

***Regulatory provisions governing key aspects of unconventional gas extraction
in Bulgaria***



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1 GENERAL BACKGROUND INFORMATION ON UNCONVENTIONAL GAS EXTRACTION IN BULGARIA

Potential resources for unconventional gas extraction

It is estimated that Bulgaria may have potential shale gas reserves of between 300 million and 1 billion cubic meters.¹

Political context and stage of development

Bulgaria is highly dependent on natural gas imports. According to information provided by the National Statistical Institute in 2008, Bulgaria imported more than 90 percent of its gas demands.² Shale gas became a very controversial issue in Bulgaria in 2011, when the Government granted a prospection and exploration permit for shale gas (*разрешение за търсене и проучване*) to Chevron-Bulgaria Exploration and Production Ltd for the Northern part of the country.³ This led to a wide public campaign against shale gas exploration highlighting the potential risks of hydraulic fracturing. As a result the Government withdrew the prospection and exploration permit. Moreover, following the strong pressure from civil society groups and environmental associations, the Parliament imposed a moratorium on shale gas exploration by prohibiting drilling with a pressure above 20 atmospheres resulting in practice in a ban of drillings below 200 meters.⁴ The text of the decision was so restrictive, that it effectively blocked all the prospecting and exploitation of oil and natural gas in the country. Following the reaction of the industry and research societies, on 14 July 2012, the Parliament adopted amendments to the text of the moratorium⁵ removing the prohibition of drilling with a pressure above 20 atmospheres but clearly prohibiting the use of hydraulic fracturing technology.

General legislative context

To date, Bulgarian legislation makes no distinction between conventional and unconventional gas extraction. The key act for prospecting, exploration and extraction of natural gas applicable to the territory of the Republic of Bulgaria (including the continental shelf and in the exclusive economic zone in the Black Sea) is the Underground Resources Act.⁶ The Underground Resources Act covers all aspects of prospecting and/or exploration and extraction of underground resources, protection and rational use of the underground resources, and mining waste management.

The legislation differentiates between the prospecting and exploration phase (*търсене и проучване*) and the extraction phase (*добив*)⁷ of mineral resources. The prospecting and exploration phase of natural gas is subject to a permit issued by the Council of Ministers (*Министерски съвет*), following a proposal by the Minister of Economy, Energy and Tourism – (*Разрешение за търсене и проучване или проучване*) and the extraction phase can be carried out upon the award of a concession (*концесия*) by the Council of Ministers, following a proposal by the Minister of Economy, Energy and Tourism (*Министър на икономиката, енергетиката и туризма*). The permits for prospecting and/or exploration are limited to a maximum of five years but can be prolonged twice for a period of two

¹ This information was widely spread in the media, but no official data confirming that estimations exist. -http://3e-news.net/show/17897_hristo%20kazandjiev%20bylgariya%20moje%20da%20dokaje%20zapasi%20ot%20shistov%20gaz_b

² Energy Strategy of Republic of Bulgaria until 2020, page 7

http://www.mi.government.bg/files/useruploads/files/epsp/22_energy_strategy2020_.pdf

³ http://pris.government.bg/prin/document_view.aspx?DocumentID=/8xztsZTEo/tahpq0R3Jzg==

⁴ Decision of the Parliament, dated 18 January 2012 - <http://www.parliament.bg/bg/desision/ID/13824>

⁵ <http://www.parliament.bg/bg/desision/ID/14031>

⁶ Закон за подземните богатства – Underground Resources Act (URA), promulgated in State Gazette, issue 23/12 March 1999, last amended State Gazette, issue 45/15 June 2012- <http://lex.bg/laws/ldoc/2134650880>

⁷ For an exact definition of the terms see Additional Provisions, para 1, item 4 and 32 of the URA

years, while the concessions for extraction are granted for 35 years but can be prolonged for 15 more years.

2 PRIOR TO DEVELOPMENT PHASE

2.1 Site identification and preparation phase

Key findings:

- The permitting system for prospecting and/or exploration and granting of concessions for extraction of unconventional gas does not differ from the one for conventional gas as envisaged in the Underground Resources Act. In such a way the current Bulgarian legislation also covers unconventional gas resources.
- In 2012 a mandatory EIA was introduced in Bulgaria for unconventional hydrocarbons incl. shale gas prospecting and/or extraction. Thus public and stakeholder participation is ensured at a very early stage within the frames of the EIA procedure, as set out in the Environmental Protection Act and its implementing Ordinances.
- Environmental and health considerations must be taken into account prior to the start of hydrocarbon activities. This requirement is set out in the EIA legislation and the Underground Resources Act.

2.1.1 General description of key legal requirements

- **Relevant definitions (e.g. licence, permits, authorizations, concessions)**

‘**Extraction**’⁸ is the entire technological process of extraction of solid, liquid and gaseous natural resources from the ground, including transformation of their natural state;

‘**Prospecting operations**’⁹ are the activities carried out in fulfilment of an obtained permit for prospecting and/or exploring and of a concluded contract with the purpose of discovery of a deposit and its assessment. It also includes its characteristics and its probable behaviour during extraction, including: geological, geophysical, geochemical and other necessary specialised observations, analyses and research, drilling or mining, their closing down/abandoning or conclusion, technological tests, as well as the related unforeseen operations;

‘**Prospecting and/or exploration**’¹⁰ is a combination of activities aimed at prospecting, discovering, exploration and assessment of deposits of underground natural resources with the purpose of determining their location, quantity or volume, quality and other geological and economic, technical, technological and ecological mining parameters necessary for designing and performing extraction;

- **Permitting regime/procedure**

As mentioned above, the Underground Resources Act is the key legislation regulating prospecting, exploration and extraction of underground resources, including natural gas.

According to the URA underground resources (including natural gas) are exclusive state property¹¹. Prospecting and/or exploration¹² means the search and assessment of underground resources and establishment of their location, quantity, quality and extent, whereas extraction¹³ is the actual release of underground resources, including transformation of their natural state.

⁸ Paragraph 1, point 4 of the Additional provisions of URA

⁹ Paragraph 1, point 25 of the Additional provisions of URA

¹⁰ Paragraph 1, point 32 of the Additional provisions of URA

¹¹ See Article 3 (1) URA

¹² For an exact definition of the term see Additional Provisions, para. 1, item 32 of the URA

¹³ For a detailed definition of the term see Additional Provisions, para. 1, item 4 of the URA

The Act defines "oil and gas" as all natural liquid and gaseous hydrocarbons underground¹⁴. Thus in practice, prospection and/or exploration and/or extraction authorisation applies to all natural gases and makes no difference between unconventional gas and conventional gas.

- Granting of the prospection and/or exploration permit and extraction concession

The national law establishes two different types of authorisation: prospection and/or exploration permit ("*Разрешение за търсене и проучване или проучване*") and concession ("*Концесия*") for extraction of underground resources. More than one permit for prospecting and/or exploration or concession for extraction could be granted for a given area, provided that they are approved for different types of underground resources; the activities under one of the permits or concessions will not hinder the performance of other authorized activities and if consent is given by other active permit holders or concessionaires in the same area¹⁵.

- Prospection and/or exploration permit

Every natural or legal person (registered as a trade company), who is seeking to prospect and/or explore underground resources is required to have a permit. This permit guarantees the exclusive right to prospect and/or explore the underground resource which is specified in the permit within the designated area, which cannot exceed 5000 sq.km (when the authorisation is for prospecting and/or exploration of natural gas on land) or 20000 sq.km (for activities in the continental shelf and exclusive economic zone in Black Sea).

