

DECISION No. 163/1998/QĐ-TTg OF SEPTEMBER 7, 1998 PROMULGATING THE REGULATION ON PETROLEUM RESOURCES EXPLOITATION

THE PRIME MINISTER

Pursuant to the Law on Organization of the Government of September 30, 1992;

Pursuant to the Petroleum Law of July 6, 1993;

Pursuant to the Law on Environmental Protection of December 27, 1993;

Pursuant to Decree No. 84-CP of December 17, 1996 of the Government detailing the implementation of the Petroleum Law,

DECIDES:

Article 1.- To promulgate together with this Decision the Regulation on petroleum resources exploitation.

Article 2.- This Decision takes effect 15 days after its signing. All previous regulations contrary to this Decision are hereby annulled.

Article 3.- The ministers, the heads of the ministerial-level agencies and agencies attached to the Government, the presidents of the People's Committees of the provinces and cities directly under the Central Government, Chairman of the Managing Board and General Director of the Vietnam Oil and Gas Corporation shall have to implement this Decision.

For the Prime Minister

Deputy Prime Minister

NGO XUAN LOC

REGULATION ON PETROLEUM RESOURCES EXPLOITATION

(issued together with Decision No. 163/1998/QĐ-TTg of September 7, 1998 of the Prime Minister)

Chapter I

GENERAL PROVISIONS

Article 1.- Aims

This Regulation details the implementation of provisions relating to oil and gas exploitation in Decree No. 84-CP of December 17, 1996 of the Government.

Article 2.- Scope of application

This Regulation shall apply to oil and gas exploitation activities of the (contract) operators in the territorial areas, territorial waters, continental shelf and the exclusive economic zone of the Socialist Republic of Vietnam.

Article 3.- Terms used in this Regulation

Terms defined in the Petroleum Law and Decree No. 84-CP shall also be used in this Regulation. Besides, in this Regulation, the terms below shall be construed as follows:

"Discharge" means discarded solid or liquid substance or solution of wells or any other discharges arising in the exploitation and other activities at oil and gas fields;

"Exploitation project" means a project where there are exploitation equipment and facilities together with platforms, underground exploitation equipment, drilling equipment, diving equipment and offshore supply and receiving system, excluding the pipeline system outside the exploitation zone;

"Offshore exploitation project" means an exploitation project built offshore, which is, however, not an artificial island;

"Inland exploitation project" means an exploitation project built in the mainland;

"Flow line" means the pipeline which carries crude oil or natural gas from the exploitation projects to other location(s) outside the exploitation zone;

"Physio-environmental conditions" mean the climatic, hydrological, oceanographic and other physical conditions related to the implementation of this Regulation;

"Exploitation crew" mean the operator's personnel, who are assigned the responsibility to operate the exploitation project;

"Technological pipeline" means the pipeline used for carrying fluids from wells to technological equipment and vice versa;

"Injection pipeline" means the pipeline that carries fluids to the injection well or the discharge well;

"Instrument approving the right to conduct exploitation activities" or "instrument approving the exploitation activities" is a document issued by the competent State management agency defined in Article 31 of Decree No. 84-CP;

"Injection well" is an well used for fluid injection into reservoirs or fields;

"Oil well" means an well exploiting crude from oil reservoir.

"Gas well" means an well exploiting gas from gas reservoir or field or from the gas cap of an oil field;

"Development well" means the well drilled into the product formations or fields to carry out the following activities:

1. Exploitation of products or fluids;
2. Observing and monitoring the development of product formations;
3. Injecting fluids into wells;
4. Flooding fluids into wells.

"Appraisal well" means an well drilled to gather information on the size and nature of a product formation or field;

"The approved gas-oil ratio limit" is the limit of the gas and oil ratio set by the competent State management agency or the Vietnam Oil and Gas Corporation under the authorization of such agency;

"The recovery coefficient" means the ratio between the volume of petroleum which can be recovered from underground and the geological reserves under the expected economic and technical conditions;

"The underground exploitation equipment system" includes facilities and equipment installed on or under the sea bed for oil and gas exploitation or fluid injection, including vertical pipes, pipelines and relevant exploitation control system;

"Exploitation activities" mean all activities related to the exploitation of oil and gas from reservoirs or fields;

"Reservoir or field development plan" is an instrument presented by the operator to the competent State agency applying for the right to conduct oil/gas reservoir or field development and exploitation activities;

"Plan for experimental reservoir or field exploitation" is the instrument submitted to the competent State management agency by the operator applying for the application of the existing or experimental technologies to a limited part of a reservoir or a field aiming to gather information on the reservoir or field or on exploitation changes in order to optimise the field development or raise the efficiency of reservoir or field exploitation;

"Completion section" means the section of the well body through which the fluids flow in or out of the well body;

"Exploitation zone" is the area where exploitation projects have been or shall be erected in accordance with this Regulation;

"Fluid" means crude oil, natural gas, liquidized gas compounds or water;

"Natural environment" is the physical and ecological environment in the oil and gas exploitation zone;

"The field exploitation operator" or "the operator" for short is an organization or individual permitted by the Vietnamese State to conduct oil and gas exploitation activities under the provisions of the Petroleum Law, Decree No. 84-CP, this Regulation and other legal documents;

"Casing" is a tube installed inside the well body in service of the exploitation and injection;

"Vertical tube" means a vertical tube section used for carrying fluids to and from exploitation projects, including production lines, injection pipes, pipes outside the exploitation zone, control pipeline and gas discharge pipeline.

"Support facilities" mean boats, vehicles, air-planes, air-cushion trains, rescue boats or other facilities used for transporting or supporting people working in the exploitation zone;

"Approved output" is the average production output in a definite period of time, approved by the competent State management agency or by the Vietnam Oil and Gas Corporation under the former's authorization;

"Net output" is the actual average output attained within a definite period of time;

"Overexploited output over the plan" is the excessive output due to the fact that the net output is higher than the approved one;

"Underexploited output as compared to the plan" is the disparity output due to the fact that the net output is lower than the approved one;

"Adjusted output" is the average production output which must be increased or reduced as compared to the approved output to ensure that the net accumulative production output is equal to the approved accumulative output;

"Well repair" is the repair activity undertaken at the production well, injection well, discharge well or observation well in order to restore, increase or change the oil and gas flow or the receiving capacity; including the re-completion of wells;

"Product layers" are product formations which have been determined in term of geo-strata;

"Exploitation equipment and facilities" mean equipment installed in the exploitation zone, including separating equipment, treating equipment, support equipment in service of exploitation, regrouping zone, helipads, storehouses and storing yards, storage tanks, dwelling houses, but excluding rigs, underground exploitation system, drilling equipment, diving equipment system or flow lines;

"Reservoir testing" means the studies conducted to determine a number of physical properties of reservoirs through the determination of the relationship between the bottomhole pressure and the flow of reservoir fluids exploited from the well.

"Oil reservoir" is a formation where hydrocarbon is deposited largely in the liquid form;

"Gas reservoir" is a formation where hydrocarbon is accumulated largely in the form of gas.

Article 4.- Information report and submission

All information, documents and samples defined in this Regulation must be reported and submitted to the Vietnam Oil and Gas Corporation according to the current regulations.

Chapter II

FIELD DEVELOPMENT PLAN AND FIELD EXPLOITATION ACTIVITIES

Article 5.- General provisions

The operator is only entitled to develop and exploit reservoirs or fields according to the reservoir or field development plan or the experimental reservoir or field exploitation plan, which has already been approved by the competent State management agency in accordance with the provisions in Article 31 of Decree No. 84-CP.

The operator shall be allowed to drill development wells only after getting the approval of the Vietnam Oil and Gas Corporation.

