



Brussels, 16.2.2016  
COM(2016) 52 final

ANNEXES 1 to 8

**ANNEXES**

**to the**

**PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**concerning measures to safeguard the security of gas supply and repealing Regulation  
(EU) No 994/2010**

{SWD(2016) 25 final}

{SWD(2016) 26 final}

**ANNEX I**  
**Regional cooperation**

The regions referred to in Article 3(7) are the following:

- North West: United Kingdom and Ireland;
- North-South Western Europe: Belgium, France, Luxembourg, Spain, The Netherlands and Portugal;
- Southern Gas Corridor: Bulgaria, Greece and Romania;
- Central-East: Czech Republic, Germany, Poland and Slovakia;
- South East: Austria, Croatia, Hungary, Italy and Slovenia;
- Baltic Energy Market I (BEMIP I): Estonia, Finland, Latvia and Lithuania;
- Baltic Energy Market II (BEMIP II): Denmark and Sweden;
- Cyprus;
- Malta as long as it is not connected to another Member State. In case Malta is interconnected to another Member State it shall be considered as part of the region of that Member State.

## ANNEX II

### Calculation of the N-1 formula

#### 1. DEFINITION OF THE N-1 FORMULA

The N – 1 formula describes the ability of the technical capacity, as defined in Article 2(1)(18) of Regulation (EC) No 715/2009, of the gas infrastructure to satisfy total gas demand in the calculated area in the event of disruption of the single largest gas infrastructure during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 years.

Gas infrastructure shall cover the gas transmission network including interconnectors as well as production, LNG and storage facilities connected to the calculated area.

The technical capacity of all remaining available gas infrastructure in the event of disruption of the single largest gas infrastructure shall be at least equal to the sum of the total daily gas demand of the calculated area during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 years.

The results of the N – 1 formula, as calculated below, shall be at least equal to 100 %.

#### 2. CALCULATION METHOD OF THE N-1 FORMULA

$$N - 1 [\%] = \frac{EP_m + P_m + S_m + LNG_m - I_m}{D_{max}} \times 100, N - 1 \geq 100 \%$$

The parameters used for the calculation shall be clearly described and justified.

For the calculation of the EP<sub>m</sub>, a detailed list of the entry points and their individual capacity shall be provided.

#### 3. DEFINITIONS OF THE PARAMETERS OF THE N-1 FORMULA

‘Calculated area’ means a geographical area for which the N – 1 formula is calculated, as determined by the competent authority.

##### *Demand-side definition*

‘D<sub>max</sub>’ means the total daily gas demand (in mcm/d) of the calculated area during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 years.

##### *Supply-side definitions*

‘EP<sub>m</sub>’: technical capacity of entry points (in mcm/d), other than production, LNG and storage facilities covered by P<sub>m</sub>, LNG<sub>m</sub> and S<sub>m</sub>, means the sum of the technical capacity of all border entry points capable of supplying gas to the calculated area.

‘P<sub>m</sub>’: maximal technical production capability (in mcm/d) means the sum of the maximal technical daily production capability of all gas production facilities which can be delivered to the entry points in the calculated area.

‘S<sub>m</sub>’: maximal technical storage deliverability (in mcm/d) means the sum of the maximal technical daily withdrawal capacity of all storage facilities which can be delivered to the entry points of the calculated area, taking into account their respective physical characteristics.

‘LNG<sub>m</sub>’: maximal technical LNG facility capacity (in mcm/d) means the sum of the maximal technical daily send-out capacities at all LNG facilities in the calculated area, taking into

account critical elements like offloading, ancillary services, temporary storage and re-gasification of LNG as well as technical send-out capacity to the system.

‘ $I_m$ ’ means the technical capacity of the single largest gas infrastructure (in mcm/d) with the highest capacity to supply the calculated area. When several gas infrastructures are connected to a common upstream or downstream gas infrastructure and cannot be separately operated, they shall be considered as one single gas infrastructure.

#### 4. CALCULATION OF THE N-1 FORMULA USING DEMAND-SIDE MEASURES

$$N - 1 [\%] = \frac{EP_m + P_m + S_m + LNG_m - I_m}{D_{max} - D_{eff}} \times 100, N - 1 \geq 100 \%$$

##### *Demand-side definition*

‘ $D_{eff}$ ’ means the part (in mcm/d) of  $D_{max}$  that in case of a supply disruption can be sufficiently and timely covered with market-based demand-side measures in accordance with Article 8(1)(c) and Article 4(2).

#### 5. CALCULATION OF THE N-1 FORMULA AT REGIONAL LEVEL

The calculated area referred to in point 3 shall be extended to the appropriate regional level. The regions listed in Annex I shall apply. For the calculation of the  $N - 1$  formula at regional level, the single largest gas infrastructure of common interest shall be used. The single largest gas infrastructure of common interest to a region shall be the largest gas infrastructure in the region that directly or indirectly contributes to the supply of gas to the Member States of that region and shall be defined in the risk assessment.