The opening of the permit procedure needs to be coordinated with the relevant ministers of national security and defence, environment and culture as well as the mayor of the municipality, where the area for prospecting and/or exploration is located. The exact application requirements for prospection and/or exploration permits are laid out in Article 46 of the URA.

- Concession ("*Концесия*") for extraction of underground resources.

Every natural or legal person (registered as a trade company), who demonstrates the capability to carry out the extraction activities and has financial and management resources may be granted a concession to extract underground resources¹⁶. The concession is granted upon a competition; tender or on the right of the holder of a permit for prospecting or exploration, who as a result of these operations has found underground resources and has applied for a concession¹⁷.

The concession is granted for a specific deposit of underground resources with established reserves and /or resources, or its separate parts (sections). The concession could be granted for extraction of two or more types of underground resources if such are identified and registered in the National Balance reserves, within the boundaries of the natural resources deposit. The concession also includes the available infrastructure necessary for the extraction activities¹⁸.

The concession entitles the concessionaire¹⁹ to : acquire ownership of the natural resources extracted; acquire the right to use mining waste resulted from the extraction and primary processing operations; undertake all necessary activities related to the extraction, including prospecting within the boundaries of the natural resources deposit, storage, processing, transportation and sale of the natural resources for which the concession is granted; prospecting for the duration of the concession and to extract minerals from the mining waste resulting from concession activities.

¹⁴ See Additional Provisions, para. 1, item 15 of the URA

¹⁵ Article 23 (2) of the URA

¹⁶ Article 23 (1) of the URA

¹⁷ Article 39 (2) of the URA

¹⁸ Article 33 of the URA

¹⁹ Article 34 of the URA

All these activities should be carried out by the concessionaire in accordance with the contract concluded or its amendments and the existing legal requirements.

The proposal of the Minister of economy, energy and tourism for granting the concession must be motivated and accompanied with legal, financial, economic, environmental and social analysis and coordinated with the relevant ministries. The exact procedure for granting the concession is laid down in Article 45 – 50a of the URA.

- Signature of a contract

Once the permit for exploration or the concession for extraction is granted, a contract needs to be signed between the relevant authorities and the operator as a condition for the entry into force of the permit or concession.²⁰ The contract specifies all main elements of the operations for exploration or extraction – location and size of the area for prospecting and/or exploration and extraction of underground resources; the deadlines for different operations; fiscal conditions (as the operator is obliged to pay a fee for the granted rights for prospecting and or/exploration or extraction) ; liability in cases of non-fulfilment of the contract; obligations of the operator during the performance of activities; inspection requirements; the conditions for protecting the underground, the environment, the protected territories, the cultural sites and the safety and the health of the workers; etc²¹.

If the activities on prospecting and/or exploration and extraction of underground resources are in breach of the existing legislation or the provisions of the abovementioned contract the permit/concession can be cancelled²². It could also be cancelled if the reasons for the suspension are not remedied; if the national security and defence, environment, safety and health of workers and the population are endangered or if cultural values are damaged; and if the requirements for the protection and rational use of underground resources are not respected, as well as the requirements for environmental protection, restoration of the damaged areas, mining waste management²³.

- Operational plans

URA envisages elaboration of operational plans connected with the activity of the operator that must be approved by the authorities for both the exploration phase and the extraction phase:

- Overall operational plan (*Цялостен работен проект*),

This plan must contain information on the activities that will be carried out for the duration of the permit for prospecting and/or exploration or the concession for extraction such as the technical and technological solutions, deadlines for completion of planned prospecting and/or exploration or extraction, mining and processing activities, activities for the conservation and rehabilitation of the site, the amount of necessary investments in the conservation of the land underground, the environment and health and safety of the population.

- The annual operational plan (*Годишен работен проект*)

The same information must be provided in the overall operation plans but must cover in more detail the activities that will be carried out on a yearly basis. They must contain information on the volume, technical execution and deadlines for closure or conservation and recultivation, the amount of the necessary investments and measures for conservation of the land underground, the environment and health and safety of the population.

²⁰ See Article 65 of the URA

²¹ See Chapter IV of the URA

²² See Article 68 of the URA

²³ See Article 69 of the URA

In addition, Chapter 8 of the URA, which is dedicated to the mining waste, requires the operators to develop mining waste management plans („план за управление на минните отпадъци) and an overall operational project for construction, exploitation and closure of mining waste facilities (“Цялостен работен проект за изграждане, експлоатация и закриване на съоръжението за минни отпадъци”) The representative of the Ministry of Environment stated that following the opinion of the Commission, the Mining Waste Directive 2006/21/EC should apply to flowback fluid resulting from hydraulic fracturing. However the expert could not have the point of view of the Ministry of Economy and Energy which is in charge of the mining waste legislation.

All activities on prospection and/or exploration and extraction of the underground resources, as well as of the closing of mines are carried out on the basis of these plans, which are developed by the operator and approved by national authorities after coordination between the Minister of Economy, Energy and Tourism. The Ministry of Environment and Water is consulted prior to the approval of the annual plans and waste management plans.

- **Competent authorities in charge of issuing the permits/concessions**

The competent authority in charge of issuing the permit/granting of concessions for prospecting and/or exploration and extraction of natural gas (including shale gas) is the Council of Ministers. The Council of Ministers takes decisions on the basis of the proposal of the Minister of Economy, Energy and Tourism (Article 5 of URA). The Minister of Economy, Energy and Tourism concludes the contracts for prospecting and/or exploration and extraction of underground resources (Article 6 of URA).

- **Requirements regulating impacts towards public and local communities affected by the activity**

- **Public participation and consultation requirements,**
- **Access to information**

Since unconventional gas activities (prospecting and/or exploration and extraction are subject to an Environmental Impact Assessment (EIA) (see the Section below) the provisions on public participation and consultation as envisaged in the Environmental Protection Act (EPA) apply²⁴. Indeed, public involvement is widely ensured in all stages of the EIA procedure.

According to the Bulgarian legislation, the environmental impact assessment must be carried out following the procedure mentioned in the points below:

- Notification made to the competent bodies and members of the public in the relevant areas of the investment proposal during the pre-investment survey

This means that in the earliest stage (before the beginning of the prospecting and or exploration or extraction of natural gas), the project developer is obliged to notify in writing the competent authority about his investment intention as well as the local authorities, where the activity shall take place and the population concerned. The public may react by sending written opinions, requests for information, as well as attending the public hearings on the subsequent stages of the EIA procedure. At this stage an opinion from the river basin Directorate is required on the impacts that the investment proposal may have on the water status.

- Scoping

The developer is obliged to organize consultations with the competent environmental authorities, other

²⁴ Закон за опазване на околната среда - Environmental Protection Act (EPA), promulgated in State Gazette, issue 91/25 September 2002 , last amended State Gazette, issue 82/26 October 2012 - <http://lex.bg/laws/ldoc/2135458102>

relevant authorities, including local ones, and the public concerned regarding the scoping terms of reference (ToR) and the contents of the EIA²⁵. In the scoping phase, the developer must consult the public concerned on the following:

- The specific characteristics of the envisaged construction, activities and technologies, the degree of development of the design solution, and its relation with existing or other planned construction activities and technologies.
- The characteristics of the existing environment and all its components.
- The significance of the expected impacts.
- The terms of reference for the scope and contents of the EIA.
- The limits of the investigation in connection with the EIA.
- The alternatives for investment proposals.
- The interests and opinions of the public concerned.
- The sources of information.
- The methods for prognoses and EIA.
- Measures for reducing the expected negative environmental impacts.

The developer has an obligation to coordinate the Terms of Reference during the consultations. The competent authority could, if necessary, give instructions for any changes or amendments of the ToR. At this stage a consultation with the competent authorities of the Ministry of Health should be carried out to assess the health risks for human health.