Article 6.- Changes or supplements to plans

The operator shall have to apply for any changes or supplements to the already approved plans for the development or trial exploitation of reservoirs or fields in the following cases where:

- The operator plans to make considerable changes to the nature or tempo of the reservoir or field development activities; considerable changes or supplements to the existing equipment at reservoirs or fields; or to deploy at the reservoirs or fields an exploitation program other than that in the already approved plan for the reservoir or field development or trial exploitation;
- The reservoir or field exploitation status or the latest geological information requires the change of exploitation method in order to achieve the highest coefficient of oil and gas recovery from reservoirs or fields;
- The coefficient of the final oil and gas recovery from reservoirs or fields can be raised with high economic efficiency through the application of new methods or technologies.

Article 7.- Opening reservoirs for exploitation

The operator is not allowed to open oil or gas reservoir other than that in the reservoir testing program according to the current regulations, except for special cases approved by the Vietnam Oil and Gas Corporation.

The operator is only entitled to exploit oil or gas from reservoirs or fields according to the Petroleum Law, Decree No. 84-CP, this Regulation and other current relevant stipulations.

Article 8.- Procedures for approving the field development plan

Before applying for the approval of a field development plan or requesting supplements or amendments to a field development plan, the operator shall have to reach an agreement with the Vietnam Oil and Gas Corporation on the contents thereof, and submit them through the Vietnam Oil and Gas Corporation to the competent State management agency for approval.

Article 9.- Approving oil and gas exploitation activities

When applying for the right to conduct oil and gas exploitation activities, the operator shall have to submit relevant documents at the request of the Vietnam Oil and Gas Corporation.

When approving oil and gas exploitation activities, the Vietnam Oil and Gas Corporation shall also approve the conditions related to the safely plan, as well as the plan for the protection of environment and petroleum resources.

The operator is only entitled to conduct oil and gas exploitation activities according to the approved plans and in compliance with the provisions in Article 64 of this Regulation.

Chapter III

WELL, RESERVOIR AND FIELD SURVEYS

Article 10.- Core sample

When technical conditions permit and if the taking of core sample is deemed useful for the assessment of a reservoir or a field, the operator shall have to take the core sample from the appraisal well at the reservoir product section.

The Vietnam Oil and Gas Corporation shall approve the core extraction program only if it deems that such program shall adequately supply geological data and production reservoir index data for the reservoir evaluation.

The operator shall be allowed to drill the development well at reservoir or field only after the core extraction program is approved by the Vietnam Oil and Gas Corporation.

The operator shall have to preserve the extracted core samples and conduct the general and particular analysis thereof.

If it deems necessary, the Vietnam Oil and Gas Corporation may request the operator to take and analyze the additional core samples.

Article 11.- Reservoir testing

Before conducting a reservoir testing at the appraisal well or the development well or before putting the development well into production, the operator shall have to submit to the Vietnam Oil and Gas Corporation the characteristics of the reservoir testing program for consideration and approval.

The operator shall have to test the initial reservoir before putting wells into exploitation in order to gather data on the well's capability to yield oil or gas product, determine the characteristics of the deposit stratum and take the representative fluid samples of the well.

When the repair of a well leads to the change in its capability to yield oil and gas products or its receiving capacity, the operator shall, right after the completion of the repair, have to conduct the research into the well to determine the extent of impact on the well's capability to yield products or its receiving capacity.

When testing a reservoir and evaluating a well, the operator shall have to conduct them strictly in accordance with the already approved program on reservoir testing and well study.

The operator shall have to promptly report to the Vietnam Oil and Gas Corporation on the results of reservoir testing already conducted.

Article 12.- Reservoir pressure gauging or survey

Before starting the exploitation from each completed section of a development well, the operator shall have to determine the static reservoir pressure of such completed section.

Within the first two years after the reservoir or field is put into production, the operator shall have to measure or survey the reservoir and field pressure and analyze the information thereon once every 3 or 6 months, depending on the exploitation situation of the reservoir or field. For the subsequent period, the operator shall have to measure or survey the reservoir pressure at least once every 12 months.

At least 60 days before conducting the reservoir pressure study, the operator shall have to submit to the Vietnam Oil and Gas Corporation for consideration and approval the pressure study program which clearly states the method and locations of the number of wells to be closed for research in order to ensure the accurate determination of the static reservoir pressure.

At the request of the operator, the Vietnam Oil and Gas Corporation may approve a reserve pressure study timetable other than that stipulated above provided that such timetable fits the production conditions.

When studying the reservoir pressure and measuring the fluid level in the well, the operator shall have to conduct them according to the guidance and standards of the Vietnam Oil and Gas Corporation.

Article 13.- Measuring the down-the-hole exploitation parameters

The operator shall have to measure the parameters of down-the-hole exploitation or injection if technical conditions permit and such measuring may considerably contribute to the evaluation of reservoir according the program already agreed upon by the Vietnam Oil and Gas Corporation.

After measuring the down-the-hole exploitation parameters, the operator shall have to report its results to the Vietnam Oil and Gas Corporation.

Article 14.- Fluid sample taking and analysis

Upon the completion of drilling of the appraisal well in any reservoir, the operator shall have to immediately take deep sample or surface sample at the cellar in order to recreate the initial reservoir conditions if it is unable to take the deep sample.

The operator shall have to take and analyze oil sample, gas sample and surface water sample from a number of wells just enough to evaluate the composition of the reservoir fluids at least once every 12 months or at any time when appear signs showing that the composition of fluids exploited from the reservoir has changed.

The operator shall have to take and analyze such samples according to API RP.44 standards of the latest edition or other standards accepted by the Vietnam Oil and Gas Corporation.

After a well is put into production, if water is found in the well fluids, the operator shall have to install the well fluid analyzing equipment at proper places in order to determine the composition and origin of water in such production well.

For a gas well, the operator shall have to determine the source of liquid being exploited. If the being exploited liquid is the reservoir

liquid, measures must be taken to establish and promptly implement a process to determine the reservoir liquid flow in the exploitation process. When requested, the operator shall have to promptly report to the Vietnam Oil and Gas Corporation on the results of the implementation of the above-said process.

When analyzing liquid samples, the operator shall have to ensure that such analysis is conducted according to API RP.45 standard "Regulation on analyzing liquid samples of oil field" - the latest edition, or other standards accepted by Vietnam Oil and Gas Corporation.

The operator shall have to submit to the Vietnam Oil and Gas Corporation the report on the results of the analysis of representative composition of fluids of the reservoir and the results of the description of basic physical and chemical properties of the gas and liquid components of such fluid, including information prescribed by Vietnam Oil and Gas Corporation right after the completion of the analysis.

Chapter IV

OPERATING DEVELOPMENT WELLS

Article 15.- General provisions

The operator shall have to complete and operate the development well according to the best technical process in order to ensure the original state of well and the safe use of well exploiting and operating equipment, the environmental protection, to evaluate and control all operation of the well and recover oil and gas from the well efficiently.

If conditions permit, the operator shall have to immediately adjust the well equipment that may badly affect the exploitation or injection.

The operator shall have to raise the well's exploitation or receiving capacity or change the completed section of the well if such is deemed necessary in order to avoid the considerable reduction of the coefficient of the final oil and gas recovery of the reservoir or field.

If the pressure disparity and the characteristics of the flow of a reservoir may affect the oil and/or gas recovery coefficient at any reservoir when the exchange of flow between such reservoir, appears, the operator shall have to complete the multi-reservoir exploitation wells into separate reservoir exploitation wells or into separate multi-reservoir exploitation wells, or may apply measures to minimize the inter-reservoir flows.

For wells where many separate reservoirs are simultaneously exploited, the operator shall have to carry out the following tasks:

1. Upon the completion of a well, test must be conducted separately for each reservoir in order to affirm and ensure a good interval between reservoirs, including inside and outside the casing;
2. If there is any doubt about such interval, separate test must be conducted immediately.

Article 16.- Approving the down-the-hole operation

For a development well, the operator is allowed to conduct well repair activities, insert geo-physical gaugers or to handle to increase product stream only when it is so approved by the Vietnam Oil and Gas Corporation.

Within 15 days before conducting the above activities, the operator shall have to submit documents related to the process, equipment and title of the operator to the Vietnam Oil and Gas Corporation for consideration and approval.

