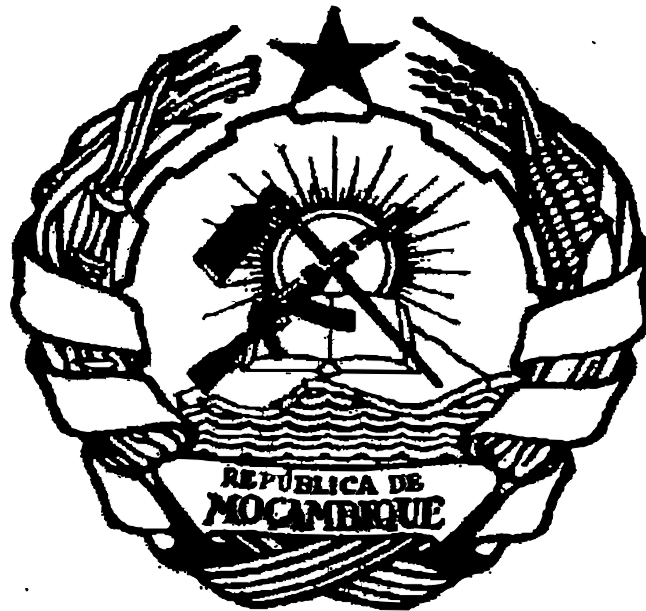


REPUBLIC OF MOZAMBIQUE

MINISTRY OF MINERAL RESOURCES

NATIONAL PETROLEUM INSTITUTE



PETROLEUM OPERATIONS

REGULATIONS

Decree No. 24/2004, of 20 August

In view of the need to define the types, terms and conditions of contracts, the petroleum operations' practices, including the management of resources, safety, health and environmental protection, as well as the submittal by the holders of rights to conduct petroleum operations of plans, reports, data, samples and other information, under the combined terms of Article 153.1 (e) of the Constitution of the Republic and of Article 28.1 of Law No. 3/2001, of 21 January, the Council of Ministers decrees:

Article 1. The Petroleum Operations Regulations are approved.

Art. 2. The Minister with authority over the petroleum industry is responsible for approving the necessary rules to ensure the implementation of these Regulations.

Art. 3. All legislation contrary this Decree is hereby revoked.

Approved by the Council of Ministers on 30 June 2004.

Be it published.

The Prime-Minister, *Luísa Dias Diogo*.

PETROLEUM OPERATIONS REGULATIONS

CHAPTER I

General Provisions

ARTICLE 1

Definitions

The meaning of the terms used herein is set out in the glossary of Annex "A", which forms an integral part of these Regulations.

ARTICLE 2

Scope and Objectives

These Regulations are applicable to Petroleum Operations under Law No. 3/2001, of 21 February, and set forth the rules for the award of the right to conduct such activities in order to ensure that Petroleum Operations are performed in a systematic manner and on such terms that allow for its comprehensive and coordinated supervision.

CHAPTER II

Concession Contract

SECTION I

Award of Rights

ARTICLE 3

General Conditions

1. Petroleum Operations are carried on on the basis of a concession contract, which may be of Survey, Exploration and Production, or construction and operation of an oil or gas pipeline.
2. The right to conduct Petroleum Operations will only be granted to persons having suitable technical skills and financial means to perform such operations, through a concession contract awarded as a result of a public tender, simultaneous negotiation, or direct negotiation.
3. The concession application may be submitted in the name of an individual or a corporate entity.
4. Subject to Article 3.2, in case of identical circumstances, foreign legal entities associated with Mozambican legal entities benefit from preferential treatment in the award of rights to conduct Petroleum Operations.
5. The holder of rights to conduct Petroleum Operations is responsible for ensuring that the Petroleum Operations are conducted in a prudent manner, in accordance with applicable regulations and in compliance with internationally accepted technical and economic practices, having due regard for the safety and health of personnel, and for the protection of the environment and the Facilities, as well as for the rational use of petroleum resources and Facilities.
6. Development and production activities, as well as petroleum transportation, shall be performed in accordance with the respective plans.
7. The processing of an application for the concession of rights to conduct Petroleum Operations is subject to the payment of a fee under the terms of these Regulations.

ARTICLE 4

Public Tender

1. Except as provided for in Article 4.2, Survey, Exploration and Production, and Oil or Gas Pipeline Concession Contracts result from a public tender.
2. Simultaneous or direct negotiations may take in areas declared available as a result of:
 - (a) A prior public tender in which the area was not awarded;
 - (b) Termination, relinquishment or abandonment under the terms set forth in article 14; and
 - (c) The need to join adjacent areas to a concession when such is justified by technical or economic reasons.

ARTICLE 5

Confidentiality

1. Unless otherwise agreed, all data gathered under Survey, Exploration and Production or Oil or Gas Pipeline Concession Contracts shall be kept confidential.
2. The data gathered under a Survey Concession Contract may be kept confidential for a period of up to 3 years after the end of such contract.
3. Without prejudice to Article 3.2 above, the Government may make general statements on the Petroleum Operations conducted under a concession contract and the probabilities of discovering petroleum.

SECTION II

Applications

ARTICLE 6

Award of Survey Right

1. The rights to conduct Survey operations are awarded upon an application addressed to the Minister with authority over the petroleum industry.
2. The application must be delivered to the National Petroleum Institute and contain the following information:
 - (a) Name, address and nationality of the applicant;
 - (b) If the applicant is a foreign person, the identification of his/her/its representative in Mozambique;
 - (c) Identification of the area applied for;
 - (d) Description of the purpose and nature of the activities;
 - (e) Proposed terms and conditions of the contract.

ARTICLE 7

Terms of Survey Concession Contract

1. The Survey Concession Contract shall include an activities' plan, stating the manner how and the deadlines within which the work commitments contemplated therein will be performed.

2. The Survey Concession Contract grants the right to conduct the following activities:
 - (a) Magnetic surveys;
 - (b) Gravimetric surveys;
 - (c) Seismic surveys;
 - (d) Geothermic circulation measurements;
 - (e) Radiometric measurements;
 - (f) Geochemical surveys;
 - (g) Soil sampling of the area;
 - (h) Drilling to a depth not deeper than one hundred meters.
3. The originals or copies of the documentation, as well as the samples collected under a Survey Concession Contract, shall be submitted upon request to the National Petroleum Institute.

ARTICLE 8

Award of Exploration and Production Right

1. Exploration and Production rights are awarded upon an application addressed to the Minister with authority over the petroleum industry, based on a simultaneous or direct negotiation or in response to a public tender.
2. The application must be delivered to the National Petroleum Institute and contain the following information:
 - (a) Name, address, and nationality of the applicant,
 - (b) If the applicant is a foreign person, the identification of his/her/its representative in Mozambique;
 - (c) Description of the applicant's nature, including the relationship with and the identification of the parent company and other affiliates, place of incorporation and registration, and the identification, domicile and nationality of the applicant's directors;
 - (d) Applicant's experience in the petroleum industry, especially in the field of drilling, production and transportation of petroleum in similar circumstances to those in which it seeks to operate in the area being applied for, as well as in the field of petroleum production, refining and marketing activities, including information on the applicant's or its affiliates' sales activities and other market access conditions;
 - (e) Description of the applicant's technical and operating skills, including its research and development capabilities;
 - (f) Description of the organization and technical resources which the applicant will have available in Mozambique, as well as in any other location, for carrying out the activities in the areas which are covered by the application;
 - (g) Information on the applicant's financial standing, including the value of its share capital, shareholder structure and financial documentation, including its last three annual financial statements and accounts and those of its parent company, if applicable;
 - (h) Identification of the areas being applied for;
 - (i) Information on the geological and geophysical data on which the application is based, including structural maps of prospective horizons in the areas being applied for;
 - (j) Proposed work program, including the corresponding implementation schedule and other proposals;
 - (k) Proposed terms and conditions of the concession contract being applied for;
 - (l) Any other additional information which may be required by the Minister with authority over the petroleum industry;
 - (m) Appointment of an operator.
3. When the application is submitted on behalf of more than one legal entity, the information listed in subparagraphs (a) through (g) above shall pertain to each applicant.

ARTICLE 9

Terms of Exploration and Production Concession Contract

The Exploration and Production Concession Contract shall, inter alia, comprise the following provision:

- (a) Identification of the parties to the contract;
- (b) Nature and conditions of the applicant's association whenever the applicant is an association of legal entities;
- (c) Identification of the contract area;
- (d) Minimum work commitments;
- (e) Duration of the various phases of operations;
- (f) Treatment of confidential information;
- (g) Relinquishment;
- (h) Production rights;
- (i) The right to construct, lay and operate oil or gas pipelines and corresponding facilities;
- (j) Appointment of an operator;
- (k) Third party access to oil or gas pipelines;
- (l) Terms of the State's participation;
- (m) Plan for the training of national technicians of the institutions involved in the Petroleum Operations; and
- (n) Resolution of disputes.

ARTICLE 10

Award of Oil or Gas Pipeline Construction and Operation Rights

1. The rights to construct and operate an oil or gas pipeline are granted upon an application addressed to the Minister with authority over the petroleum industry.
2. The application must be filed with the National Petroleum Institute and contain the following information:
 - (a) Name, address and nationality of the applicant;
 - (b) If the applicant is a foreign person, the identification of his/her/its representative in Mozambique;
 - (c) Description of the applicant's nature, including the relationship with and the identification of the parent company and other affiliates, place of incorporation and registration, and the identification, domicile and nationality of the applicant's directors;
 - (d) Information on the applicant's financial standing, including the value of its share capital, shareholder structure and financial documentation, including its last three annual financial statements and accounts and those of its parent company;
 - (e) Applicant's experience in the petroleum industry, especially on petroleum transportation activities in similar circumstances to those in which it seeks to operate in the area identified in the application;
 - (f) Description of the organization and technical resources which the applicant will have available in Mozambique, as well as in any other location, for carrying out the activities in the areas which are covered by the application;
 - (g) An oil or gas pipeline Development Plan;
 - (h) Proposed terms and conditions of the concession contract being applied for;
 - (i) Any other additional information which may be required by the Minister with authority over the petroleum industry;
 - (j) Appointment of an operator.
3. When the application is submitted on behalf of more than legal entity, the information listed in subparagraphs (a) through (e) above shall pertain to each applicant.

ARTICLE 11

Terms of Oil or Gas Pipeline Concession Contract

1. The Oil or Gas Pipeline Concession Contract shall contain, inter alia, the following provisions:
 - (a) Identification of the parties to the contract;
 - (b) Nature and conditions of the applicant's association, whenever the applicant is an association of legal entities;
 - (c) Specification of the oil or gas pipeline system;
 - (d) The handling of issues concerning land use and exploitation;
 - (e) Rights to construct, lay and operate oil or gas pipelines and corresponding facilities;
 - (f) Appointment of an operator;
 - (g) Third party access to oil or gas pipelines;
 - (h) Terms of the State's participation;
 - (i) The plan for the training of national technicians of the institutions involved in the Petroleum Operations;
 - (j) Resolution of disputes.
2. The approval conditions of an oil or gas pipeline contract are applicable to the oil or gas pipeline system under an Exploration and Production Concession Contract.

**SECTION III
Duration**

ARTICLE 12
Duration

1. The Survey Concession Contract is entered into, on an exclusive basis, for a maximum period of two years.
2. The Exploration and Production rights are granted on an exclusive basis for a maximum period of eight years.
3. The maximum development and production period is 30 years, commencing on the approval date of the corresponding Development Plan.

ARTICLE 13
Extension

1. The request for an extension of an Exploration and Production Contract shall be made by means of an application addressed to the Minister with authority over the petroleum industry, along with a location map indicating the part of the contract area for which an extension is being applied for by way of the respective coordinates.
2. The holder of Exploration and Production rights preserves his rights over the development and production area until the approval of the Development Plan.
3. An Exploration and Production Concession Contract shall be extended in the following situations:
 - (a) If, at the end of the exploration period, the holder of Exploration and Production rights is conducting drilling operations or testing an exploration well. In this case, the period needed to permit the completion of such work and assessment of the results will be granted; or
 - (b) If a discovery has been made during the Exploration and Production period, in the event that the holder of Exploration and Production rights has fulfilled the work commitments and undertakes the commitment to complete a satisfactory Appraisal Program or a commercial assessment of the discovery.

