule; it should mandate independently carried out and peer-reviewed national risk assessments, on the basis of which the Commission would negotiate legally binding national gas security action plans.*
- II. The notion of 'ensuring gas supplies to protected customers' is flawed. *The Commission should abandon it in favour of 'meeting contracted final energy demand in case of gas supply disruption'.*
- III. The formula for calculating the 'N-1' indicator is flawed. *If the Commission wants to retain this tool (which we advise it not to do) the formula should be revised.*

I. FROM '60 DAYS IN N-1' TO NATIONAL RISK ANALYSIS

The core of the proposed *Regulation* lies in articles 4 (National Preventive Action Plans), 5 (Security of Supply Standard) and 6 (Risk Assessment).

- Articles 4 and 6 define an approach based on national risk assessments and national action plans;
- Article 5 defines a rule that all member states would have to comply with. Article 5, paragraph 1 is extremely difficult to understand. The rule as we understand it is the following: *Member States should be able to supply gas to protected customers for 60 days in case of failure of the largest infrastructure in the system, or extreme weather conditions.*

How these three articles interact with each-other is far from clear. We believe that there is a juxtaposition of two different, mutually incompatible approaches to mandating a minimum level of security of gas supply. The 'N-1 for 60 days' rule is a poor substitute for a proper analysis of the gas supply disruption risks faced by member states; the approach suggested by articles 4 and 6 should be preferred over the rule defined in article 5.

National gas supply systems differ widely across Europe and so do the nature of the supply disruption risks, including the probability of disruptions, their severity and length. This large variety makes it difficult to justify a given number of days of 'insurance' imposed uniformly on all member states. The case of Estonia is a good illustration of this.

- Estonia receives all its gas through a pipeline from Russia in the summer and, in the winter, through another pipeline from Latvia where gas is stored by Gazprom. There is a third pipeline from Russia in the north of the country which is no longer used. The unavailability of the incoming 'summer' pipeline would probably not lead to a supply disruption at all as gas could be re-directed through the northern pipeline. The unavailability of the 'winter' pipeline from Latvia would lead to a total (or near-total) disruption of supply lasting from a few days to a few weeks. The unavailability of the Latvian storage would lead to a total (or near-total) disruption of supply lasting for several months, potentially the entire winter.

As far as short-term gas security is concerned the key question for Estonia is whether or not to insure against the low-probability, high-impact event of a storage failure in Latvia. The 'N-1 for 60 days' rule would leave the country significantly under-insured if the Latvian storage is included in the N-1 calculation, and significantly over-insured if one excludes it.

Generally speaking, for countries with non-diversified gas supply systems, the cost of insuring against N-1 could be very high. Therefore it is extremely important to know if the probability of failure is closer to 0.001 (in which case one may decide *not* to insure against

failure of the largest infrastructure) or 0.01, and whether likely disruptions would last a few days (in which case 60 days is too much) or 6 months (in which case 60 days is too little). *This is precisely what the national risk assessments are supposed to reveal.* The rule cannot come before the risk assessment, as articles 4 and 6 seem to suggest, as the enforcement of such a rule defeats the purpose of the risk assessment, which is to define what member states should rationally insure against.

It is not sensible to impose a standard (60 days in 'N-1') that, for most countries if not all, will lay in the thin tail of the probability distribution curve for gas supply disruptions. It is bound to be fiercely resisted by member states on the ground (justified in many cases) that the 'insurance policy' the Commission forces them to buy does not fit the nature and intensity of the risks they face.

Recommendation

We recommend that the Commission refrains from imposing a rule such as '60 days in N-1', that is bound to leave some member states under-insured while it will be massive over-insurance for others. Instead the Commission should opt for a mandatory, independent and peer-reviewed risk analysis of the national gas supply system, on the basis of which it would enter into a negotiation with each member state over a legally binding national action plan for gas security.

We understand and share the Commission's legitimate concern to have a Regulation that, unlike 2004/67, really 'bites'. There probably needs to be some creative legal thinking to design a process for elaborating legally binding national (or sub-regional in some cases) action plans that fully reflect system specificities. The Commission could look at the process for establishing the National Allocation Plans for emission allowances for inspiration.

II. FROM 'PROTECTED CONSUMERS' TO 'CONTRACTED ENERGY DEMAND'

Like 2004/67, the draft *Regulation* concentrates on households as the category of gas consumers that governments should make sure are insured against gas supply disruption. (We know from our conversation of 11 June that the Commission wonders whether this should be extended to other categories such as the service sector or electricity generators.)