The regional  $N - 1$  calculation may only replace the national  $N - 1$  calculation, where the single largest gas infrastructure of common interest is of major importance for the gas supply of all Member States concerned according to the joint risk assessment.

For the calculations referred to in Article 6(1), the single largest gas infrastructure of common interest to the regions as listed in Annex I shall be used.

## ANNEX III

### Permanent bi-directional capacity

1. To enable or enhance bi-directional capacity on an interconnector or to obtain or prolong an exemption from that obligation, transmission system operators on both sides of the interconnector shall submit to their competent authorities (competent authorities concerned) after consulting with all transmission system operators along the gas supply corridor:
  - (a) a proposal for permanent bi-directional capacity concerning the reverse direction (physical reverse flow capacity); or
  - (b) a request for an exemption from the obligation to enable bi-directional capacity.

Such submission shall take place no later than 1 December 2018 for all interconnectors that existed at the day of entry into force of this Regulation, and after completing the feasibility study phase but before start of detailed technical design phase for new interconnectors.

2. The proposal for enabling or enhancing reverse flow capacity or the request for granting or prolongation of an exemption shall be based on an assessment of market demand, projections for demand and supply, feasibility study, the costs of reverse flow capacity including the necessary reinforcement of the transmission system and the benefits for security of supply taking into account the possible contribution of reverse flow capacity to meeting the infrastructure standard set out in Article 4. The proposal shall include a cost-benefit analysis prepared on the basis of the methodology pursuant to Article 11 of Regulation (EU) No 347/2013 of the European Parliament and of the Council<sup>1</sup>.
3. Upon receipt of the proposal or the exemption request the competent authorities concerned shall without delay consult the competent authorities along the gas supply corridor, the Agency and the Commission on the proposal or the exemption request. The consulted authorities may issue an opinion within four months of the receipt of the consultation request.
4. Within two months of the expiry of the period referred to in point 3, the competent authorities concerned shall on the basis of the risk assessment, the information listed in point 2, the opinions received following the consultation according to point 3 and taking into account security of gas supply and the contribution to the internal gas market take a joint decision, which shall be one of the following:
  - (a) to accept the proposal for reverse flow capacity; such decision shall contain a cost benefit analysis, a cross-border cost allocation, a timeline for implementation and the arrangements for its subsequent use;
  - (b) to grant or prolong a temporary exemption for a period of maximum four years, if the cost-benefit analysis included in the decision shows that the reverse flow capacity would not enhance the security of supply of any Member State along the gas supply corridor or if the investment costs would significantly outweigh the prospective benefits for security of supply;

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<sup>1</sup> Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009 (OJ L 115, 25.4.2013, p. 39).

- (c) to require the transmission system operators to amend and resubmit their proposal or exemption request.
5. The competent authorities concerned shall submit the joint decision without delay to the competent authorities along the gas supply corridor, the Agency and the Commission including the opinions received following the consultation according to point 4.
  6. Within two months of receipt of the joint decision, the competent authorities of the Member States along the gas supply corridor may present their objections to the joint decision and submit them to the competent authorities that adopted it, the Agency and the Commission. The objections shall be limited to facts and assessment, in particular cross-border cost allocation that was not subject of consultation according to point 4.
  7. Within three months of receipt of the joint decision according to point 5, the Agency shall issue an opinion on all elements of the joint decision taking into account any possible objection and submit the opinion to all competent authorities along the gas supply corridor and to the Commission.
  8. Within four months of the receipt of the opinion issued by the Agency pursuant to point 7 the Commission may adopt a decision requesting modifications of the joint decision.
  9. If the competent authorities concerned were not able to adopt a joint decision within the deadline indicated in point 4, the competent authorities concerned shall inform the Agency and the Commission on the day of the expiry of the deadline. Within two months of receipt of this information, the Agency shall adopt an opinion with a proposal covering all elements of a joint decision listed in point 4 and submit this opinion to the competent authorities concerned and the Commission.
  10. Within four months of receipt of the opinion issued by the Agency pursuant to point 9, the Commission shall adopt a decision covering all elements of a joint decision listed in point 4 taking into account that opinion. If the Commission requests additional information, the four months period starts running on the day of the receipt of the complete requested information. That period may be extended by additional two months with agreement of all competent authorities concerned.
  11. The Commission, the competent authorities and the transmission system operators shall preserve the confidentiality of commercially sensitive information.
  12. Exemption from the obligation to enable bi-directional capacity granted under Regulation (EU) No 994/2010 shall remain valid until 1 December 2018 unless their duration expires before.

## ANNEX IV

### Template for risk assessment

The following template shall be completed in English.