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4. In the case provided for in subparagraph 3(a), an extension which shall not exceed one year will be granted so as to allow the conduct of the work and the assessment of the results.
5. In case of a discovery of crude oil or non-associated natural gas, an extension of up to two and eight years, respectively, may be granted, depending on the complexity of the work needed to conduct an appraisal program or a commercial evaluation of the discovery.
6. If, at the end of the exploration period or the extension granted under Articles 13.1 and 13.3 above, the holder of Exploration and Production rights declares a commercial discovery, it shall submit a Development Plan within a maximum period of one year of the date of declaration of commerciality.
7. The extension application must be filed with the National Petroleum Institute within the following deadlines:
 - (a) In case of an extension of the exploration period, no later than three months prior to the expiry of the corresponding period;
 - (b) In case of an extension of the development and production period for a given development and production area, no later than one year prior to the expiry of the corresponding period.

**SECTION IV
Termination**

ARTICLE 14
Causes of Termination of Concession Contracts

The concession contracts shall terminate for the following causes:

- (a) Total relinquishment of the contract area;
- (b) Rescission; and
- (c) Abandonment.

ARTICLE 15
Total Relinquishment of the Contract Area

1. The holder of Exploration and Production rights may, no later than three months prior to the expiry of the term of the respective concession contract and by means of application addressed to the Minister with authority over the petroleum industry, relinquish the contract area, provided that all of its agreed work commitments and minimum expenditure obligations have been fulfilled, except in the case of a development and production area.
2. After the commencement of commercial production, the holder of Exploration and Production rights may relinquish the development and production area by means of application addressed to the Minister with authority over the petroleum industry no less than one year in advance.
3. The holder of Exploration and Production rights shall submit to the National Petroleum Institute all the documents, data, and samples pertaining to the relinquished area.

ARTICLE 16
Rescission

1. The rescission of a concession contract shall be preceded of prior notice, which will be served on the holder of rights with recorded delivery.
2. The Minister with authority over the petroleum industry will issue a declaration of rescission, which will be served by means of registered mail with recorded delivery and will be immediately effective.

3. The Minister with authority over the petroleum industry may rescind the concession contract on the following grounds:
 - (a) Deviation of the purpose of the concession contract;
 - (b) Bankruptcy of the concessionaire;
 - (c) Non-compliance with laws and regulations applicable to Petroleum Operations, whenever the previously applied penalties prove to have been ineffective;
 - (d) Material breach of the contractual clauses, as well as serious and wilful violation of the Operator's duties;
 - (e) Prolonged interruption of the activities due to the Operators' conduct; or
 - (f) Other causes to be set forth in the concession contracts.

ARTICLE 17
Abandonment

1. Abandonment is deemed to take place whenever the holder of rights ceases, without justified reasons and for a period of no less than three months, to conduct Petroleum Operations in the area applied for.
2. In cases where termination occurs for abandonment, the Minister with authority over the petroleum industry shall resolve and declare the area available.

ARTICLE 18
Reversion

In case a concession terminates for the reasons stated in Article 14, the assets integrated in such concession shall revert to the State for no consideration, unless there is a contractual provision stating the contrary.

SECTION V
Concession Areas

ARTICLE 19
Areas Configuration and Extent

1. The areas available for the purpose of conducting Petroleum Operations are divided into blocks of thirty minutes of latitude and thirty minutes of longitude, unless boundaries with other States or other circumstances warrant otherwise.
2. The areas of petroleum contracts are delimited by meridians and parallels expressed in minutes of a degree and may cover one or more blocks or a part or parts of a block.
3. The areas relinquished in accordance with the provisions of Article 15, and those resultant from partial relinquishment, should be adjacent and delimited by meridians and parallels expressed in minutes without prejudice to the possibility of approval of their horizontal division in justifiable circumstances.
4. The areas partially relinquished during the performance of a contract shall be declared available.

ARTICLE 20

Concurrence of Rights

1. The award of rights to conduct Survey, Exploration and Production activities, and construction and operation of oil or gas pipelines is not, as a general rule, incompatible with prior or subsequent award of rights to conduct activities concerning other natural resources.
2. If the performance of rights referred to in the above paragraph is deemed incompatible, the ministers with authority over such conflicting activities will decide on which right shall prevail in accordance with the national interest.

ARTICLE 21

Third Party Access to Pipeline Systems

1. The holder of rights to construct and operate an oil or gas pipeline or the holder of rights to explore and produce shall transport, without any discrimination and on reasonable commercial terms, petroleum of third parties, provided that:
 - (a) There is available capacity in the oil or gas pipeline system;
 - (b) There are not insuperable technical problems which excuse the use of the pipeline system to satisfy third parties' requests.
2. If the available capacity in the oil or gas pipeline system is not enough to satisfy third parties' requests, the holder of rights to construct and operate an oil or gas pipeline or the holder of Exploration and Production rights shall increase the capacity of the oil or gas pipeline system in order to satisfy, on reasonable commercial terms, the request of third parties, provided that:
 - (a) Such increase does not cause an adverse effect on the technical integrity and safe operation of the oil or gas pipeline system;
 - (b) The third parties have assured sufficient funds to support the cost of the requested increase in capacity.
3. The Minister with authority over the petroleum industry may waive the performance of the duty mentioned in the above paragraph by the holder of rights to construct and operate oil or gas pipeline or of the exploration and production right, whichever be the case, if it proves to have exerted reasonable efforts to satisfy the request of third parties and that it is not possible to transport third party petroleum or increase the capacity of the oil or gas pipeline system.
4. Transportation tariffs for third party access to an oil or gas pipeline system shall be negotiated on the basis of reasonable commercial terms, for which case customary criteria applicable within the petroleum industry shall be used.
5. Negotiations intended to allow third party access to an oil or gas pipeline system, as well as to increase in capacity of the pipeline system, shall be conducted in good faith.
6. Holders of rights to construct and operate an oil or gas pipeline shall make available to interested third parties, on a non-discriminatory basis, the relevant historical data for the respective oil or gas pipeline system in order to assist negotiations of terms commercially reasonable.
7. If, within six (6) months following the communication of a request for access to an oil or gas pipeline system or for the increase of the system's capacity, the parties do not reach an agreement with regard to the commercial and operational terms of the access in question, the matter may, depending on the contractual terms, be settled by:
 - (a) An independent commission;
 - (b) Arbitration; or
 - (c) The competent judicial authorities.

SECTION VI Operator

ARTICLE 22
Operator Requirements

The Operator should possess the following requirements:

- (a) Skills and experience in Petroleum Operations;
- (b) Technical and operating skills supported by research and development capability;
- (c) Relevant experience in the sort of activities in which it seeks to conduct operations under the corresponding Survey, Exploration and production or Oil or Gas Pipeline Concession Contract;
- (d) Proven development and project management experience;
- (e) Efficient organizational structure.

ARTICLE 23
Operator Duties

1. The Operator is joint and severally liable with the concessionaire for the ordinary management of Petroleum Operations and is responsible, inter alia, for:
 - (a) Establishing safety objectives and acceptable criteria for risk assessment;
 - (b) Inform the National Petroleum Institute on the status of scheduled activities;
 - (c) Involve its personnel in the development and update of the management system;
 - (d) Pay compensation for damages, servitudes and expropriation of rights;
 - (e) Comply with applicable regulations to Petroleum Operations;
 - (f) To pay the deposit set by National Petroleum Institute.

ARTICLE 24
Powers

1. The Council of Ministers has powers to:
 - (a) Approve the execution of exploration and production contracts and of oil or gas pipeline contracts;
 - (b) Approve development plans and any substantial amendments thereto, as drafted by the holders of rights of exploration and production of petroleum;
 - (c) Define the powers effecting other contracts under the terms of the law;
 - (d) Perform any other duties attributed under the terms of the law or of any other applicable legislation.
2. The Minister with authority over the petroleum industry has powers to:
 - (a) Approve Survey Concession Contracts;
 - (b) Approve the appointment or change of operator;
 - (c) Authorize the exportation of original documents and samples collected during Petroleum Operations;
 - (d) Approve Decommissioning plans;
 - (e) Authorize flaring of natural gas under the terms of the law;
 - (f) Authorize termination of the rights and duties of a holder of rights to conduct Petroleum Operations and of subsequent contractual amendments.

CHAPTER III
Plans and Evaluations

ARTICLE 25
Types of Plans

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1. All Petroleum Operations shall be subject to thorough and systematic planning.
2. The Operator shall submit the following plans to the Minister with authority over the petroleum industry:
 - (a) Exploration Activities;
 - (b) Development;
 - (c) Oil or Gas Pipeline;
 - (d) Decommissioning.
3. The system regarding the submittal of reports and scheduling of meetings during the planning and execution phases of Petroleum Operations should be agreed upon between the Operator and the National Petroleum Institute.
4. Plans submitted to the National Petroleum Institute should be, to the extent possible, extracts from internal documentation and plans used by the Operator.
5. Data, studies, interpretations, evaluations of possible factors of uncertainty, maps, models, and information on financing funds which support the Operator's plans and decisions shall, upon request, be made available to the National Petroleum Institute.

ARTICLE 26

Exploration Activities Plan

1. Each important phase of the exploration activity, including seismic surveys and drilling, shall be subject to a plan prepared in consultation with the National Petroleum Institute and in accordance with the Survey Concession Contract or with the Exploration and Production Contract.
2. The Plan shall include the following information:
 - (a) Accurate data on the area to be explored, mentioning the location of both the facilities and equipment;
 - (b) Schedule of activities;
 - (c) Exploration methods and instrumentation;
 - (d) Equipment chosen for use, and equipment transportation, including, in the case of offshore exploration, the speed of ships chosen for use, the length of seismic cables, the origin of the equipment, and unloading areas, as well as mention to the harbours which are planned for use as bases or ports of call for support of exploration activities;
 - (e) The form in which the results will be made available;
 - (f) Assessment of environmental impact.
4. Each plan shall be submitted to the National Petroleum Institute no less than five weeks prior to the date of commencement of each activity.
5. Prior to commencement of each exploration activity, the Operator shall ensure that the respective operations will be conducted in a safe environment and without affecting other activities in the area.

ARTICLE 27

Evaluation of a Petroleum Deposit

1. The Operator shall report any discovery, within 24 hours of its detection, to the National Petroleum Institute, and keep said institute informed in regard of the test results and their evaluation.
2. The Operator shall execute, with the awareness of the National Petroleum Institute, an appraisal program to evaluate the discovery which includes drilling activities.
3. The Operator shall submit to the National Petroleum Institute, within six months of the completion of the appraisal program, an appraisal report containing the results of the performed activities and their evaluation.

ARTICLE 28

Declaration of Commerciality

1. The Operator shall undertake the technical and commercial evaluation necessary to conclude whether a discovery may be commercially developed.
2. The Operator shall, within one year from the submittal of the appraisal report, notify the Minister with authority over the petroleum industry, informing him if the petroleum deposits covered by the discovery may be commercially developed, and such notice shall include a declaration of commerciality comprising a complete description of the relevant data, surveys and evaluations which led to such conclusions.
3. If the report referred to in paragraph 28.2 concludes that the petroleum deposits covered by the discovery, either considered individually or jointly with other petroleum deposits within the contract area, may be commercially developed, the corresponding notice will be deemed as a Declaration of Commerciality.
4. The Operator's Declaration of Commerciality shall comprise the basis for the Government to decide whether it will exercise the option to participate in development and production of the petroleum deposits, for which purpose the Minister with authority over the petroleum industry shall request additional information and clarifications from the Operator.
5. Should the Operator consider the petroleum deposits comprised by the discovery unsuitable for a practicable commercial development, the commerciality report shall address the necessary measures to render their development commercially practicable and propose additional tasks for the evaluation of the commerciality of said deposits.

ARTICLE 29

Unitisation

1. If a Petroleum Deposit is believed to extend into neighbouring areas which are covered by other exploration and production contracts, the operators shall promptly report the matter to the National Petroleum Institute and include detailed information on the matter in the report of appraisal operations.
2. In the case provided for in paragraph 29.1 above, the Operators shall endeavour to reach an agreement as to how the appraisal work can be optimised through their joint or co-ordinated efforts.
3. Should there be reasonable evidence to suspect that one or more of the petroleum deposits covered in the commercial development of a discovery extends into neighbouring exploration and production areas, the Operators involved shall, within 6 months of the Declaration of Commerciality, seek to reach agreement on the most reasonable manner of unitising the development and production of said petroleum deposits. If such an unitisation agreement is not reached, the Minister with authority over the petroleum industry may serve notice to the relevant Operators declaring that such an agreement should take place within three (3) months of that notice. If the Operators fail to reach an agreement within the mentioned deadline, the Minister may refer the matter for the opinion of a sole expert.
4. The approval of a Development Plan of a Petroleum Deposit which covers more than one Exploration and Production Contract Area will be contingent to the signing of an unitisation agreement among the respective Operators.