There are several problems with this approach.

- If insurance is limited to household consumers – and even if gas-fired district heating and electricity supplied to households count as ‘indirect household gas consumption’ and are considered protected – it is unclear which country would have to change anything to its current policies. Even Bulgaria met its household consumption during the January crisis.
- Several countries in Europe have no or very little household consumption; should they be left with the option not to implement any supply security policy at all?
- The implicit assumption behind this approach is that involuntary interruption of gas supply to everything except households is not conducive to serious economic or social dislocation. Obviously this is not true, certainly not in every country. In some member states, involuntary interruption of some industrial customers would have very high costs. The problem remains structurally the same irrespective of what categories of consumers are considered ‘protected’.

Recommendation

The Commission should abandon the notion of ‘protected gas customers’ and embrace the notion of ‘contracted energy demand’. *A country enjoys security of gas supply when all contracted energy demand can be met in the face of a gas supply disruption.*

According to this approach, the goal of the *Regulation* should be that member states ensure that peak gas consumption can either be met or erased in the face of a supply disruption:

- Demand can be met by alternative gas supply or alternative fuel supply;
- It can be erased by interruptible contracts.

Interruptible contracts are a way to ensure security of supply; but involuntary interruption is, by definition, *insecurity of supply*. If a country complies with the EU standard while it has to interrupt 60% of gas consumers in case of a large-scale supply disruption, then there surely is a problem with the standard itself.

The rationale for this *Regulation* is to force member states to devise and implement sensible gas supply security policies. Such a policy minimises the cost of meeting contracted energy demand in case of gas supply disruption.


III. THE FORMULA FOR CALCULATING N-1 LOOKS FLAWED


There appear to be a number of inconsistencies, inaccuracies and ambiguities within the N-1 formula which is proposed. Whilst we have already recommended that the Commission abandon the notion of an “N-1” formula, should it wish to retain it, the following issues must be addressed:

Capacity vs. gas availability

In the N-1 formula presented in “Annex 3” of the draft *Regulation*, the numerator is a mix of capacity measurements and actual volumes of gas which would be available for injection into the system (from storage or national production).

$$N - 1 [\%] = \frac{T_{inm} + DI + R - T_{outm} - E + Pm + Sm + LNGm - Im}{D_{max}} * 100, N - 1 > 100\%$$

 Measure of available system capacity

 Measure of gas molecules available for injection into the system

In the creation of an N-1 formula it is vital to recognise the distinction between the availability of *capacity* and the availability of actual *gas molecules*.

- A supply disruption is not a loss of capacity but a loss of gas molecules. If a country’s largest incoming pipeline has a capacity of 20 mcm/d but only brings 15 mcm/day into the system, there is no reason why the N-1 should be calculated on the basis of 20 mcm/d.
- Reciprocally, availability of capacity does not necessarily give access to alternative gas. Based on the formula above, a country would be “secure” as long as the sum capacity of its infrastructure outstripped the value of its demand, regardless of whether or not it had access to any gas.

A simpler formula

The formula given is overly complicated and ambiguous definitions could lead to improper usage. Simply calculating the sum of contracted gas volumes at their entry points (whether these are pipelines, storage facilities, production facilities or LNG regasification terminals) into the *national* system and then subtracting the single largest volume of gas to enter the national system and any volumes contracted to be sent out of the national system would provide the numerator figure needed to show what proportion of demand would need to be compensated for in the event that the largest volume of input gas into the national system were disrupted.

$$N - 1 [\%] = \frac{\sum GI_{c\ max} - \sum GE_{c\ max} - CIV_{max}}{D_{max}} * 100, N - 1 > 100\%$$

$\sum GI_{c\ max}$ - Sum of the maximum contracted gas injection volumes into the national system.

$\sum GE_{c\ max}$ - Sum of the maximum contracted gas export volumes from the national system.

CIV_{max} - Single largest contracted injection volume of natural gas into the national system.

Clarification of denominator (gas demand)

D_{max} has been defined (Annex 3 of the draft *Regulation*) as “*gas demand (mcm/d) related to periods of extreme temperature in the last 20 years, as set out in Article 5.*”

From this definition, it is unclear as to whether the “period of extreme temperatures” refers to the average daily demand experienced during a 7 day peak period occurring statistically once every twenty years or the average daily demand experienced during a 60 day peak period occurring statistically once every twenty years. If it is the average daily demand experienced during a 7 day peak period that is intended to be insured against, requiring member states to insure against this for *60 days* would place an unnecessary burden on them and seems to be excessive.