#### GENERAL INFORMATION

- Member States in the region
- Name of the competent authorities involved in the preparation of the present risk assessment<sup>2</sup>

#### 1. DESCRIPTION OF THE SYSTEM

##### 1.1. Please provide a brief description of the regional gas system, covering:

- (a) Main gas consumption figures<sup>3</sup>: annual final gas consumption (bcm) and breakdown per type of consumers<sup>4</sup>, peak demand (total and breakdown per category of consumer in mcm/d)
- (b) Describe the functioning of the gas system in the region: main flows (entry/exit/transit), entry/exit point's infrastructure capacity to and out of the region and per Member State, including utilisation rate, LNG facilities (maximal daily capacity, utilization rate and access regime), etc. Include, to the extent relevant for the Member States in the region, L-gas system
- (c) Breakdown of gas import sources per country of origin<sup>5</sup>
- (d) Describe the role of storage facilities relevant for the region, including cross-border access:
  - (1) Storage capacity (total and working gas) compared to heating season demand
  - (2) Maximal daily withdrawal capacity at different filling levels (ideally with full storages and end-of-season levels)
- (e) Describe the role of domestic production in the region:
  - (1) Value of production with regard to the annual final gas consumption
  - (2) Maximal daily production capacity
- (f) Describe the role of gas in the electricity production (e.g. importance, role as a back-up for renewables), including gas-fired generating capacity (total (MWe) and as percentage of the total generating capacity) and cogeneration (total (MWe) and as percentage of the total generating capacity)

##### 1.2. Please provide a brief description of the gas system per Member State, covering:

- (a) Main gas consumption figures: annual final gas consumption (bcm) and breakdown by type of consumers, peak demand (mcm/d)

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<sup>2</sup> In case this task has been delegated by any competent authority, please indicate the name of the body/(ies) participating in the preparation of the present risk assessment on its behalf.

<sup>3</sup> For the first assessment, include data from the last two years. For updates, include data from the last 4 years.

<sup>4</sup> Including industrial consumers, electricity generation, district heating, residential and services and other (please specify the type of consumers included here). Indicate as well the volume of consumption of protected customers.

<sup>5</sup> Describe the methodology applied.

- (b) Describe the functioning of the gas system at national level, including infrastructures (to the extent not covered by point 1.1.(b)). If applicable, include L-gas system
- (c) Identify the key infrastructure relevant for security of supply
- (d) Breakdown at national level of gas import sources per country of origin
- (e) Describe the role of storage in the Member State and include:
  - (1) Storage capacity (total and working) compared to heating season demand
  - (2) Maximal daily withdrawal capacity at different filling levels (ideally with full storages and end-of-season levels)
- (f) Describe the role of domestic production and include:
  - (1) Value of production with regard to the annual final gas consumption
  - (2) Maximal daily production capacity
- (g) Describe the role of gas in the electricity production (e.g. importance, role as a back-up for renewables), including gas-fired generating capacity (total (MWe) and as percentage of the total generating capacity) and cogeneration (total (MWe) and as percentage of the total generating capacity)

## **2. INFRASTRUCTURE STANDARD (ARTICLE 4)**

Please describe how the infrastructure standard is complied with, including the main values used for the N-1 formula and alternative options for its compliance (with neighbouring Member States, demand side measures) and the existing bidirectional capacities, as follows:

### **2.1. Regional level**

N-1 formula

- (a) Identification of the single largest gas infrastructure of common interest for the region
- (b) Calculation of the N-1 formula at regional level
- (c) Description of the values used for all elements in the formula, including intermediate figures used for its calculation (e.g. for  $EP_m$  indicate the capacity of all entry points considered under this parameter)
- (d) Indicate the methodologies and assumptions used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)

### **2.2. National level (to be described per Member State in the region)**

- (a) N-1 formula
  - (1) Identification of the single largest gas infrastructure
  - (2) Calculation of the N-1 formula at national level
  - (3) Description of the values used for all elements in the formula, including intermediate values used for their calculation (e.g. for  $EP_m$  indicate the capacity of all entry points considered under this parameter)
  - (4) Indicate the methodologies used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)