ARTICLE 30

Development Plan

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1. The Operator shall prepare a Development Plan outlining the Development and Production of the respective Petroleum Deposits within two years of the date of the Declaration of Commerciality.
2. The Development Plan, and its subsequent implementation, shall be based on the rational use of the Petroleum reserves and existing Facilities. The production of Petroleum from multiple zones with reserves through a sole line of production will only be authorized if that method of production is necessary to render the production commercially profitable.
3. In order to ensure that the Government's and Operator's objectives are compatible, the National Petroleum Institute shall be consulted on the scope and content of the Development Plan, which shall take into account the respective economic, technical, environmental, safety, and existing resources features of the Development.
4. In case the Development includes an Oil or Gas Pipeline System, the requirements of a Pipeline Development Plan shall also be applicable.
5. The Development Plan shall include, among others, the following items:
 - (a) Description of the strategy and of the development model, as well as the criteria for the choices that have been made, description of subsequent development stages, if any, tie-ins with other fields, and, if necessary, coordination with other Petroleum Operations;
 - (b) Description of geological and reservoir engineering aspects, with particular references to detailed analyses and evaluations of the geological, reservoir engineering and Production engineering features and considerations which form the basis for the selection of the production system;
 - (c) Description of eventual additional planned exploration activities;
 - (d) Projected production schedule and studies on the regularity of production and transportation, including an evaluation of the impact of connections to existing or planned facilities and fields;
 - (e) Status of permits for the land use and exploitation and authorization to conduct Petroleum Operations in land or offshore in compliance with the law in force;
 - (f) Technical description of the forecasted installations and equipment for use on site, including the number and type of wells, equipment for production, processing, the use of Petroleum as fuel on the production site, injection of gas and water, measurement and storage, oil and gas pipelines between the various installations, inclusive of the transport system for buyers, storage or loading Facilities, as well as technical solutions aimed at preventing and reducing the flaring of natural gas and environmentally harmful discharges and emissions;
 - (g) List of the quality standards which will be implemented;
 - (h) Information on management systems, including information on the Development's planning, organization, and implementation;
 - (i) Description of the overall safety objectives and the fundamental safety and work environmental assessments which form the basis for the preference of a certain development model, including a description of technical measures for emergency purposes;
 - (j) Evaluation of the environmental impact,
 - (k) Summary of the main implementation, operating, and maintenance policies and procedures which will be implemented;
 - (l) Information on economic evaluations and analyses which have been decisive for the preference of the Development model, and estimates of capital costs, operating and decommissioning costs, including a description of project's financing scheme;
 - (m) Information on the shutting down and abandonment of facilities and proposed measures to ensure its financing;
 - (n) Schedule for the implementation of the Development.

ARTICLE 31

Oil or Gas Pipeline Development Plan

1. For the purposes of its approval by the Council of Ministers, the Oil or Gas Pipeline Concession Contract shall be supplemented by its corresponding Development Plan, describing the Oil or Gas Pipeline System and its operation.
2. The Oil or Gas Pipeline Development Plan and its implementation shall be based on the rational use of petroleum resources and the existing infrastructures.
3. In order to ensure that the Oil or Gas Pipeline Development Plan is carried out in line with its objectives and fulfils the needs of interested parties, its scope and content shall be subject to its agreement with the National Petroleum Institute.
4. A Pipeline Development Plan shall include, among others, the following items:
 - (a) Description of the production infra-structures, including the Petroleum Deposit or group of Petroleum Deposits from which the Transportation is planned to be made, with analyses and calculations of the production and engineering features which comprise the basis of the Oil or Gas Pipeline System;
 - (b) Estimated volumes expected to be transported, and studies on the regularity of production and Transportation, as well as an evaluation of the impact of connections with existing or projected Oil or Gas Pipeline Systems;
 - (c) Status on permits of land use and exploitation and authorization for conducting Petroleum Operations in land and offshore areas in compliance with the law in force;
 - (d) Technical description of facilities and equipment planned to be integrated, including an outline of the oil or gas pipeline route, as well as of the storage system;
 - (e) Description of any connection to existing or projected facilities and demarcation in relation therewith;
 - (f) List of quality standards which will be implemented;
 - (g) Information on Management Systems, including information on planning, organisation and on development implementation;
 - (h) Description of how the existing infrastructures will be used;
 - (i) Description of the procedures planned to be used to reach the predefined objectives, including tariffs for Transportation of petroleum of third parties;
 - (j) Description of the safety objectives and risk evaluations which justify the selection of the specific Development concept of the Oil or Gas Pipeline System;
 - (k) Evaluation of the environmental impact;
 - (l) Summary of the main implementation, operating and maintenance policies and procedures which shall be implemented;
 - (m) information on economic and analysis evaluations which justify the selection of the specific development concept, and estimates of capital and operational costs and decommissioning costs, inclusive of a description of how the project will be funded;
 - (n) Outline for shutting down and abandonment of facilities and proposed measures to provide the financing in respect thereof;
 - (o) Schedule for the Development implementation.

ARTICLE 32
Decommissioning Plan

1. A detailed Decommissioning Plan shall be prepared in consultation with the National Petroleum Institute, and submitted, no less than 2 years prior to the date on which production operations are expected to cease, for the approval of the Minister with authority over the petroleum industry.
2. The Decommissioning Plan shall include, among others, the following items:
 - (a) Tail-end production schedules and the economic threshold for termination of operations;
 - (b) Alternatives for continuing Petroleum Operations;
 - (c) Further use or subsequent disposal of facilities;
 - (d) Plans for plugging and abandonment of production wells;
 - (e) Schedule of decommissioning activities and description of equipment needed for the restoration of land sites and/or the seabed;
 - (f) Inventory of dangerous material and chemicals existent in the facilities and plans for their removal;
 - (g) Evaluation of environmental impact of termination and abandonment activities.

ARTICLE 33
Reports, Meetings and Plans

1. Prior to the commencement of development, the Operator and the National Petroleum Institute shall agree upon a system of delivery of reports, scheduling of meetings and review of important phases of the development activity.
2. The reports, meetings, and reviews set out in paragraph 33.1 above shall deal with an up-to-date status of Petroleum Operations, highlighting any variation in connection with the approved Exploration, Oil or Gas Pipeline Development or Decommissioning Plans of activities.
3. The commencement of any of the following Petroleum Operations is deemed as an important phase of development:
 - (a) Exploration or production drilling;
 - (b) Detailed engineering of oil or gas pipelines facilities;
 - (c) Construction of oil or gas pipelines facilities;
 - (d) Loading the oil or gas pipeline with flammable substances;
 - (e) Regular production;
 - (f) Substantial modifications or alterations;
 - (g) Decommissioning.
4. When, in accordance with paragraph 33.3 above, an important phase of development is reached, the Operator shall agree with the National Petroleum Institute the timetable to enable the former of reviewing the plan, for which purpose additional information may be requested. If the National Petroleum Institute has not raised objections to the plan within the limit set out in the agreed timetable, the Operator may carry on its activity in accordance with the submitted plan.

CHAPTER IV
Management of Petroleum Operations

ARTICLE 34
General Duties

1. In conducting Petroleum Operations, the Operator shall develop, implement and update policies, strategies, execute evaluations, plans and technical solutions with the following purposes:
 - (a) Ensuring that Petroleum Operations are conducted in compliance with the established objectives for safety, work environment, health and protection of the environment against pollution;
 - (b) Ensuring that the conduction of Petroleum Operations are carried out with resource to the predefined technology, and commensurate with technological development, and in accordance with the agreed commercial principles,
 - (c) Executing Petroleum Operations so as to optimise the extraction and use of petroleum resources whilst ensuring the maximum recovery of commercially recoverable petroleum in the existent Petroleum Deposits;
 - (d) Ensuring that the existing and planned facilities and oil or gas pipeline capacity are used in the extraction and rational use of petroleum resources;
 - (e) Ensuring that all practical measures are taken in order to prevent the prejudicial entry of water or any other damage to the petroleum-bearing formation which may be encountered during drilling, or upon abandonment of any well;
 - (f) Controlling the flow and preventing of the escape or loss of Petroleum;
 - (g) Avoidance of waste of the natural energy in the reservoir;
 - (h) Identifying and remedying the existing or potential deviations in relation to the plans;
 - (i) Ensuring compliance with the regulatory principles and requirements;
2. The Operator has the responsibility to ensure that all of its personnel, or those of its contractor, are fully informed of the content of the Regulations.
3. The responsibility of the Operator does not, in any way, influence the responsibility of each employer and employee to execute the work in compliance with the present Regulations.

ARTICLE 35

Management System

1. The Operator shall implement a Management System which:
 - (a) Ensures the systematic management and implementation of its activities;
 - (b) Contributes towards the continuous effort in improving Petroleum Operations;
 - (c) Provides for comprehensive and coordinated regulatory supervision of the Petroleum Operations;
2. Employees and their representatives shall be fully informed about the Management System and take part in the Development, introduction and update of the system.
3. The Management System shall, inter alia, included the following elements:
 - (a) Description of the objectives of the Petroleum Operations;
 - (b) An overview of the relevant rules and regulations that are applicable and a description of the mechanisms for keeping information updated with regard to amendments or new regulations;
 - (c) Specific applicable requirements in respect of safety, work environment, environment protection, and resource management that comprise the basis for planning, implementation and updating the Petroleum Operations;
 - (d) Means of organisation of the planned activities, including a description with the distribution of responsibilities, authority and duties;
 - (e) Description of personnel shortages and respective qualifications;
 - (f) Guidebook of procedures, instructions, or other routines describing the planning and implementation of activities in order to achieve the proposed objectives;
 - (g) Procedures or instructions manuals describing the handling of events of breach of requirements;
 - (h) Plans for updating and further development of the Management System.

ARTICLE 36

Qualifications and Training of Personnel

1. The Operator shall have an independent organisation on site in order to allow for the evaluation of the safety and effectiveness of Petroleum Operations.
2. All staff engaged in Petroleum Operations shall possess adequate qualifications and training for the efficient execution of work.
3. Specific criteria shall be established for the identification of relevant tasks with regard to safety and protection of the environment, as well as for the selection of personnel responsible for certifying the project.
4. The Operator shall ensure that all personnel engaged in Petroleum Operations, whether its own personnel or those of its Contractor, are thoroughly familiar with the facilities, policies and relevant operational procedures. The Operator shall also equally ensure that such personnel have adequate training and experience in dealing with emergency situations.

ARTICLE 37

Documentation and Samples

1. The Operator shall prepare, store and disclose to the National Petroleum Institute the material and documentation capable of ensuring and proving the safe and effective conduction of Petroleum Operations.
2. The Operator shall implement and maintain updated filing or storage systems of documentation and samples necessary for the prudent conduction of Petroleum Operations and capable of allowing systematic access thereto and rapid recovery of data.
3. The Operator shall supply the National Petroleum Institute with any documentation or samples gathered during Petroleum Operations, and proceed with the delivery of copies of the documentation or sample duplicates when such is requested.
4. The original documentation and samples collected shall remain in Mozambique and their exportation is subject to the approval of the National Petroleum Institute.
5. Such Documentation includes:
 - (a) Descriptions of geological and geophysical work carried out in the contract area;
 - (b) Data and results from seismic acquisition programmes and other geophysical and geological surveys;
 - (c) Maps, interpretations and reports resulting from geological, geophysical and technical work regarding the contract area;
 - (d) Records of drilling, logging, deepening, test, plugging and abandonment of wells;
 - (e) Records of the strata and subsoil penetrated by wells;
 - (f) Description of the original well outline, enhancements and any alterations;
 - (g) Records relating to the encountered occurrences of Petroleum, water, other economically viable minerals or dangerous substances;
 - (h) Interpretations, analysis, evaluations and studies undertaken on the basis of samples;
 - (i) Layout and construction plans of processing facilities and oil or gas pipelines;
 - (j) Operational records such as pressure, temperature, flow, alarm and shut down status records;
 - (k) Inspection, accident and discharge reports.
6. Originals or authenticated copies of the acquired geophysical data, drilling records, well logs and well test data shall be submitted to the National Petroleum Institute on magnetic tape, or in other appropriate forms and formats as previously agreed upon; such data shall be of good quality and capable of being reproduced.
7. The Operator shall file the Documentation mentioned in this Article for the duration of the Exploration and Production Contract or the Pipeline Contract, unless otherwise agreed with the National Petroleum Institute. The original documentation and sample collections shall be delivered to the National Petroleum Institute upon the termination of the contract.