It is also important to note that insuring for either of these will not necessarily guarantee an ability to meet the *actual peak daily demand* experienced during these periods.

Recommendation

We advise the Commission to abandon the N-1 formula. However, if it chooses not to do this it should review both the numerator and denominator to ensure that:

1. The formula tests the ability of a national gas system to source actual quantities of gas in case it loses its largest inflow;
2. Demand is defined in a precise manner resulting in an adequate burden on member states.

CONCLUSION

We have not presented a comprehensive analysis of the draft *Regulation* that we have seen. Instead, we have concentrated on what seemed central to us: the dispositions that should translate into obligations for Member States to devise and implement adequate and sensible security of gas supply policies.

To sum up our proposal, we think that the Regulation should:

1. Define gas supply security as a situation where all contracted final energy demand can be met in the face of a gas supply disruption or extreme weather events;
2. Mandate independent and peer-reviewed risk assessments of national gas economies to determine the nature of the risks to each member-state's gas supply security;
3. Define a process by which, on the basis of the risk assessment, Member States negotiate with the Commission (supported by a panel of experts) on an appropriate level of 'insurance' translated into a legally binding National Action Plan for Gas Security.



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels,
COM

Proposal for a
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
concerning measures to safeguard security of gas supply

(presented by the Commission)

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EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

The Commission proposes a Regulation which will repeal the existing Directive 2004/67/EC concerning measures to safeguard security of natural gas supply¹. The Directive is no longer sufficient in a context of growing import dependence and changing supply and transit risks on the one hand, and increasing gas flows across Europe and the development of the internal gas market on the other.

In the response to the Russian-Ukrainian gas crisis in January 2009 and the unprecedented disruption of gas supplies to Europe, the Council, Parliament and the European Council have all called for the revision of the Directive to be accelerated. A replay of this sort of crisis is realistic and cannot be excluded. Europe can and must diminish its vulnerability to gas supply disruptions.

The January crisis showed how the EU, Member States and the gas industry, were able to come together to deal with a short term crisis. It confirmed the urgency of giving a new focus to gas security of supply. Above all, it highlighted the measures which the EU, together with the EU gas industry can take to help prevent another such crisis, and to deal with one should it arise.

This proposal is consistent with the objective of the Union, especially those concerning the establishment of an internal market and is also consistent with climate and energy policy, one of the pillars of which is the security of energy supply.

2. CONSULTATIONS WITH INTERESTED PARTIES AND IMPACT ASSESSMENT

Public consultations

The public consultation to get the views of the interested parties (Member States, industry, regulators, and citizens) took place between November 2008 and March 2009 on the basis of the Commission's November 2008 evaluation report on the implementation of the 2004 Directive. Detailed consultations of the proposals have also taken place in the framework of the Gas Coordination Group, consisting of the representatives of Member States, the gas industry and consumers through their European associations (Eurogas, OGP, GIE, IFIEC, BEUC, Eurelectric) at its meeting on 23 February, 2 April, and 13 May. Member States gave their views at the Energy Council on 12 January and 19 February 2009 and several have sent their unofficial written suggestions since then.

Impact assessment

Five options have been considered in the impact assessment: 1) No new EU action; 2) Better enforcement of the 2004/67 Directive; 3) Voluntary approach by industry; 4) A revised directive; 5) A new regulation.

¹ OJ L 127, 29.04.2004, p. 92.

With regard to option 1 and 2 the Commission carried out an evaluation of the implementation of this directive, and concluded that it is insufficient given the growing import dependence and changing supply and transit risks on the one hand, increasing gas flows across Europe and the development of the internal gas market on the other. With regard to option 3, major disadvantage of a voluntary approach is that participation of all players cannot be guaranteed and reliance on market forces to fully deliver security of gas supply - a public good - has limits. With regard to options 4 and 5 (choice of legal instrument) the Commission considers that a Regulation is a more appropriate instrument than a Directive for the following main reasons: Regulation is more effective in achievement of the objectives of the proposal; it is directly applicable to the Member States, market participants and customers; no need for timely transposition; clarity and coherence of standards and obligations.

3. LEGAL ELEMENTS OF THE PROPOSAL

Legal basis

The legal basis for the proposal is Article 95 of the Treaty establishing the European Community. The main objective of the proposal is to increase the security of gas supply by creating the incentives to invest in necessary interconnections to meet the N-1 indicator, as well as the reverse flows. Those interconnections are at the same time necessary for the proper functioning of the internal gas market.

