REPUBLIC OF VANUATU

PETROLEUM REGULATIONS No. 30 of 1997

To prescribe matters required under the Petroleum (Exploration and Production) Act No. 13 of 1993.

IN EXERCISE of the powers conferred upon me by section 65 of the Petroleum Exploration and Production Act No.13 of 1993, I, SATO KILMAN, Minister of Natural Resources, make the following regulations:-

PART 1 - PRELIMINARY

1 Definitions

- (1) In these regulations, unless the context otherwise requires:-
 - "the Act" means the Petroleum Exploration and Production Act No. 13 0f 1993;
 - "Commissioner "means the Commissioner for Petroleum Exploration and Production;
 - "form" means a form contained in the schedule of these regulations;
 - "Minister" means the Minister administrating the Act;
 - "operational area" means an area declared as such by the Minister for the exclusive use of a licensee for exploration or drilling;
 - "part" means one of the parts, 1-11 of these regulations;
 - "standard fee" has the meaning given in Part 10.
- (2) Terms defined in the Act have the same meaning in these regulations.
- (3) The technical and industrial terms in these regulations have the meaning commonly given to them in the petroleum industry.

2 Exemption or modification

- (1) On request from the licensee, the Commissioner may exempt a person from any of these regulations, or modify their operation.
- (2) The Commissioner may not exempt a person from or modify these regulations unless the Commissioner:
 - (a) has considered the objectives of the Act and the regulations and is satisfied that the exemption or modification promotes them; and
 - (b) has published a notice of the exemption or modification in the Gazette and in a daily newspaper circulating in the Republic; and
 - (c) has considered whether any conditions should be attached to the exemption or modifications; and
 - (d) has fully informed the Minister of the proposed exemption or modification, any conditions proposed and the reasons for it and the Minister has approved it in writing.

3 Other obligations

Other laws of the Republic also impose obligations upon licensees and operators.

PART 2 - PETROLEUM PROSPECTING LICENCE

4 Scope of Part 2

This Part sets out:

- (a) how to apply for a petroleum prospecting licence;
- (b) how to create and transfer an interest in a petroleum prospecting licence;
- (c) when to notify change of control;
- (d) how to renew a petroleum prospecting licence;
- (e) annual charges.

5 Definitions

In this part:-

- (a) "transfer" means:-
 - (i) (as a verb) create, assign, novate, dispose of, deal with or transmit by operation of law;
 - (ii) (as a noun) the means by which an interest in a petroleum prospecting licence is transferred;
- (b) "interest in a petroleum prospecting licence" means a legal or equitable interest in a prospecting licence or in the licensee or other rights arising from a contract or understanding with the licensee, under which the licensee cooperates with a third party with respect to the exercise of the rights attaching to the licence or the enjoyment of the benefits of the licence, or confers those rights on the third party.

6 Applying for petroleum prospecting licence

- (1) An applicant for a petroleum prospecting licence must apply to the Minister on form 2-2 in the schedule.
- (2) An application for the grant of a licence must be accompanied by:
 - (a) the application fee set out in Part 10;
 - (b) a statement giving particulars of the proposed work to be carried out under the licence and minimum expenditure to be incurred;

- (c) a statement of any adverse effects which the proposed operations would be likely to have on the environment;
- (d) proposals for controlling or eliminating any significant environmental effect of the operations;
- (e) a statement giving particulars of the applicant's proposals for employing and training Vanuatu citizens.
- (3) An applicant may normally apply for up to 60 blocks.
- (4) If an applicant wishes to apply for more than 60 blocks, the Minister may consider an application for more than 60 blocks but not more than 200 blocks if the Minister is satisfied that special circumstances exist for doing so. The applicant should therefore state fully and clearly the reasons for saying such special circumstances exist.
- (5) If an application relates to more than one block, the blocks must form a single area in which each block has a side in common with a least one other block in the area.

7 Granting a petroleum prospecting licence

- (1) The prescribed form for a petroleum prospecting licence is form 2-3 in the schedule.
- (2) If the Minister grants a petroleum prospecting licence for more than 60 blocks, the Minister must publish reasons for doing so in the gazette at the same time as granting the licence.

8 Creating and transferring an interest

- (1) The transfer of an interest in a petroleum prospecting licence is of no effect unless it is in writing and has been approved by the Minister in writing.
- (2) The transfer of an interest in a petroleum production licence does not affect the liability of the licensee for any breach of:
 - (a) the conditions of the licence; or
 - (b) any provisions of the Act or these regulations.
- (3) A person may transfer an interest to itself with another person in the same way as it could transfer the interest to a third party.
- (4) Two or more persons may transfer an interest to any one or more of themselves in the same way as they could transfer the interest to a third party.

9 Application for approval of transfer

- (1) If the transferee is to become a holder of the licence, the licensee must apply to the Minister on form 2-4 in the schedule. The application must be accompanied by:
 - (a) the application fee set out in Part 10;
 - (b) an instrument of transfer executed by all parties to the transfer and a copy;
 - (c) a copy of each document recording the terms of the transfer;
 - (d) the technical qualifications of the transferee;
 - (e) details of the technical advice that is or will be available to that transferee;
 - (f) details of the financial resources that are or will be available to that transferee.
- (2) If the interest of the transferee is as the holder of security over the licence, as a holder of a royalty or any other interest not constituting ownership of an individual share of the licence, the licensee must apply to the Minister on form 2-5 in the schedule. The application must be accompanied by:
 - (a) the application fee set out in Part 10; and
 - (b) a copy of each document recording the terms of the transfer and the capacity of the transferee to affect the exercise by the licensee of the rights attaching to the licence or the enjoyment of the benefits of the licence.

10 Approval of transfer

- (1) The Minister may require an applicant to provide additional information about the application. The application lapses if the licensee does not provide the information within 28 days (or any longer period permitted by the Minister in writing).
- (2) The Minister must not unreasonably refuse to approve the transfer of an interest in a licence if the transferee:
 - (a) controls the transferor, is controlled by the transferor or with the transferor is under the common control of another entity; and
 - (b) is disqualified under the Act and these regulations from holding a petroleum prospecting licence.