- Preparation of the EIA report

The developer assigns the preparation of the EIA report to independent experts. The EIA report must be prepared according to the consulted ToR and based on the relevant legal requirements.

- Review of the quality of the EIA report²⁶

The project developer submits the report to the competent environmental authority, which evaluates the quality of the report in accordance with the consultations and compliance with the requirements of the environmental legislation.

- Public hearing²⁷

After obtaining confirmation from the competent authority regarding the sufficient quality of the EIA report, the developer organises a public discussion together with the local authorities defined by the competent authority. All interested natural and legal persons may participate in the hearings, including representatives of the Ministry of Environment, local authorities, the territorial executive administration, public organisations including NGOs, and citizens.

The developer is obliged to submit copies of the EIA report to all municipalities defined by the competent authority in order to ensure access to the EIA report for at least 30 days and is obliged to organise the public hearing meeting/meetings together with the local authorities. The date of the meeting(s) is to be announced in the media 30 days in advance. If alternative options for the implementation of the investment proposal are given during the hearings, the developer may decide to obtain the EIA scoping with a detailed assessment of the proposed alternatives. In this case, another public hearing should be organised. All information and opinions received as a result of the public hearings must be accessible to the public concerned.

²⁵ Article 95 (2) and (3) of the EPA and Article 9 and 10 of the EIA Ordinance

²⁶ Article 96 (6) of the EPA, Chapter four of the EIA Ordinance

²⁷ Article 97 EPA, Chapter five of the EIA Ordinance

- Decision on the EIA by the competent environmental body²⁸

The evaluation of the investment proposals shall be completed with an EIA decision, issued by the competent authority (in cases of unconventional gas – the Ministry of Environment). The EIA decision could be taken based on the results of the EIA report, received opinion during the procedure from the other relevant authorities, bodies and the public. The EIA decision may be appealed according to the procedures set out in the Administrative Procedural Code within 14 days after the announcement of the decision.

Within a period of 7 days after the enacting of the EIA decision, the competent authority announces the decision through the mass media or by other suitable means (on the Ministry's website). The competent authority is obliged to ensure access to the EIA decision and its annexes.

As mentioned above, the legislation of Bulgaria ensures wide public participation in all stages of the procedure.

Furthermore Article 41 of the URA requires permits/concessions granted under that Act to be promulgated in the State Gazette, on the Ministry of Economy, Energy and Tourism's web-site and to be announced in the municipalities, where the area [for prospecting or extraction] is located, together with information on the boundaries and the size of that area.

- **Financial guarantee (coverage, time scope, when it is required in the procedure)**

The Bulgarian legislation establishes a financial guarantee to ensure the fulfilment of obligations regarding the technical closure and conservation of the site and for recultivation of the land affected by the activity. According to Article 63a of the URA the holder of the permit/concession must provide a financial security guarantee, in the form of an unconditional bank guarantee, trustee bank account or insurance bond. The type and amount of the guarantee is established in the contract with the permit holder or the concessionaire [concluded after the respective decision /concession being granted, before the start of the operation] on the basis of the activities envisaged in the overall operational plans for prospecting and /or exploring or extraction activities and the timetable for their fulfillment.²⁹

The size of the financial guarantee could be adjusted in accordance with the measures implemented by the permit holder or the concessionaire as described in the contract.

The financial guarantee is required for both exploration and extraction activities and is provided for each year of validity of the contract. If the contract is terminated before its deadline, the financing guarantee shall be transferred to the Ministry of Economy, Energy and Tourism and shall be used to implement the above said activities (Article 63 c URA). If the financial guarantee does not fully cover the costs incurred from the necessary implementation activities under Art. 63a para. 1, the difference in the full amount required shall be at the expense of the permit holder or the concessionaire.

In line with Directive 2006/21/EC on the management of waste from extractive industries, Article 22h of URA requires waste facility operators to provide a financial guarantee before the beginning of waste processing operations so as to ensure the URA's provisions are complied with and those financial resources for restoring the site are always available.

2.1.2 Specific requirements above ground

- **Environmental and health information requirements prior to the start of the project (e.g. EIA for exploration and/or extraction/any other national provisions)**

²⁸ Article 99, EPA and Chapter Six of the EIA Ordinance

²⁹ Article 63b, URA

With the amendment of the Environmental Protection Act (EPA) in April 2012, the drilling for exploration and extraction of unconventional hydrocarbons are subject to a mandatory EIA.³⁰ They are listed as activities under Annex I, p. 29a of the Environmental Protection Act, which corresponds to Annex I of the EIA Directive and refers to the projects subject to a mandatory EIA. Thus a comprehensive assessment on all impacts on the environment as well as risks to human health is carried out prior to the start of the project.

The main provisions for EIA procedures are set out in the EPA and are further developed in the Ordinance on the terms and conditions for carrying out an EIA (EIA Ordinance).

The decision is issued by the Minister of Environment and Water.³¹ The EIA decision is obligatory for obtaining development consent.³² The decision contains the conditions and measures to prevent, reduce or offset any significant adverse effects on the environment. The EIA decision and measures prescribed in it are obligatory for the developer. The competent authority monitors the action plan for the implementation of the measures and compliance with the conditions of the EIA decision during all stages of project development³³, in the cases of unconventional gas activity this means during the preparatory phase, drilling and closure of the site.

The information provided by the developer to the Minister of Environment and Water as a competent authority for the EIA decision is contained in the EIA report, produced by independent experts. The EIA report should contain, as a minimum³⁴:

- Summary of the investment proposal;
- Alternatives for the location and/or alternatives to the technologies proposed by the investor, motivated by the potential environmental impact, including the so-called “zero alternative”;
- Description and analysis of the environmental components (ambient air, atmosphere, water, soil, earth bowels, landscape, natural items, mineral diversity, biological diversity and its elements), of the environmental factors (natural and anthropogenic substances and processes, various kinds of waste and their location, hazardous energy sources – noise, vibration, radiation, etc.) and the material and cultural heritage, which would be affected by the investment proposal, as well as their interaction;
- Description, analysis and evaluation of the supposed significant impact on the population and the environment;
- Description of the methodology used for the forecasting and evaluation of the environmental impact;
- Description of the measures envisioned to prevent, diminish or, wherever possible, stop any significant impact on the environment, and a plan for execution of these measures;
- Standpoints and opinions to be considered for a decision on the EIA, as a result of the consultations.

In addition, although it is not envisaged explicitly in the EPA and the EIA Ordinance, for the gas drilling or other relevant projects, the competent authority could require a description in the EIA report of the chemical composition of the fluids used in the drilling if they are clarified at the stage of the EIA procedure.

When the competent authority (Minister of Environment) assesses the quality of the EIA report presented by the developer, he/she shall evaluate the significance of the environmental and human health impacts from the construction and operation of the investment proposal and shall require an

³⁰ Annex I, p. 29a Environmental Protection Act in connection with Article 81 (1), point 2

³¹ Наредбата за условията и реда за извършване на оценка за въздействието на околната среда – Ordinance on the terms and conditions for carrying out an EIA (EIA Ordinance) - promulgated in SG, issue No 25/18.03.2003, last amended SG, issue 94/30.11.2012

³² Article 82 (5) of the EPA

³³ Article 100 of the EPA, Chapter Seven of the EIA Ordinance

³⁴ Article 96 of the EPA

opinion from the Ministry of Health on the health risks from the proposed activity³⁵. The negative opinion of the Ministry of Health is grounds for the Minister of Environment to refuse to approve the EIA report³⁶ or to take a negative EIA decision if there are arguments for a risk for the human health and no relevant measure or alternatives are presented.