Subsidiarity principle

This proposal aims at strengthening EU security of supply. With the realisation of the internal energy market, the EU-wide dimension is becoming more and more relevant, therefore justifying the role and involvement of EU institutions and the Commission in particular. In a European emergency the Commission is best placed to coordinate the actions of competent authorities of the Member States and facilitate the dialogue with third countries. The best guarantee for security of supply is the large internal market, with differentiated supply sources and routes, interconnected so as to eliminate any barriers to cross-border gas flows.

Proportionality principle

The proposal complies with the proportionality principle; it does not go beyond what is necessary in order to achieve the objectives. Member States will continue to be responsible for their security of supply and will enjoy considerable flexibility in the choice of arrangements and instruments to ensure security of supply, taking into account their national characteristics in the field of gas..

4. Budgetary implications

The proposal will have a limited impact on the Community budget, in particular to cover the costs of establishment of a permanent monitoring task force which can be deployed to monitor and report the gas flows within and outside the EU.

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

concerning measures to safeguard security of gas supply

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission²,

Having regard to the opinion of the European Economic and Social Committee³,

Having regard to the opinion of the Committee of the Regions⁴,

Acting in accordance with the procedure laid down in Article 251 of the Treaty⁵,

Whereas:

- (1) Natural gas (gas) is an essential component in the European Union's energy supply, constituting one quarter of primary energy supply and contributing mainly to power generation, heating, feedstock for industry and fuel for transportation.
- (2) Gas consumption in Europe has increased rapidly during the last ten years. With decreasing domestic production, gas imports have increased rapidly, thus creating more vulnerability and the need to address security of supply aspects.
- (3) Gas routes and sources for the European Union should support the security of supply of the EU as a whole and its Member States individually. Security of supply will depend in the future on the evolution of the fuel mix, the development of production in the EU and in third countries supplying the EU, investments in storage facilities and in routes within and outside the EU including Liquefied Natural Gas facilities.
- (4) A major disruption of gas supply to the EU can affect all Member States and Parties to the Energy Community Treaty and lead to severe economic damages across the EU economy⁶.

² OJ C [...], [...], p. [...].

³ OJ C [...], [...], p. [...].

⁴ OJ C [...], [...], p. [...].

⁵ OJ C [...], [...], p. [...].

⁶ See staff working paper on the analysis of the January crisis and the main lessons learned

- (5) The failure of the largest single infrastructure or supply source, the so-called N-1 principle, is a realistic scenario. Using the failure of such infrastructure or supply source as a benchmark of what Member States should be able to compensate is a valid starting point for ensuring their security of supply.
- (6) Sufficient infrastructure within a Member State and across the European Union is essential for tackling supply interruptions. A common minimum security of supply standard should ensure a level playing field for security of gas supply and must create significant incentives to build the necessary infrastructure and to improve the level of preparedness in case of crisis.
- (7) This Regulation should enable market participants to rely on market mechanisms for as long as possible in coping with disruptions. It provides also for emergency mechanisms to be used when markets are no longer able to deal with a supply disruption.
- (8) Following the adoption of the third internal energy market package⁷, new provisions shall be applied to the gas sector, creating clear roles and responsibilities for Member States, regulators, transmission system operators and the European Agency for the Cooperation of Energy Regulators (ACER), as well as improving the transparency of the market for the benefit of its well-functioning and the security of supply it should provide.
- (9) The completion of the internal gas market offers the EU the highest level of security of supply for all Member States, provided that the market is allowed to work fully in case of disruption of supply affecting a part of the EU, whatever the cause of the disruption. To this end, a comprehensive and effective common approach to security of supply is required, particularly through transparent and non-discriminatory policies compatible with the requirements of the market, avoiding market distortions and undermining of market responses to disruptions.
- (10) The precise definition of the roles and responsibilities of all market participants and competent authorities is therefore crucial in maintaining the well-functioning of the internal market, particularly in supply disruptions and crisis situations.
- (11) Sufficiently harmonised security of supply standards covering at least the situation that occurred in January 2009, taking into account the difference between Member States, must be defined, without imposing unreasonable and disproportionate burdens on gas market participants including new entrants and small participants.
- (12) It is essential for the well-functioning of the market that the necessary investments in infrastructures, such as interconnections, equipment allowing reverse flows on pipelines, storage, and LNG re-gasification facilities, are made by the market participants in time, bearing in mind possible supply disruptions such as the one that occurred in January 2009.
- (13) It is important that gas supply is maintained, particularly as regards household customers, as well as vulnerable customers (schools, hospitals) and power generators,

⁷ OJ L

in cases in which the market cannot continue to supply them. It is essential that measures to be taken are defined in advance of any crisis.