17 Application for petroleum production licence

- (1) An applicant for a petroleum production licence must apply to the Minister on form 2.7 in the schedule.
- (2) The application must be accompanied by:
 - (a) the application fee set out in Part 10;
 - (b) a comprehensive report of the petroleum reservoir or deposit which includes:
 - (i) a description of the reservoir or deposit;
 - (ii) the form of the petroleum;
 - (iii) an analysis of the petroleum and other potential products of the reservoir or deposit;
 - (iv) an estimate of the reserves of each type of petroleum and of any other product;
 - (c) details (including a plan) of the area of which the application is made;
 - (d) a report on production and processing possibilities and the applicant's intentions for production and processing;
 - (e) a proposed program of production and processing operations which includes the following details:
 - (i) the date by which the applicant intends to start production;
 - (ii) the capacity of production and scale of operations;
 - (iii) the estimated overall recovery of petroleum and other products;
 - (iv) the nature of the petroleum and other products to be produced;
 - (v) the marketing arrangements for sale of the petroleum and other products;
 - (vi) proposals for the prevention of pollution, the treatment of wastes, the safeguarding of natural resources, the progressive reclamation and rehabilitation of lands disturbed by operations, and the minimisation of the effect of such extraction on adjoining or neighbouring lands;

- (vii) a statement of any adverse effect which the carrying out of operations would be likely to have on the environment and proposals for controlling or eliminating any significant effect;
- (e) a detailed forecast of capital investment, operating costs and sales revenues and the anticipated type and source of financing;
- (f) proposals for employing and training Vanuatu citizens;
- (g) a report of the goods and services required for the production and processing operations which can be obtained within the Republic and the applicant's intention in relation to them;
- (h) details of expected infrastructure requirements;
- (i) any other matter that the applicant wants the Minister to consider or has been informed that the Minister requires.

18 Granting a petroleum production licence

The prescribed form for a petroleum production licence is form 2-8 in the schedule.

19 Creating and transferring an interest

- (1) The transfer of an interest in a petroleum production licence is of no effect unless it is in writing and has been approved by the Minister in writing.
- (2) An interest in a petroleum prospecting licence does not affect the liability of the licensee for any breach of:
 - (a) the conditions of the licence; or
 - (b) any provision of the Act or these regulations.
- (3) A person may transfer an interest to itself with another person in the same way as it could transfer the interest to a third party.
- (4) Two or more persons may transfer an interest to any one or more of themselves in the same way as they could transfer the interest to a third party.

20 Application for approval of transfer

- (1) If the transferee is to become the holder of the licence, the licensee must apply to the Minister on form 2-9 in the schedule. The application must be accompanied by:
 - (a) the application fee set out in Part 10;
 - (b) an instrument of transfer executed by all parties to the transfer and a copy;

- (c) a copy of each document recording the terms of the transfer;
- (d) the technical qualifications of that transferee;
- (e) details of the technical advice that is or will be available that are or will be available to that transferee;
- (f) details of the financial resources that are or will be available to that transferee.
- (2) If the interest of the transferee is as the holder of security over the licence, as the holder of a royalty or any other interest not constituting ownership of an individual share of the licence, the licensee must apply to the Minister on form in the schedule. The application must be accompanied by:
 - (a) the application fee set out in Part 10;
 - (b) a copy of each document recording the terms of the transfer and of the capacity of the transferee to affect the exercise by the licensee of the rights attaching to the licence or the enjoyment of the benefits of the licence.

21 Approval of transfer

- (1) The Minister may require the licensee to provide additional information about the application. The application lapses if the licensee does not provide the information within 28 days (or any longer period permitted by the Minister in writing).
- (2) The Minister must not unreasonably refuse to approve the transfer of an interest in a licence if the transferee:
 - (a) controls the transferor, is controlled by the transferor or with the transferor is under the common control of another entity; and
 - (b) is qualified under the Act and these regulations to hold a petroleum production licence.
- (3) In any other circumstances, the Minister may:
 - (a) approve the transfer of an interest in a licence; or
 - (b) approve it subject to conditions; or
 - (c) refuse to approve it.

22 Consequences of transfer

- (1) If the Minister approves the transfer of an interest in a licence, the Minister must cause the name of the transferee to be recorded as the holder of an interest in the licence.
- (2) The Commissioner must record the Minister's approval on a copy of the instrument of transfer and return it to the applicant.
- (3) The transfer of an interest in a licence does not prohibit the commencement or continuation of any legal proceedings against the transferor.

Notification of change of control of licensee

- (1) A licensee must notify the Commissioner within 14 days after it becomes aware of any change in the identity of any person who ultimately controls the licensee.
- (2) Someone controls the licensee if they would be considered to have control of the licensee (as a company) under section 59 of the Act.

24 Renewing a licence

- (1) An application for the renewal of a petroleum production licence must be lodged with the Minister on form 3-1 in the schedule accompanied by the renewal fee.
- (2) The renewal fee is set out in Part 10.

25 Annual charge

- (1) The annual charge for a petroleum production licence is set out in Part 10.
- (2) The annual charge must be paid within 30 days of the licence being granted and subsequently in each year of the licence on or before the anniversary of the grant until the end of the licence.
- (3) The licence terminates automatically if the licensee does not pay the annual charge by the due date.

Division 2 - Reports

26 Program of work

Each year, at least 3 months before the anniversary of the grant of the petroleum production licence, the licensee must submit to the Commissioner a program of work the licensee proposes to carry out in the licence area in the next 12 months.