ARTICLE 38
Procurement

1. The procurement of goods and services is made by means of public tender.
2. The quality, price, delivery deadline and guarantees offered shall be taken into account for purpose of evaluating bids to the tender procedure.
3. The Operator shall give preferential treatment to the purchase of local goods and services when such goods and services are internationally comparable in terms of quality, availability, quantity required, and are offered at prices inclusive of taxes not higher than ten percent of the available imported goods.
4. The public tender for the procurement of goods and services in all major contracts shall respect the following principles:
 - (a) Invitations for pre-qualification or bidding shall be sent to a reasonable number of suppliers to the extent that they are able to deliver the goods or render the services required. A reasonable time limit shall be provided for the preparation of bids. All selected suppliers shall receive the same specifications.
 - (b) Specifications, tendering time limits, and terms of delivery must not be drafted so as to unduly exclude competitive suppliers.
 - (c) A copy of the list of pre-qualified bidders shall be submitted to the National Petroleum Institute.
 - (d) The National Petroleum Institute shall be informed of the Operator's decision prior to the award of major contracts.
5. If the National Petroleum Institute, after having discussed the matter with the Operator, determines that the bidding procedures were not duly complied with, the National Petroleum Institute may request the Operator to reconsider its awarding decision.

ARTICLE 39
Insurance

1. The Operator shall possess adequate insurance in accordance with the legislation in force.
2. The insurance shall provide coverage for the following risks:
 - (a) Damage to the facilities;
 - (b) Damages caused by pollution;
 - (c) Third party liability.
 - (d) Removal of scrap and cleanup after accidents;
 - (e) Labour insurance of the Operator's employees engaged in the activities.

CHAPTER V
Design and Construction Requirements

SECTION I
Production Facilities

ARTICLE 40
Design and Construction

1. Facilities and work sites shall be planned, designed, built, equipped, and set up so as that the various Petroleum Operations can be performed safely and efficiently in accordance with Good Oil Field Practices and Good Oil or Gas Pipeline Related Practices.

Non certified English Translation

2. The Operator shall base his design on internationally recognised codes and standards and the principle standards and codes thereof shall be listed in the Development Plans. The facilities and work sites shall also meet the requirements of all applicable national standards and codes. Different standards should not be applied within the same area.
3. Planning of new facilities and modifications to existing facilities shall take into account the available equipment, as well as new technologies, so as to maintain the Management System objectives set forth in these regulations.
4. Deficiencies which may trigger danger or accident situations must be prevented during the design, construction or operation and production phases.
5. All facilities and work sites shall be kept in a proper and safe working condition during construction activities.
6. Functional requirements of the facilities must be documented, defining the operating lifetime of the design, for which purpose possible variations in flow rates, pressure conditions, temperatures, composition and nature of fluids shall be taken into account.

ARTICLE 41

Design of Facilities

1. The operating and maintenance requirements of the facilities shall be written down during the design phase in order to provide the grounds for the conception of the corresponding procedures..
2. While designing the facilities, the Operator shall ensure the best possible access for their inspection and maintenance.
3. Facilities shall be designed so as to ensure means of access and evacuation and shall have available adequate rescue equipment.
4. Facilities shall be conceived so as to reduce the consequences of fire and explosion. Systems and components shall be designed to minimise the probability of blow out, fire and explosions, as well as to enable effective fire-fighting and to limit the extent of personnel injury and equipment damage. Appropriate detection systems for fire and gas shall be installed.
5. Facilities shall be classified in terms of explosion risk and divided into zones according to such criterion, to internationally accepted standards and to Good Oil Field Practices and Good Oil or Gas Pipeline Practices. Appropriate security zones shall equally be installed around each facility.
6. Buildings containing hydrocarbons must be ventilated and shall, if necessary, have built-in pressure relief panels.

ARTICLE 42

Risk Analysis

1. Based on duly pondered criteria, the Operator shall perform mandatory risk analyses of the facility's operations and activities associated therewith, which shall be deemed part of the layout and designs.
2. Risk analyses shall be carried out in order to identify the consequences to people, environment and goods, including financial interests, of single or sequential failures that may occur.
3. For the purpose of risk analyses, it should be taken into account, among other elements, the design of the facility, the operations to be carried out, equipment, work processes and training programmes for personnel engaged in the activity.
4. Measures shall be taken in the design of the facilities and planning of operations to eliminate or reduce the risks identified through risk analyses.
5. Risk analyses must be performed so as to be inline with the progress of Petroleum Operations.

6. Special emphasis shall be given to incorporation of the risk analysis results into operating manuals, procedures and reporting requirements.

ARTICLE 43
Design Supervision

1. The entity responsible for the supervision of the design shall be an independent organization in relation to the constructor of the design.
2. If reference is made to recognised standards but with different specifications, the supervision carried out according to such standards shall be included as part of the entire verification.
3. The evaluation of the verification method used in the various phases shall take into account the complexity and critical intensity of the design.

ARTICLE 44
Registration of Data

1. The National Petroleum Institute may require that facilities shall be equipped, at the cost of the Operator, with instruments for registration of data which may be deemed important to the conduction of Petroleum activities.
2. The Operator is equally responsible for the maintenance, registration, and data processing and submittal of reports.

ARTICLE 45
Foundation Structures

1. Structures and structural elements shall:
 - (a) Perform satisfactorily during normal conditions in view of, among other factors, deteriorations, displacements, foundations and vibrations;
 - (b) Have adequate safety mechanisms so as to resist accidents caused by their wearing out;
 - (c) Safely resist all potential deformation events such as ruptures or large inelastic displacements;
 - (d) Have adequate safety mechanisms against situations of potential risk or accident;
 - (e) In case of floating structures, to safely resist free drifting, capsizing and sinking.
2. The structural system, including its features and components, should be conceived in order to:
 - (a) Show optimum ductile properties and minor susceptibility to local damage;
 - (b) Be simple to construct;
 - (c) Represent a uniform distribution of strains;
 - (d) Resist corrosion and other types of deterioration;
 - (e) Allow simple monitoring, maintenance and repair activities;
3. The materials selected for the foundation structures shall be suitable for this purpose and its characteristics shall be documented. During the manufacturing of components and connections, these must be subject to the specifications of the manufacturer, to tests and controls which shall take into account the importance of each component to the safety of the structure. The structure must be protected against potential deteriorations.

ARTICLE 46
Corrosion and Erosion Protection

Non certified English Translation

1. Due consideration must be given to the necessary measures to protect facilities from external and internal corrosion and erosion, as well as temporary protection during their construction.
2. Systems, equipment and procedures for permanent monitoring of corrosion and erosion shall be developed and installed to ensure safe operations throughout the lifetime of the facilities.

ARTICLE 47

Electrical Systems and Instruments

1. Electrical systems and instrumentation shall be designed and installed so as to reduce explosion risks to a minimum, to avoid personnel accidents, to ensure support to emergency operations and to maintain production regularity. Electrical facilities shall comply with the appropriate area classification, as well as with local and international standards for petroleum facilities.
2. Instruments for monitoring and registration of data regarding safety conditions should be connected to an emergency source of power.

ARTICLE 48

Telecommunications

Facilities shall be equipped with adequate telecommunications systems for ensuring its safety, its operation in compliance with the terms of the legislation in force, and the implementation of remote control telecommunication systems may be additionally required.

ARTICLE 49

Lifting Equipment

1. The installation of lifting appliances is mandatory and their operation shall be planned and carried out with so as to prevent errors or operational failures from developing into danger or accident situations.
2. The Operator shall implement technical, operational or procedural measures to counter danger or accident situations.
3. The Operator shall carry out risk analysis so as to identify the probability and consequences of the occurrence of single or sequential failures during the lifting operations and should take into account measures to reduce risks.
4. Lifting appliances and lifting gear shall be designed, operated and maintained according to national and internationally recognised standards. The selection of lifting appliances and lifting gear shall take into account the relevant standards and climate conditions.
5. Prior to the commencement of their operation, lifting appliances and lifting gear shall be examined by a skilled technician who will issue a certificate of compliance and lifting appliances and lifting gear shall thereafter be examined at least once every twelve months.
6. After each repair or modification, lifting appliances and lifting gears shall be subject to another certification by a skilled technician.
7. The Operator shall ensure that personnel engaged in lifting operations have the necessary qualifications for the safe operation of equipment.

ARTICLE 50

Work Environment

Non certified English Translation

1. During design phase of the facilities, a work environment programme shall be prepared outlining the manner in which safety objectives and work environment requirements will be achieved. Safety officers will have an active role in the preparation of the programme.
2. Work and settlement areas, access to facilities, transport routes and lifting appliances shall be designed so that work operations and the conveyance of people, equipment and goods may be carried out in a logical and satisfactory manner.
3. Living quarters and encampments shall be designed, equipped and located in order to provide acceptable safety, environment, and health standards. The Development should be conceived so as enable the separation of living quarters and encampments from drilling areas and auxiliary systems. A description of the needs of personnel shall be documented and the capacity of living quarters and encampments should be projected so as to comply with said description. Living quarters and encampments areas shall possess adequate recreation facilities.
4. Workplaces, equipment and work operations shall be organized in order to enable personnel to safely perform their work. This entails that:
 - (a) Workloads shall be planned in order to enable personnel to achieve, on an individual basis, reasonable effectiveness of their work efforts;
 - (b) Personnel shall not be subject to adverse conditions which may result in injury or disease;
 - (c) Workplaces and equipment shall be conceived and organized so as to enable a correct attitude and work posture on an individual basis;
 - (d) Equipment for monitoring, control and supervision of production processes, technical appliances or work operations, shall be designed and organized in accordance with ergonomic principles deemed adequate for a proper man-machine interaction;
 - (e) Hand tools and work equipment in use shall be appropriate for preventing injuries and diseases to personnel.
5. Safety appliances for machinery shall be designed so that employees are safeguarded from contact with dangerous equipment parts or being injured during their operation.
6. The workplace shall possess lighting conditions capable of ensuring that the work can be carried out in a safe and prudent manner in such aspects as:
 - (a) Lighting shall contribute towards emphasizing terrain discrepancies, physical objects, and protruding parts;
 - (b) Lighting poles shall be designed and positioned so as to prevent accumulation of dust and corrosion, as well as to allow that their maintenance and change of light bulbs is carried out in a safe manner.

ARTICLE 51

Safety Measures during Construction

1. Preferential treatment shall be given to the use of materials which are harmless either in isolated use or in combination with other materials or gases.
2. The properties of materials shall be evaluated with regard to emissions of dusts, gases or vapours capable of producing adverse health effects, as well as to other effects on the work environment conditions and the well being of the personnel. The evaluation shall also comprise the exposure properties of materials to fires or excessive heat.
3. Plans shall be implemented in order to ensure that the equipment given to personnel is suitable for the safe performance of their work.
4. The danger of chemical exposure capable of producing adverse health effects, such as the storage, use, handling and disposal of chemicals, and in work operations and/or processes which produce chemical substances shall be reduced to a minimum. The danger of accidents and illnesses caused by long term exposure to chemicals shall equally be reduced to a minimum.
5. Personnel exposure to noise pollution shall be minimized to the extent possible mainly by means of the use of adequate technology such as:

- (a) Noise levels within the facilities' areas shall comply with the possible levels that may be attained with the application of current technological standards.
 - (b) No employee shall endure exposure to noise levels which may harm his/her hearing;
 - (c) Warning signs shall be posted at the entrance of divisions or zones with a noise levels harmful to hearing.
6. Vibration in the form of whole-body vibration and hand-arm vibration shall be avoided to the extent possible.
 7. Preventive measures shall be defined for their implementation in weather conditions which justify the restriction or suspension of work when such is performed in the open air. The conditions which require the closing or abandonment of facilities shall also be defined.
 8. Safety signs shall be posted in accordance with internationally accepted standards at the entrance of divisions and areas close to equipment capable of causing injuries or harmful health effects to personnel.