- (14) A large choice of instruments is available to comply with security of supply obligations. These instruments should be used in a national, regional and European contexts, as appropriate, to ensure that they deliver the most cost-effective results.
- (15) The sovereign rights of Member States over their own natural resources, while not affected by this regulation, should not prevent them from seeking the best possible contribution from their domestic production in case of supply disruption, in a spirit of solidarity.
- (16) The security of supply aspects of long-term planning of investments in sufficient cross-border capacities and other infrastructures, ensuring the long-term ability of the system to guarantee security of supply and meet reasonable demands, are addressed by the gas directive⁸. Meeting the security of supply standards may require a transitional period to allow the necessary investments to be made. The 10-years network development plan is a tool to identify the required investments needed at EU level.
- (17) It is vital, in order to ensure the best level of preparedness in case of supply disruption, that at both national and European level, emergency plans are established by all market participants together with the competent authorities. Such plans should be mutually consistent. EU solidarity should be demonstrated in establishing such plans. Their content should follow best practices among existing plans and should define clear roles and responsibilities for all concerned market participants and competent authorities.
- (18) Emergency plans should be updated regularly and published. They should be subject to peer review and tested.
- (19) The Gas Coordination Group, already established by Directive 2004/67/EC and chaired by the Commission, should act as adviser to the Commission to facilitate the coordination of security of supply measures in case of an EU emergency. It should also monitor the adequacy and appropriateness of measures to be taken according to this Regulation.
- (20) This Regulation aims at empowering market participants and competent authorities of the European Union to ensure that the internal gas market works effectively for as long as possible in case of disruption, prior to measures being taken by competent authorities to address the situation in which the market can no longer deliver the gas supplies. Such exceptional measures should be fully compliant with EU rules and should be authorised by the Commission.
- (21) This Regulation takes fully into account the subsidiarity and proportionality principles as it builds a relationship between national, regional and European levels in case of a significant gas disruption, as well as between market participants and competent authorities across the EU. The multinational effects of such a disruption, as occurred in January 2009, demonstrate the need to act in a coordinated way to benefit from the EU market integration which is the best guarantee of security of supply for all Member

⁸ Directive XXX

States. These principles are best expressed in the responsibility of each Member State, based on a common approach, to ensure its security of supply while fostering EU solidarity.

HAVE ADOPTED THIS REGULATION:

Article 1

Objective

1. This Regulation establishes measures to be taken by all concerned market participants and competent authorities to ensure the proper functioning of the common internal gas market as long as possible, notably in case of emergency.
2. It provides for common security of gas supply standards and requires Member States to undertake a risk assessment based on those standards. The risk assessment shall identify the main risks and define the necessary long term measures to be taken to increase the level of preparedness in Europe. Based on the risk assessment, each Member State shall establish the emergency plan including pre-defined actions at national and EU level and to define the roles and responsibilities of all relevant market participants and competent authorities in taking measures guaranteeing security of gas supply while ensuring the best possible level of solidarity across the EU.

Article 2

Definitions

For the purpose of this Regulation, the following definitions apply:

«protected customers» means all household customers and other customer groups such as schools or hospitals whose protection a Member State considers necessary;

“market participants” means the customers and all natural gas undertakings as defined in Article 2 of Directive of the European Parliament and of the Council concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC⁹ (Gas directive);

“competent authority” means the national regulatory authority or national governmental authority designated by the MS;

“supply disruption” means substantial and unexpected drop in the supply of gas to the Member State or to the Community.

“N-1” means the security of supply indicator according to which the infrastructure shall be able to deliver the necessary gas to satisfy national demand in the event of a disruption of the single largest infrastructure during any period of 60 days.

⁹ OJ L

Article 3

Responsibility for security of gas supply

1. The competent authority shall be responsible for the security of gas supply at national level, including the effective deployment of security of gas supply measures. These shall include the annual risk assessment, the establishment of the Preventive Action Plans, the establishment of the National Emergency Plans and the continuous monitoring of security of gas supply at national level. Competent authorities shall cooperate with each other to avoid and limit damages in case of a supply disruption.
2. Each Member State shall notify to the Commission the designated competent authority within three months after entry into force of this Regulation.
3. The Commission shall coordinate the competent authorities at the European level.