- (5) Explain the results of the calculation of the N-1 formula considering the level of storages at 30% and 100% of their total capacity
  - (6) Explain the main results of the simulation of the N-1 scenario using a hydraulic model.
  - (7) If so decided by the Member State, calculation of the N-1 formula using demand side measures:
    - Calculation of the N-1 formula according to point 5 of Annex II
    - Description of the values used for all elements in the formula, including intermediate figures used for its calculation (if different to the figures described under point 2.2.(a).(3))
    - Indicate the methodologies used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)
    - Explain the market-based demand side measures adopted/to be adopted to compensate a supply disruption and its expected impact ( $D_{eff}$ )
  - (8) If so agreed by the competent authorities of neighbouring Member States, joint calculation of the N-1 standard:
    - Calculation of the N-1 formula according to point 5 of Annex II
    - Description of the values used for all elements in the formula, including intermediate values used for its calculation (if different to the figures described under point 2.2.(a).(3)).
    - Indicate the methodologies and assumptions used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)
    - Explain the agreed arrangements to ensure the compliance with the N-1 obligation
- (b) Bi-directional capacity
- (1) Indicate the interconnection points equipped with bidirectional capacity and the maximal capacity of bi-directional flows
  - (2) Indicate the arrangements governing the use of the reverse flow capacity (e.g. interruptible capacity)
  - (3) Indicate interconnection points where an exemption has been granted in accordance with Article 4(4), the duration of the exemption and the grounds on which it was granted

### 3. IDENTIFICATION OF RISKS

Describe the sources of risk which could have negative impact on the security of gas supply in the relevant Member State and/or the region, their likelihood and consequences.

Non-exhaustive list of types of sources of risk:

#### Political

- Gas disruption from third countries because of different reasons

- Political unrest (either in country of origin or in transit country)
- War / civil war (either in country of origin or in transit country)
- Terrorism

### **Technological**

- Explosion/Fires
- Fires (internal to a given facility)
- Leakages
- Lack of adequate maintenance
- Equipment malfunction (failure to start, failure during working time, etc.)
- Lack of electricity (or other energy source)
- ICT failure (hardware or software failure, internet, SCADA problems, etc.)
- Cyber-attack
- Impact due to excavation works (digging, piling), ground works, etc.

### **Commercial / market / financial**

- Agreements with third country suppliers
- Commercial dispute
- Control of infrastructure relevant for security of supply by third country entities, which may imply, among others, risks of under-investment, undermining diversification or non-respect of Union law
- Price volatility
- Underinvestment
- Sudden, unexpected peak demand
- Other risks which could lead to structural underperformance

### **Social**

- Strikes (in different related sectors, as the gas sector, ports, transport, etc.)
- Sabotage
- Vandalism
- Theft

### **Natural**

- Earthquakes
- Landslides
- Floods (heavy rain, river)
- Storms (Sea)
- Avalanches
- Extreme weather conditions
- Fires (external to the facility, like nearby forests, grassland, etc.)

### **3.1. Regional level**

- (a) Identify the relevant sources of risk for the region, including their likelihood and impact as well as the interaction and correlation of risks among Member States, as appropriate
- (b) Describe the criteria used to determine whether a system is exposed to high/unacceptable risks
- (c) Set a list of relevant risk scenarios in accordance with the sources of risks and describe how the selection was made
- (d) Indicate the extent to which scenarios prepared by ENTSO for Gas have been considered

### **3.2. National level (to the extent relevant)**

- (a) Identify the relevant sources of risk for the Member State, including their likelihood and impact
- (b) Describe the criteria used to determine whether a system is exposed to high/unacceptable risks
- (c) Set a list of relevant risk scenarios in accordance with the sources of risks and their likelihood and describe how the selection was made

## **4. RISK ANALYSIS AND ASSESSMENT**

Analyse the set of relevant risk scenarios identified under point 3. In the simulation of risk scenarios include the existing security of supply measures, such as, among other, the N-1 standard and the supply standard. Per risk scenario:

- (a) Describe in detail the risk scenario, including all assumptions and, if applicable, the underlying methodologies for their calculation
- (b) Describe in detail the results of the simulations carried out, including a quantification of the impacts (e.g. volumes of unserved gas, socio-economic impacts, impacts on district heating, impacts on electricity generation)

## **5. CONCLUSIONS**

Describe the main results of the risk assessment, including the identification of risk scenarios that require further action.

## ANNEX V

### Templates for the plans

The following templates shall be completed in English.

#### Template for preventive action plan

##### **GENERAL INFORMATION**

- Member States in the region
- Name of the competent authorities involved in the preparation of this plan<sup>6</sup>

##### **1. DESCRIPTION OF THE SYSTEM**

###### **1.1. Please provide a brief description of the regional gas system, covering:**

- (a) Main gas consumption figures<sup>7</sup>: annual final gas consumption (bcm) and breakdown per type of consumers<sup>8</sup>, peak demand (total and breakdown per category of consumer in mcm/d)
- (b) Describe the functioning of the gas system in the region: main flows (entry/exit/transit), entry/exit point's infrastructure capacity to and out of the region and per Member State, including utilisation rate, LNG facilities (maximal daily capacity, utilization rate and access regime), etc. Include, to the extent relevant for the Member States in the region, L-gas system
- (c) Breakdown of gas import sources per country of origin<sup>9</sup>
- (d) Describe the role of storage facilities relevant for the region, including cross-border access:
  - (1) Storage capacity (total and working gas) compared to heating season demand
  - (2) Maximal daily withdrawal capacity at different filling levels (ideally with full storages and end-of-season levels)
- (e) Describe the role of domestic production in the region:
  - (1) Value of production with regard to the annual final gas consumption
  - (2) Maximal daily production capacity
- (f) Describe the role of gas in the electricity production (e.g. importance, role as a back-up for renewables), including gas-fired generating capacity (total (MWe) and as percentage of the total generating capacity) and cogeneration (total (MWe) and as percentage of the total generating capacity)

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<sup>6</sup> In case this task has been delegated by any competent authority, please indicate the name of the body/(ies) participating in the preparation of this plan on its behalf.

