Draft

RESOLUTION OF THE CABINET OF MONGOLIA

2015…. # City of Ulaanbaatar

Approval of regulation for exploration and exploitation of unconventional petroleum

Pursuant to the clause 7.1.4 of the Petroleum Law the Cabinet of Mongolia resolves to:

approve "Regulation for Exploration and Exploitation of Unconventional Petroleum" as set forth in the annexure to this resolution;

assign to PAM /Ulziiburen/ to consider previous legislative framework when executing production sharing agreement with Munkhiin Erchit LLC and Narantuul LLC that had their Feasibility Studies approved prior to approval of the new Petroleum Law.

assign to Minister for Mining Mr. R. Jigjid to take appropriate measures to have Erdenes Tavan Tolgoi LLC and Genie Oil Shale Mongolia LLC, who both launched their activities prior to approval of the New Petroleum Law, to continue their research and testing in prospecting stage.

assign to PAM /G.Ulziiburen/ to monitor the implementation of this regulation.

Prime Minister of Mongolia Ch.SAIHANBILEG

Minister for Mining R.JIGJID

Draft 2015.02.11

Annexure to Cabinet Resolution dated ….

Regulation for Exploration and Exploitation of Unconventional Petroleum

Section One
General Provisions

Article 1. Purposes

1.1. The purposes of this regulation is to regulate the affairs related to the exploration and exploitation affairs of the unconventional petroleum in Mongolia

Article 2. Scope of this regulation

2.1. This regulation is to regulate activities with respect to exploration and exploitation of unconventional petroleum in Mongolia under the clauses 17, 21 and 26 of the Petroleum Law.

2.2. "Unconventional Petroleum" shall be divided in to 3 categories which are Oil shale, Coal bed methane, and other unconventional petroleum.

Article 3. Definitions

3.1."Unconventional petroleum" means natural bitumen, oil shale, oil sands, gas sands, shale gas, shale oil, and coal bed methane;

3.2. "Exploration for unconventional petroleum" means geological, geochemical, geophysical, drilling, evaluative and extraction testing activities;

3.3."Evaluation" means operations to determine the economic value of unconventional petroleum discovery;

3.4."Extraction testing" means production for duration stated in clause 22,4 of the Petroleum Law;

3.5. "Oil shale" means shale in solid state containing organic matters;

3.6. "Coal bed methane" means gas accumulated in coal during coalification process and/or through subsequent in-seam biogenic processes.

3.7. "Other unconventional petroleum" means natural bitumen, oil sands, shale gas and shale oil.

3.8. "Natural bitumen" mean hydrocarbon compounds existing in semi-solid, and solid state

3.9. "Oil sands" means a combination of clay, sand, water, bitumen- a heavy black viscous oil, and other minerals

3.11. "Shale gas" means natural gas reservoired in shale rocks,

3.12. "Shale oil" means crude oil reservoired in shale rocks.

Article 4. General Provision

4.1. Resources of unconventional petroleum resulted from exploration works shall be measured in respective categories in accordance with clause 8.1.3 of the Petroleum Law "requirements for Petroleum resource assessment, reserve measurement"

4.2. Contractor who happened to have signed a production sharing contract prior to passage of the new Petroleum Law must submit its application for prospecting and exploration for and exploitation of unconventional petroleum (except coal bed methane) over its existing production sharing agreement territory to *Central government administrative body for petroleum*[1] within 90 days of passing this regulation.

4.3. Upon receiving an application from contractor, mentioned in clause 4.2 of this regulation, for prospecting and exploration for and exploitation of coal bed methane, Central government administrative body for Petroleum shall inquire from *Government administrative body for minerals*[2] whether there is a license holder who discovered coal bed methane within 30 days prior to approval of this regulation.

4.4. If Government administrative body for minerals submits a statement regarding a discovery of CBM, an inquiry shall be made to the Minerals special license holder with respect to coal bed methane activities- prospecting, exploration and exploitation within 30 days.

4.5. Minerals license holder must submit its application for coal bed methane exploration and exploitation, within 30 days of receiving the inquiry, mentioned in clause 4.4 of this regulation. If the license holder misses the submission of request date, the rights of the person stated in clause 4.2 of this regulation shall prevail.

4.6. If the person stated in 4.2. of this regulation does not apply for exploration and exploitation of unconventional petroleum within stated period, production sharing agreement acreage will be open for unconventional petroleum activities.

4.7. *Government administrative body*[3] shall negotiate based on clauses 17.3.1-17.3.5, 17.3.7, and 17.3.12 of the Petroleum Law with person stated in clause 4.2 of this regulation and follow with entering into new agreement for unconventional petroleum. In case negotiations do not succeed or no application was received, the territory shall become openly available for operations for coal bed methane.