SECTION II

Pipeline Systems

ARTICLE 52

Design of Pipeline Systems

1. The design of Oil or Gas Pipeline System shall be sufficiently detailed so as to demonstrate that the integrity and serviceability required will be secured during the design lifetime of the system. This entails that:
 - (a) Representative values for loads and system resistance in consideration thereof shall be selected in accordance with sound engineering practice.
 - (b) Analysis methods may be based on analytical, numerical or empirical models, or in a combination of all of these methods.
 - (c) Safety standards based on the limited capacity of the design may be implemented if all the essential utility and serviceability principles are complied with.
 - (d) All relevant sources of insecurity of loads and of resistance thereto shall be considered and sufficient statistical data shall be made available for adequate assessment of these uncertainties.
2. The requirements for the operation and maintenance of the Oil or Gas Pipeline System shall be implemented and documented so as to lay the outline for the design and preparation of the operating and maintenance procedures.
3. During the design phase, the conception of the system shall identify and take into account loads which may cause, or contribute towards, damages or inoperability of the Oil or Gas Pipeline System. Loads shall be classified as operable, environmental, construction or accidental.
4. Conception and operation of an Oil or Gas Pipeline System that runs into the borders of neighbouring countries shall be co-ordinated with the authorized parties of such countries, for which purpose its regulations shall also be taken into account.
5. The Oil or Gas Pipeline System shall be equipped with sending/receiving appliances for internal inspections and maintenance of equipment, and shall allow the use of mechanical appliances, and a control system of leaks shall be implemented.

ARTICLE 53

Safety of Oil or Gas Pipeline Systems

1. Oil or Gas Pipeline Systems shall meet national and international requirements for the protection of public safety, environment and personnel working on or near the system.

2. The execution a safety study involving identification of potential hazards caused by human activity along land pipelines is mandatory and for which purpose the following rules shall be applicable:
 - (a) Safety areas, and the restrictions to be implemented therein in respect of construction, commerce, transit and use of fire in the open air, shall be created;
 - (b) The arrangement of the location of the gas pipeline in respect of population density and concentration shall be made in accordance with recognized standards;
 - (c) The dimensions of each gas or oil pipeline segment shall be measured, for each segment and based on this arrangement and on the performed risk analyses, and be compliant with the recognized standards;
 - (d) The National Petroleum Institute may, based on information provided in the oil or gas pipeline development plan, stipulate which standards shall be applicable.
3. Based on the performed safety studies, oil and gas pipelines shall be divided into sections through the use of valve stations. Emergency shutdown valves shall also be operated by remote control.
4. The location of compressing and pumping stations shall be chosen so as to minimise the consequences of potential accidents with regard to the main oil or gas pipeline and its surrounding areas,
5. Notwithstanding the existence of justifiable reasons, buildings and facilities should, to the extent possible, be located outside the safety area. When buildings and facilities are located within the safety area, they must be designed so as to offer adequate protection of personnel during risk involving situations or until such personnel may be evacuated onto a safe area.

ARTICLE 54

Selection of the route for Pipeline Systems

1. The construction of oil or gas pipelines shall avoided in residential areas or in areas of intense human activity.
2. The environmental impact during construction and within the expected lifetime of the oil or gas pipeline, as well as of the potential leakage of fluids, shall be taken into account.
3. During the appraisal and selection of the route the following criteria shall be taken into account:
 - (a) Public safety;
 - (b) Environment protection;
 - (c) Other properties and infra-structures;
 - (d) Third party activities;
 - (e) Geo-technical and hydrographical conditions;
 - (f) Construction, operations and maintenance requirements;
 - (g) Local requirements;
 - (h) Future exploration activities.
4. Land oil or gas pipelines routes shall be previously outlined.

ARTICLE 55

Installation and Operation of Oil or Gas Pipeline Systems

1. When oil or gas pipelines cross other oil or gas pipeline systems, cables or wires of any other nature, interested parties shall, by way of agreement, create the procedural rules which will be subsequently sent to the National Petroleum Institute for its approval.
2. Notwithstanding other acceptable technical solutions, oil or gas pipelines must be laid underground so as to avoid damages thereto. The depth shall be such that the Oil or Gas Pipeline System cannot be damaged by the activities permitted within the safety area. The

- sections which are not underground shall be secured so as to inhibit the access to non-authorized personnel.
3. Offshore oil or gas pipelines shall be built underwater or otherwise protected in order to prevent external damages, and to reduce or prevent interference with other activities. Regulating authorities of other activities carried out in the area shall be consulted during the definition of the requirements so as to reduce or prevent possible interferences.
 4. Pressure resistance and leakage testing must be carried out in accordance with specific procedures prior to filling the pipeline with flammable substances. The connections which cannot be pressure tested shall be subject to special control measures.
 5. An Oil or Gas Pipeline System shall be monitored by two independent systems:
 - (a) An integrated control system;
 - (b) Protection and alarm system.

ARTICLE 56

Drilling and Well Facilities

1. Suitable equipment and materials shall be used in the implementation of drilling and well activities and such equipment and materials shall be protected from anomalous loads. Separate well intervention units and equipment shall be designed, built, installed, tested, used and maintained in accordance with these Regulations.
2. The Operator shall establish safety objectives and tolerance criteria for risks and carry out the risk analysis set out in Article 42. A general safety objective for drilling and well activities is that no single failure shall entail life-threatening situations for the personnel involved or significant damage to material and to the environment. This applies both to operational errors and to failures related to equipment directly used in operations, as well as to equipment with auxiliary functions.
3. During drilling and well activities, at least two independent and sufficiently tested barriers shall be available in order to prevent an accidental flow from the well. If one barrier fails, well operations may not proceed before its restoration. A barrier plan shall be established for each projected operation to be carried out from a facility during the design phase. Operational requirements shall be defined with regard to the drilling capability of equipment and to its control, as well as to operative and mobilization capability so as to comply with the barrier plan. All systems and components shall meet these requirements.
4. The installation, its classification as a safety area and the main safety plan shall be taken into account during the phases of design, manufacture, installation and operation of control systems. The control systems shall be operable by independent panels which must be conveniently located. The possibility of reducing the Operator's failures or its consequences shall be taken into account in outlining or designing of control systems. In the event of failure of the control system, its components with critical functions shall remain in good conditions or be transported onto a safe location.
5. Work areas within drilling and well activities shall be arranged so as to ensure adequate safety for personnel and operations. Special attention must be given to storage, assembly, disassembly and suspension of drill pipe, drill collars and casing in the rotary table, as well as to transport between the storage location and the drilling platform.
6. Pressure exposed equipment shall be designed, built, tested and maintained in accordance with requirements contained in these Regulations and with the internationally accepted technical standards. Safety devices shall be tested in accordance with established procedures. When safety devices are activated to avoid excessive pressure limits, a pressure control system shall be implemented so as to avoid injuries to personnel, to the environment and to assets and financial interests.
7. The facility shall be equipped with a tank with sufficient capacity to support the quantity of drilling fluid necessary to ensure full control of the well and to contain, at all times, sufficient quantities of drilling fluids and other substances. The drilling fluid system shall have adequate capacity to support a rapid increase of drilling fluid in an active system, as well as

capacity for the increasing weight of the drilling fluid in the case of well instability. A reconditioning system with the necessary equipment for the separation of gas from drilling fluid shall be implemented in order to ensure the required quality of the drilling fluid. The composition of the drilling and completion fluids shall, at all times, be adjustable in order to ensure that the required properties of the fluid are preserved. It shall be possible to monitor, on a continuous basis, the fluids which comprise a barrier or that form part of the barrier's element.

8. The Blowout Preventer (BOP) shall be designed and installed in order to preserve its capability to function as a barrier and will be installed and start functioning during the initial phase of the operation.
9. Valves and actuators of the "christmas tree" type and safety valves shall be installed in a sufficient number and in such a manner as to preserve their barrier functions and shall be tested in accordance with established procedures, as well as with a test programme. These procedures apply to operability tests and those regarding leaks or spills.
10. The drilling and well facilities shall be fitted with accessible equipment capable of ensuring control of the well, of allowing the work of personnel, and of shutting down the well in case of an uncontrollable influx into the well. In the event of equipment failure, mobile facilities shall be repositioned onto a safe area when the well is in an uncontrolled flow situation.

ARTICLE 57

Offshore Facilities and Vessels

1. In accordance with Mozambican legislation and internationally accepted marine standards, floating or fixed facilities used offshore shall be designed and equipped in such a manner capable of ensuring the stability or foundation necessary for their safe operation and the capacity to withstand the projected loads.
2. The docking gear, the anchorage system and the dynamic positioning system for ships or floating facilities used offshore shall be sized and operated in accordance with Mozambican legislation in force and with Good Oil Field Practices and internationally accepted marine standards.
3. The Minister with authority over the petroleum industry may, in accordance with maritime legislation, introduce other requirements related to the performance of petroleum activities by floating facilities or by vessels, independent of whether they are registered in Mozambique or in foreign State.

SECTION III

Processing and Auxiliary Facilities

ARTICLE 58

Processing and Auxiliary Facilities Requirements

1. Prior to the selection of design solution for processing and auxiliary facilities, a plan shall be established that takes into account, inter alia, the following features:
 - (a) Environment related features;
 - (b) Regularity of operations;
 - (c) The degree of qualifications of personnel;
 - (d) Maintenance strategy;
 - (e) Changes to operating conditions;
 - (f) Potential changes to operating conditions and future needs.

2. Processing and auxiliary facilities shall be designed and located in such way that the risk to personnel, to the environment and to assets and financial interests does not exceed the degree of risk set forth by the safety objectives.
3. The selection of materials for processing and auxiliary facilities shall take into account the following features:
 - (a) The loads and environmental conditions that they may be exposed to during construction, installation, maintenance and operation;
 - (b) Potential changes in operating conditions;
 - (c) The principles behind the selection of critical materials shall be documented;
 - (d) When new materials are introduced, same shall be subject to examinations, calculations and tests in order to ensure that these comply with the applicable safety criteria.
4. Flow and debit levels and the facility capacity shall be ascertained through consideration of the reaction times, capacity and reliability of control systems, and operational aspects such as vibration, noise levels, pressure oscillations, and water related effects.
5. In the design of processing and auxiliary facilities, the qualifications of personnel, the suitability of the operation and the planned maintenance shall be taken into account. Instrumentation and control equipment for processing and auxiliary facilities shall be highly reliable.
6. When processing and auxiliary systems facilities are fixed on mobile infrastructures, special consideration shall be given to the types movement of the facility in order to ensure that safe and efficient operation is achieved under the specified operational conditions.
7. The reservoirs for formation and drained water shall be equipped with:
 - (a) one closed drainage facility for formation water,
 - (b) one open drainage facility for areas which stand the risk of explosion,
 - (c) one open drainage facility for non-hazardous areas.
8. Power facilities shall have sufficient capacity to supply power to all simultaneous consumers on the facility. The start-up of the main power consumers shall be possible without the main power station becoming overloaded and creating the risk of shutdown, for which purpose the quantity of simultaneous consumers shall be taken into account.

ARTICLE 59

Safety of Processing and Auxiliary Facilities

1. Processing and auxiliary facilities arrangements and area classification shall be considered in conjunction with each other. All machinery and auxiliary equipment must conform to the area classification in which the equipment is to be installed.
2. Pressure chambers with foundations, rotating machinery, piping systems, including supporting structures and appliances of penetration into zones containing hydrocarbons, or other potentially dangerous means, and in accident situations, shall be resistant to fire and to exploding loads.
3. Processing and auxiliary facilities shall be equipped with pressure control devices capable of ensuring protection against abnormal pressure situations. Drainage devices shall be designed so as to avoid accidental outflow of liquid or gaseous hydrocarbons.
4. Area classification and results from risk analyses shall be included in the specifications of ventilation systems and these shall ensure that the concentration of smoke, particles, steam and gas is kept below specified limit values. The ventilation system shall be designed so as to ensure its capabilities of cooling and heating the equipment, as well as to guarantee greater ventilation to areas containing sources of ignition and which bear the risk of gas ingress.