<sup>7</sup> For the first plan, include data from the last two years. For updates, include data from the last 4 years.

<sup>8</sup> Including industrial consumers, electricity generation, district heating, residential and services and other (please specify the type of consumers included here).

<sup>9</sup> Describe the methodology applied.

**1.2. Please provide a brief description of the gas system per Member State, covering:**

- (a) Main gas consumption figures: annual final gas consumption (bcm) and breakdown by type of consumers, peak demand (mcm/d)
- (b) Describe the functioning of the gas system at national level, including infrastructures (to the extent not covered by point 1.1.(b)). If applicable, include L-gas system
- (c) Identify the key infrastructure relevant for security of supply
- (d) Breakdown at national level of gas import sources per country of origin
- (e) Describe the role of storage in the Member State and include:
  - (1) Storage capacity (total and working) compared to heating season demand
  - (2) Maximal daily withdrawal capacity at different filling levels (ideally with full storages and end-of-season levels)
- (f) Describe the role of domestic production and include:
  - (1) Value of production with regard to the annual final gas consumption
  - (2) Maximal daily production capacity
- (g) Describe the role of gas in the electricity production (e.g. importance, role as a back-up for renewables), including gas-fired generating capacity (total (MWe) and as percentage of the total generating capacity) and cogeneration (total (MWe) and as percentage of the total generating capacity)

**2. SUMMARY OF THE RISK ASSESSMENT**

Please describe briefly the results of the risk assessment carried out in accordance with Article 6, including:

- (a) List of the scenarios assessed and brief description of the assumptions applied for each one as well as the risks/shortcomings identified
- (b) Main conclusions of the risk assessment

**3. INFRASTRUCTURE STANDARD (ARTICLE 4)**

Please describe how the infrastructure standard is complied with, including the main values used for the N-1 formula and alternative options for its compliance (with neighbouring Member States, demand side measures) and the existing bidirectional capacities, as follows:

**3.1. Regional level**

N-1 formula

- (a) Identification of the single largest gas infrastructure of common interest for the region
- (b) Calculation of the N-1 formula at regional level
- (c) Description of the values used for all elements in the formula, including intermediate figures used for its calculation (e.g. for  $EP_m$  indicate the capacity of all entry points considered under this parameter)
- (d) Indicate the methodologies and assumptions used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)

### 3.2. National level

- (a) N-1 formula
- (1) Identification of the single largest gas infrastructure
  - (2) Calculation of the N-1 formula at national level
  - (3) Description of the values used for all elements in the formula, including intermediate values used for their calculation (e.g. for  $EP_m$  indicate the capacity of all entry points considered under this parameter)
  - (4) Indicate the methodologies used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)
  - (5) If so decided by the Member State, calculation of the N-1 formula using demand side measures:
    - Calculation of the N-1 formula according to point 5 of Annex II
    - Description of the values used for all elements in the formula, including intermediate figures used for its calculation (if different to the figures described under point 3.2.(a).(3))
    - Indicate the methodologies used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)
    - Explain the market-based demand side measures adopted/to be adopted to compensate a supply disruption and its expected impact ( $D_{eff}$ )
  - (6) If so agreed by the competent authorities of neighbouring Member States, joint calculation of the N-1 standard:
    - Calculation of the N-1 formula according to point 5 of Annex II
    - Description of the values used for all elements in the formula, including intermediate values used for its calculation (if different to the figures described under point 3.2.(a).(3))
    - Indicate the methodologies and assumptions used, if any, for the calculation of parameters in the formula (e.g.  $D_{max}$ ) (use annexes for detailed explanations)
    - Explain the agreed arrangements to ensure the compliance with the N-1 obligation
- (b) Bi-directional capacity
- (1) Indicate the interconnection points equipped with bidirectional capacity and the maximal capacity of bi-directional flows
  - (2) Indicate the arrangements governing the use of the reverse flow capacity (e.g. interruptible capacity)
  - (3) Indicate interconnection points where an exemption has been granted in accordance with Article 4(4), the duration of the exemption and the grounds on which it was granted