27 Estimate of recoverable and in-place petroleum

- (1) Each year, at least 3 months before the anniversary of the grant of the petroleum production licence, the licensee must submit to the Commissioner 2 copies of an estimate of recoverable and in-place petroleum, setting out:
 - (a) the location of the petroleum pool;
 - (b) the estimated amount of recoverable petroleum in a commercial pool or inplace petroleum in a currently non-commercial pool;
 - (c) the data upon which the estimates used in the return are based;
 - (d) details of any specific returns made during the previous year in connection with reservoir performance and production optimisation.
- (2) If the estimate is revised as a result of a field study, the licensee must submit to the Commissioner:
 - (a) 2 copies of that study; and
 - (b) a copy of the revised estimate.

28 Monthly production returns

- (1) Not later than the 21st day of each month, the licensee must submit to the Commissioner 2 copies of a monthly production return for each petroleum reservoir in a licence area relating to the previous calendar month.
- (2) The monthly production return must contain the following information:
 - (a) the total quantities of:
 - (i) each product (itemised by type)produced;
 - (ii) liquid and gaseous petroleum used;
 - (iii) gaseous petroleum flared or vented;
 - (iv) product (itemised by type) re-injected into subsurface reservoirs;
 - (vi) liquid petroleum stored at the beginning and the end of the month;
 - (vii) product (itemised by type) delivered from the area;
 - (viii) the cumulative quantities of product (itemised by type) produced or injected as at the end of the month;

- (b) for each well:
 - (i) its identification name and number;
 - (ii) a summary of all work performed on the well during the previous month;
 - (iii) the result of the production test required by regulation 101, including the choke size used and the tubing and separation pressures observed during the test;
 - (iv) the status of the well at the end of month;
 - (v) the number of days of production;
 - (vi) the total estimated quantities of product (itemised by type) produced or injected during the month and cumulative quantities of liquid and gaseous petroleum and of water produced or injected as at the end of the month.
- (3) In this regulation "product" means liquid petroleum, gaseous petroleum, gas (not being petroleum), water and any other products of the field.

PART 4 - WORK PRACTICES

29 Scope of Part 4

This Part sets out:

- (a) the licensee's duty to nominate an operator (Division 1);
- (b) details of operations documents required to be submitted by the licensee (Division 2);
- (c) duties of the licensee during operations (Division 3);
- (d) obligations of the licence in regard to emergencies and occupation health and safety (Division 4) and electrical work (Division 5);
- (e) the licensee's duty to protect the environment (Division 6).

Division 1 - Operator

30 Licensee must nominate an operator

- (1) A licensee must apply to the Commissioner for approval of an operator before the licensee starts any operations. The operator is the person responsible for the day to day conduct of all operations under the licence. No operations under the licence must be conducted unless there is a currently approved operator.
- (2) The licensee must immediately inform the Commissioner of any proposed change in operator and apply to the Commissioner for approval of the replacement operator before it assumes control of operations.

31 Approval of operator

- (1) The Commissioner must not approve an operator unless the Commissioner is satisfied that:
 - (a) the operator and the operator's advisers have technical capacity and suitable experience; and
 - (b) the operator is able to comply with:
 - (i) the conditions of the particular licence; and
 - (ii) the provisions of the Act and these regulations; and

- (iii) any directions.
- (2) The approval under this regulation must be in writing.

Division 2 - Operations documents

32 Operations documents to be submitted before commencing operations

- (1) A licensee must not start operations in any part of a licence area until the Commissioner has approved operations documents which apply to those operations and that part of the licence area.
- (2) Operations documents means the documents set out in subregulation (3).
- (3) A licensee must submit:
 - (a) an Environmental Code of Practice; and
 - (b) an Environmental Report; and
 - (c) a Procedures Manual; and
 - (d) an Emergency Response Manual,

to the Commissioner at least two months before the proposed start of operations in the licence area. The application must state whether the documents submitted apply to conditions and operations throughout the licence area, or only to a specified part of it.

- (4) The Commissioner may permit one or all of these documents to be submitted less than 2 months before the proposed start of operations if unforeseen circumstances justify the late submission.
- (5) The Commissioner may approve or refuse to approve any of these documents having regard to the criteria set out in this Division.
- (6) The licensee may revise and re-submit for approval a document which the Commissioner has refused to approve. Unless waived by the Commissioner, the application must be accompanied by the standard fee.

33 Environmental Code of Practice

The Environmental Code of Practice must contain the procedures that are proposed to apply in the part of the licence area to which the Code relates to:

- (a) protect wildlife, livestock, flora, marine creatures and sites of natural, geological and tourist significance, and other environmentally sensitive areas in line with existing laws (if any) and the Republic's conservation policies;
- (b) minimise the disturbance of the land surface;
- (c) clean up and rehabilitate any areas disturbed by the operations.

34 Environmental Report

The Environmental Report must contain information on:

- (a) name and type of activity which is to be undertaken in the part of the licence area to which the Report applies;
- (b) crew size and equipment to be used;
- (c) the natural environment in the area with particular reference to the physical and biological environments and present land use;
- (d) the areas and items referred to in regulation 33 within or immediately adjacent to the licence area or otherwise likely to be affected by the proposed operations;
- (e) the area of any public land or internal waters involved and the name of the person or body responsible for the management of the land or waters under any statute;
- (f) any discussion or liaison carried out with any bodies or groups with an interest in environmental issues;
- (g) the environmental effects of undertaking the proposed operations and the measures proposed to avoid or minimise environmental effects;
- (h) any procedures proposed to monitor the impact on the environment of the proposed operations;
- (i) any area to be nominated for waste disposal;
- (j) proposals to ensure quality of water discharged is in accordance with existing laws and the National Conservation policies of the Republic;
- (k) any reference material necessary to understand any information in the Report.

35 Procedures Manual

The Procedures Manual must contain information on:

- (a) the techniques to be employed for each technical procedure forming part of the operations the subject of the Manual;
- (b) an estimate of the time to be taken for each of these procedures;
- (c) the material to be used;
- (d) the safety measures to be employed.