5. In the case of modification to processing and auxiliary facilities, risk analyses shall be updated and measures shall be carried out so as to maintain or improve the original ventilation conditions. Areas with natural ventilation shall have sufficient air circulation so as to ensure that gas concentrations and pollution levels are kept within specified limit values. Closed and partly closed spaces with natural ventilation shall comply with recognized standards with regard to the size of openings in walls, floors and ceilings. In areas without sufficient natural ventilation, mechanical ventilation shall be assured in the projected form of motorized fans and other spark-preventing accessories in the ventilation facilities.
6. Boilers with a heating unit shall comply with the requirements stipulated in recognised technical standards. The heating unit for boilers shall be supplied with combustion air from non-hazardous areas. Exhaust gases shall be transported onto a non-hazardous area and exhaust gas ducts shall be designed so as to prevent possible combustion sparks from becoming a source of ignition. In the case of offshore facilities, the exhaust gas shall be transported out of the facility so as not to be of inconvenience to people or cause hazardous situations for helicopter traffic or supply vessels.

ARTICLE 60 **Design of Processing Facilities**

1. In areas bearing the risk of hydrate or ice formation, the facilities shall be equipped with appliances capable of injecting glycol or methanol or other similar measures. The risk of self-ignition or of pyrolysis shall be assessed in connection with the selection of materials, with inspection and maintenance procedures, and all components shall be fitted with thermal insulation.
2. Separation appliances shall have sufficient capacity to separate the components of the well stream. Whilst designing such appliances, it is mandatory to project the consequences of changes in the well stream in the course of time. These appliances shall also be designed so that the equipment located downstream is not negatively affected and possesses the means to remove and drain sands. The appliances shall also be capable of separating hydrocarbons from formation water and ensure their purity.
3. As a general rule, pressurized containers and containers with normal atmospheric pressure shall:
 - (a) Be designed and used in accordance with internationally accepted international standards;
 - (b) When containing hydrocarbons, be fitted with two separate devices for protection against significant pressure;
 - (c) Deformation or damage to internal equipment shall not affect significant pressure protection devices;
 - (d) Be equipped with pressure and vacuum valves of sufficient capacity;
 - (e) Endure the installation of equipment in their interior without such undertakings causing any deformation or damage thereto;
 - (f) Control and maintenance conditions shall be defined during the design and construction phases.
4. Piping shall be consistent with the requirements stipulated in internationally accepted standards. Loads mentioned in those standards and loads caused by abnormal conditions, such as water effects, shall equally be taken into account.
5. The following shall be observed in the analyses of load effects:
 - (a) The loads transferred to associated equipment shall be considered;
 - (b) Special consideration shall be given to piping subject to great oscillations, deformations and oscillation of facilities under specified environmental conditions;
 - (c) The control and maintenance conditions shall be set out during the design and construction phases.
6. In accordance with internationally accepted standards, valves and actuators shall be designed and produced so as to withstand the loads to which they may be exposed to.

Valves and actuators that are part of an emergency shutdown system must be able to resist fire and explosion of loads to which they may be exposed to. Valves with great significance to safety shall be tested in accordance with established procedures and with the corresponding test programme, including operating, leaks, and spills tests.

ARTICLE 61 Design of Auxiliary Facilities

1. Rotating compressors shall be fitted with the necessary surge control equipment and necessary pressure relief. Piston compressors shall be fitted with necessary equipment to control and reduce the variation of the pressure pulsation. Compressors with a sealed oil arrangement shall have effective degassing equipment and must be protected from the system of sealing oil until such is depressurised.
2. Liquid separators shall:
 - (a) Protect the gas compression facilities and drainage of liquid shall take place in a safe and prudent manner;
 - (b) Be equipped with mechanisms capable of shutting down the gas compression facility in the event of an abnormally increase of fluid level;
 - (c) Possess a discharge valve for drainage that automatically closes in the event of an abnormal decrease of fluid level;
 - (d) Be capable of, in all operating conditions, efficiently collect into the compressors the liquid drops and the liquid freed from the gas flow.
3. Facilities with fuel gas and fuel oil shall be arranged in order for the best possible operational regularity is achieved, for the supply of fuel in sufficient quantities, and shall be compliant with specified pressure, temperature and specified pollution limits. Drainage of fluid from liquid separators shall take place in a safe and proper manner. Liquid separators shall be equipped so that the fuel gas facility is shut down in the event of an abnormal increase fluid level. In the event of an abnormal decrease fluid level, the drainage discharge valve shall be closed automatically.
4. Pneumatic facilities for providing air to working instruments shall be designed in accordance with recognised technical standards for vessels, pipes and compressors. Limit values for dew point, purity, pressure variations and temperature of the air shall be defined. The facilities shall have adequate compressor capacity to ensure stable operating conditions. The facilities shall equally be equipped so as to comply with the specified air values.
5. Inert gas facilities shall be designed in accordance with recognized technical standards for vessels, pipes and compressors, including standards for the transport of gas containing vessels. The selection of the facilities location shall especially take into account the consequences of potential leaks and instrumentation for its detection. Specific measures shall be taken to protect structures that may be cooled down by leakage from vessels containing inert gas in liquid form. Hoses and couplings used for liquid inert gas must be suitable for this purpose and shall not be confused with air couplings or those of another nature.
6. Chemical using facilities shall be capable of adequately receiving, storing and distributing chemicals. Chemical using facilities shall, to the extent possible, have fixed storage for storage tanks and piping. The location of such facilities shall take into account personnel safety, Transfer operations from transportation tanks or supply vessels, and the risk of fire and explosion. Where piping is connected to facilities containing hydrocarbons or systems under high pressure, check valves shall be fitted as close to the injection point as possible.
7. In the selection of rotating machinery, such shall comply with internationally accepted standards and consideration shall, inter alia, be given to reliability, energy economy, ease of operation and maintenance, previous experience with the machinery, and new technology.

SECTION IV
Systems within Facilities

ARTICLE 62
Safety Systems

1. Facilities shall be equipped with adequate safety systems and designed so as to avoid that potential defects or failures endanger people, the environment or assets and financial interests.
2. Safety systems shall include, among others, the following devices:
 - (a) Fire alarm;
 - (b) Fire and evacuation alarm;
 - (c) Emergency lighting;
 - (d) Safety shut-down systems;
 - (e) Systems of safety during operations;
 - (f) Systems of control during operations;
 - (g) Gas leakage detection system;
 - (h) Emergency power system;
 - (i) Fire extinguishers.
3. The systems shall be operational at all times, be subject to regular maintenance capable of verifying if same maintain individual operational capability, and shall be designed and protected so as to retain their operational capability for the required period of time during an accident. Systems and components shall resist the environmental loads to which they may be exposed.

ARTICLE 63
Fire and Gas Detection Systems

1. Systems capable of detecting fire or inflammable and noxious gases shall be installed in areas of the facility where the occurrence of an accidental risk of fire or of gas discharge has been identified.
2. The systems shall ensure a rapid and reliable detection of a fire or of a discharge of gas, trigger the corresponding alarm, indicate the location of the accident, whether it pertains to a real or potential fire, as well as in the case of a gas discharge. Parallel to triggering the alarm, measures to prevent or to limit the consequences of fire and gas discharge shall be implemented automatically.
3. The systems identified herein shall:
 - (a) Be independent of other systems and shall not be capable of being negatively influenced by failure in other systems;
 - (b) Include components capable of withstanding fixed loads so that their operational capability is maintained for a certain period of time;
 - (c) Be conceived so as to permit their control, maintenance, testing and modifications.

ARTICLE 64
Emergency Shutdown Systems

1. Facilities with equipment containing hydrocarbons shall have a highly reliable emergency shutdown system, which shall prevent or limit the consequences of leakage and shall eliminate potential ignition sources.
2. The processing unit shall have sectionalisation valves connected to the system so that a fire does not exceed the resistance capability of isolated sections.

3. Activating the emergency shutdown system shall ensure the safest possible condition for the facility and its equipment. Manual emergency shutdown devices shall be strategically located, well demarcated and protected against accidental activation. The system should be able of being activated manually or by other means.
4. Components incorporated in the system shall be independent or supplementary to other systems. Emergency shutdown valves may also be used as processing safety valves. The emergency shutdown system shall not be affected by failures in other systems. The valves, when installed, shall have the function of emergency shutdown valves, for which purpose the following are of greater importance:
 - (a) Valves in production and injection tubing or designated as Sub Surface Safety Valves;
 - (b) Valves in production and injection wing or wing valve;
 - (c) Main automatic valve;
 - (d) Valves in christmas tree related to the injection of chemicals or gas lifting;
 - (e) Valves of the isolation into sections process.
5. Components incorporated in the system shall be designed for the loads to which they may be exposed to. Appropriate testing of the systems shall be possible without interrupting operations.
6. All accessible emergency shutdown valves shall be conceived so as to be easily accessible and equipped with a position indicator. The entire information on the status of every executed action shall be automatically transferred to the control centre.
7. The installation of emergency shutdown valves shall be effected in a safe and controlled manner.

ARTICLE 65
Processing Safety Systems

1. Facilities equipped with or connected to processing units shall normally be fitted with a processing safety system. The system shall be highly reliable, capable of detecting abnormal operating conditions which may entail danger and of preventing abnormal conditions from developing into hazardous situations.
2. The system shall be conceived to operate independently of other systems with the same level of safety of other systems. Emergency shutdown valves may be used as processing safety system valves.
3. Components incorporated in the processing safety system shall be suitable for the loads to which they may be exposed to.
4. Sensors activating shutdown functions shall give a warning signal when activated.
5. Appropriate testing of the processing safety systems shall be possible without interrupting operations.
6. Block valves incorporated in the system shall be fixed in the correct position.

ARTICLE 66
Processing Control Systems

1. Facilities with a processing unit shall be equipped with a highly reliable processing control system that provides safe control and regulation of the processing units and auxiliary systems.
2. Components and equipment incorporated in the system shall be suitable for the loads to which they may be exposed to.

ARTICLE 67

Gas Exhaust Systems

1. Gas exhaust systems shall be installed when it is necessary to eliminate inflammable and noxious gases from the facility. These systems may be manually activated at a safe distance and at one which guarantees equipment protection.
2. Activation of the gas exhaust system shall ensure gas discharge onto a safe location and quick depressurisation of the equipment.
3. The system shall be conceived so that exhaustion of gas does not cause injury to personnel or damage to the environment or to assets and financial interests.
4. The condition of the components of the gas exhaust system shall be monitored. The system shall be conceived so that maintenance and functional testing can be expediently carried out without interrupting operations.

ARTICLE 68

Fire and Evacuation Alarm

1. Work and residential facilities shall be equipped with highly reliable warning systems for the events of a fire occurrence and of the need to evacuate.
2. The activation of the fire alarm system shall be possible to effect from the control centre and, if possible, from other relevant positions. The activation of the evacuation alarm system shall be possible to effect from the radio room or from the control centre.
3. Manual activation of fire-fighting systems shall set off the fire alarm.

ARTICLE 69

Emergency Power System

1. Facilities shall be equipped with a reliable emergency power system which shall be independent from other power supplying sources and provide sufficient power to safety systems and to other vital equipment for the necessary period of time in the event of failure of the main power system.
2. Uninterrupted power supply to emergency circuits shall be ensured during changeover from the main power system to the emergency power system.
3. The systems' principle engines shall have as few potential interruptions as possible so as to ensure its continuous operation.
4. The system shall be arranged and protected so as to remain operative in the event of the occurrence of an accident and testing shall be possible without interrupting operations.

ARTICLE 70

Emergency Lighting

Work and residential facilities shall be equipped with emergency lighting capable of ensuring sufficient lighting within the facilities in danger and accident events.

CHAPTER VI

Operational Requirements

SECTION I

Safety and Environment

ARTICLE 71

General Requirements

1. Operations on the facilities shall be carried out in a safe and efficient manner and in compliance with the regulations, contracts and authorizations, as well as with Good Oil Field Related Practices and Good Oil or Gas Pipeline Related Practices.
2. Manuals and procedures relating to operations, maintenance, and quality guarantee of all facilities related to Petroleum Operations shall be developed and disclosed to the National Petroleum Institute prior to the commencement of operations.
3. Operations may not commence before the personnel involved has been informed of the content of procedure manuals and have been given sufficient training.
4. Prior to commencement of any operation, the Operator shall prepare a plan describing the execution form of the operation and stating which equipment will be used and applicable safety measures. A report stating the examinations undertaken prior to the commencement of operations shall be prepared and disclosed to the National Petroleum Institute for its inspection.
5. A systematic maintenance programme of the facilities and its equipments shall be developed and it shall register failure incidents, restorations and replacements, as well as disclose the extent and frequency of the control routines.
6. If safety devices are deactivated during maintenance or abnormal conditions, said deactivation shall be clearly indicated by means of warning signs fixed in visible locations and providing unambiguous indication of the devices affected by the failure.
7. The Operator shall examine, on a regular basis, the facilities, the systems and their operation so as to determine whether they are in an acceptable technical condition and to repair or adjust them so as to ensure fulfilment of the planned safety levels. All reports of the undertaken examinations and repairs shall be disclosed to the National Petroleum Institute.