Under the EPA, a separate EIA shall be required for exploration or extraction activities. Since this requirement has not yet been applied it is difficult to know whether it will be the case in practice.

An EIA will be carried out before the beginning of the exploration activities (when a drilling project is developed) and, in cases of extraction, before awarding the concession. The Additional provisions, paragraph 1, point 73 of the EPA legally defines *unconventional hydrocarbons* as natural hydrocarbons from a geological formation with a low content of hydrocarbons, low porosity and low or very low permeability and which require, for their extraction, technologies that further impact the geological formations containing them.

The requirements on health and safety of mining activities are set out in Ordinance No 9 from 29 July 2003 on the minimum health and safety requirements of workers for the extraction of underground resources³⁷ through drilling. As currently there are no specific requirements for unconventional gas resources, these provisions shall apply. According to this legislation, before the beginning of the drilling, the operator (employer) must produce and approve a technical plan, which covers all the requirements for health and occupational safety. This plan should mention that the working places are assessed, health and safety measures are considered, and equipment used is maintained and safe. Workers should be instructed on the safety rules they must apply and pass medical checks, covered by the employer as well as regular training on how to proceed in case of accident. The Ordinance is very detailed and takes into account the specifics of the drilling activity, the equipment used, possible accidents (an emergency plan should be drawn up) and working places.

- **Requirements on strategies to avoid/minimise disruptions to land use, biodiversity, community and water stress (in particular for cumulative developments)**

The requirements are covered through the EIA procedure which explicitly applies to shale gas activities as explained above.

As already mentioned, at the earliest stage (notification) an opinion is required from the relevant river basin Directorate about the compliance of the proposed activity with the water protection legislation, including water use and risk of pollution of ground water. Those Directorates are involved and at the other stages of the EIA procedure (during the consultations for the ToR, evaluation of the quality of the EIA report, the stage of the decision making stage, during the monitoring).

The operator should describe in detail the measures envisioned to prevent, diminish or, wherever possible, stop any significant impact on the environment, and a plan for the execution of these measures. These plans are obligatory for the operator and their implementation is controlled by the competent authority. In the event that a breach of the terms of consent is established, fines or property sanctions must be imposed.

The potential impacts on protected habitats and or areas, covered by the Biodiversity Act³⁸ must also be evaluated through the assessment procedures as set out in Article 31 of the Biodiversity Act. This assessment is carried out within the EIA procedure and its results must be presented as an annex to the EIA report. The competent authority (Ministry of Environment) issues one decision which integrates

³⁵ Article 14 (2) of the EIA Ordinance

³⁶ Article 14 (2) point 4 of the EIA Ordinance

³⁷ НАРЕДБА № 9 от 29.07.2003 г. за минималните изисквания за осигуряване на безопасността и здравето на работещите при добиване на подземни богатства чрез сондиране – promulgated in SG, issue 79/2003 in force as of 06.09.2004

³⁸ Biodiversity Act – Закон за биологичното разнообразие- promulgated in SG issue 77/2002, last amended in SG 77/2002

the conditions and the measures resulting both from the EIA procedure and the appropriate assessment procedure under the Biodiversity Act.

Finally the operators are obliged to perform their activities in compliance with the overall and annual operational plans, which aim to avoid disruptions to underground and the environment³⁹.

- **Setbacks, zoning restrictions and minimum well spacing requirements**

The distances between the populated areas and production processes that are sources of harmful substances, released into the environment were regulated with Ordinance No 7 on hygienic requirements for health protection of populated areas. The ordinances set out the distances between the populated areas and the source of the pollution. However the Ordinance No 7 was repealed in 2011 and as a result zone restrictions are now evaluated on a case-by-case basis through the procedures on environmental assessment and environmental impact assessment and procedures for coordination of development schemes and plans under the Law on Spatial Planning⁴⁰.

- **Rules on vehicles and mobile working machines during the levelling phase.**

Resulting from the analysis of the legal framework, there are no special requirements on vehicles and mobile working machines during the levelling phase. Prescriptions in this respect could be found in the EIA decision.

2.1.3 Specific requirements below ground

- **Requirements for geological characterization including risks of geological faults, man-made structures (e.g. abandoned wells), seismicity and characteristics of the cap rock**

The geological characterization including risks of geological faults, man-made structures (e.g. abandoned wells), seismicity, and characteristics of the cap rock is explored during the geological research of the site and is presented in the geological report. The findings from the geological report are provided in the EIA report⁴¹ from the operator/developer.

- **Requirements on baseline monitoring prior to drilling or fracturing. (e.g. water quality, air quality, seismicity)**

Under the EIA procedure, the operator/developer is obliged to provide information about the characteristics of the environment where the activity shall take place (Article 10 (3) point 3 of the EIA Ordinance). In such a way, he should assess the state of the environment before the start of the activity.

- **Risk assessment requirements covering individual and/or cumulative risks**

As a part of the EIA report, the operator is obliged to explore and assess the possible risks to the environment and human health. Also before the start of drilling activity, the operator is obliged to prepare a risk assessment of possible threats to the environment and occurrence of environmental damage, as required by the Law on liability with regard to the prevention and remedying of environmental damage⁴². The risk assessment should be prepared within the scope according the

³⁹ Article 83 of the URA

⁴⁰ Law on Spatial Planning – Закон за устройство на територията – promulgated in SG issue 1/2001, last amended in SG 28/2013

⁴¹ Conclusion based on the requirement under Article 10 (3) point 1 of the EIA Ordinance (characterization of the investment proposal)

⁴² Article 18 of the Law

Ordinance No1 from 29.10.2008 on the type of preventive and remedial measures in cases provided by law on liability with regard to the prevention and remedying of environmental damage and for the minimum cost of measures implementation.⁴³ The operator should submit this assessment to the relevant competent authority (upon request of it) and shall update it regularly.

- **Any other relevant requirements, including monitoring and reporting and verification requirements**

Resulting from the analysis of the legal framework, there are no special requirements, including monitoring and reporting and verification requirements.

As a part of the EIA report, the operator/developer is obliged to develop a plan for execution of the measures envisioned to prevent, diminish or, wherever possible, stop any significant impact on the environment⁴⁴. The EIA decision contains the measures and conditions, based on the EIA report and other relevant opinions and requirements. The developer is obliged to take into account all conditions and measures within the EIA decision during the all stages of the implementation of the activity. Periodic information for their fulfilment should be provided by the operator/developer to the competent environmental authorities which carry out controls on it⁴⁵ (Regional Environmental Inspectorates, Basin Directorates, and Health Inspectorates). The authority taking the final development consent for the activity is obliged to take into account the EIA decision and the relevant conditions and measures before issuing the development consent.

⁴³Наредба №1 от 29.10.2008г. за вида на превантивните и оздравителните мерки в предвидените случаи от Закона за отговорността за предотвратяване и отстраняване на екологични щети и за минималния размер на разходите за тяхното изпълнение, издадена от министъра на околната среда и водите, обн. ДВ бр. 96 от 7.11.2008г.).

⁴⁴ Article 96 (1) point 6

⁴⁵ Article 100

3 EXPLORATION AND EXTRACTION PHASE

Key findings:

- Health and safety requirements exist for general drilling activities.
- There are no specific requirements to hydraulic fracturing activities. General water permit procedures apply as set out in the Water Act for all abstraction, withdrawal, introduction and discharge of substances into surface and ground waters.
- There are no legal provisions explicitly drafted for shale gas hydraulic fracturing. This information however should be provided in the EIA report by the operator/developer and constantly updated. In addition, the EIA decision could prescribe concrete measures to regulate hydraulic fracturing, which would be binding on the operator. It should also comply with the overall operational (drilling) plan.
- There are no legal obligations to disclose information regarding hydraulic fracturing fluids and substances used in the mining legislation. The competent authorities underline that, in practice, they will request the operator/developer to provide this information in the EIA report.
- There are no special legal requirements related to well design, integrity or hydraulic fracturing, however such requirements may be imposed by an EIA decision and overall operational (drilling) plan.