36 Emergency Response Manual

The Emergency Response Manual must contain information on:

- (a) the procedures to be followed and actions to be taken in the event of an emergency involving:
 - (i) the escape or ignition of petroleum or other hazardous substance;
 - (ii) serious injury to a person,
 - (iii) any other emergency associated with the operations;
- (b) the persons responsible for implementing these procedures and actions.

37 Review and update of operations documents

- (1) If operations are on-going, the documents required by regulation 32 (3) must be:
 - (a) reviewed by the licensee every 2 years; and
 - (b) resubmitted to the Commissioner for approval.
- On the request of the licensee, the Commissioner may grant an extension of time not exceeding 1 year in which to resubmit a document.
- (3) If required by changed circumstances or as directed by the Commissioner, a licensee must:
 - (a) update the Procedures Manual and Emergency Response Manual to accord with good oil-field practices; and
 - (b) submit the update to the Commissioner for approval.

(4) The Commissioner may require specific amendments to the documents before approving them.

38 Approval etc, to be in writing

Any permission, extension of time, or approval required under this division must be in writing.

Division 3 - General duties of licensee during operations

39 General Duties

(1) A licensee must:

- (a) carry out all operations in accordance with the operations documents; and
- (b) otherwise carry out operations in a proper, safe and workmanlike manner in accordance with good oil-field practices; and
- (c) take all reasonable steps necessary to secure the safety, health and welfare of persons engaged in the operations or nearby to the operations who could be affected by them; and
- (d) take all reasonable steps to ensure operations are carried out in a manner that minimises any adverse impact on the environment or property.
- (2) A licensee must also comply with directions given by the Minister under section 36 of the Act.

40 Personnel

(1) Suitability for work

The licensee must ensure personnel used in operations:

- (a) have any certificate of competence, authorisation or qualification required by a law of the Republic to carry out an activity; and
- (b) otherwise are suitably qualified for the work.

(2) Availability of information

The licensee must take all reasonable steps to ensure that personnel working in the licence area have access to, understand and comply with:

- (a) these regulations; and
- (b) the operations documents; and
- (c) any directions made under section 36 of the Act.
- (3) At the end of each shift, the operator must take reasonable steps to ensure that every supervisor of a worksite (or part of a worksite) informs the incoming supervisor of the state of operations at that worksite.

41 Communications

The licensee must ensure that radio or telephone communication facilities are established at each main operational location and maintained in good working condition.

42 Admission to the operational area

- (1) The licensee must ensure that a person is not permitted to enter the operational area without the approval of the operator if they are not engaged in, or directly concerned with, the carrying on of operations.
- (2) A person who is admitted to the operational area with the operator's approval must first be given all necessary instructions required by the Procedures Manual and the Emergency Response Manual.
- (3) The licensee must take all reasonable steps to warn persons near property and equipment used in operations of the presence of and possible hazards arising from that property and equipment.

Division 4 - Emergencies and occupational health and safety

43 Emergencies

If an emergency occurs, the licensee must:

- (a) immediately report the emergency to the Commissioner or an authorised officer; and
- (b) submit a written report to the Commissioner within 21 days of the emergency, specifying measures taken or to be taken to prevent a possible recurrence.

44 Hazardous situation

- (1) The licensee must immediately report a hazardous situation to the Commissioner or an authorised officer. The licensee must also submit a written report to the Commissioner within 5 days of the occurrence of a hazardous situation specifying:
 - (a) the date, time and place of the occurrence;
 - (b) the quantity or approximate quantity of material that has escaped or burned;
 - (c) particulars of damage caused by the escape or ignition;
 - (d) the events so far as they are known or suspected that caused or contributed to the escape or ignition;
 - (e) particulars of methods used to control the escape or ignition;
 - (f) particulars of methods used or proposed to be used to repair property, plant or equipment damaged by the escape or ignition;
 - (g) measures taken, or to be taken, to prevent a possible recurrence of the escape or ignition.
- (2) In these regulation "hazardous situation" means:-
 - (a) a spill of liquid or gaseous hydrocarbon;
 - (b) any uncontrolled escape or ignition of petroleum;
 - (c) any spill, escape or ignition of other poisonous flammable or combustible material causing a threat to health or safety.

45 Injuries

- (1) The licensee must keep a record of each injury occurring in the course of operations.
- (2) The licensee must submit a report to the Commissioner no later than the 21st day each month outlining injuries that occurred during the previous month.
- (3) In addition, if the injury involves death or requires immediate attention by a medical practitioner, the licensee must:
 - (a) immediately report the injury or death to the Commissioner or an authorised officer; and
 - (b) submit a written report to the Commissioner within 5 days specifying:
 - (i) particulars of the injury or death;

- (ii) the circumstances leading to its occurrence;
- (iii) any treatment given to the injured person and the name of each medical practitioner consulted in relation to the injury.

46. Damage to property or equipment

If damage occurs to property or equipment (including its loss or destruction), the licensee must submit a written report to the Commissioner within 5 days specifying:

- (a) the date, time and location of the incident;
- (b) particulars of the damage;
- (c) the events so far as they are known or suspected that caused or contributed to the incident;
- (d) particulars of the repairs carried out or proposed to be carried out;
- (e) measures taken, or to be taken, to prevent possible recurrence.

Division 5 Electrical work

Work must be undertaken by a qualified electrical mechanic

Only a suitably qualified electrical mechanic must:

- (a) install any electrical apparatus or circuit; or
- (b) carry out maintenance work on electrical apparatus or cables which:
 - (i) carry voltage exceeding extra low voltage; or
 - (ii) are not ancillary to wireline logging units, mud logging units or electronically-equipped production control and gauging installations.

48 Tests

- (1) The licensee must ensure that electrical installations are tested by a suitably qualified electrical mechanic:
 - (a) in the case of drilling rigs:
 - (i) prior to spudding in each well; and
 - (ii) then every 2 months;

- (b) in the case of temporary installations, every 2 months;
- (c) in the case of permanent installations, every year.
- (2) The results of the tests must be:
 - (a) recorded in a tour report or log book; and
 - (b) signed by the person who carried out the test; and
 - (c) counter-signed by the supervisor on the particular site.
- (3) The Commissioner may direct the licensee to carry out additional tests on electrical installations. Such directions must be made in writing.