Article 4

National Preventive Action Plans

1. The competent authority shall, in full cooperation with the market participants within twelve months after the entry into force of this Regulation establish a national preventive action plan addressing the measures needed to mitigate the risks identified.
2. The national preventive action plan shall contain:
 - the parameters of the security of supply standard, as defined in Article 5;
 - the assessment of risks with reference to these parameters as defined in Article 6;
 - the various scenario analyses referring to these parameters and to the evolution of the market;
 - the preventive measures, selected from the non-exhaustive and indicative list in Annex 1, to address the risks identified;
 - the national emergency plans, as defined in Article 7.
3. The competent authorities of neighbouring Member States shall exchange information and consult each other on their respective national preventive action plans to ensure that their measures are consistent.
4. The competent authority shall publish and notify without delay its national preventive action plan to the Commission.
5. The Commission shall within three months after the notification and after having consulted the Gas Coordination Group assess the national preventive action plans of all Member States and give its recommendations, if it considers that a plan requires further improvements or better consistency with other plans.
6. The national preventive action plan shall be developed in full coordination with the ten year network development plan to be elaborated by the European Network of Transmission System

Operators for Gas (ENTSO-G)¹⁰. The national preventive action plan shall be updated every three years.

7. The competent authority shall enable permanent reverse flows capabilities on all interconnectors within two years.

Article 5

Security of supply standard

1. Supplies of gas must be ensured to protected customers in each Member State in accordance with the N-1 indicator and at least in the event of:

- (a) a disruption of the single largest infrastructure affecting domestic demand during any period of sixty days including the periods described in points b) and c) below;
- (b) extremely cold or hot temperatures during a seven days peak period occurring statistically once every twenty years;
- (c) any period of sixty days of exceptionally high gas demand during the coldest or hottest weather periods statistically occurring every twenty years;

2. The methodology for calculating the N-1 indicator is provided in Annex 3.

3. Each competent authority shall ensure the compliance with the standard set out in paragraph 1 above, for all customers, within three years from the entry into force of this Regulation.

Article 6

Risk assessment

1. Within six months after the entry into force of this Regulation, the competent authority shall assess fully the risks affecting the security of gas supply in the Member State by a) using the standard specified in Article 5; b) taking into account all relevant national circumstances; and c) running various scenarios of supply disruption. Market participants shall fully cooperate and provide all necessary information for the risk assessment. The risk assessment shall be repeated every year before 30 September.

2. On the request of the Commission, ENTSO-G shall present a European winter outlook, setting out the forecast and prospects of the gas supply and demand for the winter, to the Gas Coordination Group as referred to in Article 10 before 31 October each year.

¹⁰ Article XX of Directive OJ L

Article 7

National Emergency Plan

1. In the national emergency plan the competent authority shall define the following:
 - (1) Emergency scale according to paragraph 2;
 - (2) Definition of roles and responsibilities of all market participants and the competent authority and of detailed procedures to be followed for every stage of the emergency scale, including the information flows schemes.
 - (3) Market based measures for every stage (Annex 1).
 - (4) Non-market based measures for the level of emergency (Annex 2).
 - (5) The mechanisms used to cooperate with neighbouring countries,
 - (6) Monitoring and reporting obligations imposed on all market participants concerning the emergency situation
2. The emergency scale shall have at least four stages:
 - (1) Normal operational conditions stage – conditions during which the market is operating normally without any security of supply problem;
 - (2) Alert stage (triggered by the Early Warning Mechanism) – conditions during which the market is operating normally, but there is an indication of a potential future event that may trigger the exceptional or emergency stage.
 - (3) Exceptional stage – conditions or events of an existing supply disruption in which the market is still able to resolve the situation with market-based instruments, as indicated in Annex 1.
 - (4) Emergency stage – conditions or events of a crisis, in which the physical safety or security of persons, apparatus or installations or system integrity is threatened, which is no longer possible to resolve with market-based instruments, and which requires the use of instruments as indicated in Annex 2.
3. The national emergency plan shall provide for transparent and non-discriminatory measures, and shall ensure that to the fullest extent possible, market participants are given the possibility to respond.
4. National emergency plans shall ensure that cross-border access to the storage facilities is maintained in the emergency.
5. The national emergency plan shall take into account its effects on other Member States and vice versa.
6. The Commission shall test the mutual compatibility of the national emergency plans. The Commission may recommend the establishment of regional emergency plans. The

Commission shall organise their assessment by experts appointed in cooperation with the Gas Cooperation Group.