3.1 General requirements

- **Health and Safety measures and reporting of occupational incidents/accidents**

The requirements on health and safety within mining activities are laid out in Ordinance No 9 from 29 July 2003 on the minimum health and safety requirements of workers for the extraction of underground resources⁴⁶ through drilling; however there are no specific regulations applicable to unconventional gas activities. Nonetheless, the Ordinance sets out a comprehensive list of requirements that should be implemented by the employer in order to ensure the health and safety of workers. The Ordinance includes requirements on health and safety documentation⁴⁷, prevention measures for considerable dangers⁴⁸, specific protection measures regarding fire, first aid and escape and rescue exits⁴⁹, general requirements for workplaces⁵⁰, supply and use of personal protective equipment⁵¹, health or safety signs in the working areas and health surveillance.

The requirements on the safe storage of hazardous chemicals are laid down in Council of Minister's Decree No 152 of 30 May 2011 for the adoption of Ordinance on the storage of hazardous chemical substances and mixtures⁵², and the latter is applicable for their use in the exploration and extraction phase. In addition, the presence of shale gas in quantities equal or exceeding the levels in Annex 3 to the EPA is subject of safety requirements under Chapter VII of EPA and Ordinance on the control of the major-accident hazards involving dangerous substances (Seveso II)⁵³.

⁴⁶НАРЕДБА № 9 от 29.07.2003 г. за минималните изисквания за осигуряване на безопасността и здравето на работещи те при добиване на подземни богатства чрез сондиране – promulgated in SG, issue 79/2003 in force as of 06.09.2004

⁴⁷ Article 5 Ordinance No 9

⁴⁸ Article 10 Ordinance No 9

⁴⁹ Article 31 and 52 of Ordinance No 9

⁵⁰ Article 12 Ordinance No 9

⁵¹ Article 11 Ordinance No 9

⁵² Наредба за реда и начина за съхранение на опасни химични вещества и смеси, приета с ПМС № 152 от 30.05.2011 г. promulgated in SG, issue 43/2011 in force as of 07.06.2011

⁵³ Наредба за предотвратяване на големи аварии и ограничаване на последствията от тях – Ordinance on prevention of major accidents and limitation of their consequences – promulgated in SG issue 76/2012

- **Third party evaluation and verification of health and environmental performance**

There are no requirements directly relating to third party evaluation and verification of health and environmental performance.

It is noteworthy that the operator's activity should comply with the measures prescribed by the competent authority [Ministry of Environment] in the EIA decision and with the operational plans (annual and overall) for the drilling activity. Periodic information for their fulfilment must be provided by the operator. In addition, the competent authorities – Regional Environmental Inspectorates, Basin Directorates, Health Inspectorates – may inspect the activity.

3.2 Above ground requirements during the exploration and extraction phase

3.2.1 Drilling requirements

- **Noise and fumes from engines used for the drilling**

The operator must carry out his activity in compliance with the general requirements set out in the national legislation, such as:

- Noise Protection Act⁵⁴ and the Ordinance on the essential requirements to noise emission in the environment by equipment for use outdoor⁵⁵ establishing noise levels for machines used in drilling and hydraulic fracturing activities entering the market or being put into use;
- Ordinance No 6/26.06.2006 on the noise indicators in the environment, taking into account the degree of discomfort in different parts of day, limit values of noise indicators, environmental assessment methods of the values of the indicators and harmful effects of noise on human health
- Ordinance No 6/15.08 on the minimum requirements to ensure the health and safety of workers against risks related to exposure to noise. The limit values of the noise indicators are set out for the different territories and urban areas in the populated areas.

As regards the fumes from engines, used for the drilling, the operator should comply with the requirements, set out in the Clean Air Act⁵⁶ and the Ordinance No1 on limit values of emissions of harmful substances (pollutants) in the ambient air from stationary emissions sources.⁵⁷ The drilling rig must be at least 12 meters high (Article 4 (4) of Ordinance No1).

- **Groundwater or other water distance from drilling**

Requirements under water law applicable to shale gas exploration and extraction arise from the Water Act (“Закон за водите”)⁵⁸ and the Ordinance No 1 on the Exploration, Use and Protection of Groundwater (“Наредба № 1 от 10.10.2007 г. За проучване, ползване и опазване на подземните води”)⁵⁹.

⁵⁴ Закон за защита от шума в околната среда – promulgated in SG, issue 74/2005, last amended SG 32/2012

⁵⁵ НАРЕДБА за съществените изисквания и оценяване съответствието на машини и съоръжения, които работят на открито, по отношение на шума, излъчван от тях във въздуха– promulgated in SG, issue 11/2004, last amended SG 37/2007

⁵⁶ Закон за чистотата на атмосферния въздух - Promulgated in SG issue 45/1996, last amended SG issue 38/2012

⁵⁷ Наредба № 1 от 27.06.2005 за норми на допустими емисии на вредни вещества (замърсители), изпускани в атмосферата от обекти и дейности с неподвижни източници на емисии - Promulgated in SG issue 45/1996, last amended SG issue 38/2012

⁵⁸ Water Act (Закон за водите), promulgated in SG issue 67/1999 in force as of 28.01.2000, last amended SG issue 82/26.10.2012

⁵⁹ Promulgated in SG issue 87/2007, last amended SG issue 15/2012

In order to use a body of water, the operator needs a permit (“разрешително”) according to Article 50 of the Water Act. The competent authorities are listed in Article 52 of the Water Act – Minister of Environment and Water, municipal mayor, Director of Basin Directorate.

In cases of drilling and/or mining activities in areas with significant groundwater resources, the Ministry of Environment and Water needs to coordinate the conditions for use of these bodies⁶⁰. They should be in accordance with the water management plan of the respective River Basin Directorate.

Thus, a permit is needed under Article 50 of the Water Act for the withdrawal of water from surface water or groundwater.

The EIA decision should further specify the distance requirements from water sources, for example EIA decision No 10-4/2012 on conventional gas extraction sets out that the drilling site should be located at a 1 950 meter distance from drinking water sources, and 50 meters from surface waters. Also the sanitary protection zones should be taken into account.

- **Potential risks of induced seismicity (measuring, stopping if needed)**

Resulting from the analysis of the legal framework, there are no special requirements directly relating to potential risks of induced seismicity. However, induced seismicity is part of the geological research and assessment of the natural gas resources and their deposits (2D and 3D seismicity research techniques are widely used). They should be described in the drilling operational plan as well as information on the methods used and their implications for the environment (and in particular for biodiversity) should be provided in the EIA report. As such, they shall be subject of review and approval by the competent authorities (Minister of Economy, Energy and Tourism for the drilling operational plan and Minister of Environment and Water for the EIA decision) and obligatory prescriptions may be given to the operator.

- **Emergency measures (including safety plans) and reporting of incidents/accidents**

There are no emergency measures, produced specifically for unconventional gas activities. Therefore the general legislation applies.

Ordinance No 9 from 29 July 2003 on the minimum health and safety requirements of the workers for extraction of underground resources through drilling requires the operator to adopt an emergency action plan, which must be in accordance with the specifics of the drilling, accidents foreseen and natural disasters. The operator is obliged to carry out training for the personnel on how to behave in the case of an accident. Also in accordance with Article 20, resp. Article 26 of the Law on liability with regard to the prevention and remedying of environmental damage⁶¹ if an accident occurs, that may lead to imminent threat/environmental damages, the operator is obliged to notify the relevant competent bodies, on whose territory the site is located- Director of the Regional Inspectorate on Environment, Director of the River Basin Directorate and Director of the National Park Directorate. If the case concerns two natural recourses or two regional competent bodies, then the minister of environment and water should be notified as the competent authority.