The above stipulations shall not apply to geo-physical gauging conducted through the well head when the well head is placed higher than the sea water level provided that such activities do not alter the completed section of the well or adversely affect the oil and/or gas exploitation coefficient of reservoir(s).

In cases where the approval is not yet obtained, the operator may carry out the above-mentioned activities if they should be carried out immediately to avoid the loss of well control and if the operator can prove the must to carry out such activities before the timelimit prescribed above.

Article 17.- Dispatch of approval instruments

Right after receiving the instruments approving the operation of a development well, the operator shall have to send one copy to the exploitation project.

Article 18.- General report

Within 30 days after completing all activities prescribed in Article 16, the operator shall have to submit to the Vietnam Oil and Gas Corporation the activity report which includes:

1. The summary of activities and incidents;
2. Diagrams and technical parameters of down-the-hole equipment, casings, production lines, exploitation pipes, well-head ventilating pole and exploitation control system;
3. Data on the composition and properties of fluids used for well completion;
4. Evaluation of the results of work performed.

Article 19.- Production report

In the annual production report made according to Article 92, the operator shall have to present the detailed description of geo-

physical measurement activities conducted at the development well.

Article 20.- Casings and exploitation liners

The operator shall have to ensure that the casing and exploitation liner installed down the hole are designed to serve the following purposes:

1. Permitting the well completion to be done in a safe and efficient manner;
2. Permitting the installation of mechanical exploitation equipment when it is so required to maintain the exploitation flow;
3. Withstanding conditions that cause adverse impacts on the preservation of the structure of the casing and exploitation liner.

The operator shall have to ensure that the casing used down the hole shall be coated with high-quality cement and the cement post must be at least 60 m higher than the top of the reservoir and 30 m lower than the bottom of the product reservoir or the foot of the casing base.

The operator shall have to ensure that the height of the cement post outside the casing is appropriate so as to serve the following purposes:

1. Preventing the corrosion of the casing from the outside;
2. Combating impacts arising due to the injection of fluid into the voidage between the casing and the exploitation liner; preventing the adverse impacts caused to the casing sections uncemented or poorly cemented that may surpass the limit of durability of the casing.

At the request of the Vietnam Oil and Gas Corporation, the operator shall have to prove that the requirements on the casings and production liners of drilling wells under this Regulation have been met.

The operator shall have to ensure that the casing and exploitation liner down the hole, after being installed or repaired, must be tested with the maximum pressure which may be withstood by the casing and the exploitation liner during the exploitation process.

Article 21.- The inter-pipe space

The operator shall have to ensure that the solution used in the well completion or repair must be the one that cause least impacts on the product strata, and that equipment inside the well and the inter-pipe space are arranged in a way that may facilitate the well discharging.

The operator shall have to install packer inside the well in the following cases where:

1. The production well is located offshore;
2. It is necessary to install the safety valves inside the well as stipulated by this Regulation;
3. There may appear in the voidage between the casings and the production liners a pressure of over 13 MPa.

Article 22.- Safety valves inside the wells

If it is an offshore production well, the operator shall have to install the safety valve inside the well at minimum distance of 30 m below the sea-bed.

If it is an inland production well which is capable of self-flowing without needing any mechanical exploitation equipment, the operator shall have to install the safety valve inside the well if the well is located within the area where exist dangers to the local population, environment and drilling well due to overflows; and/or if gas containing sulphurhydro with a content of over 50 per million regarding the volume is exploited.

The operator shall have to operate the well in accordance with the technical data, design, to install equipment, operate and test each safety valve according to API Spec 14A standards: "The technical standards on equipment inside wells" - the latest edition, and to the API Spec 14B standards: "The regulation on technological diagrams, equipment installation and the operation of the system of safety valves inside the well", the latest edition, or other standards accepted by the Vietnam Oil and Gas Corporation.

When the safety valves inside the well are controlled on the surface, the operator shall have to test such valves on the spot right after their installation and retest them at least once every 6 months.

The operator shall be allowed to exploit a well only if the safety valve therein is in good working conditions.

Article 23.- Well-head equipment and ventilating pole.

The operator shall have to ensure that the well-head equipment and ventilating pole meet the following conditions:

1. Being up to the API RP 17A standards: "Regulations on design and operation of underground exploitation system", the latest edition, if the production well is located offshore.
2. Up to the API Spec 6A standards: "Technical criteria of well-head equipment and the ventilating pole", the latest edition, if the production well is located inland.
3. Having the allowable maximum working pressure greater than the maximum pressure to be withstood by the well-head equipment and the ventilating pole during the exploitation process, which is in accordance with the pressure standards accepted by the Vietnam Oil and Gas Corporation.

4. Being designed to stand the temperature conditions, corrosion and physical conditions of the environment;
5. Being designed to stand the force created by the stretch of the casings and production liners in accordance with the pressure standards accepted by the Vietnam Oil and Gas Corporation.
6. Having two major valves, except for the cases prescribed below:

Where the oil exploitation well has a low pressure with the sulphurhydro content of under 1% or the gas well has a low pressure with the sulphurhydro content of under 10 per million in volume or where it is the water injection well, the ventilating pole needs only one major valve.

After the first installation and each repair, the operator shall have to test the ventilating pole at the maximum pressure to be possibly withstood by the ventilating pole during the exploitation process.

Article 24.- Other activities conducted simultaneously with the exploiting operation

When conducting the drillings, completion, repair or acceleration of well flows, geo-physical gauging, chemical products pumping or other construction activities simultaneously with the exploitation activities, the operator shall have to ensure that such activities are included in the safety plan as provided for in Article 64.

The operator shall be allowed to conduct the above prescribed activities simultaneously with the exploiting operation only when the safety plan is approved according to Article 64.

Chapter V

RESOURCE PROTECTION REQUIREMENTS

Article 25.- Field management

The applicable exploiting methods stated in the field development plan must ensure the maximum oil and/or gas recovery coefficient.

Within the scope possible to be achieved, the operator shall have to determine the locations of drilling wells so as to ensure the maximum exploitation of oil and/or gas.

If supplementary drillings are deemed able to increase the oil and/or gas recovery coefficient, the operator shall have to study a supplementary drilling program and submit it to the Vietnam Oil and Gas Corporation for approval.

Article 26.- Injection of fluid replacement into reservoirs or fields

When exploiting oil with the reservoir pressure maintenance regime, the operator must not pump fluids into the reservoirs of the injection well network and reservoirs other than the already approved injection well network and reservoir.

The operator must not inject fluids into the reservoir with a volume different from the exploited volume if it is not so approved by the Vietnam Oil and Gas Corporation.

The operator must not exploit oil with an output that may reduce the reservoir pressure to a level lower than the approved pressure level in the field development plan.

If deeming that the coefficient of the final oil and/or gas recovery from the reservoir shall not reduce, the Vietnam Oil and Gas Corporation shall approve the volume difference or the exploited output different from the above requirements.

The operator shall have to maintain the exploited volume or output already approved by the Vietnam Oil and Gas Corporation under the provisions of this Article.

Article 27.- Injecting gas back to gas reservoirs or caps

The operator must not pump gas back to the gas reservoirs or caps if it is not so approved by the competent State management agency and the Vietnam Oil and Gas Corporation.

Article 28.- Exploiting oil and gas simultaneously

The operator shall be entitled to exploit oil and gas simultaneously from reservoirs or fields with gas caps only when the maximum oil and gas recovery coefficients approved by the Vietnam Oil and Gas Corporation are ensured.

Article 29.- Exploiting many reservoirs at a time

Without the approval of the Vietnam Oil and Gas Corporation, the operator must not exploit oil and/or gas from two reservoirs or more through a production liner or a common well body without measuring the separate flow of each reservoir.

If the exploitation of many reservoirs at a time is approved, the operator shall have to measure the total flow of all product reservoirs and determine the exploited flow of each separate reservoir.

Article 30.- Gas burning and discharge

The operator may burn gas in the following cases:

1. Where the reservoir testing process lasts not more than 48 hours with the flow and volume not greater than the flow and volume that need to be discharged for well ventilation and cleaning.