Article 8

Declaration of emergency

1. The competent authority shall declare a national emergency when the supply disruption does not enable to maintain the demand and supply balance with the market based instruments. The competent authority shall immediately inform the Commission which may convene the Gas Coordination Group. The competent authority concerned shall provide the Commission with all the necessary information.
2. The Commission shall assess the market impact of the potential or actual supply disruption and examine whether market based mechanisms are able to resolve the problem within a reasonable time.
3. Further to the assessment mentioned in paragraph 2, the Commission may declare an European emergency at the request of the competent authority of at least one Member State, or where more than one Member State declares national emergency.

Article 9

EU emergency responses

1. Within eighteen months from entry into force of this Regulation, the Commission, after consulting the Gas Coordination Group shall establish and adopt a European emergency plan.
2. In order to allow the Commission to assess the EU security of supply situation and the need to establish EU emergency plan, the Member States shall notify the Commission of all inter-governmental gas supply agreements with third countries dealing with security of gas supply. Companies shall notify to the Commission the long term contracts, concluded for more than one year, with suppliers from third countries. The Commission shall use this information to establish the European emergency plan and shall fully respect the confidentiality of this information.
3. In a European emergency, the Commission shall coordinate the actions of the competent authorities. Where the Commission considers that an action taken by a competent authority is inadequate to deal with the supply disruption, the Commission may address an opinion to the competent authority requesting the competent authority to change its action.
4. The competent authority shall not introduce any measure restricting the flow of gas within the EU market at any time, unless duly justified and authorised by the Commission after consulting the Gas Coordination Group.
5. In a European emergency, the Commission may require a Member States:
 - (a) to modify or suspend public service obligations which hinder gas flows to markets affected by the supply disruption;

- (b) To release the gas from the strategic gas storage.

6. The Commission shall establish a permanent monitoring task force consisting of industry experts and representatives of the Commission. The monitoring task force shall be deployed in case of disruption or potential disruption of gas supplies and shall monitor and report on the gas flows within or outside the European Union, in cooperation with the supplying and transiting countries.

Article 10

Gas Coordination Group

1. The Gas Coordination Group is hereby established to facilitate the coordination of security of supply measures. The Group shall be composed of representatives of the Member States, ACER, ENTSO-G and representative bodies of the industry concerned and relevant consumers. The Commission shall chair the Group. The Group shall establish its rules of procedure.

2. The Gas Coordination Group shall assist the Commission on issues related to:

- (a) security of gas supply, in normal time and more especially in times of emergency;
- (b) all information relevant for security of gas supply at national and EU levels;
- (c) best practices and possible guidelines to all the parties concerned;
- (d) the level of security of supply, benchmarks and assessment methodologies;
- (e) national and EU scenarios and testing of levels of preparedness;
- (f) coordination of measures to deal with emergency situation within the European Union and with third Countries;
- (g) implementation of the emergency plans

3. The Commission shall convene the Gas Coordination Group as soon as it declares European emergency.

Article 11

Transparency in case of emergency

1. During European emergency, the competent authorities shall, on a daily basis, provide to the Commission the following information:

- (a) gas demand and supply forecasts for the following three days;
- (b) evolution of gas production [mcm/d];

- (c) evolution of gas import and transit for each route [mcm/d]
- (d) possible difficulties affecting existing gas flows
- (e) evolution of gas withdrawal from all storages
- (f) evolution of maximal withdrawal capacity from gas storages and prediction for the following three days [mcm/d]
- (g) gas provided by each LNG regasification terminals and related maximal send-out capacity [mcm/d]
- (h) duration in days of ability to supply protected customers
- (i) information on the measures undertaken by the competent authority to mitigate the emergency, and their effectiveness
- (j) possible request for additional measures to be undertaken by other competent authorities,
- (k) measures undertaken at the request of other competent authorities
- (l) economic impact of the emergency situation
- (m) impact of fuel switching on the levels of emission quotas
- (n) impact on electricity sector

2. The competent authority shall provide to the Commission information on the deployment of its emergency plan and measures taken.

3. After resolving the emergency situation, the competent authority shall provide to the Commission a detailed assessment of the emergency situation and the effectiveness of the implemented measures.

Article 12

Monitoring and reporting of security of gas supply

In addition to the monitoring and reporting obligations provided for in Article 5 of the Gas directive the following data shall be reported to the Commission by the competent authority:

- (a) calculation of N-1 indicator and data necessary for such calculation;
- (b) yearly amounts, durations and supply country covered by long term gas import contracts;
- (c) total volume of gas, working gas and withdrawal capacity of underground gas storage and LNG storage facilities;
- (d) maximal interconnection capacity of each entry and exit points to and from the national gas systems;

- (e) total imports, imports from non EU countries, total consumption, household consumption and import dependency.