In addition, in the case of an accident, the Law on protection from disasters⁶² requires the operators to immediately inform the relevant operational center of the Directorate General ‘Fire safety and protection of the population’ at the Ministry of the Interior and the mayor of the endangered

⁶⁰ Article 51 of the Water Act

⁶¹ Закон за отговорността за предотвратяване и отстраняване на екологични щети (promulgated in SG, issue No 43/29.Apr. 2008, amended by SG issue No 12/12.Feb.2008)

⁶² Закон за защита от бедствия - (promulgated in SG, issue No 102/19 December 2006, amended by SG issue No 80/14 October 2011)

municipality⁶³.

The law also refers to the development of emergency plans, training of the personnel, the setting up of systems for early alert and the provision of measures for the removal of the accident.

- **Any other relevant requirements, including monitoring and reporting requirements**

As specified above, the EIA decision requires the operator/developer to monitor the components of the environment that are likely to be affected by the operation – water, air, soil. It is subject to subsequent inspections and control from the competent environmental bodies – Regional Inspectorates on Environment and Water and/or River Basin Directorates.

3.2.2 Well requirements

- **Requirements for the construction of linked infrastructures (e.g. pipelines)**

The requirements to the linked infrastructures of the wells- pipelines, compressor stations, are laid down in the Ordinance on the device and the safe operation of transmission and distribution pipelines and facilities, installations and equipment for natural gas⁶⁴. Thus the Ordinance specifies the requirements of the materials used for the pipes⁶⁵, welding requirements⁶⁶, applicable standards, their device⁶⁷, strength, pressure control mechanism and shut-down⁶⁸; requirements for their placement⁶⁹, etc.

Articles 51-55 further specify the requirements on the safety operation of the compressor stations.

- **Gas leakage and air pollution incl. methane (e.g. via venting, flaring)**

Resulting from the analysis of the legal framework, there are no special regulations on gas leakage and air pollution connected with the well requirements.

The operator is obliged to undertake measures to prevent gas leakage and air pollution under the requirements of the general environmental legislation (Environmental Protection Act, Clean Air Act) as well as under the measures provided in the EIA decision, if any.

- **Any other relevant requirements, including monitoring and reporting requirements and emergency measures**

Ordinance on the device and the safe operation of transmission and distribution pipelines and facilities, installations and equipment for natural gas requires the transmission and distribution companies to elaborate and regularly update safety plans for the elimination of emergencies⁷⁰. The plan defines the actions and responsibilities of personnel involved in the operation of gas pipelines and facilities and natural gas installations in the case of emergencies and shall include information on actions and responsibilities of personnel involved in the operation of gas pipelines, gas facilities, installations and equipment for natural gas in the case of emergencies and localization and liquidation of accidents; responsible units for coordination and management of the procedures at the place of

⁶³ Article 35 of the Law on protection from disasters.

⁶⁴ НАРЕДБА за устройството и безопасната експлоатация на преносните и разпределителните газопроводи и на съоръженията, инсталациите и уредите за природен газ – Promulgated in SG issue 82/2004, last amended SG, issue 103/2012

⁶⁵ Article 16

⁶⁶ Article 6

⁶⁷ Article 15

⁶⁸ Articles 17-22

⁶⁹ Articles 30-45

⁷⁰ Article 281 of the Ordinance

accident; the order for inspections of the alarm equipment; the procedures for early warnings of accidents; names of the local authorities responsible for the coordination of emergency actions; rules for the coordination of the resources necessary to implement emergency actions; competent persons and the equipment to remove the accident, determined in accordance with the nature and scale of the accident; accurate and current plans and maps to determine the location of the network element or installation; measures to be taken to eliminate the consequences of the accident after establishing the circumstances and causes of the accident;⁷¹

The Ordinance further obliges the operators to immediately notify the territorial administration of the Executive Agency “General Labour Inspectorate” and the technical surveillance authority for any accident or injury occurring during the operation of gas equipment and installation. The competent authorities investigate the causes of the accident or incident and prepare the report⁷².

3.3 Below ground requirements during the exploration and extraction phase

3.3.1 Well integrity (casing and cementing)

- **Well design, construction and integrity, on the positioning of the casing and number of casings on the correct choice of cement and its setting time to ensure that wells withstand the cycle of stress during hydraulic fracturing therefore preventing leaks**

Resulting from the analysis of the legal framework, there are no special requirements on well integrity. However such requirements could be prescribed in the EIA decision (in accordance with Article 96 (1), p. 6 of the EPA). In any case, construction norms and standards should apply as regards the well design, construction and integrity.

- **Well-integrity tests before (e.g. pre-drilling water well testing) during and after drilling and objectives of such requirements (i.e. Workers protection, environmental protection)**

Resulting from the analysis of the legal framework, there are no special requirements on well integrity tests before and after drilling. However such tests are required in accordance with existing state standards, for example BSS (Bulgarian State Standard) EN 12327 for the production and technological construction; as regards the transmission pipelines, applicable standards are BSS EN 12186 (test for hardness and density). Such requirements should be envisaged in the drilling operational plans and/or prescribed in the EIA decision (in accordance with Article 96 (1), p. 6 of the EPA).

- **Emergency or safety plans, reporting measures of incidents/accidents**

There is no differentiation between above ground and below ground requirements. See the general legislative requirements as described in Section 3.2.1.

- **Any other relevant requirements, including monitoring, reporting and independent verification requirements**

The operator may be required to prepare a monitoring plan for water, air, soil, waste, etc. under the EIA decision. In this case, its fulfilment shall be subject to control from the competent authorities. Also the fulfilment of the conditions of the annual and operational drilling plans is subject to inspection.

⁷¹ Article 282 of the Ordinance

⁷² Article 371 of the Ordinance.

3.3.2 Hydraulic fracturing

- **Obligation on the operator to monitor the effects of fracturing operations (e.g. extent of the fractures) on the geology of the area.**

This obligation on the operator to monitor the effects of the fracturing operations on the geology of the area may be covered by the measures prescribed in the EIA decision and overall operational plan for drilling activity.

- **Specific requirements applicable to the fracturing activity itself**

Specific requirements applicable to the fracturing may be covered by the measures prescribed in the EIA decision and overall operational plan for drilling activity.

- **Waste management requirements during hydraulic fracturing including:**
 - **Treatment of waste water;**
 - **Wastewater storage (e.g. fluid storage options, freeboard, pit liners);**
 - **Disposal/re-use;**
 - **Discharge of wastewater;**
 - **Monitoring of wastewater transportation;**
 - **Requirements applying to re-injection of wastewater into geological formations for disposal;**
 - **Disclosure of the composition of wastewater.**

Resulting from the analysis of the legal framework, there are no special requirements on hydraulic fracturing in the national legislation. As regards the waste, generated from mining activity, the requirements of Chapter eight of URA ('Mining waste management') and implementing Ordinance on the specific requirements for management of mining waste shall apply. Their provisions transpose the requirements of the Mining Waste Directive.

The operator of the drilling site is responsible for the management of the waste generated from their activities⁷³. They should produce a waste management plan, which contains information about the characterization of mine waste and estimated amounts; potential environmental hazards and measures for their prevention, including preventive measures to avert pollution of water, air and soil; proposed procedures for control and monitoring; a proposed plan for the closure of the facility; measures to prevent major accidents and an emergency plan when the facility is category "A"; measures on restoration, transportation of mining products and waste.