49 Wiring and electrical circuits

(1) Wiring

All wiring must be installed and maintained in a proper, safe and workmanlike manner.

(2) Electrical circuits

The licensee must ensure:

- (a) that electrical circuits are protected against overload and short circuit; and
- (b) that circuits above extra low voltage are protected against the leakage of current to earth by an approved earth leakage circuit breaker.

50 Earthing and lighting protection

- (1) The structure of a permanent facility for handling flammable liquids must be protected against lightning by the installation of suitable equipment.
- (2) The structure of a drilling rig need not be so protected against lightning if it is earthed so that the maximum resistance to earth does not exceed 10 ohms.

51 Control of static electricity

The licensee must ensure that adequate measures are taken to prevent the ignition of flammable materials by static electricity.

52 Welding

The licensee must ensure that electrical welding return conductors are connected directly to:

- (a) the equipment being welded; and
- (b) the earthing system of the rig of other plant.

53 Electrical shock

The licensee must ensure that instructions on the procedure and treatment to be followed in case of electric shock are prominently displayed in any place where electricity is used, including the rig floor, the driller's doghouse and the generator house.

Division 6 - Protection of the environment

54 General duties

A licensee must:

- (a) control the flow and prevent the waste or escape in the licence area of petroleum, gas (not being petroleum), water or other product;
- (b) prevent the escape of any mixture of water or drilling fluid and petroleum or any other product;
- (c) prevent damage to petroleum-bearing strata both within and outside the licence area;
- (d) keep separate as the Commissioner directs by notice in writing served on the licensee:
 - (i) each petroleum reservoir discovered in the licence area;
 - (ii) discrete aquifers (if any) discovered in the licence area;
- (e) prevent water or any other matter entering any petroleum reservoir through the wells in the licence area except where required by, and in accordance with, good oil-field practices;
- (f) prevent the pollution of any body of water, land area or marine environment by the escape of petroleum, salt water, drilling fluid, chemical additive, gas (not being petroleum), waste, effluent or any other product;
- (g) if pollution occurs, treat or disperse it in an environmentally acceptable manner.

55 Flaring natural gas or petroleum

A licensee may only flare petroleum or gas:

- (a) with the prior written approval of the Commissioner; or
- (b) in emergencies, to safeguard the health and safety of persons or to prevent damage to property; and

a licensee must only flare petroleum or gas in accordance with good oil field practice which enable both the quantity and composition of petroleum products to be determined.

56 Disposal of produced petroleum and gas

The licensee must ensure that any petroleum or gas produced from a well during drilling, testing or repair is either:

- (a) flowed through the well's flowing to a gathering facility; or
- (b) disposed of in accordance with good oil-field practices, so as to enable both the quantity and composition of the petroleum to be determined.

Waste or contamination

(1) Tests

If there is a reasonable possibility that petroleum gas or water will be wasted or contaminated, the Commissioner may direct the licensee or any other person to undertake specified tests within a certain time to determine if waste or contamination is occurring.

(2) The licensee or that other person must submit the results of these tests to the Commissioner as soon as practicable.

(3) Obligations of licensee

If as a result of these tests, it is established that waste or contamination is occurring, the licensee must take all necessary steps to remedy or prevent the waste or contamination. The Commissioner may require the licensee or any other person to carry out further tests to determine the effectiveness of those steps in remedying or preventing the waste or contamination.

(4) Discharge of waste fluids

The licensee must ensure that all formation water and other waste fluids produced from a well are disposed of in accordance with good oil-field practices and so as not to constitute a risk to public health or safety, or to contaminate water or land not specifically approved in writing by the Commissioner for waste disposal.

- (5) The licensee must provide details to the Commissioner of the means by which the quality of water discharged will be controlled to ensure compliance with conservation policies of the Republic and existing laws, if any.
- (6) The licensee must ensure that a record is maintained of the quality of water discharged.

PART 5 - SURVEYS

58 Scope of Part 5

This Part sets out:

- (a) how to apply to undertake a survey (Division 1);
- (b) duties in undertaking a survey (Division 2);
- (c) the reports which must be provided by a person undertaking a survey (Division 3).

Division 1 - Applying to undertake a survey

Who may undertake a survey?

A person may undertake a survey only if he has:

- (a) one of the following:
 - (i) a petroleum prospecting licence; or
 - (ii) a petroleum production licence; or
 - (iii) authorisation from the Commissioner under section 61 of the Act to carry out a scientific investigation; and
- (b) specific approval for the survey from the Commissioner.

When must an application be made?

An application must be made at least 2 months before the proposed start of the survey. However, the Commissioner may permit an application to be submitted within the 2 months if unforeseen circumstances justify the late submission. Any such permission must be in writing.

What must the application include?

- (1) An application must specify the type of survey to be undertaken.
- (2) The application must include:
 - (a) the proposed starting date;

- (b) a plan showing the location of the survey;
- (c) the names of the contractors who will carry out the survey;
- (d) the estimated duration of the survey;
- (e) the cost which will be incurred;
- (f) the standard fee.
- (3) If the application is for a seismic survey, gravity survey or magnetic survey, it must also include:
 - (a) details of the equipment to be used;
 - (b) a plan showing the proposed survey stations and traverses;
 - (c) a description of operations and procedures (particularly of positioning and acquisition systems);
 - (d) the proposed flying altitude in the case of airborne surveys;
 - (e) details of any proposal to carry out a seismic operation within 300 metres of a quarry, marine reef, shipwreck or marine structure.

62 Approval

- (1) The Commissioner may:
 - (a) approve an application; or
 - (b) approve it subject to conditions; or
 - (c) refuse to approve it.
- (2) The applicant may revise and resubmit an application for approval to undertake a survey which the Commissioner has refused to approve. Unless waived by the Commissioner, the revised application must be accompanied by the standard fee.
- (3) Any approval or waiver granted by the Commissioner under this Division must be in writing.