#### 4. COMPLIANCE WITH THE SUPPLY STANDARD (ARTICLE 5)

Please describe here, per Member State, the measures adopted in order to comply with the supply standard as well as with any increased supply standard or additional obligation imposed for reasons of security of gas supply:

- (a) Definition of protected customers applied, including categories of consumers covered and their annual gas consumption (per category, net value and percentage of the national annual final gas consumption)
- (b) Gas volumes needed to comply with the supply standard according to the scenarios described in the first subparagraph of Article 5(1)
- (c) Capacity needed to comply with the supply standard according to the scenarios described in the first subparagraph of Article 5(1)
- (d) Measure(s) in place to comply with the supply standard:
  - (1) Description of the measure(s)
  - (2) Addressees
  - (3) In case it exists, describe any ex ante monitoring system for the compliance with the supply standard
  - (4) Sanctions regime, if applicable
  - (5) Describe, per measure:
    - the economic impact, effectiveness and efficiency of the measure
    - the impact of the measure on the environment
    - impact of the measures on consumer
  - (6) In case non-market based measures are applied (per measure):
    - Justify why the measure is necessary (i.e., why security of supply cannot be achieved via market-based measures only);
    - Justify why the measure is proportionate (i.e., why the non-market based measure is the least restrictive means to achieve the intended effect)
    - Provide an analysis of the impacts of such measure:
      - (a) on other Member State's security of supply
      - (b) on the national market
      - (c) on the internal market
  - (7) In case of measures introduced after [*OP: Please insert the date of the entry into force of this Regulation*], please provide a link to the public impact assessment of the measure(s) carried out in accordance with Article 8(4)
- (e) If applicable, describe any increased supply standard or additional obligation imposed for reasons of security of gas supply:
  - (1) Description of the measure(s)

- (2) Justify why the measure is necessary (i.e., why the supply standard needs to be increased and, in case non-market based measures are applied, why security of supply cannot be achieved via market-based measures only)
- (3) Justify why the measure is proportionate (i.e., why an increased supply standard or additional obligation is the least restrictive means to achieve the intended effect and, in case non-market based measures are applied, the non-market based measure is the least restrictive means to achieve the intended effect)
- (4) Addressees
- (5) Affected gas volumes and capacities
- (6) Mechanism to reduce it to usual values in a spirit of solidarity and in accordance with Article 12
- (7) Indicate how this measure complies with the conditions set in Article 5(2)

## 5. PREVENTIVE MEASURES

Please describe the preventive measures in place or to be adopted, including those regarding L-gas:

- (a) Describe each of the preventive measures adopted per identified risk according to the risk assessment, including a description of:
  - (1) their national or regional dimension
  - (2) their economic impact, effectiveness and efficiency
  - (3) their impact on the environment
  - (4) their impact on consumers

Where appropriate, include:

- Measures to enhance interconnections between neighbouring Member States
  - Measures to diversify gas routes and sources of supply
  - Measures to protect key infrastructure relevant for security of supply in relation to control by third country entities (including, where relevant, general or sector-specific investment screening laws, special rights for certain shareholders, etc.)
- (b) Describe other measures adopted for reasons other than the risk assessment but with a positive impact for the security of supply of the region/Member State
  - (c) In case non-market based measures are applied (per measure):
    - (1) Justify why the measure is necessary (i.e., why security of supply cannot be achieved via market-based measures only)
    - (2) Justify why the measure is proportionate (i.e., why the non-market based measure is the least restrictive means to achieve the intended effect)
    - (3) Provide an analysis of the impacts of such measure:



- Justify why the measure is necessary (i.e., why security of supply cannot be achieved via market-based measures only)
- Justify why the measure is proportionate (i.e., why the non-market based measure is the least restrictive means to achieve the intended effect)
- Provide an analysis of the impacts of such measure:
  - (a) on other Member State's security of supply
  - (b) on the national market
  - (c) on the internal market
- (d) Explain the extent to which efficiency measures, including on the demand side, have been considered to increase security of supply
- (e) Explain the extent to which renewable energy sources have been considered to increase security of supply

## **6. OTHER MEASURES AND OBLIGATIONS (E.G. SAFETY OPERATION OF THE SYSTEM)**

Describe other measures and obligations that have been imposed on natural gas undertakings and other relevant bodies likely to have an impact on security of gas supply, such as obligations for the safe operation of the system, including who would be affected by this obligation as well as the gas volumes covered. Explain when would these measures precisely apply and how.

## **7. INFRASTRUCTURE PROJECTS**

- (a) Describe future infrastructure projects, including Projects of Common Interests in the region, including an estimated timing for their deployment, capacities and estimated impact on the security of gas supply in the region
- (b) Indicate how the infrastructure projects take into account the Union-wide 10-year network development plan elaborated by ENTSO for Gas pursuant to Article 8(10) of Regulation (EC) No 715/2009

## **8. PUBLIC SERVICE OBLIGATIONS RELATED TO SECURITY OF SUPPLY**

Indicate the existing public service obligations related to security of supply and briefly describe them (use annexes for more detailed information). Explain clearly who has to comply with such obligations and how. If applicable, describe how and when these public service obligations would be triggered.