The mining waste shall be classified according to the level of hazard to the environment and human health on the basis of their quality characteristics and content and their classification should be periodically updated. The mining waste shall be deposited and stored at sites or depots called mining waste facilities, the location, construction and management of which prevent or reduce as far as possible their adverse effects on the components of environment and human health, without causing a nuisance through noise or odours and without adversely affecting places of special interest.⁷⁴

In addition, some of the provisions of the Water Act and its implementing Ordinances apply⁷⁵ (which follow the same approach as the Water Framework Directive) regarding the permit for abstraction of

⁷³ Article 22 c of URA

⁷⁴ Article 22b of URA

⁷⁵ Наредба № 2 от 8.06.2011 г. за издаване на разрешителни за заустване на отпадъчни води във водни обекти и определяне на индивидуалните емисионни ограничения на точкови източници на замърсяване – Ordinance No 2 from 8.06.2011 for issuance of permits for discharge of waste waters in water objects and determining the individual emission restrictions from point sources of pollution – Promulgated in SG issue 47/21.06.2011, as amended SG issue 14/17.02.2012

water from a surface or groundwater body⁷⁶, permit for injection of flowback water⁷⁷; requirements for waste water treatment – in own or existing waste water treatment facilities, etc. The operator is obliged to disclose the composition of the waste water as part of the information required for issuance of permit for waste water treatment⁷⁸. Also the operator should carry out their own monitoring of the waters used, in compliance with the permit issued for water use and the EIA decision⁷⁹. The monitoring is carried out under a water monitoring plan, approved by the competent authority.

Article 118a (1), point 6 of the Water Act prohibits injection of natural gas into groundwater sites. As an exception, injection of natural gas for storage purposes shall be permissible into parts of the bowels of the earth which, for natural reasons, are permanently unsuitable for other purposes or where there is an overriding need for the security of the gas supply and in a manner ensuring prevention of future danger of deterioration in the quality of the ground waters. In this case a permit should be issued.

A water injection and reinjection permit shall also be issued in the case of injection of water containing substances resulting from the exploration and extraction of oil and gas, or from mining activities. The injected water may not contain substances other than those resulting from the exploration and extraction of oil and gas, or from mining activities. Also, according to Article 118a (7), point 2 a permit is required for the injection of water for technical reasons into parts of the bowels of the earth wherefrom oil, natural gas or other substances have been extracted, or ones that, for natural reasons, are permanently unsuitable for other purposes.

They are further specified in the EIA decision and the operational drilling plan. For example the EIA decision No 10-4/2012 on conventional gas extraction set out requirements for the storage of waste water in a fluid storage pit and its re-use for drilling.

- **Authorisation, monitoring, reporting and verification of water abstraction and use during hydraulic fracturing**

In accordance with the Water Act provision as specified in the previous section.

- **Movements of trucks (e.g. providing water, material)**

Prescriptions on the route of the trucks could be found in the EIA decision.

- **Obligation on the operator to disclose information on the chemicals contained in the fracturing fluids and requirements (including prohibition) regarding use or non-use of certain chemicals.**

Currently national legislation has no such explicit requirement, however the representative of the Ministry of the Environment underlines that the national authorities will request operators to provide information about the chemical composition used in liquids for gas extraction in the frame of the EIA procedure.

- **Permanent monitoring impacts of hydraulic pressure on the well or ground and adoption of measures (stopping or resuming activity)**

This may be defined in accordance with the EIA decision and the overall drilling plan.

⁷⁶ Article 50 of Water Act

⁷⁶ Article Art.118a (7) of Water Act

⁷⁷ Article 138 of Water Act

⁷⁸ Article 11 (6), point 7 of the Ordinance No 2

⁷⁹ Article 67 of Ordinance No 1 from 11.04.2011 on water monitoring – Наредба № 1 от 11.04.2011 г. за мониторинг на водите – promulgated in SG issue 34/29.04.2011

- **Emergency or safety plans, reporting of incidents/accidents of pollution**

See the general legislative requirements as described in Section 3.2.

- **Impacts on public and local communities affected by the activity in relation to noise from hydraulic fracturing.**

The noise impacts from hydraulic fracturing shall be assessed in accordance with the EIA decision and the overall drilling plan. The applicable noise levels are set out in the general legislation on noise protection.

- **Any other relevant requirements**

No other relevant requirements have been found.

4 CLOSURE PHASE

Key findings:

- There are no specific requirements applying to the closure of unconventional gas extraction wells beyond general provisions set in the Underground Resources Act.
- **Requirements for temporary abandonment/ well idle time;**
- **Requirements to maintain the integrity of the well in the long-term;**
- **Requirements to dismantle the installations and restore the land;**
- **Requirements on liability (including for the longer term) and responsibility;**
- **Any other relevant requirements, including monitoring and reporting requirements.**

As already mentioned, the URA lays down requirements for the closure phase which are specified in the operation projects for the closure and conservation of the site. These projects need to be coordinated with the Ministry of Environment and Water⁸⁰ and measures relate to land recultivation and site rehabilitation.

Also if the operator does not respect the conditions of the permit/concession issued or the contract signed and his activity leads to significant environmental damage, he/she will be held liable pursuant to the Law on liability with regard to the prevention and remedying of environmental damage⁸¹ and will be requested to bear the remediation costs.

⁸⁰ Article 9 of Ordinance No 18

⁸¹ Закон за отговорността за предотвратяване и отстраняване на екологични щети (promulgated in SG, issue No 43/29.Apr. 2008, amended by SG issue No 12/112.Feb.2008)

5 ENFORCEMENT REGIME

Key findings:

- There is no specific sanction regime for unconventional gas extraction beyond the general administrative sanctioning regime.
- **Sanction regime specific to unconventional gas extraction;**
- **Sanctions including restorative measures and injunctive measures (e.g. suspension of the activity until in conformity) related to non-compliance with permits, concessions, licences or authorizations;**
- **Civil liability.**

There is no sanction regime applicable to unconventional gas extraction specifically in the Bulgarian legislation.

The Bulgarian mining legislation sets out an administrative sanctioning regime, including fines which range from 5 000 to 500 000 BGN (2 500 to 255 000 Euro) depending on the offence. Offences sanctioned with up to 50 000 BGN (25 000 Euro) are, for instance, prospection and/or exploration of underground resources without a permit or if the permit has been suspended⁸²; if the conditions of the permit and/or mining waste management plan are not respected⁸³; if the access to the operational site of the control bodies is not provided⁸⁴ and if the information and documentation for underground resources is not submitted to the National Geological Fund.

Bulgarian law does not envisage criminal sanctions for these offences.

In addition, the general rules for civil liability for contamination or deterioration of the environment as laid down in Chapter 11 of EPA are also applicable. Operators of unconventional gas are liable for any fault-based damage they cause to the environment.

⁸² Article 93(1) of URA

⁸³ Article 94 (2) of URA

⁸⁴ Article 93 (4) of URA

6 IDENTIFICATION OF POTENTIAL LIMITATIONS AND USEFUL PRACTICES

This section represents the conclusions drawn by the country expert acting on behalf of Milieu Ltd. It is based on her legal research and interviews with relevant stakeholders (see Annex I).

6.1 Prior to development phase

- Currently, the permitting system for prospecting and/or exploration and granting of concessions for the extraction of unconventional gas does not differ from the one for conventional gas as envisaged in the Underground Resources Act. In such a way the current system also covers unconventional gas resources.
- In 2012, a mandatory EIA was introduced for shale gas prospecting and/or extraction. Thus public and stakeholder participation is ensured from a very early stage. Otherwise public participation within the exploration and/or exploitation authorisation procedure, as set out in the URA, is not required.
- The specific requirements below and above the ground prior to fracturing or drilling could be found in the measures prescribed in the EIA decision and overall and annual operational plans for drilling operations.

