

ANNEX V

Template for the national risk assessment*General information*

[^{F1}The Secretary of State has prepared this risk assessment in relation to security of gas supply in the United Kingdom]⁽¹⁾.

Textual Amendments

- F1** Words in Annex 5 substituted (31.12.2020) by [The Gas \(Security of Supply and Network Codes\) \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/531\)](#), reg. 1(2), **Sch. 1 para. 22(2)**; 2020 c. 1, **Sch. 5 para. 1(1)**

1. **Description of the system**

1.1. ^{F2}

Textual Amendments

- F2** Annex 5 point 1.1 omitted (31.12.2020) by virtue of [The Gas \(Security of Supply and Network Codes\) \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/531\)](#), reg. 1(2), **Sch. 1 para. 22(3)(a)**; 2020 c. 1, Sch. 5 para. 1(1)

^{F3} ... Provide a brief description of the gas system of [^{F4}the United Kingdom], covering:

Textual Amendments

- F4** Words in Annex 5 point 1 substituted (31.12.2020) by [The Gas \(Security of Supply and Network Codes\) \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/531\)](#), reg. 1(2), **Sch. 1 para. 22(3)(b)(ii)**; 2020 c. 1, **Sch. 5 para. 1(1)**

- (a) the main gas consumption figures: annual final gas consumption (bcm) and breakdown by type of customers, peak demand (mcm/d);
- (b) a description of the functioning of the gas system at national level, including infrastructure (to the extent not covered by point 1.1(b)). If applicable, include L-gas system;
- (c) the identification of the key infrastructure relevant for the security of gas supply;
- (d) a breakdown, to the extent possible, at national level of gas import sources per country of origin;
- (e) a description of the role of storage and include:
 - (i) the storage capacity (total and working) compared to heating season demand;
 - (ii) the maximal daily withdrawal capacity at different filling levels (ideally with full storages and end-of-season levels);
- (f) a description of the role of domestic production and include:
 - (i) the volume of production with regard to the annual final gas consumption;

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- (ii) the maximal daily production capacity;
- (g) a description of 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).

Textual Amendments

F3 Word in Annex 5 point 1 omitted (31.12.2020) by virtue of The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), Sch. 1 para. 22(3)(b)(i); 2020 c. 1, Sch. 5 para. 1(1)

2. Infrastructure standard (Article 5)

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 directly connected Member States, demand-side measures) and the existing bidirectional capacities, as follows:

- (a) $N - 1$ formula
 - (i) the identification of the single largest gas infrastructure;
 - (ii) the calculation of the $N - 1$ formula [^{F5}for the United Kingdom];
 - (iii) a description of the values used for all elements in the $N - 1$ formula, including intermediate values used for their calculation (e.g. for EP_m indicate the capacity of all entry points considered under this parameter);
 - (iv) an indication of the methodologies used, if any, for the calculation of parameters in the $N - 1$ formula (e.g. D_{max}) (use annexes for detailed explanations);
 - (v) an explanation of the results of the calculation of the $N - 1$ formula considering the level of storages at 30 % and 100 % of the maximum working volume;
 - (vi) an explanation of the main results of the simulation of the $N - 1$ formula using a hydraulic model;
 - (vii) if so decided by the [^{F6}Secretary of State], a calculation of the $N - 1$ formula using demand-side measures:
 - calculation of the $N - 1$ formula in accordance with point 2 of Annex II,
 - description of the values used for all elements in the $N - 1$ formula, including intermediate figures used for the calculation (if different to the figures described under point 2(a)(iii)),
 - indicate the methodologies used, if any, for the calculation of parameters in the $N - 1$ formula (e.g. D_{max}) (use annexes for detailed explanations),
 - explain the market-based demand-side measures adopted/to be adopted to compensate a disruption of gas supply and its expected impact (D_{eff});

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- (viii) ^{F7} ...
- (b) bi-directional capacity
- (i) indicate the interconnection points equipped with bidirectional capacity and the maximal capacity of bi-directional flows;
- (ii) indicate the arrangements governing the use of the reverse flow capacity (e.g. interruptible capacity);
- (iii) indicate interconnection points where an exemption has been granted in accordance with Article 5(4), the duration of the exemption and the grounds on which it was granted.

Textual Amendments

- F5** Words in Annex 5 point 2 substituted (31.12.2020) by The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(4)(a)**; 2020 c. 1, Sch. 5 para. 1(1)
- F6** Words in Annex 5 point 2 substituted (31.12.2020) by The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(4)(b)**; 2020 c. 1, Sch. 5 para. 1(1)
- F7** Annex 5 point 2(a)(viii) omitted (31.12.2020) by virtue of The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(4)(c)**; 2020 c. 1, Sch. 5 para. 1(1)

3. Identification of risks

Describe the risk factors which could have negative impact on the security of gas supply in [^{F8}the United Kingdom], their likelihood and consequences.

Textual Amendments

- F8** Words in Annex 5 point 3 substituted (31.12.2020) by The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(5)(a)**; 2020 c. 1, Sch. 5 para. 1(1)

Non-exhaustive list of types of risk factors that have to be included in the assessment only if applicable according to the [^{F9}Secretary of State]:

Textual Amendments

- F9** Words in Annex 5 point 3 substituted (31.12.2020) by The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(5)(b)(i)**; 2020 c. 1, Sch. 5 para. 1(1)

- (a) political
- [^{F10}gas disruption from countries outside of the United Kingdom] 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),

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- terrorism;
- (b) 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.;
- (c) commercial/market/financial
 - [F¹¹agreements with suppliers outside of the United Kingdom],
 - commercial dispute,
 - control of infrastructure relevant for the security of gas supply by third-country entities, which may imply, among others, risks of underinvestment, undermining diversification or non-respect of Union law,
 - price volatility,
 - underinvestment,
 - sudden, unexpected peak demand,
 - other risks which could lead to structural underperformance;
- (d) social
 - strikes (in different related sectors, such as the gas sector, ports, transport, etc.),
 - sabotage,
 - vandalism,
 - theft;
- (e) natural
 - earthquakes,
 - landslides,
 - floods (heavy rain, river),
 - storms (sea),
 - avalanches,
 - extreme weather conditions,
 - fires (external to the facility, like nearby forests, grassland, etc.).

Textual Amendments

F10 Words in Annex 5 point 3 substituted (31.12.2020) by The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(5)(b)(ii)**; 2020 c. 1, Sch. 5 para. 1(1)

F11 Words in Annex 5 point 3 substituted (31.12.2020) by The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(5)(b)(iii)**; 2020 c. 1, Sch. 5 para. 1(1)

Analysis

- (a) identify the relevant risk factors for [^{F8}the United Kingdom], 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 risk factors 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 gas supply measures, such as the infrastructure standard calculated using the N – 1 formula as set out in point 2 of Annex II, and the gas 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 simulation carried out, including a quantification of the impact (e.g. volumes of unserved gas, the socioeconomic impact, the impact on district heating, the impact on electricity generation).

5. Conclusions

Describe the main results of the ^{F12}... risk scenarios that require further action.

Textual Amendments

F12 Words in Annex 5 point 5 omitted (31.12.2020) by virtue of The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531), reg. 1(2), **Sch. 1 para. 22(6)**; 2020 c. 1, Sch. 5 para. 1(1)

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- (1) Where this task has been delegated by the competent authority, indicate the name of the body/(ies) responsible for the preparation of the present risk assessment on its behalf.

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