Division 2 - Conduct of a survey

63 General duties

The licensee must:

- (a) not start a survey without providing 48 hours notice of the starting date and time to the Commissioner or an authorised officer nominated by the Commissioner;
- (b) not continue a survey without the written approval of the Commissioner if the area or duration of the survey has significantly changed from the approved area or duration;
- (c) not use explosives for a seismic survey without the written approval of the Commissioner;
- (d) ensure that all energy sources used in a seismic survey operate in accordance with good oil-field practices;
- (e) ensure that all energy sources used in a seismic survey are properly stored and maintained to prevent undue deterioration.

Division 3 - Reports and submissions

64 Weekly survey report

The licensee must submit a report each week to the Commissioner stating the progress of the survey.

65 Overall survey report

- (1) The licensee must submit a written report to the Commissioner within 4 months of completing a survey. However, the Commissioner may grant an extension of up to 2 months if unforseen circumstances justify the late submission.
- (2) The report must include:
 - (a) name and location of the survey;
 - (b) dates of start and finish of the survey;
 - (c) names of the contractors used to carry out the survey;

- (d) details of the operations carried out;
- (e) system and equipment used in the survey;
- (f) geological or geophysical techniques and equipment used;
- (g) data processing report;
- (h) summary of the costs of the survey;
- (i) details of the samples (including geochemical samples) acquired;
- (j) in the case of a geophysical survey, the number of kilometres recorded.
- (3) Any extension of time granted under subregulation (1) must be in writing.

66 Basic data submissions

(1) General

The licensee must submit to the Commissioner the information set out in this regulation by the earlier of:

- (a) 90 days after completion of processing of data; and
- (b) 90 days after before the last day of the current term of the licence.

The information must be clearly identified.

(2) Gravity/magnetic survey

If a gravity or magnetic survey has been carried out, the licensee must submit:

- (a) one copy of processed magnetic tapes of both located and girded data, accompanied by an explanation of the format that enables their processing:
- (b) one stable base transparent copy of Bouguer gravity, free air gravity, to all magnetic intensity and, if prepared, vertical gradient and residual contour maps;
- (c) one stable base transparent copy of computer generated profile data;
- (d) one copy of analog monitor records, diurnal records and altimeter records;
- (e) maps or profiles which annotate line position, line number, registration marks and processing parameters.

(3) Seismic Survey

If a seismic survey has been carried out, the licensee must submit:

- (a) one copy of field tapes accompanied by observer's logs with an explanation of the recording format that enables their processing;
- (b) one stable base transparent copy of both a single survey and composite shotpoint location map together with one copy of each magnetic tape and other digital media of shotpoint co-ordinates and elevations;
- (c) one stable base transparent copy of final processed sections having a vertical scale of 10cm/sec, and, if prepared, migrated sections.

(4) 3-D Seismic Survey

If a three dimensional seismic survey has been carried out, the licensee must submit:

- (a) the information specified in subregulation (3); and
- (b) one copy of each final staked migrated tape, in a format suitable for loading onto interactive work stations for interpretation.

67 Other reports and submissions

(1) Seismic reprocessing, analysis etc

The licensee must submit a written report to the Commissioner within 30 days of undertaking any:

- (a) seismic reprocessing; or
- (b) analysis; or
- (c) study (including a geological study); or
- (d) operation,

which does not fall under regulation 66. The report must include details of activity and interpretation of the results.

(2) Wireline survey

If a wireline survey has been carried out, the licensee must also submit to the Commissioner within one month of processing data:

- (a) one copy of all available digital form log data on magnetic tapes (or on disk if available) in an edited format that permits their processing;
- (b) one stable base transparent copy and one paper print of each log at each scale run in the survey;
- (c) one stable base transparent copy of one paper print of each computer processed interpretation log.

68 Delivery of seismic tapes to Commissioner

The licensee must ensure that all seismic tapes are delivered to the Commissioner within 90 days of the relevant licence terminating.

PART 6 - DRILLING AND WORKOVER

69 Scope of Part 6

This Part sets out:

- (a) how a licensee can apply for approval to drill or workover a well and to conduct a production or drill stem test (Division 1);
- (b) the duties of a licensee undertaking drilling (Division 2);
- (c) the reports required from the licensee (Division 3).

Division 1 - Approval

70 Who may undertake drilling?

Before drilling can be undertaken, a licensee must obtain approval in writing from the Commissioner.

71 When must a drilling application be made?

A drilling application must be made:

- (a) at least 3 months before the proposed start of drilling if it is to take place in an environmentally sensitive area; and
- (b) in any other case, at least 2 months before the proposed start of drilling.

What must a drilling application include?

- (1) The drilling application must include 2 copies of:
 - (a) for a new exploration or development well, a drilling programme; or
 - (b) for an existing exploration, development or producing well, a workover program and,
 - (c) the standard fee.
- (2) The program must include:
 - (a) name and address of person responsible on behalf of the licensee for communications with the Commissioner;

- (b) name and address of the drilling contractor;
- (c) names and addresses of other contractors involved in the operations and the nature of the services they will perform;
- (d) proposed well name and number;
- (e) location, elevation and co-ordinates of the well site;
- (f) a current map showing:
 - (i) the existing land tenure including reserves and private property;
 - (ii) the location of any other wells and public utilities;
 - (iii) any other structure within 150 metres of the proposed well location;
- (g) a geological prognosis of the area which includes well objectives for exploration wells, play definition (s) (sources, seal, reservoir, trap configurations) accompanied by a time or depth map of near target horizon(s) and seismic sections where possible;
- (h) programmed depth;
- (i) estimated spud date;
- (j) estimated drilling time;
- (k) description of type and method of operations of rig and blow-out prevention equipment;
- (l) particulars of coring, casing, casing cementing, drilling fluid, electric (wireline) logging and mud logging;
- (m) details of directional drilling operations (if the directions include directional drilling);
- (n) proposed well parts (if the well is to be other than vertical);
- (o) any amendment or update of the operations documents referred to in regulation 32 required to be lodged due to the nature or location of operations;
- (p) detailed pollution control measures.