2. During the period for which the Vietnam Oil and Gas Corporation has accepted and approved the flow and volume in reservoir-testing or well-cleaning activities permitted to last beyond 48 hours or after the well completion, repair or treatment.

The operator may burn gas according to cycles, burn the surplus gas obtained from the low pressure treating system, which can not be economically preserved and the gas burning shall not cause any danger to the safety; burn it in the state of emergency which lasts less than 72 hours such as the compressor or other equipment are out of order; burn it during the periodical maintenance, inspection and testing.

In the emergency state, the operator may temporarily discharge gas if it is impossible to burn it, but for not more than 24 hours and through the safety valves.

The operator is allowed to burn or discharge gas from wells for the release of pressure.

The operator shall have to submit to the competent State management agency and the Vietnam Oil and Gas Corporation for approval the annual burning of accompanied gas for each oil field.

Article 31.- Oil burning or destruction

The operator may burn or destroy oil in emergency cases or when such is deemed necessary for a reasonable period of time after starting the work of well completion or repair or where the flow is accelerated with the volume of oil to be burnt or destroyed being less than one (1) cubic meter/hour.

The operator shall notify in writing the Vietnam Oil and Gas Corporation of the time when oil is burnt or destroyed in order to cope with emergencies.

In the course of well testing, the operator must not exploit oil with a volume exceeding the volume permitted for burning or destruction by the Vietnam Oil and Gas Corporation.

Chapter VI

EXPLOITATION OUTPUT

Article 32.- General provisions

The operator shall have to exploit oil and gas through the best exploiting methods in order to achieve the maximum oil and gas recovery coefficient with a stable exploitation output in line with the approved field development plan.

Article 33.- Exploitation output forecast

Based on the approved exploitation output stated in the field development plan, on October 1st every year, the operator shall have to submit the oil and gas exploitation forecasts for the subsequent years. For oil exploitation forecasts with the error not exceeding 15% as compared with the calculated coefficient of the final oil recovery, the operator shall have to supplement the field studies in order to ensure that the final recovery coefficient shall not shrink.

The first year's exploitation capacity forecast must be calculated according to each month on the basis of each well. The exploitation forecasts for four subsequent years must be calculated according to each quarter and the long-term forecast of the field's life-long operation shall be calculated according to each year. If the annual output forecast fluctuates around $\pm 10\%$ or more, the operator shall have to explain it in writing.

Article 34.- Approving the exploitation output

The operator shall have to notify the Vietnam Oil and Gas Corporation of the detailed daily, monthly, quarterly and yearly exploitation output of wells and fields.

The Vietnam Oil and Gas Corporation shall approve the yearly and quarterly exploitation outputs and may reconsider the average annual exploitation output if the operator fails to achieve the approved output level. For such case, the operator shall have to explain the fluctuations of around $\pm 10\%$ or more as compared to the approved exploitation output level.

The operator shall have to ensure the estimated exploitation output attainable in each specific period under the conditions that activities and product distribution are carried out cautiously, ensuring their practicality, including measures to minimize the gas burning and discharge.

Within 30 days after detecting considerable changes in the exploitation flow, the operator shall have to report them to the Vietnam Oil and Gas Corporation for reconsidering and readjusting the exploitation level.

During the year, if there is any change in the output due to one or several causes in the production process, the operator shall have to quarterly notify the Vietnam Oil and Gas Corporation of the exploitation output change in each month of the quarter. For such case, the operator shall have to submit the following documents at least one month before the turn of the quarter:

- The exploitation capacity estimated for each subsequent quarter;
- The estimated average exploitation output and the monthly net average output of the field in the past and in the remaining quarters of the year;
- The graph of net oil exploitation output developments as compared to the approved oil exploitation output; the graph of the actually burnt volume as compared to the approved volume to be burnt since the year of explaining the change of around $\pm 10\%$ or more between the net oil exploitation output and the approved oil exploitation output and if the volume of burnt gas exceeds the allowable limit.

When conditions permit, the Vietnam Oil and Gas Corporation may approve the maximum output level for each platform in order to meet the field coordination requirements.

Article 35.- Overexploited and underexploited oil outputs

The operator shall have to take measures to achieve the approved output. However, due to unexpected causes, a change of about $\pm 10\%$ of the approved monthly average oil output is allowable for one field provided that the change in the approved monthly average oil output for the contractual zone does not exceed 5% if the contractual zone has two fields or more.

In cases where the monthly output is surpassed or failed, the operator shall have to make the adjustment to such surplus or deficit level in the following month. In cases where the exploitation output adjustment exceeds 10% for a field or 5% of the approved output for the contractual zone, the operator shall have to report it to the Vietnam Oil and Gas Corporation for adjustment.

In cases where the monthly output is surpassed or failed, the operator shall have to make the adjustment thereof at the end of each quarter so that by the end of the year the output decrease or increase no longer exists.

Article 36.- Natural gas exploitation output

For the natural gas, on October 1st every year, the operator shall have to report the natural gas exploitation output estimate for each field, based on the demand for gas in the subsequent years. Such estimates shall have to comply with the provisions of Article 32.

The operator is not allowed to exploit natural gas differently from the contracts for annual sale and purchase of gas with customers, corresponding to the approved exploitation output stated in the field development plan.

If a change or supplement beyond the allowable scope is required, the operator shall have to report it to the competent State management agency, asking permission for the adjustment.

Article 37.- Accompanied gas exploitation

For accompanied gas, on October 1st every year, the operator shall have to submit to the Vietnam Oil and Gas Corporation the exploitation output estimates and plans on the use of accompanied gas for each oil field in subsequent years.

The operator shall have to ensure by all means that the monthly average gas-oil ratio shall not exceed the approved limit.

In cases where the gas-oil ratio is higher than the approved limit, the operator shall be allowed to continue the exploitation only after obtaining the approval of the Vietnam Oil and Gas Corporation.

If it deems necessary, the Vietnam Oil and Gas Corporation, after consulting with the operator, may consider and adjust the gas-oil ratio for each field on the basis of the latest technical information and studies available in the year or in conformity with the limit of gas volume burnt or discharged.

Chapter VII

MEASUREMENT AND INSPECTION

Article 38.- General provisions

The operator shall have to measure and record the flow and total output of each kind of fluids exploited or injected into wells, sold, burnt or destroyed.

The operator shall have to measure and record the flow and total output of gas used as raw materials for exploitation activities at fields or for exploitation by gaslift.

The operator shall have to measure and record the flow and total crude oil output used as liquid hydraulic energy for mechanical exploiting equipment.

The operator shall have to measure and record the flow and total output of each kind of fluids in and out of the treating system at the fields.

Article 39.- Flow gauging equipment

When the operator uses gauging equipment to measure fluid flow as prescribed in Article 38 above, such gauging equipment must be installed and used in accordance with the instructions of the equipment producers. The gaugers must have the measuring distance corresponding to the use purpose and well operate within the selected measuring distance. The gauging equipment must conform with the temperature meters or the temperature regulator if the gauger is the commercial gas meter and the temperature fluctuation may affect the preciseness of the measurement.

Article 40.- Installing flow meter

The operator shall have to ensure that all valves, gaugers and calibration tubes are installed in order to keep the flow reasonably stable through gaugers provided for in Article 39 above.

Article 41.- Exploitation output distribution

The operator shall have to distribute the oil exploitation output from the well cluster of the field on the basis of the ratio divided for each well according to the flow-separating system and the distribution process already approved by the Vietnam Oil and Gas Corporation.

Article 42.- Commercial gas flow meter

When using meter to measure the flow of commercial gas used in exploitation activities, the operator shall have to submit to the Vietnam Oil and Gas Corporation the following documents:

1. The technical parameters of the measuring meter, including the minimum and maximum flows, working pressure and temperature, materials used for the manufacture of meters and the installation process;
2. The detailed list of pressure-or heat-resistant components of centripetal force adjusters, deironizing, dehydrating or degassing accessories, sample-extractor, volumeter or control equipment used together with meters;
3. The detailed list of actual working conditions of meters, including the flow-measuring distance, the determination of constant or interrupted flow, the maximum pressure, pressure-measuring space and the temperature measuring degree;
4. The detailed document on the preciseness of meters, equipment and necessary calibration process;
5. The copies of all reports on meter adjustment.