Article 13

Monitoring of implementation

By [...] the Commission shall report to the European Parliament and the Council on the implementation of this Regulation. The report will include recommendations for improvement of the present regulation.

Article 14

Abrogation

This Regulation abrogates Directive 2004/67/EC.

Article 15

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply immediately, unless otherwise mentioned in this Regulation.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, [...]

For the European Parliament
The President
[...]

For the Council
The President
[...]

ANNEX 1: LIST OF MARKET BASED SECURITY OF GAS SUPPLY MEASURES

Market based measures shall be applied for as long as possible and to the maximum extent possible. They shall be used in a way which is not detrimental to neighbouring Member States. This list is indicative and non-exhaustive:

Supply side

- Increased production flexibility
- Increased import flexibility
- Commercial gas storage – withdrawal capacity and volume of gas in storage
- LNG terminal capacity and maximal send-out capacity
- Diversification of supplies and routes
- Reverse flows
- Coordinated action and coordinated dispatching
- Long-term contracts
- Investments in infrastructure
- Contractual arrangements to ensure security of supply

Demand side – voluntary interruptible demand

- Interruptible contracts
- Fuel switch possibility – alternative back-up fuels in industrial and power generation plants

**ANNEX 2: LIST OF NON-MARKET BASED SECURITY OF GAS SUPPLY
MEASURES**

Non-market based instruments, which shall be used only in emergency situation

Supply side

- Strategic gas storage
- Forced fuel switch
 - Use of stocks of alternative fuels (e.g. in line with 90 days of oil stocks obligation)
 - Use of electricity generated from other sources other than gas

Demand side

- Various steps of load shedding

ANNEX 3: CALCULATION OF "THE N-1 INDICATOR"

Calculation of the N-1 indicator

The N-1 indicator describes the balance between the supply and demand sides in the calculated area. "Calculated area" means a geographical area for which the application of security of supply indicator is calculated. Technical capacity¹¹ of all remaining available gas supply infrastructure in the event of disruption of the single largest infrastructure should be higher than the demand for deliveries in any 60 days period. The N-1 indicator, calculated as below, should be higher than 100%.

$$N-1[\%] = \frac{IPm + Pm + Sm + LNGm - Im}{Dmax} * 100, N-1 > 100\%$$

Definitions required for the calculation of the N-1 rule:

Pipeline related definitions and calculations

IPm – Maximal technical capacity of import pipelines (mcm/d) means a calculation of maximal technical capacity of gas pipelines supplying gas to the calculated area. It includes reverse flows possibilities and transit inflow and outflow capacities.

$$IPm = T_{inm} + DI + R - T_{outm} - E$$

Whereas

T_{inm} – Transmission inflow maximal technical capacity (mcm/d) is the sum of maximal technical capacity for transmission of gas at all entry points

DI – domestic import capacity (mcm/d) – is the sum of maximal technical capacity for import of gas at all entry points

R – Reverse flow capacity (mcm/d) is the maximal technical capacity created by reversal of normal flows because of the failure of the largest single infrastructure.

T_{outm} – Transmission outflow maximal technical capacity (mcm/d) is the sum of maximal technical capacity for transmission of gas at all exit points

E - Export capacity (mcm/d) is the sum of maximal technical capacity for exporting gas at all exit points

Other supply side definitions

¹¹ Draft Regulation (EC) No ... of the European Parliament and of the Council on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 Art.2 (18) "technical capacity" means the maximum firm capacity that the transmission system operator can offer to the network users, taking account of system integrity and the operational requirements of the transmission network;

P_m – Maximal production capacity (mcm/d) means the sum of maximal possible rates of production in the calculated area from all gas production facilities for at least a 60 days period;

S_m – Crisis deliverability (mcm/d) means the sum of maximal possible rates of withdrawal by all storage facility users in the calculated area for at least a 60 days period;

LNG_m – Maximal LNG facility capacity (mcm/d) means the sum of maximal possible capacities at all LNG terminals for the liquefaction of natural gas or the importation, offloading, ancillary services, temporary storage and re-gasification of LNG, taking into account critical elements like maximal ships and storage capacities availability and technical send-out capacity to the system, providing gas in a 60 days period to the calculated area.

I_m – Capacity of the single largest gas infrastructure (mcm/d), which supplies the calculated area with the highest share of gas.

Demand calculation

D_{max} – gas demand (mcm/d) related to periods of extreme temperatures in the last 20 years, as set out in Article 5.