## **9. MECHANISMS DEVELOPED FOR COOPERATION**

- (a) Describe the mechanisms used for the cooperation among the Member States in the region, including for preparing and implementing this preventive action plan and the emergency plan and Article 12
- (b) Describe the mechanisms used for the cooperation with other Member States out of the region in the design and adoption of the provisions necessary for the application of Article 12

## **10. STAKEHOLDER CONSULTATIONS**

In accordance with Article 7(1), please describe the mechanism used for and the results of the consultations carried out, for the development of this plan as well as the emergency plan, with:

- (a) gas undertakings
- (b) relevant organisations representing the interests of households
- (c) relevant organisations representing the interests of industrial gas consumers, including electricity producers
- (d) national regulatory authority

## **11. NATIONAL SPECIFICITIES**

Indicate any national circumstances and measures relevant for security of supply and not covered in the previous sections of this plan, including for the supply of L-gas in case L- gas is not relevant at regional level.

## Template for emergency plan

### GENERAL INFORMATION

- Member States in the region
- Name of the competent authorities involved in the preparation of the present plan<sup>10</sup>

### 1. DEFINITION OF CRISIS LEVELS

- (a) Per Member State, indicate the body responsible for the declaration of each crisis level and the procedures to follow in each case for such declarations.
- (b) In case they exist, include here indicators or parameters used to consider whether an event may result in a significant deterioration of the supply situation and to decide upon the declaration of a certain crisis level.

### 2. MEASURES TO BE ADOPTED PER CRISIS LEVEL<sup>11</sup>

#### 2.1. Early Warning

- (a) Describe the measures to be applied at this stage, indicating, per measure:
  - (1) Brief description of the measures and main actors involved
  - (2) Describe the procedure to follow, if applicable
  - (3) Indicate the expected contribution of the measure to cope with the impacts of any event or prepare ahead of its appearance
  - (4) Describe the flows of information among the actors involved

#### 2.2. Alert Level

- (a) Describe the measures to be applied at this stage, indicating, per measure:
  - (1) Brief description of the measures and main actors involved
  - (2) Describe the procedure to follow, if applicable
  - (3) Indicate the expected contribution of the measure to cope with the situation at alert level
  - (4) Describe the flows of information among the actors involved
- (b) Describe the reporting obligations imposed on natural gas undertakings at alert level

#### 2.3. Emergency Level

- (a) Establish a list of predefined actions on the supply and demand side to make gas available in the event of an emergency, including commercial agreements between the parties involved in such actions and the compensation mechanisms for natural gas undertakings where appropriate.

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<sup>10</sup> In case this task has been delegated by any competent authority, please indicate the name of the body/(ies) participating in the preparation of this plan on its behalf.

<sup>11</sup> Include regional and national measures

- (b) Describe the market based measures to be applied at this stage, indicating, per measure:
  - (1) Brief description of the measure and main actors involved
  - (2) Describe the procedure to follow
  - (3) Indicate the expected contribution of the measure to mitigate the situation at emergency level
  - (4) Describe the flows of information among the actors involved
- (c) Describe the non- market based measures planned or to be implemented for the emergency level, indicating, per measure:
  - (1) Brief description of the measure and main actors involved
  - (2) Provide an assessment of the necessity of such measure in order to cope with a crisis, including the degree of its use
  - (3) Describe in detail the procedure to implement the measure (e.g. what would trigger the introduction of this measure, who would take the decision)
  - (4) Indicate the expected contribution of the measure to mitigate the situation at emergency level as a complement to market based measures
  - (5) Assess other effects of the measure
  - (6) Justify the compliance of the measure with the conditions established in Article 10(4)
  - (7) Describe the flows of information among the actors involved
- (d) Describe reporting obligations imposed on natural gas undertakings

### **3. SPECIFIC MEASURES FOR THE ELECTRICITY AND DISTRICT HEATING**

- (a) District heating
  - (1) Briefly indicate the likely impact of a supply disruption in the district heating sector
  - (2) Indicate measures and actions to be taken to mitigate the potential impact of a gas supply disruption on district heating. Alternatively, indicate why the adoption of specific measures is not appropriate
- (b) Supply of electricity generated from gas
  - (1) Briefly indicate the likely impact of a supply disruption in the electricity sector
  - (2) Indicate measures and actions to be taken to mitigate the potential impact of a gas supply disruption on the electricity sector. Alternatively, indicate why the adoption of specific measures is not appropriate
  - (3) Indicate the mechanisms/existing provisions to ensure appropriate coordination, including exchange of information, between main actors in the gas and electricity sectors, notably transmission system operators at different crisis levels

#### **4. CRISIS MANAGER OR TEAM**

Indicate who the crisis manager or team is and define its role.