Article 43.- Gross flow meter and calibration of gas meters, water meters

When using meters to measure the total flow, water and gas, the operator shall have to calibrate all measuring equipment according to standards and periodical regime, approved by the Vietnam Oil and Gas Corporation.

Article 44.- Condensate and crude oil measurement

When using meters to measure operation according to rotating principle or space-occupying principle to gauge condensate and crude oil, the operator shall have to calibrate all measuring equipment and maintain the calibration according to the standards and periodical regime approved by the Vietnam Oil and Gas Corporation.

When using measuring equipment according to principle of flow via hole to measure condensate and crude oil, the operator shall have to fix the automatic-recording device to such equipment.

Article 45.- Dossiers on the measuring work

The operator shall have to keep for at least three years all books, records on the measuring work by each gross flow meter or flow-controller used by the operator. During that period, the operator, if requested, shall have to submit these books to the Vietnam Oil and Gas Corporation.

Article 46.- The precisiveness of substitute measuring method or the readjustment of measuring method.

The allowable minimum precisiveness of the method of measuring the monthly gross oil and gas output at the exploitation zone must meet the requirements of the Vietnam Oil and Gas Corporation.

The operator shall have to regularly test wells with the number of tests enough to satisfy the requirements of the allowable minimum precisiveness as prescribed above.

At the request of the Vietnam Oil and Gas Corporation, the operator shall have to inspect the precisiveness of the measuring equipment being in use and report to the former the results of such inspection.

At the request of the Vietnam Oil and Gas Corporation, the operator shall have to replace or calibrate any measuring equipment that fails to meet the precision requirements defined in this Regulation.

Chapter VIII

REQUIREMENTS ON THE CONSTRUCTION OF EXPLOITATION PROJECTS

Article 47.- General provisions

The operator shall be allowed to use the exploitation zone only under the conditions that the exploitation equipment deployed therein are safe for people, minimize the danger of environmental destruction and permit easy access to exploiting equipment.

Article 48.- Safety system at the exploitation project

The operator shall be allowed to use the system of treating equipment, separating tanks, pressure tanks, mechanical pumps, compressors, pipelines, manifold, well-heads and oil and gas exploiting equipment only when such equipment are protected by a safety system. The safety system must be always in good working order in the course of oil and gas exploitation.

The safety system must be designed with the aim of minimizing the possibility of causing harms to people, environmental destruction and/or damage to the exploitation projects when the equipment are struck with incidents.

The safety system must be capable of automatically detecting dangerous or abnormal signs related to the protected equipment. On the basis of such detection, the safety system shall automatically stop the operation of the entire project or part of the project.

The operator shall be allowed to use the offshore exploitation project only when the safety system for the projects is analyzed, designed and installed according to API RP 14C standards "Regulation on analysis, installation, design and inspection of basic safety system on the surface of the offshore exploitation project", the latest edition.

Article 49.- Emergency shutdown valves

The operator shall have to install the emergency shutdown valves at the well heads and the ventilating poles in the following cases:

1. The production well contain sulphurhydro with the content of more than 50 per million;
2. The well is located in the offshore exploitation zone;
3. The fluid flow should be stopped from well due to incidents in pipelines or the injection pipe, that may cause danger to people or serious destruction of the natural environment.

The operator shall have to ensure that all emergency shutdown valves installed at the well are compatible to the API Spect 14D standards: "Technical standards for safety valve at the well-cellar and in deep sea for offshore exploitation" - the latest edition.

Article 50.- Diesel motors placed on land

The diesel motors used for well completion, repair, dropping geo-physical measuring equipment or reservoir treatment, kicking flows at inland exploitation projects must be placed at least 25 m away from wells if such motors are not surrounded by fire walls, must not be equipped with air charge closing valves, and must not have a system to compress inert gas into the cylinders of the motors with remote control system.

Article 51.- Product-treating equipment

The operator shall be allowed to use offshore exploitation project only when the system of pipelines and relevant equipment are designed and installed according to API RP 14E standards "Regulation on designing and installing pipeline systems at offshore exploitation projects", the latest edition.

The operator shall be allowed to used the pressure-resistant or fire-resistant tanks only if they are designed and installed according to the following conditions:

1. API Spec 12J "Technical criteria of oil and gas separating tanks", the latest edition.
2. Chapter I to IX of the ASME standards: "Codes of pressure-resistant and steam tanks", the latest edition.
3. Other standards accepted by the Vietnam Oil and Gas Corporation.

The operator shall be allowed to use compressors to compress hydrocarbon at exploitation projects if such compressors are designed according to the following standards:

1. API Standard 617: "Centrifugal compressors used in the oil refining technology", the latest edition.
2. API Standard 618: "Centrifugal compressors used in oil refining technology", the latest edition.
3. API Standard 619: "Compressors operating according to the reverse space occupying principle used in the oil refining technology", the latest edition.
4. Other standards accepted by the Vietnam Oil and Gas Corporation.

When gathering and/or treating oil, gas and water containing sulphurhydro, the operator shall have to treat them in accordance with the international practices in oil and gas industry in order to minimize the leak of sulphurhydro gas into the natural environment and ensure the safety and efficiency of such activities.

Sour gas treating equipment must ensure that all materials and the process of using such equipment always comply with the stipulations accepted by the Vietnam Oil and Gas Corporation.

Article 52.- Pressure release system

At the exploitation projects the operator shall have to hook up the pressure-release valves and liquid hydrocarbon treater with decanting tanks, storing tanks or rubber-enclosed containers with holding capacity being great enough to store the largest possible volume of liquid discharged before the safety valves are shut down.

At the exploitation projects, all pressure-release valves in gas-treating equipment must be hooked up with gas-burning or discharge systems.

At the exploitation projects where the sulphurhydro content in the exploited fluids exceeds 10 per million, a gas burning system that operates permanently must be installed thereat.

Article 53.- Alarming system

The operator shall be allowed to conduct oil and gas exploitation only when the exploitation projects are equipped with alarming systems capable of warning all people on the work site of dangers possibly occurring to people, the projects or any harms to the natural environment.

When installing the exploitation projects, the operator shall have to finalize the documents guiding the operation at the projects, including:

1. The written description of the alarming system and method used for identification of types of alarm;
2. The written description of alarming signals;
3. The installing locations of fire, smoke or gas leak-detectors;
4. The written description of energy sources for the alarming equipment;

5. The maintenance and adjustment of alarming equipment;
6. The quantity and location of hand devices for detecting gas.

The alarming systems on exploitation projects must regularly and constantly operate with high reliability, be regularly inspected and maintained, and designed against interferences.

When the automatic alarming system of an exploitation project is being inspected, maintained or repaired, the operator shall have to ensure that the system's function is maintained manually.

Article 54.- Information and communications system

Man-controlled exploitation zones must be equipped with radio or telephone system and emergency information networks, which all must operate uninterruptedly.

Offshore exploitation projects must be equipped with two-way radio communications systems for constant contacts between offshore exploitation projects and control centers ashore, rescue ships as well as any other nearby offshore exploitation projects and sea transport means in the vicinities.

Man-controlled offshore exploitation projects must be equipped with internal telephone communication systems and the public-addressing system arranged in such a way that everyone in any place on the project site can receive information therefrom, and with facilities to transmit documents to the control centers ashore.

Offshore exploitation projects not controlled by men must be equipped with two-way radio communication systems during the time when there are people working thereat, with systems capable of detecting all possible bad circumstances that may cause danger to projects, natural environment and to the communications with the control centers.

Article 55.- Replacing or operating safety equipment

Without plausible reasons, no one is allowed to replace or operate on his/her own the safety equipment in contravention of the provisions in Article 22 and Chapter VII of this Regulation.