ARTICLE 72

Work Environment

1. Specific work environment objectives shall be drawn up for the various phases of Petroleum Operations and these shall be compatible with those of the Contractor.
2. The specific requirements of the work environment shall be drawn up based on the provisions stated under Articles 42 and 50, Section III and IV of Chapter V of these Regulations.
3. The work environment programme developed in accordance with the provisions of Article 50 shall outline the implementation of the work environment objectives, for which purpose the safety deputies and work environment committee shall take an active part in the preparation and implementation the programme.
4. The employer shall ensure that employees medically examined on a regular basis in order to detect possible long-term effects are arising from working conditions and to implement adequate measures.

ARTICLE 73

Safety

Non certified English Translation

1. Risk and safety analyses shall be made and used as the basis for implementing preventive measures of injuries and loss of human lives as a result of work related accidents or other types of accidents. The employees shall be informed of the safety and health related work regulations, as well as of the necessary risk reducing measures.
2. In accordance with internationally accepted standards, safety signs shall be posted at the entrance of compartments and zones near to equipment capable of causing injury or hazardous health effects to personnel.
3. The Operator shall ensure that the work equipment and facilities placed at the disposal of personnel is suitable for the work to be carried out within a safe and secure environment.

ARTICLE 74

Exploration

1. The Operator shall provide the National Petroleum Institute with documented information on the time and place of the Exploration activities as well as of the movement of equipment, vehicles and vessels during exploration activities. Such information shall be provided on a weekly basis unless otherwise stated in applicable regulations, in the Survey Concession Contract, in the Exploration and Production Concession Contract, in the exploration plan or in the Development Plan.
2. The Operator shall, on a quarterly basis, submit reports to the National Petroleum Institute on the progress of exploration activities which have been carried out in the preceding quarter.
3. Copies of all the documentation concerned with the undertaken exploration activity and the results thereby achieved shall be submitted to the National Petroleum Institute no later than three months subsequent to the completion of such activities.

SECTION II

Drilling and Other Well Operations

ARTICLE 75

General Requirements

1. Drilling and well activities shall at all times be carried out in a safe and proper manner. This entails that:
 - (a) Measures shall be taken to ensure regularity and prevent the interruption of operations;
 - (b) Operating and maintenance procedures shall take due consideration of relevant equipment specifications such as their predetermined operating and maintenance limits;
 - (c) Operational measures shall be taken to prevent fires, explosions, pollution, or any other sort of damages;
 - (d) Well casing shall be conceived and developed so as to be under control at all times;
 - (e) Safety equipment for drilling shall be installed in accordance with the requirements of the planned activities and with these Regulations;
 - (f) The ground or seabed shall be examined prior to drilling or prior to the installation or setting up of well facilities so as to ensure that the external environment will not cause damage to existing facilities.
2. The Operator shall:
 - (a) Establish plans and procedures for drilling and simultaneous operations on wells;
 - (b) Identify, by means of risk analyses, situations where well control may be lost or other hazardous situations that may occur as a result of simultaneous activities;
 - (c) Establish the operational limits applicable to drilling and well activities undertaken within the same facility;

- (d) In accordance with the established procedures, shut down wells in areas where falling objects are capable of causing damages thereto.
3. Prior to drilling and well activities are commenced, the Operator shall:
 - (a) Develop an emergency plan for the cases of a blow out of oil, gas or water, and that identifies suitable locations for drilling of a relief well;
 - (b) Develop a plan for the mobilisation and organisation of personnel, as well as for equipment and services required both for drilling the relief well and control of an erupting relief well, inclusive of a possible direct intervention in the erupting well.
4. The position of the well shall be determined in accordance with recognised positioning methods.

ARTICLE 76

Documentation, Reports and Samples

1. The National Petroleum Institute may require, prior to the commencement of the following activities and in accordance with Article 26, the development of a well activities plan:
 - (a) Drilling;
 - (b) Formation testing;
 - (c) Completion or re-completion;
 - (d) Well reconditioning;
 - (e) Well plugging;
2. The Operator shall disclose documentation describing the technical, organisational and administrative principles on which the safety of the planned activities is based.
3. During drilling operations, the Operator shall provide the National Petroleum Institute with copies of daily reports on the drilling operations. In the events of significant changes to the activities programme, interruptions of operations, and dangerous incidents and accidents, the Operator shall immediately notify the National Petroleum Institute.
4. Fragment samples resulting from drilling shall be taken and, if necessary, evidence from the sampling of geological formations. In addition, logs shall be obtained and samples of formation fluids shall be collected in connection with formation testing. Samples, logs and copies of any analyses performed, including stratigraphic and lithological interpretations, shall be made available to the National Petroleum Institute if so requested.
5. No later than three months subsequent to the completion of an Exploration or Appraisal well, a final report on the well shall be submitted to the National Petroleum Institute and such report shall include a composite well log and a summary of the results of the surveys performed and their interpretation. In the case of a discovery, the report shall also contain the Operator's assessment as outlined in Article 26.

ARTICLE 77

Operation Requirements

1. In case of a proven probability of encountering surface natural gas, the Operator shall take the necessary measures to ensure that operations are safely carried out.
2. During drilling in well sections with proven resistance of the geological formation, the Operator shall carry out an estimate of the location where such formation resistance is weakest. Procedures for the implementation of drilling operations and estimation of formation strength shall be documented in the drilling programme. In case of insufficient consistency of the geological formation, the implementation of the programme shall be revised and corrective procedures shall be defined. Registration of relevant data for measuring formation pressure shall begin early on in the drilling process.
3. In accordance with safety and operational criteria, oil based and synthetic oil based drilling fluids shall only be used when such is required.

Non certified English Translation

4. Fluid volumes shall be verified prior to, during and subsequent to the removal of equipment from the well. Procedures shall be established to remove the unintentional influx of fluids from the well, as well as to maintain pressure control in the event of their loss.
5. Formation testing including drilling, hydraulic fracturing, acid treatment or other physical or chemical treatment of the well shall be done according to requirements in these Regulations and with the best practices of the petroleum industry.
6. Well control equipment shall be periodically tested and examined under pressure so as to verify that its barrier functions.
7. Prior to temporary or permanent plugging of a well is carried out, the zones with flow potential shall be located so as to prevent the eruption of hydrocarbons and other formation fluids.

ARTICLE 78

Production

1. Unless specifically stated in the approved Development Plan, production of petroleum from multiple zones with reservoirs through one production line shall be subject to the approval of the Minister with authority over the petroleum industry.
2. The Operator shall regularly monitor the reservoir performance during production in order to ensure a balanced recovery of petroleum. In each distinct zone of each well, including injection wells and other indicators, the Operator shall, to the extent possible, measure on a regular basis or determine among other things, the pressure and flow conditions, produced or injected quantities, the quality of oil, gas and water produced as well as the location of the contact zones between gas, oil and water.
3. Petroleum used for flaring, fuel or other production purposes at the production site shall be closely monitored and recorded in order to keep such consumption of petroleum low and efficient.
4. Documentation on reservoir and production monitoring shall be disclosed to the National Petroleum Institute if so requested.

ARTICLE 79

Testing, Inspection and Reporting

1. Prior to operating the facilities, the Operator shall undertake testing, inspections and checks so as to ascertain that the safety requirements established in these Regulations or in other applicable regulations are complied with. A report comprised of documentation on the assessment of the activities, the results of any undertaken tests, inspections and checks, and an evaluation of such results shall be disclosed to the National Petroleum Institute for its consideration.
2. With the purpose of determining whether the facilities are in a technically acceptable and safe condition and to proceed with restorations and modifications thereto so as to ensure that the planned safety levels are being complied with, the Operator, during the operation of the facilities, shall develop and implement a programme for frequent testing and inspection. Results of each inspection and restoration shall be documented and disclosed to the National Petroleum Institute.

ARTICLE 80

Registration, Follow-up and Reporting of Incidents and Damage

1. The Operator shall develop a system for the registration, evaluation and follow-up of any accident, damage, injury or any other significant occurrence in terms of security.

2. Injuries to personnel, significant material damage, hazardous incidents, as well as the results of the enquiries to such incidents, shall be immediately reported to the National Petroleum Institute.

ARTICLE 81

Changes, Modifications and Repair of Damage

Changes and modifications to facilities and equipments, as well as restoration of damage, shall be performed in accordance with specific procedures capable of safeguarding safety levels.

ARTICLE 82

Hazardous Material

1. Transport, storage and use of hazardous material shall take place in a controlled manner and in accordance with national legislation, as well as with internationally accepted rules and principles, for which purpose documented rules and procedures of their handling shall be made available.
2. The danger of chemical exposure involving health hazards shall be minimised in the storage, use, handling, and disposal of chemicals, as well as in work operations or processes which produce chemical substances. Chemicals hazardous to health shall be classified, labelled and identified in accordance with internationally accepted standards.
3. If chemicals are moved into other containers or appliances, it must be ensured that the contents are labelled and clearly identified so as to allow the identification of their contents by personnel, of which hazards are connected with the use of such chemicals, and of which safety precautions should be taken. Prior to the use of chemicals hazardous to health, a table of instructions, regarding the applicable safety rules of each of such substances, shall be available at the work site.
4. Personnel shall wear individual protective equipment against risks which may not be otherwise avoided or limited to an acceptable extent. Use of radioactive substances shall be restricted on a need of use basis.

ARTICLE 83

Petroleum Measuring

1. Petroleum produced and transported shall be measured in accordance with internationally accepted standards and the respective equipment, as well as the measuring procedures shall be approved by the Minister with authority over the petroleum industry.
2. The National Petroleum Institute may, at any time, examine the equipment and measuring procedures that are used. If the equipment or procedures used are found to be defective or ineffective, the Operator shall effect the necessary corrections.
3. If the National Petroleum Institute concludes that the equipment or procedures used have generated an incorrect calculation of the production levels, this state of affairs shall be considered to be existent since the last examination took place, unless specific reasons warrant the conclusion that such state is prior there to or if the Operator is able to demonstrate that such defect or insufficiency has lingered for a shorter period of time.

ARTICLE 84

Information on Petroleum Produced

1. The Operator shall provide documentation on the quantity, composition, specific weight and other properties of petroleum produced from each individual Petroleum Deposit on such regular intervals as determined by the National Petroleum Institute.
2. Documentation shall be equally disclosed regarding the quantities of petroleum which have been sold, used as fuel at the production site, flared, injected or which have escaped, for which purpose the National Petroleum Institute may require additional documentation.

ARTICLE 85

Flaring of Natural Gas

1. Petroleum used for flaring, fuel or other purposes at the production site shall be strictly controlled and registered with the purpose of keeping consumption low and efficient.
2. Flaring of natural gas for short periods of time with the purpose of testing wells, verification of facilities and for safety reasons does not require authorisation, notwithstanding the need to notify the National Petroleum Institute.

CHAPTER VII

Emergency and Contingency Requirements

ARTICLE 86

General

1. The Operator shall be prepared to handle accidents and emergencies which may lead to loss of life, injuries, pollution or major damage to property.
2. The Operator shall take the necessary measures necessary to prevent or minimise harmful effects of accidents and to restore the environment in accordance with a contingency plan which shall identify the potential accident events and consequences of such events.
3. The Operator shall cooperate with other operators on the conception of the contingency plans.
4. Under specified circumstances, the National Petroleum Institute may issue orders and stipulate conditions for such cooperation, including the participation of operators in the financing of the contingency arrangement.
5. In case of emergency, the National Petroleum Institute may propose the intergovernmental coordination of contingency measures within the Southern African Development Community.
6. In the event of accidents or emergencies, the Minister with authority over the petroleum industry may coordinate the measures proposed in the Contingency Plan and has powers to:
 - (a) Order other parties to provide emergency related resources and equipment;
 - (b) Undertake other measures to obtain the necessary additional resources through other means.