73 Production or drill stem tests of exploration and development well

(1) A licensee must not start a production or drill stem test in an exploration or development well without the prior written approval from the Commissioner.

- (2) The application must include details of:
 - (a) the equipment proposed to be used for the test;
 - (b) the proposed testing program;
 - (c) the interval in the well proposed to be tested;
 - (d) the proposed duration of the test;
 - (e) the maximum quantity of petroleum or water proposed to be produced;
 - (f) the proposed method of disposal of the petroleum or water produced.
- (3) An approved test must not be conducted before giving at least 24 hours written notice to the Commissioner.

74 Workover of wells

- (1) A licensee must not workover a well without the prior written approval from the Commissioner.
- (2) The application must include details of:
 - (a) the zone in the well proposed to be abandoned;
 - (b) the zone in the well proposed to be developed;
 - (c) proposed modification and changes of the equipment in the well;
 - (d) proposed changes in the wellhead and production equipment;
 - (e) procedures proposed to be used.

(3) Pressure test

If a well is to be worked over for gas lift operations, the licensee must undertake a pressure test that will prove the integrity of the well production casing, tubing and associated equipment.

- (4) The Commissioner may permit the pressure test to be carried out not more than 15 months before the workover of the well if unforeseen circumstances justify doing so. Otherwise the test must be undertaken not more than 12 months before the start of operations.
- (5) Any permission granted under subregulation (4) must be in writing.

75 Approval

- (1) The Commissioner may:
 - (a) approve an application under this Division; or
 - (b) approve it subject to conditions; or
 - (c) refuse to approve it.
- (2) The licensee may revise and resubmit an application which the Commissioner has refused to approve. Unless waived by the Commissioner, the revised application must be accompanied by the standard fee.
- (3) Any waiver granted under subregulation (2) must be in writing.

Division 2 - Duties of licensee undertaking drilling

76 Casing

- (1) The licensee must ensure that:
 - (a) a well is lined with casing;
 - (b) the design, placement and cementing of casing strings is in accordance with regulation 77;
 - (c) casing recovered from a well is not re-used in another well unless it has first been inspected in accordance with good oil-field practices;
 - (d) conductor pipe is installed in a well to protect the well and equipment against surface formation instability and to enable the circulation of drilling fluid from the well before surface casing is installed;
 - (e) surface casing is designed and set in accordance with good oil-field practice;
 - (f) a well (other than a plugged and abandoned well) is equipped so that the pressure in each annulus may be measured.

77 Cementing of casing

- (1) The licensee must ensure that:
 - (a) casing strings are designed, placed and cemented in accordance with good oil-field practices; and

- (b) details of all cementing operations are recorded in the driller's log; and
- (c) the Commissioner is notified as soon as practicable if there is any reason to suspect a faulty cementing operation.
- (2) The licensee must ensure that, if the cementing requirements of this regulation have not been achieved by primary cementing operation, re-cementing or remedial cementing is undertaken to achieve compliance with the regulation.

78 Drilling after cementing

(1) Start

The licensee must ensure that drilling does not start after cementing of casing strings until:

- (a) either:
 - (i) 24 hours has passed; or
 - (ii) the cement has been under pressure for 8 hours for the surface casing string and 10 hours for all other casing strings. The cement is considered to be under pressure if, during the time lapse, the cement is restrained from movement by the use of float valves or other suitable equipment; and
- (b) the pressure tests set reffered to subregulation (2) of this regulation are satisfactorily completed.

(2) Pressure tests

The licensee must:

- (a) conduct pressure tests on:
 - (i) all casing strings (except the conductor casing string) before drilling out of the casing shoe; and
 - (ii) the production casing string to an approved pressure,

for as long as it is necessary to ascertain that there is no continuous pressure drop; and

(b) record pressure test results in the driller's log.

79 Blow-out prevention equipment - installation

The licensee must install, operate and maintain blow-out prevention equipment in accordance with good oil-field practices.

80 Blow-out prevention equipment - safety and emergency requirements

(1) Control panel

The licensee must ensure that during operations a control panel for operating blow-out prevention equipment is located both:

- (a) on the drill floor; and
- (b) at a distance from the drill floor to ensure safe and ready access in time of emergency.

(2) Choke manifold

The licensee must ensure that each choke manifold has:

- (a) a pressure gauge which indicates the drill pipe pressure at the drill floor; and
- (b) a pressure gauge which indicates the casing string/drill string annulus pressure at a known point upstream of the choke.
- (3) This choke manifold equipment must be clearly visible to the choke operator when standing in the normal operating position for either the remotely or hand adjustable chokes.

81 Blow-out prevention - tests and drill

- (1) The licensee must ensure that blow-out prevention drills are conducted weekly for each drilling crew.
- (2) The blow-out prevention drill must test that:
 - (a) all equipment is operating; and
 - (b) all drilling crews are properly trained to carry out emergency duties.
- (3) The licensee must ensure that all blow-out prevention drills and response times are recorded in the drillers log.
- (4) The licensee must ensure that:
 - (a) a notice is displayed on the rig floor providing details of the well control procedures to be followed if indications of a well kick are observed; and
 - (b) all drilling crews are trained in those procedures.

82 Formation integrity testing

The licensee must ensure that a formation integrity test is conducted in accordance with good oil-field practices.

83 Deviation surveys

The licensee must ensure that deviation surveys are taken at intervals of between 150 metres and 300 metres to ascertain the deviation of a well from vertical.

84 Wells

A licensee must:

- (a) report any repair, modification, recompletion, production test or suspension of a well to the Commissioner; and
- (b) not abandon, close or plug a well without prior written consent of the Commissioner; and
- (c) close or plug the well in a manner approved in writing by the Commissioner.