Chapter XI

ENVIRONMENTAL MATTERS

Article 56.- General provisions

The operator shall have to abide by the Law on Environmental Protection, the "Regulations on environmental protection in the prospection, exploration, field development, exploitation, storage, transport and processing of oil and gas and related services" issued together with Decision No. 395/1998/QĐ-BKHCHNMT of April 10, 1998 of the Ministry of Science, Technology and Environment and the provisions in Chapter IX of this Regulation.

Article 57.- Recording and reporting on physical environment status

For offshore exploitation projects, the operator shall have to note down and summarize the observations on the natural environment in the process of field exploitation through the working-shift follow-up table according to the form set by the Vietnam Oil and Gas Corporation.

For inland exploitation projects, the Vietnam Oil and Gas Corporation may request the operator to monitor and record the wind direction and speed and the rainfall according to certain regime. For offshore projects, the operator shall have to observe and record the daily rainfall, at least once in every 12 hours under the normal weather conditions and once every hour under the rainy and storm conditions. The operator shall have to record the wind direction and speed, the direction, height and length of sea waves, the post-storm direction; height and length thereof, the direction and velocity of the current, the atmosphere pressure and temperature, the temperature of sea water; the visibility.

The floating platform operator shall have to observe and note down the slant, rolling and bobbing of the exploitation system and the strain of each anchoring rope at least once every 6 hours when the wind speed is below 35 km/h and once every 3 hours when the wind speed exceeds 35 km/h.

For offshore exploitation projects, while conducting production activities, the operator shall have to record the forecasts of meteorological and hydrological conditions for each day and when the meteorological and hydrological conditions alter as compared to the forecasts.

Article 58.- Impacts brought about by the construction

The operator shall have to construct or install projects or parts of the projects according to the designs in order to ensure their use efficiency and minimize their impacts on the surface of sea bed, river bed, ground, living creatures or the natural environment.

Article 59.- Dangers

The operator shall have to take preventive measures to protect people, exploitation projects and all relevant facilities in the exploitation zone so as to avoid harms done by the nature and exploitation activities.

Article 60.- Treatment of oil and discharges

The operator shall have to ensure that all oil exploited or stored at the exploitation zone shall be gathered and treated and wastes shall be treated and discharged in accordance with the Law on Environmental Protection and relevant regulations.

Article 61.- Destruction of discarded materials

The operator shall have to ensure that all wastes arising in the exploitation process shall be gathered, treated, discharged or destroyed in a way not to cause any harms to people's health as well as environment, and the natural conditions shall be preserved.

Article 62.- Water exploited from reservoirs and industrial discharge water

The operator shall not be allowed to commission any system discharging reservoir exploitation water into the sea if such system is not designed and built to maintain the oil content in water lower than the monthly average value or the daily maximum value as specified in the document approving the exploitation with reservoir water.

The operator shall not be allowed to discharge waste water from industrial treatment process into sea if such discharged water fails to meet the criteria on contamination limits as prescribed in the document approving the exploitation with reservoir water.

The operator shall have to establish a rational process of extracting and analyzing samples in order to ensure the quality of exploited water and industrial water, which are better treated much below the contamination limits prescribed in the documents approving the exploitation activities with reservoir water.

The operator shall not be allowed to discharge waste water into land surface water sources or less salty water reservoirs, which can be used for daily life.

When conducting inland exploitation, the operator shall only be allowed to conduct exploitation according to diagrams approved by the Vietnam Oil and Gas Corporation and in accordance with the provisions of Article 17 of the Regulation on environmental protection.

The operator shall be allowed to commission the schemes to discharge reservoir water underground only when so approved by the Vietnam Oil and Gas Corporation in order to avoid environmental pollution and support the maintenance of formation pressure.

Article 63.- Suspension of operation and termination of exploitation activities

The operator shall only be allowed to suspend the operation of exploitation projects in accordance with the field development plans already approved by the competent State management agency.

Before suspending the exploitation of a reservoir or a field for at least 18 months, the operator shall submit through the Vietnam Oil and Gas Corporation to the competent State management agency the termination and field cleaning program.

The operator shall be allowed to terminate reservoir or field exploitation activities only if the termination and field cleaning program is approved by the competent State management agency and when the operator has completed such program with certification by the Vietnam Oil and Gas Corporation.

Chapter X

OTHER PRODUCTION ACTIVITIES

Article 64.- Safety and environmental protection plans

The operator shall have to submit the following documents to the competent State management agencies and the Vietnam Oil and Gas Corporation for approval:

1. The plan for human safety, preservation of exploitation projects and safety for equipment, which shall contain regulations on operation, preservation, inspection, maintenance and other relevant matters.
2. The plan for the protection of natural environment, including the treatment of pollutants or wastes leaked or discharged during the exploitation process.

The above-mentioned plans must also foresee abnormal conditions or emergency cases that may occur such as casualties, death, collisions, uncontrollability of wells, fire or explosions as well as the possibility of overcapacity as compared with projects' designed capacities.

The above-mentioned plans must also cover the coordination with national, branch and local plans.

The operator shall have to keep the copies of the approved plans at the exploitation projects and necessary places so that everyone can see and implement them.

The operator shall have to always ready all equipment for the implementation of the approved plans.

Article 65.- Requirements on equipment

The operator shall ensure that all equipment and machinery used at the exploitation projects meet the safety requirements; be attached with the control systems and safety systems to protect people and environment; be installed and operating in a way to minimize noises, thus avoiding harms done to people and living creatures. The equipment and machinery must be installed in a way to minimize dangers to the exploitation projects or to people working thereat, minimize the environmental destruction, and to facilitate the use thereof.

Article 66.- Required inspection of valves, sensor equipment and relevant reports

For inland exploitation projects, the operator shall have to carry out the following:

1. At least once every 6 months, testing the designed pressure and the working pressure for all emergency valves at well mouths and immediately replacing those out of order;

2. At least once every 12 months, testing the discharge valves at the pressure tanks installed at wells or exploitation projects;
3. At least once every 3 months, testing the pressure gauge;
4. At least once every month, testing liquid level controlling equipment by commissioning gauge.
5. At least once every month, testing automatic shut-down valves hooked up to air compressors or at the inlet of the pressure tank, testing valves which shut and operate according to the principle of shutting at low level on the pipeline.

When the inland exploitation projects are installed with gas or oil treating systems, the operator shall have to test all discharge valves of the above-said equipment at least once every 12 months or during the maintenance process if so approved by the Vietnam Oil and Gas Corporation.

For offshore exploitation projects, the operator shall have to proceed with the following:

1. Checking and testing all parts of the project safety system according to the provisions of Article 48 and recording the system's function according to appendix D of the API RP 14C standards: "The Regulation on testing, designing, installing and inspecting the safety system for offshore exploitation projects", the latest edition.
2. At least once every month, checking the emergency shut-down system of the safety system according to Article 48 by testing all remote control safety valves at each emergency shut-down control station and reoperating them.
3. Testing all valves and sensors equipment, which are components of the safety system as prescribed at Article 51 according to the following timetable:
 - At least once every month for emergency shut-down valves at well which are higher than sea water level in order to inspect their function and detect leaks;
 - At least once every month for the pressure gauges;
 - At least once every month for the liquid level controlling equipment by operating the sensors of such equipment;
 - At least once every month for control valves placed on the pipeline to detect leak;
 - At least once every month for auto-shut valves at the inlet of the pressure tank or the air compressor through test with the use of sensors;
 - At least once every month for shut-down valves installed at the liquid discharge pipeline from the pressure tank and operated by low-level sensors;
 - At least once every 6 months for shut-down system installed at the air compressor being operated by heat sensor;
 - At least once every 3 months for fire-alarm system and gas detecting system;
 - At least once every 12 months for pressure release valves.
4. Readjusting gas-detecting system and fire-alarm system, which, when being tested, are found no longer precise.