#### **5. ROLES AND RESPONSIBILITIES OF DIFFERENT ACTORS**

- (a) Per crisis level, define the roles and responsibilities, including interactions with the competent authorities and, where appropriate, with the national regulatory authority, of:
  - (1) Natural gas undertakings
  - (2) Industrial consumers
  - (3) Relevant electricity producers
- (b) Per crisis level, define the role and responsibilities of the competent authorities and the bodies to which tasks have been delegated

#### **6. COOPERATION MECHANISMS**

- (a) Describe the mechanisms in place to cooperate within the region and to ensure appropriate coordination for each crisis level. Describe, to the extent they exist and have not been covered in point 2, the decision-making procedures for appropriate reaction at regional level at each crisis level
- (b) Describe the mechanisms in place to cooperate with other Member States out of the region and to coordinate actions for each crisis level

#### **7. SOLIDARITY AMONG MEMBER STATES**

- (a) Describe the agreed arrangements among Member States within the region to ensure the application of the solidarity principle referred to in Article 12
- (b) Describe the agreed arrangements between Member States in the region and Member States belonging to other regions to ensure the application of the solidarity principle referred to in Article 12

#### **8. MEASURES REGARDING UNDUE CONSUMPTION BY NON-PROTECTED CUSTOMERS**

Describe measures in place to prevent the consumption by non-protected customers of gas supply intended for the protected customers during an emergency. Indicate the nature of the measure (administrative, technical, etc.), main actors and the procedures to follow.

#### **9. EMERGENCY TESTS**

- (a) Indicate the calendar for the real time response simulations of emergency situations
- (b) Indicate actors involved, procedures and concrete high and medium impact scenarios simulated

For the updates of the emergency plan: describe briefly the tests carried out since the last emergency plan was presented and the main results. Indicate which measures have been adopted as a result of these tests.

## **ANNEX VI**

### **Peer review of the preventive action plans and emergency plans**

1. Each notified preventive action plan and the emergency plan shall be subject to a peer review by a peer review team.
2. One peer review team per region shall be established. Each peer review team shall be composed of maximum five competent authorities and ENTSO for Gas, each represented by one person, and, as an observer, the Commission. The Commission shall select the representatives of competent authorities and ENTSO for Gas in the peer review teams, taking into account geographical balance and including at least one competent authority from a neighbouring Member State. Members of the peer review team shall not belong to any competent authority or other bodies or associations having participated in the preparation of the plans subject to the peer review.
3. The Commission shall inform the peer review team of the notification of the plans. Within two months of the date of the information the respective peer review team shall prepare and submit a report to the Commission. Before the submission of the report the peer review team shall discuss the preventive action plan and the emergency plan, at least once, with the competent authorities that prepared the plans. The Commission shall publish the report.
4. Taking into account the peer review report, the Gas Coordination Group shall discuss the preventive action plans and emergency plans with a view to ensure the coherence among the different regions and the Union as a whole.

## **ANNEX VII**

### **List of non-market based security of gas supply measures**

In developing the preventive action plan and the emergency plan the competent authority shall consider the contribution of the following indicative and non-exhaustive list of measures only in the event of an emergency:

Supply-side measures:

- use of strategic gas storage;
- enforced use of stocks of alternative fuels (e.g. in accordance with Council Directive 2009/119/EC<sup>12</sup>);
- enforced use of electricity generated from sources other than gas;
- enforced increase of gas production levels;
- enforced storage withdrawal.

Demand-side measures:

- Various steps of compulsory demand reduction including:
  - enforced fuel switching;
  - enforced utilisation of interruptible contracts, where not fully utilised as part of market measures;
  - enforced firm load shedding.

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<sup>12</sup> Council Directive 2009/119/EC of 14 September 2009 imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products (OJ L 265, 9.10.2009, p. 9).

**ANNEX VIII****Correlation table**

<b>Regulation (EU) No 994/2010</b>	<b>This Regulation</b>
Article 1	Article 1
Article 2	Article 2
Article 3	Article 3
Article 6	Article 4
Article 8	Article 5
Article 9	Article 6
Article 4	Article 7
Article 5	Article 8
Article 10	Article 9
Article 10	Article 10
Article 11	Article 11
-	Article 12
Article 13	Article 13
Article 12	Article 14
-	Article 15
Article 14	Article 16
-	Article 17
-	Article 18
Article 16	Article 19
Article 15	Article 20
Article 17	Article 21
Annex I	Annex II
Article 7	Annex III
Annex IV	Annex I



-	Annex IV
-	Annex V
Annex II	-
Annex III	Annex VII
-	Annex VI
-	Annex VIII