6.2 Exploration and extraction phase

- Health and safety requirements are laid down for general drilling activities.
- Currently, there are no specific requirements for hydraulic fracturing activities. General water permit procedures apply as set out in the Water Act for all abstraction, withdrawal, introduction and discharge of substances into surface waters, retaining and lowering surfaces waters, removing, extracting and channelling groundwater as well as discharging substances into groundwater. As regards the waste generated from drilling activity – they are covered by Chapter eight of URA and its implementing Ordinance, which set out requirements to mining waste management.
- General provisions on injection of substances cover the fracturing process itself as well as flowback material. There are thus no provisions explicitly drafted for shale gas hydraulic fracturing.
- The handling of flowback liquids is subject to the requirements of the general mining waste regulations and wastewater regulations.
- There are no legal obligations to disclose information regarding hydraulic fracturing fluids and substances used. However in practice this could be required as a part of the EIA procedure.
- There are no special legal requirements to well design, integrity or hydraulic fracturing, however such requirements are imposed in the EIA decision and the contract for the carrying out of drilling operations.
- Third party evaluation and verification of health and environmental performance are provided in the frames of the monitoring of the EIA decision.
- National law has no requirements on the potential risks of induced seismicity to be explored. However such requirements may exist in the overall operational (drilling) plan as well and should be presented in the EIA report.
- The operator is obliged to prevent gas leakage and air pollution in accordance with the general environmental legislation. Specific requirements may be imposed in the EIA decision and overall operational (drilling) plan.
- There are no specific requirements for the linking infrastructure transporting fracturing fluids as well as flowback water and the storage of the fluids. Such requirements may be imposed in the EIA decision and/or required under the overall operational (drilling) plan.

- There are no emergency plans specifically produced for unconventional gas activities, however the operator is obliged to develop such plans under the general legislation.
- The requirements to disclose the composition of wastewater exist under the water legislation.
- There are no specific requirements relating to the monitoring, reporting and verification of water abstraction and use during hydraulic fracturing, however such requirements exist under the water legislation.
- There are no requirements relating to the movement of trucks in the legislation, but such are prescribed in the EIA decision and/or required under the overall operational (drilling) plan.

6.3 Closure phase

- There are no specific requirements applying to the closure of unconventional gas extraction wells beyond general provisions set in the Underground Resources Act.
- There is no specific sanction regime for unconventional gas extraction beyond the general administrative sanctioning regime.

ANNEX 1 – LIST OF INTERVIEWED STAKEHOLDERS

- Ministry of Environment

The country report has been submitted to a review by the relevant national authorities.

ANNEX 2 – LIST OF NATIONAL LEGISLATION

- Underground Resources Act – Закон за подземните богатства (URA) – (Prom. SG. 23/12 Mar1999)
- Ordinance on the specific requirements for management of mining waste– Наредба за специфичните изисквания за управление на минните отпадъци (adopted by the Council of Ministers with Council of Ministers Decree No 17/27 Jan 2009, promulgated in SG No 10/6 Feb 2009)
- Ordinance No 9 from 29 July 2003 on the minimum safety and health requirements of the workers for extraction of underground resources - Наредба № 9 от 29.07.2003 г. за минималните изисквания за осигуряване на безопасността и здравето на работещите при добиване на подземни богатства чрез сондиране – promulgated in SG, issue 79/2003 in force as of 06.09.2004
- Ordinance No 18 on the conditions and order for coordination of annual projects for prospecting and/or exploration, extraction and primary processing of underground resources and of projects for closure of mining sites, as well as their amendments and supplements - Наредба № 18 от 7.01.2000 г. за условията и реда за съгласуване на годишни проекти за търсене и/или проучване, добив и първична преработка на подземни богатства, на проекти за ликвидация и консервация на геологопроучвателни и миннодобивни обекти и на техните изменения и допълнения – promulgated in SG issue 6/21.01.2000
- Environmental Protection Act (EPA) - Закон за опазване на околната среда (promulgated in SG, issue No 91/25.09. 2002)
- Ordinance on the terms and conditions for carrying out Environmental Impact Assessment - Наредбата за условията и реда за извършване на оценка за въздействието на околната среда на инвестиционни предложения за строителство, дейности и технологии - promulgated in SG, issue No 25/18.03.2003
- Water Act– Закон за водите (in force as of 28 January 2000, promulgated in SG No 67/1999)
- Ordinance No 1 of 10 October 2007 on Research, Use and Protection of Groundwater (ORUPGW) – Наредба № 1 от 10 октомври 2007 за проучване, ползване и опазване на подземните води (in force as of 30 October 2007, adopted by the Ministry of Environment and Water, Ministry of Regional Development and Public Works, The Ministry of Health and the Ministry of Economy and Energy, promulgated SG 87/ 2007, amended SG 2/2010, amended and supplemented SG 15/2012)
- Ordinance No 2 from 8.06.2011 for issuance of permits for discharge of waste waters in water objects and determining the individual emission restrictions from point sources of pollution - Наредба № 2 от 8.06.2011 г. за издаване на разрешителни за заустване на отпадъчни води във водни обекти и определяне на индивидуалните емисионни ограничения на точкови източници на замърсяване — Promulgated in SG issue 47/21.06.2011, as amended SG issue 14/17.02.2012
- Biodiversity Act – Закон за биологичното разнообразие- promulgated in SG issue 77/2002, last amended in SG 77/2002
- Noise Protection Act- Закон за защита от шума в околната среда – promulgated in SG, issue 74/2005, last amended SG 32/2012
- Ordinance on the essential requirements to noise emission in the environment by equipment for outdoor use -Наредба за съществените изисквания и оценяване съответствието на машини и съоръжения, които работят на открито, по отношение на шума, излъчван от тях във въздуха– promulgated in SG, issue 11/2004, last amended SG 37/2007
- Ordinance on the device and the safe operation of transmission and distribution pipelines and facilities, installations and equipment for natural gas - Наредба за устройството и безопасната експлоатация на преносните и разпределителните газопроводи и на съоръженията, инсталациите и уредите за природен газ – Promulgated in SG issue 82/2004, last amended SG, issue 103/2012

- Law on liability with regard to the prevention and remedying of environmental damage- Закон за отговорността за предотвратяване и отстраняване на екологични щети (promulgated in SG, issue No 43/29.Apr. 2008, last amended by SG issue No53/13.07.2012
- Наредба за предотвратяване на големи аварии и ограничаване на последствията от тях – Ordinance on prevention of major accidents and limitation of their consequences – promulgated in SG issue 76/2012
- Ordinance on the storage of hazardous chemical substances and mixtures - Наредба за реда и начина за съхранение на опасни химични вещества и смеси, приета с ПМС № 152 от 30.05.2011 г. promulgated in SG, issue 43/2011 in force as of 07.06.2011
- Ordinance No1 from 29.10.2008 on the type of preventive and remedial measures in cases provided by law on liability with regard to the prevention and remedying of environmental damage and minimum cost of measures implementation (*Наредба №1 от 29.10.2008г. за вида на превантивните и оздравителните мерки в предвидените случаи от Закона за отговорността за предотвратяване и отстраняване на екологични щети и за минималния размер на разходите за тяхното изпълнение, издадена от министъра на околната среда и водите, обн. ДВ бр. 96 от 7.11.2008г.*)
- Law on protection from disasters - Закон за защита от бедствия - (promulgated in SG, issue No 102/19 December 2006, amended by SG issue No 80/14 October 2011)