For offshore exploitation projects, the operator shall have to submit to the Vietnam Oil and Gas Corporation the list of safety equipment and anti-environmental pollution equipment no later than 45 days after commencing oil and gas exploitation at such project, update data into the list as prescribed above and submit to the Vietnam Oil and Gas Corporation within 45 days after completing the following activities:

- Considerably changing the safety system of the project according to Article 48;
- Repairing main equipment of the safety system as mentioned in Article 48.

The operator shall have to report to the Vietnam Oil and Gas Corporation on all erroneous tests or failed tests of the safety system of the project or equipment of the safety system, no later than 30 days after completing the test.

Article 67.- Support facilities

The operator shall only be entitled to use the support facilities designed, manufactured and preserved in a way to be capable of operating safely under the anticipated natural environment conditions in such areas.

The operator shall be allowed to use the support facilities only when such facilities are equipped with sound and light signal system in accordance with the regulations on maritime safety applicable to such ship, and equipped with emergency rescue equipment with the quantity being enough to release and save all people aboard such means when any incident happens.

The manager of the rescue facility shall have to inform all people boarding the rescue facilities the safety regulations being applied to such means.

Article 68.- Rescue ship

The operator of a man-controlled offshore exploitation project must be possessed of rescue ship which continuously operate within the 5 km-distance and the scope the ship can travel therefrom to the project after 20 minutes in case of a storm.

The rescue ship shall have to meet the following criteria:

1. Having enough rooms for every people from the exploitation project in case of an evacuation;
2. Having first-aid equipment and medical personnel capable of providing first-aids to victims;
3. Being capable of rescuing people who fell into the sea near the exploitation project;
4. Being equipped to function as a communication center in case of emergency so as to ensure the communication between the exploitation project and other ships as well as other exploitation projects in the vicinity, the rescue means, the inland rescue stations and means.

The operator of man-controlled offshore exploitation project shall have to ensure that the rescue ships are ready to rescue people working on the exploitation project in case of emergency and approach near the exploitation project, if necessary, to stand ready for rescue in the following cases where:

- Helicopters are taking off or landing;
- People are working by the sides of ships, rigs;
- People are working by water edge or in water;
- Support is needed in order to avoid crashes against the exploitation project and other dangers.

Article 69.- Transportation

The operator shall have to ensure that the transportation of people and commodities in and out of the exploitation project is carried out safely and in accordance with the current provisions of law.

Article 70.- Communications

The operator of the man-controlled offshore exploitation project shall have to ensure that the communication facilities at the project are capable of operating uninterruptedly and that the operators are fully qualified.

People must be put on duty around the clock to monitor, receive, listen to and record all information on walkie-talkie at the 156.8 MHz frequency, and monitor information, notices and signals on the sea and in the air related to the movement of all support means operating in between the exploitation projects and inland control centers.

Article 71.- Keeping the Regulation

The operator shall have to file the copy of this Regulation at the exploitation project and ensure that such copy must always be available for references and examination when requested.

Article 72.- Suspension of production activities

The operator shall have to immediately suspend all exploitation activities if deeming that their continuity shall discharge into the environment the volume of wastes exceeding the limits prescribed in this Regulation or the limit stated in the document approving the exploitation activities, or cause unsafety to workers, wells or to the operations of other projects.

The operator shall be allowed to resume the exploitation activities only when they are carried out in a safe manner and do not discharge wastes into the environment beyond the prescribed limits.

When there are persons seriously injured or incidents causing serious harms to equipment, the operator shall have to suspend all activities that may cause casualty or serious harms. The operator shall not be allowed to resume the operation if not so permitted by the Vietnam Oil and Gas Corporation.

When a well in the exploitation zone goes beyond control or faces the danger of uncontrollability, the operator shall have to shut down all wells in the exploitation zone till the uncontrollable well or the uncontrollability-prone well is controlled.

Article 73.- Locating under-sea projects

For offshore exploitation systems, the operator shall have to be capable of locating any undersea systems.

Chapter XI

SAFETY AND PERSONNEL TRAINING

Article 74.- Cadres' qualifications

The operator shall have to ensure that all of their supervisors in the exploitation zone have good knowledge and been well trained to perform their tasks with safety before they undertake the assigned tasks.

At the request of the Vietnam Oil and Gas Corporation, the operator shall have to supply the precis of qualifications and experience of any supervisor working in the exploitation zone.

Article 75.- Training

When the exploitation activities require employees with special skills, the operator shall have to submit to the Vietnam Oil and Gas Corporation a report on the program for additional training of employees. The operator shall have to ensure that the persons selected for the approved training program splendidly accomplish their courses.

Article 76.- Practice on safety and environmental protection

The operator shall have to ensure that all people working in the exploitation zone are familiar with the process of ensuring safety for people and evacuation from the exploitation zones when necessary as well as their responsibility in executing plans to prevent accidents. They must also be made to understand and implement the regulations on environmental protection in their daily activities.

At least once every 12 months, the operator of exploitation projects shall have to organize practice on coping with and gathering spilt oil for people working at the exploitation site according to current regulations.

The operator shall have to organize the repractice of any process being applied at the exploitation project if it is deemed unsafe and must notify everyone to participate in the practice. In case of necessity, the operator shall have to include the safety-practice program into the safety manual.

Article 77.- The equipment maintenance and replacement process

The operator shall have the following responsibilities:

1. To immediately repair or replace the equipment which are being used at the exploitation projects and out of order and may cause unsafety for people and equipment thereat;
2. To draft support programs that require advanced technologies to control the mechanical and chemical corrosion for components of the exploitation project as well as pipe, pole, well heads... at the exploitation project and report to the Vietnam Oil and Gas Corporation thereon when requested.

Chapter XII

RIGHT TO ACCESS, SUPERVISION AND INVESTIGATION

Article 78.- The right to access

Except for emergency cases, only the following people are allowed to enter the inland exploitation zones and safety zones of offshore exploitation projects:

1. Members of the exploitation crew or persons so permitted by the operator;
2. Representatives of the Vietnam Oil and Gas Corporation or the competent State management agency(ies);
3. Person(s) appointed by the Vietnam Oil and Gas Corporation but accompanied by the operator's man(men);
4. Inspection groups or inspector(s) as prescribed by the Petroleum Law.

The operator of offshore exploitation projects shall have to apply appropriate measures to ensure that the operators of boats, ships or airplanes operating in or approaching the safety zones of the projects realize the boundaries of the safety zones.

The safety zone of an offshore exploitation project as prescribed above is a zone which is 500 meters from the outmost edge of such exploitation project or from the anchoring place of a floating facility.

Other special cases shall be determined by competent State management agencies.

All facilities, boats and ships are not allowed to anchor within two nautical miles from the outmost edge of an exploitation project.

Article 79.- Equipment inspection and remedial measures

When the representative of Vietnam has grounds to confirm that the oil and gas exploitation equipment's working conditions may cause death or serious injuries to people working at the project, or threaten to prompt the uncontrollability of wells or environmental pollution, he/she may notify this in writing to the operator and request the latter to conduct a test of properties of the equipment.

When re-testing the equipment, if detecting that such equipment operate not in accordance with their technical specifications stated in the operation manuals, the operator shall have to immediately replace or repair such equipment.

If the above-mentioned equipment cannot be inspected satisfactorily, the operator may request the operator re-examine or replace them immediately.

Article 80.- Investigation of incidents

The Vietnam Oil and Gas Corporation or representatives of the competent State management agencies shall investigate any incidents or phenomena in the exploitation zones if they deem that such phenomena may cause considerable destruction or damage to exploitation equipment, the overflowing of substances into the natural environment beyond the limits prescribed in this Regulation or approved document or causing casualties to laborers at the exploitation projects.

The Vietnam Oil and Gas Corporation may conduct investigation in other cases if it is necessary and reasonable.

Chapter XIII

RECORDING AND REPORTING

Article 81.- Unit system

The operator shall have to use the international unit system (SI) to record data and in the reports submitted to the Vietnam Oil and Gas

Corporation. For special cases, other units may be used but changed into SI units enclosed therewith.