ARTICLE 87

Contingency Plans

1. The Operator shall submit to the National Petroleum Institute a contingency plan for handling accidents and hazardous situations which may occur during Petroleum Operations and such plan shall, among other items, contain the following information:

- (a) An organisational chart with a precise description of responsibilities, channels of reporting information, and duties of each individual in the event of accidents and dangerous situations;
 - (b) A list of the equipment intended for use in each accident or in each danger situation with a precise description of the nature and type of equipment, its capacity, location, means of transport, usage and corresponding area of use;
 - (c) A programme of action with a precise description of the alarm and communication systems, including means of communication with authorities, of the duties of private parties, of when and on which terms emergency equipment is to be used, of how the operations shall be performed, of the measures for limiting the extent of the damage in case accident or hazard, and the procedures for winding up the operation.
2. The plan shall be updated, compatible with national contingency systems and submitted to the National Petroleum Institute and to other relevant entities.
 3. The National Petroleum Institute shall be notified prior to the carrying out of emergency exercises and shall receive a report on such emergency exercises.

ARTICLE 88

Emergency Equipment

The National Petroleum Institute may require the installation of emergency equipment such as fire-fighting equipment, oil barriers, vehicles, standby boats or aircraft's near or at the facilities or at major equipment involved in Petroleum Operations and stipulate the operational requirements of each of such equipment under these circumstances.

CHAPTER VIII

Final and Transitory Provisions

ARTICLE 89

Health, Work Environment and Safety

1. The Operator shall promote a high level of safety and establish overall safety and work environment objectives for the specific phases of Petroleum Operations.
2. The Operator and its contractors shall establish safety and work environment requirements for Petroleum Operations.
3. The Operator shall ensure compliance between its specific requirements and those of its contractors.
4. The Operator's regulations shall include the identification of the specific safety and work environment requirements for the performance of Petroleum Operations which will comprise the basis for decision making or for the carrying out of examinations to deviations in regard to the established procedures.
5. Evaluations shall systematically be carried out in order to verify the safety and environment conditions and the results shall be used to reduce risks.

ARTICLE 90

Environment

1. Environmental impact assessments, including impact reduction measures, shall be carried out in all areas which may be affected by Petroleum Operations.
2. Registration of all environmental aspects influenced by the Petroleum Operations shall be created and maintained for all phases.
3. The Operator shall prevent:

- (a) Accidents and material damage resultant from its activities and from the facilities' operation;
 - (b) Damage or risk of damage to third parties' personnel and assets;
 - (c) Damage to animals, vegetation, marine life and monuments;
 - (d) Sea pollution and of water fountains discovered in the course of Petroleum Operations;
 - (e) Air pollution;
 - (f) Damage in petroleum reservoirs.
4. The Operator shall monitor and reduce the effect of all operational and accidental discharge, handling of waste and pollution emissions into the air, sea, lakes, rivers, and soil. Operational discharges shall be within the limits defined by the entity with authority over environmental matters.
 5. The Operator shall inform the National Petroleum Institute of the amount of operational and accidental discharges, leakages and waste and such information shall be made public.
 6. The Operator shall take remedial measures and repair damage to the environment when the Petroleum Operations it carried out endanger the physical safety of persons or property, or cause pollution or other environmental damage harmful to persons, animals, marine life, monuments or vegetation.
 7. Preferential treatment shall be given to materials and chemicals least dangerous to health and of greater safety so as to minimise the risk to persons, to the environment and to the facilities. The recycling of materials and chemicals shall be duly taken into account.
 8. The operator shall take due consideration of the health of personnel, as well as of the qualification and requirements applicable to medical staff. Health related aspects shall include, inter alia, the following:
 - (a) Health service;
 - (b) State of readiness in respect of health care and health services;
 - (c) Transport of sick and injured personnel;
 - (d) Hygienic aspects;
 - (e) Supply of drinkable water, catering and distribution of food supplies.
 9. A system of safety delegates and a work environment committee for each facility shall be established.

ARTICLE 91

Assignment of rights

An assignment, to an affiliate or to a third party, of all or of an undivided part of the rights and duties of the holder of rights to conduct Petroleum Operations, shall be subject to the prior approval of the Minister with authority over the petroleum industry.

ARTICLE 92

Regulations, Instructions, Administrative Directives

1. The Minister with authority over the petroleum industry may approve additional regulations or administrative measures necessary for the implementation of Petroleum Operations.
2. The National Petroleum Institute may issue notices containing orders and instructions in respect of the conduct of Petroleum Operations.
3. The notices shall be given in documented form and with deadlines for compliance and penalties, with exception to cases of imminent danger of causing damage to persons or property in which verbal orders and instructions may be issued without prejudice of such having to be documented as soon as thereafter possible.
4. In order to cease an exceptionally dangerous activity, authorities may, as a strict safety measure, require the suspension of certain activities.
5. Orders, as well as specific administrative instructions, shall take due regard of their potential commercial consequences.

6. The Operator shall disclose to its personnel, and to those of its contractors, the orders issued by the National Petroleum Institute.

ARTICLE 93

Inspections

1. The general inspection department of the ministry with authority over the petroleum industry may inspect sites, buildings and facilities where Petroleum Operations are carried out.
2. The general inspection department of the ministry with authority over the petroleum industry shall, by means of prior notice given to the Operator within a reasonable time limit, be entitled to observe the carrying out of Petroleum Operations and to inspect all assets, records and data kept by the Operator.
3. The Operator shall assist and provide the necessary means, including such as transportation, to the representatives of the general inspection department of the ministry with authority over the petroleum industry.
4. The representatives of the general inspection department of the ministry with authority over the petroleum industry shall fully comply with all applicable health, safety and security procedures established by the Operator and shall not interfere with the Petroleum Operations.

ARTICLE 94

Guarantee

1. As a guarantee for the fulfilment of the contractual duties arising from the concession contract, the holder of rights to conduct Petroleum Operations shall provide a bank guarantee or letter of guarantee from its parent company in an amount equivalent to minimum work obligations.
2. The guarantee shall only be released upon the term of one year subsequent to the termination of the production operations or of the concession.

ARTICLE 95

Fees

1. The holders of the rights to conduct Petroleum Operations shall pay the fees identified in Annex B which forms part of these Regulations.
2. The ministers responsible for the finance and petroleum sectors have the authority to update the amounts of the fees set out in the Annex referred to in the preceding paragraph.

ARTICLE 96

Fines

1. The non-compliance with orders and with specific administrative instructions are subject to the payment of a fine for each day of default with a minimum value of 250.000.000,00 MT and a maximum of 2.500.000.000,00 MT.
2. The size of a fine imposed shall depend on the gravity of the infraction and its consequences, considering internationally accepted standards in the petroleum industry.
3. The fines mentioned herein shall be charged by the National Petroleum Institute and delivered to the Treasury Office of the local tax area in the subsequent month of its

collection, and fifty percent of such payments shall be consigned to the revenue of the National Petroleum Institute.

ARTICLE 97

Expenses for Inspection

The Minister with authority over the petroleum industry may require that direct expenses in connection with audits and inspections of Petroleum Operations shall be covered by the Operator, under the specified terms of the relevant concession contract.

ARTICLE 98

Training of National Technicians

The Operator shall provide training to national technicians in accordance with the contractual arrangements of the Exploration and Production Concession Contracts or with the Oil or Gas Pipeline Concession Contract.

ARTICLE 99

Safety Zone

1. A safety zone shall extend two hundred meters from the borders of petroleum facilities.
2. Without prejudice to applicable legislation, the installation of any infrastructure in the safety zone requires the prior authorization of the Operator of the relevant petroleum facilities and the approval of the National Petroleum Institute.

ARTICLE 100

Accident Investigation

In the event of a serious incident which has led to, or could lead to an accident, the National Petroleum Institute may monitor the actions undertaken by the Operator in order to restore the situation to its prior condition, visit the scene of the accident as soon as the situation has been brought under control, shall carry out its own investigations, as well as render assistance to other authorities carrying out investigations on the same case.

ARTICLE 101

Applicable Technical Standards

1. National technical standards shall be applied to Petroleum Operations and supplemented by the internationally accepted standards of the petroleum industry, such as the International Standard Organization, American Society of Mechanic Engineers and American Petroleum Institute.
2. The standards which will be implemented shall figure in each Development Plan.

ARTICLE 102

Regulation

The Minister with authority over the petroleum industry is hereby delegated the authority to issue, by means of ministerial statutes, the necessary guidelines or rules for the implementation of these Regulations.

ANNEX "A"

Definitions

- (a) **Appraisal Programme** – a programme, subsequent to a discovery of petroleum in the contract area, which aims to delineate the petroleum reservoir to which that discovery relates in terms of thickness and lateral extent and to estimate the quantity of recoverable Petroleum existent therein. Such a Programme may include a seismic survey or appraisal wells drilled to a sufficient depth so as to penetrate the reservoir being appraised, or both;
- (b) **API** (American Petroleum Institute) – the authority which produces rules, standards and guidelines for the petroleum industry;
- (c) **Appraisal Well** – a well drilled in the course of carrying out an appraisal programme;
- (d) **ASME** (American Society of Mechanical Engineers) – a society which develops rules and technical standards for equipments and industry;
- (e) **BOP** (Blowout Preventer) – an emergency shutdown valve installed at the top of a well during the drilling process or well testing and which incorporates a hydraulic systems capable of closing over the space around the drilling tube despite high pressure and thus preventing the escape of liquids or gases from a well;
- (f) **Declaration of Commerciality** - a report which, based on evaluation of all relevant data by the holder of an Exploration and Production right, concludes that a Petroleum Deposit is or is not commercially viable;
- (g) **Discovery Area** - an area within the contract area containing the totality or part of the geological structure delineated on the basis of the relevant seismic, geophysical and drilling data in which a discovery is located;
- (h) **Documentation** - the information, data, analysis, interpretation and results related to Petroleum Operations either on paper or in electronic format;
- (i) **Exploration** – the search for petroleum by geological, geophysical and other means such as drilling of exploration and appraisal wells;
- (j) **Exploration and Production Concession Contract** - a contract entered into by the Government and by the holder of rights to conduct exploration and production operations, specifying the terms and conditions of performance of petroleum operations in the contract area;
- (k) **Exploration Drilling** - the drilling of exploration or appraisal wells;
- (l) **Flammable Goods:**
 - (I) substances which, in liquid or semi-solid state, have an ignition point no higher than + 55°C. and, regardless of the ignition point, motor fuel and fuel oil (flammable liquid);
 - (II) gas that after being ignited, will burn in air (flammable gas);
- (m) **Good Oil or Gas Pipeline Related Practices** - practices that are generally accepted in the international petroleum industry as good, safe, environmentally sound, economical and efficient for oil or gas pipeline operations;

- (n) **Facility(s)** – the equipment and facilities used for the purpose of conducting Petroleum Operations;
- (o) **ISO** (International Standards Organisation);
- (p) **Management System** - the organisation, procedures, processes and resources that are necessary in order to ensure compliance with requirements stipulated in or pursuant to legislation as mentioned in these Regulations;
- (q) **Operator** - the holder of the rights to conduct petroleum operation or the company performing the Petroleum Operations on behalf of such holder and who ultimately is responsible for complying with the present Regulations;
- (r) **Oil or Gas Pipeline Concession Contract** - a contract entered into by the Government and by the holder of rights to construct and operate a gas or pipeline system;
- (s) **Production** - all activities related to the extraction, separation, treatment, measurement, storage, lifting, productivity enhancement and improvement in petroleum recovery;
- (t) **Survey Concession Contract** - a contract entered into by the Government and by the holder of rights to conduct preliminary survey and evaluation of petroleum;
- (u) **SSSV** (Sub Surface Safety Valve) – a strangling valve installed on a production well with the purpose of interrupting production in case of emergency until safety is restored;
- (v) **Technically Competent Person** - a specialist whose qualifications have been attested by a recognised accreditation body or a classification society to issue certificates of compliance and recognized as such by the National Petroleum Institute;
- (w) **Transportation** - activities related to the transport of crude oil or natural gas petroleum through an oil or gas pipeline system from the production facilities at an oil or gas field to the point of delivery to the buyer, excluding the gathering flow-lines or the distribution of crude oil, natural gas or petroleum products.

ANNEX B

Identification of the Procedure	Fee Value
Filing an application for the award of rights to conduct Petroleum Operations	500.000.000,00 MT
Handling of an application for renewal of a Concession Contract	125.000.000,00 MT
Evaluation of a Development Plan, except in case of Concession Contract to Construct and Operate an Oil or Gas Pipeline	500.000.000,00 MT
Authorization for the commencement of operations of petroleum facilities	125.000.000,00 MT
Approval of a Decommissioning Plan	250.000.000,00 MT