[1] Meaning the "Mining Ministry"
[2] Meaning the Mineral Resources Authority (MRAM)
[3] Meaning the "Petroleum Agency" (PAM)

4.8. Upon exploration results, as defined in a relevant production sharing contract, Contactor, mentioned in 4.2 of this regulation, must pay commissions/fees set forth in clauses 17.3.6, and from 17.3.8 to 17.3.11 of the Petroleum Law in the same amount set for conventional oil contracted under production sharing contract. Any gas production giving rise to commissions/fees under these clauses will be measured on an energy-equivalent basis for the purpose of this clause 4.8.

4.9. A holder of minerals license and/or radioactive minerals license must report to Central Government Administrative Body within 15 days of finding oil, unconventional petroleum during exploration work. These matters shall be governed by Petroleum Law.

4.10. Under circumstances stated in clause 42.4 of Petroleum Law, the special license holder and contractors must evaluate and report the social and economic significance of the project to the Central government administrative body for Petroleum.

4.11. Central Government Administrative body for Petroleum shall have government conclude the body's results from comparison between evaluations mentioned in clause 4.10 of this regulation.

4.12. A production sharing agreement is not necessary if unconventional petroleum is used solely to generate electricity for resolving the acreage's electricity issue.

4.13. Exploration area for unconventional petroleum shall be up to 10,000 sq.km.

4.14. The profitable discovery /well/ section may be converted to exploitation. Exploitation term shall start from date of conversion.

4.15. Contractor may apply for a production sharing agreement over some of the exploration area. The remaining area shall stay effective for prospecting.

4.16. Unreported discovery of potentially large scale commercial accumulations of other minerals under 42.2 of Petroleum law during exploration and exploitation shall terminate the contract.

4.17. A contractor who has executed separate contracts for different forms of Unconventional petroleum shall not pay fees referred to in Article 34 of Petroleum Law multiple times.

Article 5. State management of unconventional petroleum operations

5.1. Other than stated in Petroleum Law, the Government of Mongolia is entitled to following rights and responsibilities with respect to unconventional petroleum operations:

5.1.1. In case of emergencies involving national security, environmental damage, or preservation of historical and cultural values, the Cabinet may decide to prohibit and restrict production of unconventional petroleum

5.2. Other than stated in Petroleum Law, the Central Government Administrative Body for Petroleum is entitled to following rights and responsibilities with respect to unconventional petroleum operations:

5.2.1. The Central Government Administrative Body for Petroleum will, to certain extent, approve regulations, rules, guidelines and standards for unconventional petroleum operations solely or with Central Government Administrative Body for Standardization.

5.2.2. Central Government Administrative Body shall approve Feasibility Study for Exploitation of Unconventional petroleum deposit based on Professional Minerals Council's conclusions and guidelines on the feasibility study.

5.3. Other than stated in Petroleum Law, Government Administrative Body for Petroleum (hereafter referred to as "Government Administrative Body") is entitled to following rights and responsibilities with respect to unconventional petroleum operations:

5.3.1. The Government Administrative Body shall assist Contractor in obtaining all required permits necessary to conduct Unconventional petroleum operations and in corresponding with key stakeholders in Mongolia.
5.3.2. The Government Administrative Body shall audit Contractor's document related to Unconventional petroleum operations at least once every year.
5.3.3. The Government Administrative Body is entitled to receive a copy of technical documents related to Unconventional petroleum operations conducted by Contractor, including manuals, technical charts, designs of equipment, facilities and buildings.
5.3.4. If contractor is late from compulsory payments referred to in the laws, Government body shall notify the contractor within 3 working days in writing. If the contractor does not proceed with payments within 72 hours of receiving the notification, the contractor shall be deemed in breach of its obligation to the payments.

Article 6. Contractor's rights and responsibilities

6.1. Other than stated in Petroleum Law, the Contractor is entitled to following rights and responsibilities with respect to unconventional petroleum operations:

6.1.1. Contractor shall have the exclusive right of conducting a particular form of unconventional petroleum operations in the Contract area;
6.1.2. Contractor is entitled to install and utilize advanced technologies and premises in order to fully exploit unconventional petroleum reserves and to increase the economic benefit of the project;
6.1.3. Contractor shall be responsible for Unconventional petroleum operations and be held obligated to redeem any detriments and damages caused by violation of operational regime;
6.1.4. Contractor will comply with practices accepted in the international oil industry standard in conducting Unconventional petroleum operations;
6.1.5. Technologies, machineries, equipment and special purpose construction materials for Mongolian operations shall be aimed for efficient exploration, production and exploitation of unconventional petroleum , development of industrial infrastructure and oil refining industry whilst qualifying for advanced and leading international unconventional petroleum industry;
6.1.6. Contractor shall give preference to hiring Mongolian citizens, educate and train them at Contractor's costs in Mongolia and/or abroad in order to get skilled personnel for all levels of the petroleum industry;

6.1.7. Under section 32.3 of the Petroleum Law, the cost recovery of unconventional petroleum operations shall be limited to a maximum annual amount of 70 percent of all unconventional petroleum produced in a given year, with royalty oil deductable.