Article 82.- Recording incidents and serious accidents

The operator shall have to immediately notify the Vietnam Oil and Gas Corporation by the quickest communication means of accidents that cause human death or missings, serious injuries, of any threats to the safety of individuals or collectives, of fires, explosions, uncontrollability of wells, spills of oil or toxic substance, of the considerable destruction of exploitation projects or serious incidents or accidents having occurred at the exploitation projects.

After informing the Vietnam Oil and Gas Corporation of the accident(s) or incidents, the operator shall have to immediately report in writing to the former on such accidents or incidents.

Article 83.- The names of and naming fields and wells

The Vietnam Oil and Gas Corporation shall stipulate and approve the naming of reservoirs or fields.

The Vietnam Oil and Gas Corporation shall approve the boundaries of reservoirs or fields submitted by the operator.

The operator shall have to use the approved names of reservoirs or fields in all reports, recordings and other documents as requested by the Vietnam Oil and Gas Corporation.

The operator shall name the completion wells for putting them into exploitation according to the following order:

1. A fixed name including separate number sign with the name number of the field and reservoir designing the well;
2. A non-fixed name indicating type of wells and their status.

The above-prescribed names demonstrate the well's tasks as follows:

- The operational well is named with letter O;
- The suspended well is named with letter S;
- The abandoned well is named with letter A;
- The injection well is named with letter I;
- The production well is named with letter P.

Article 84.- The change of operator

When an incumbent operator proposes another to replace him/her, apart from abiding by other legal documents, the former shall have to submit to the Vietnam Oil and Gas Corporation the following documents:

- The reason(s) for the replacement of operator;
- Papers evidencing the new operator is fully capable of fulfilling the responsibility commitments of the incumbent operator in accordance with the provisions of this Regulation.
- The new operator shall be allowed to perform his/her tasks only when he/she is approved by the competent State management agency and the Vietnam Oil and Gas Corporation.

Article 85.- Construction schedule

When requested, the operator shall, within 15 days, have to submit to the Vietnam Oil and Gas Corporation the brief report on major developments in the construction timetable or important events having occurred in the course of construction or installation of exploitation project in the month.

Article 86.- Recording production activities

The operator shall have to keep and supply, when requested, to the Vietnam Oil and Gas Corporation the following documents:

- Training in safety skills and safety practices;
- The list of persons working in the exploitation zone at any time;
- The movement of support facilities;
- The inspections, repairs, modifications or break-down of equipment;
- Inspection of corrosion of the exploitation system and the maintenance results;
- The loss of fuel or oil and leaked chemicals;
- The data on pressure, temperature, flows of compressors, treating facilities and equipment;
- Calibration of measuring and other equipment;
- Checking of safety valves on the surface and down the hole;

- The status of operation of wells;
- The leak of hydrocarbon or chemicals into the natural environment.

The operator shall have to keep the above documents for at least 5 years and submit to the Vietnam Oil and Gas Corporation their originals or copies before destroying them.

Article 87.- Recording exploitation activities

The operator shall have to record and keep data on reservoir or field exploitation and submit them when requested by the Vietnam Oil and Gas Corporation.

The operator shall have to keep the above documents till the termination of exploitation.

Article 88.- Monthly exploitation reports

Within the first 10 days of a month, the operator shall have to submit to the Vietnam Oil and Gas Corporation three (3) copies of the report on the exploitation situation of the preceding month according to the set form.

The operator shall have to comply with the exploitation output calculation process already approved in writing by the Vietnam Oil and Gas Corporation.

Article 89.- Monthly reports on oil and gas treatment

Within the first 10 days of a month, the manager of an oil and gas treating station shall have to submit to the Vietnam Oil and Gas Corporation three (3) copies of the report on the oil and gas treatment situation, clearly stating the volume already treated in the preceding month according to the set form.

Article 90.- Data report

The operation shall have to submit to the Vietnam Oil and Gas Corporation three (3) copies of the results, data, analysis and diagrams according to set forms within 30 days after completing all following activities:

1. Testing, measuring, counting and analyzing geo-physical samples or fluid samples as prescribed in Chapter III of this Regulation;
2. The dissociation testing or trial operation of wells as prescribed in Chapter IV of this Regulation.

Article 91.- Trial exploitation diagrams

According to the terms stated in the document approving reservoir or field development plans, the operator shall have to submit to the Vietnam Oil and Gas Corporation the report on evaluation of trial exploitation diagrams to be carried out.

When completing the trial reservoir or field exploitation diagrams, the operator shall have to submit to the Vietnam Oil and Gas Corporation the following reports on:

1. The results of the experiment together with data and proving analyses;
2. The conclusion on the possibility of applying the experimental diagrams to mass exploitation.

Article 92.- Annual reports on exploitation and/or evaluation of environmental impacts

Annually before March 1st, the operator shall have to submit to the Vietnam Oil and Gas Corporation the annual reports on exploitation and evaluation of environmental impacts regarding reservoirs or fields of the preceding year submitted to the competent State management agency in charge of environment.

The annual exploitation report prescribed above includes:

1. The exploitation or injection diagram of reservoir or field;
2. The evaluation of the exploitation situation of each well of a reservoir or a field;
3. Assessing the exploitation capacity of each reservoir or field;
4. The forecast of the level of decline in exploitation of reservoir or field;
5. Details on the reservoir status;
6. Evaluation of the situation on aqueous exploitation of products;
7. The summary of tests and studies related to well status and reservoir or field exploitation equipment;
8. Evaluation of the operation of safety valves down the hole;
9. List of major changes of any exploitation projects at reservoirs or fields.

The annual report on evaluation of environmental impacts as prescribed above for offshore exploitation areas must include the overall evaluation of the annual environment such as hydrographic and oceanographic conditions as well as the operation suspension duration due to weather conditions.

When the operation status of a well or reservoir sees considerable changes as compared with the forecast in the annual report of such

well or reservoir, the operator shall have to submit the report on the evaluation of operation of the well in each period as requested by the Vietnam Oil and Gas Corporation.

Article 93.- Keeping and ensuring confidentiality of and making public information and documents

The Vietnam Oil and Gas Corporation shall file and keep secret all information, documents and samples submitted by the operator according to provisions in Article 94 of this Regulation.

The competent State management agency and the Vietnam Oil and Gas Corporation may use the information, document and samples submitted by the operator in accordance with this Regulation for the purpose of managing the oil and gas resources and in service of Vietnam's national economy.

Article 94.- Dissemination of information

It is forbidden to widely disseminate information related to field development plans, experimental exploitation diagrams and all other exploitation activities.

When necessary, the Vietnam Oil and Gas Corporation shall have the right to inform concerned parties of major information including: the names and locations of fields, wells or exploitation projects, which have been used by the operator and the exploitation status of reservoirs or fields.

The information supplied by the operator when submitting application for the approval of the field development plan, the experimental exploitation diagram or the right to conduct exploitation activities as prescribed in Article 9, shall not be made public without consent of the Vietnam Oil and Gas Corporation.

The Vietnam Oil and Gas Corporation may announce information related to studies on environment or anti-accident plans when it deems necessary.

Article 95.- The right to make public information

The Vietnam Oil and Gas Corporation may announce information on exploitation activities directly related to the safety work in the area after informing the operator thereof.

The Vietnam Oil and Gas Corporation shall have the right to inform the concerned parties of information in reports as prescribed in Article 82.

Chapter XIV

IMPLEMENTATION PROVISIONS

Article 96.- Handling of violations

Organizations or individuals that violate the provisions of this Regulation shall be handled according to Article 43 of the Petroleum Law and Chapter IX of Decree No. 84-CP.

Article 97.- Regulation implementation guidance

The Vietnam Oil and Gas Corporation shall, within its functions and powers, have to guide the implementation of this Regulation.

Article 98.- Implementation effect

This Regulation takes effect 15 days after its signing for promulgation by the Prime Minister.

All previous stipulations contrary to this Regulation are now annulled.

For the Prime Minister

Deputy Prime Minister

NGO XUAN LOC

THE PRIME MINISTER OF GOVERNMENT

Ngo Xuan Loc