6.1.8. Contractor shall give preference to Mongolian services, materials and goods in conducting unconventional petroleum operations;

6.1.9. Contractor is obliged to adopt production technologies of unconventional petroleum industry as illustrated in its Feasibility study adhering to the internationally accepted oil standards and environment norms upon registering and having approved them by the relevant authoritative bodies of Mongolia;

6.1.10. Contractor is obliged to conduct hydrological drilling and report its findings to Petroleum Authority within second year of initiation of unconventional petroleum exploration;

6.1.11. Contractor is obliged to monitor the impact to the quality of aquifer reservoir through hydrological control well during pilot production of unconventional petroleum operations and in the event of discovery of harmful/poisonous compound in the content of the aquifer the operations must be stopped.

6.1.12. Contractor shall have a facility for monitoring, configuration of pressure, thermal change, content change of the derived product, poisonous/harmful compounds (CO_2, CO, N, S compounds) of the underground pilot production and exploitation section of the earth.

6.2. Contractor shall pay annually the unconventional petroleum exploration and exploitation license fee in accordance with the article 30 of the Petroleum Law.

6.3. The exploration period shall continue for up to 10 years. Upon application by the Contractor in the period commencing 2 years before the end of the initial exploration period, Government Administrative Body may extend the exploration period one time by up to five years, if it concludes doing so is the optimal method by which to enhance the petroleum potential of the exploration area. The Government Administrative Body shall advise the Contractor of its conclusion within 6 months of receiving the application. Exploration plan, exploration work and duration of the work in line with the budget must be agreed upon by between government administrative body and the contractor. The exploration phase shall be divided in 3 stages. Duration of each stage shall be agreed during negotiation and execution of production sharing agreement, with the default position if the parties don't agree being 3+3+4 year periods.

6.4. Contractor shall relinquish and restitute 25-50% of the initial contract area within 30 days from last day of 1st exploration stage, 30-50% of the remaining contract area within 30 days from last day of 2nd exploration stage, all areas except identified production area or area extended for exploration within no less than 30 days from last day of 3rd exploration stage.

6.5. In the event of drilling at the borders of the exploration and exploitation areas, the parties shall cooperate through negotiation and agreement.

6.6. All information related to exploration and exploitation operations are joint properties of the state and Contractor.

Article 7. Exploration operations for unconventional petroleum

7.1. Private entity contracted in accordance with articles 17, 18, 19, and 21 of the Petroleum Law shall explore for unconventional petroleum on the lands of Mongolia.

7.2. Government Administrative Body shall enter into separate agreement for each form of unconventional petroleum.

7.3. In the annual exploration plan for unconventional petroleum , geological, geophysical and drilling program, technical drawing and project/plan for extraction methods shall be attached.

7.4. Exploration work report shall be submitted to Government Administrative Body upon reviewed and decided by Petroleum Authority's technical committee for exploration and exploitation.

7.5. The unexecuted planned exploration work shall be carried forward to the following year's exploration work plan.

7.6. Request for cancellation of special license shall be made to the Central Government Administrative Body if the planned work is not conducted and result are not reported for 2 consecutive years.

7.7. Phased transition to exploitation may be permitted prior to determination of reserves of unconventional petroleum.

7.8. Expert determination must be undertaken for unconventional petroleum reserve calculation, oil exploitation feasibility study prior to undergoing Minerals Oil Council scrutiny.

7.9. The contractor may suspend its exploration and or exploitation operations in order to protect environment and safety of local people with a permission from Government body Under those circumstances, the exploration and exploitation term shall be extended by time equivalent to suspended period.

7.10. In the event that the contractor is found not to be held responsible for temporary suspension, area fee during the suspension shall be carried to the following year. The special license shall be extended by same period of suspension time. Exploration work amount shall be minimized by amount equal to suspended time within the given year.

Article 8. Exploitation operations for Unconventional petroleum

8.1. The contractor shall request for exploitation special license in accordance with article 24 of Petroleum Law and exploitation stage shall begin on issuance date of exploitation special license.

8.2. In the event of overlapping licence areas between unconventional petroleum, and conventional and other unconventional petroleum territories, license holders shall operate with coordination agreement as required under clause 42.3 of the Petroleum Law. If the parties cannot agree the form of such an Agreement, then the Petroleum Authority will direct them to enter into its preferred form of a coordination agreement.

8.3. In the annual exploitation plan for unconventional petroleum , geological, geophysical and drilling program, technical drawing and project/plan for extraction methods shall be attached

8.4. Unconventional petroleum extraction testing site shall be distinguished by determination of distribution borders of unconventional petroleum bearing and oil source rocks and their economic content through exploration.

8.5. The contractor shall have Minerals Professional Council review the extraction method for unconventional petroleum and its products. The central government administrative body for environment shall provide a conclusion.

8.6. Underground production of unconventional petroleum and its products must be undertaken at site aforementioned in article 8.4 of this regulation.

8.7. The contractor shall begin exploitation and production work within 90 days of issuance of decision to originate production, subject to the availability of necessary infrastructure, such as gas pipelines.

8.8. The contractor shall report to the government administration body about its current estimate of the maximum potential of each economic well within 90 days of initiating the production.

8.9. The contractor shall deliver the following year's detailed production program and budget to the government administrative body within 90 days from end of the calendar year.

8.10. The contractor may adjust the evaluation plan, production plan, and budget based on additional information and research. The contractor shall report to the government administrative body about the change in written form.

8.11. In the event of economic discovery that does not fall in the borders of the production area but falls in the original exploration area, the government administrative body and the contractor may negotiate over the production area and adjust in to the contract.

8.12. Production of unconventional petroleum (including in-situ) shall stop if the production nears within no less than 15m of the exploitation and production area borders. Consultation with the government administration body shall take place in order to find out the necessity to produce in the aforementioned 15 m area- improve efficiency, fully extract resources,

8.13. The contactor may, for the purposes of frequent monitoring of ground and underground water quality, impact of underground processing, measurement of well pressure and gas amount, use the well for water monitoring or may drill new well. The contractor shall close and mark the well if the well is no longer to be used. All wells except water monitoring wells must be closed and covered with soil after exploration and exploitation is completed.

8.14. Land owner, utilizer, or special license holder and local authoritative bodies shall not prohibit the Contractor's construction of access road, transportation, infrastructural lines and pipelines if such do not interfere with the former's activities.

9. Environmental management

9.1. The contractor is obliged to study the surrounding environment's flora and fauna in detailed research and monitor potential negative irreversible impact to the ecological system.

9.2. Gas content and amount resulting from underground processing of oil shale must be fully recovered for processing and comply with standards or actions shall be taken in accordance with the FS. If processing of gas is not feasible due to market and/or infrastructure limitations, the Contractor must seek permission from the Petroleum Authority prior to flaring the surplus gas.

9.3. Byproducts, namely gas compounds from production of exploitation, shall be cleaned/processed in order to prevent harm to the environment. Processed gas must fulfill Mongolian air quality standards. Processed gas standards must established during EIA in testing stage and reported in the FS.

9.4. Final EIA report must be Central government administrative body for environment. All information collected during pilot production and its potential harms (to soil, surrounding land, earth, aquifer, etc.) must be reported if found. Also solutions to overcome such harms and results shall be instated. The report and study shall be used in emergency cases in order to prevent any potential negative impacts.

9.5. Air and underground water monitoring plan shall be submitted to the Central government administrative body for environment for full scale production. The plans shall be

based on studies conducted during pilot production. Waste monitoring, solutions, number of monitoring sampling, the frequency of reporting shall be fully disclosed in the plan.

Article 10. Waste management

10.1.The contractor must comply with Mongolian laws, standards and regulations for its waste management.

10.2. The contractor shall develop a closed industrial and household sewer system for production phase inaccessible to outsiders, livestock, wild animals during production and exploitation stage.

10.3. polluted soil from production must be removed and sanitated at permitted site during production and exploitation stage.

Article 11. Water usage management during production and exploitation

11.1. the water usage for project operations must be kept at minimum level and byproduct water from oil shale processing must be recovered for recycling.

11.2. Underground water monitoring shall start pior to oil shale heating. Underground water quality must be determined in the first place. Underground water monitoring shall be continuous until earth's temperature level falls under 100^0C after reclamation completes following the completion of production

11.3. A disposal method of the produced water from Contractor's operations shall depend upon the quality of that water. Polluted water must be processed at facility or another waste processing plant. Processed water may be used for irrigation, industrial/mining processing purposes or be returned to the natural water pools with relevant bodies' permission.

Article 12. Dispute resolution

12.1. Disputes with respect to Unconventional petroleum activities may be resolved by arbitration.

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