Division 3 - Reports

85 Daily drilling report

- (1) Before 11.00am each day, the licensee must submit to the Commissioner a daily written report of the drilling or workover operation for the previous 24 hours.
- (2) The daily report must contain the following information:
 - (a) the name of the well;
 - (b) the depth drilled;
 - (c) the work carried out;
 - (d) the size and shoe depth of the last casing/liner;
 - (e) the bit size;
 - (f) the following drilling fluid properties:
 - (i) weight;
 - (ii) viscosity;
 - (iii) fluid loss;
 - (iv) pH;

- (i) plugged; or
- (ii) completed; or
- (iii) suspended; or
- (iv) abandoned;
- (i) particulars of the results of formation-fluid sample tests and any production tests carried out on the well;
- (j) particulars of equipment installed in or on the well;
- (k) particulars of cementing operations carried out in or on the well;
- (l) particulars of locations in the well at which samples were obtained;
- (m) particulars of all surveys made in the well;
- (n) particulars of the casing and equipment installed in or on the well complete with schematics showing major dimensions and features of such casing and equipment;
- (o) in the case of a development well that has been deviated or drilled from a central location:
 - (i) the surveyed path of the well;
 - (ii) the position of the various marker horizons;
 - (iii) the position of the perforations in the reservoir;
- (p) particulars of the geological interpretation of the observations made as a result of drilling the well (In the case of an exploration well, this must be accompanied by geological maps and sections drawn on the basis of the interpretations made.);
- (q) where appropriate, a discussion of the relevance of the findings of the well to the evaluation of the hydrocarbon potential of the area around the well and of the basin containing it;
- (r) the depths and descriptions of geological samples such as cuttings, sidewall and conventional cores;
- (s) all surveys and measurements made in the well, including any detailed interpretations, if made;

(g) the lithology of formations penetrated: any indications of petroleum or other products; (h) results of surveys made in the well bore; (i) when available, estimated daily and cumulative well costs. (j) Final well report The licensee must submit a written well report to the Commissioner for each well within 6 months of the well being: (a) plugged; or (b) abandoned; or (c) suspended; or (d) completed. The well report must include: (a) the name and location of the well; (b) the elevation of the well location; (c) the depth of the well measured by: (i) its along hole length; and (ii) the vertical depth measured by the distance below the rotary Kelly bushings; (d) the depth of the various marker horizons; (e) the depth of the perforations in the petroleum reservoir (if any); (f) the dates of the start and finish of making the well; (g) the drilling rig used to make the well; (h) a statement as to whether the well has been:

86

(1)

(2)

- (t) the geological interpretation of the observations made;
- (u) where available, interpretations of all wireline log data;
- (v) where available, all fluid sample analyses;
- (w) reports on cores and cuttings required by this regulation;
- (x) a summary of the costs of drilling subsequent tests and sampling.
- (3) If not included in the well report, the licensee must ensure that reports of special technical studies on samples and cores obtained from wells (including palaeontology, palynology, permeability, porosity, fluid saturations, relative permeability, capillary pressure and fluid analysis and geochemical analyses) are submitted to the Commissioner as soon as they become available.

87 Well evaluation logs

- (1) The licensee must ensure that a suite of logs is run and recorded:
 - (a) when a well is cased (other than with surface casing); or
 - (b) when a well is completed; or
 - (c) when a well is abandoned; or
 - (d) where directed by the Commissioner.
- (2) The suite of logs must sufficiently and properly determine:
 - (a) formation porosity;
 - (b) formation fluid saturation;
 - (c) stratigraphic correlation with surrounding wells;
 - (d) if inadequate control exists in the vicinity of the well, velocity control.
- (3) The licensee must submit to the Commissioner:
 - (a) a copy of each log run, which must be forwarded as soon as it is recorded;
 - (b) stable base transparencies of each log, which must be provided as soon as practicable after they are made;
 - (c) magnetic tape or other digital log data, which must be provided (as soon as practicable after they become available).

PART 7 - PETROLEUM PRODUCTION

88 Scope of Part 7

This Part sets out the specific duties of a holder of a petroleum production licence:

- (a) in constructing production facilities and selecting equipment (Division 1);
- (b) before starting production (Division 2);
- (c) in undertaking producing (Division 3);
- (d) in the calculation and payment of the production royalty (Division 4);
- (e) in submitting reports and retaining records (Division 5).

Division 1 - Production facilities and equipment

89 Constructing a production facility

- (1) Only the holder of a petroleum production licence who has obtained written approval from the Commissioner may construct a production facility.
- (2) When applying for approval, the licensee must give details of:
 - (a) give details of the location of the facility;
 - (b) give details of its design;
 - (c) give details of the proposed standards and method of construction;
 - (d) give details of the specifications and plans for emergency shutdown equipment and any fixed fire fighting facility; and
 - (e) pay the standard fee.

(3) The Commissioner may:

- (a) approve the construction of a production facility; or
- (b) approve it subject to conditions; or
- (c) refuse to approve it.

The Commissioner may only approve the construction of a production facility if the Commissioner is satisfied that it is sited and spaced in accordance with good oil-field practice.

90 Modification of construction

- (1) The licensee must:
 - (a) submit any proposal for a significant addition or modification to an approved proposed production facility to the Commissioner for approval; and
 - (b) pay the standard fee; and
 - (c) not start construction until the modification or addition has been approved.
- (2) The approval or modification or addition must be in writing.

91 Progress report on construction

The licensee must submit to the Commissioner by the 21st day of each month a report on the progress made in constructing the facilities during the previous month.

92 Equipment to comply with good oil-field practice

The licensee must ensure that all equipment used for the recovery of petroleum and ancillary services is designed, constructed and operated in accordance with good oil-field practice.

Division 2 - Production tests and plans

93 Notifying and reporting on tests

The licensee must notify the Commissioner of any proposed test under this Division.

94 Production test

- (1) The licensee must undertake a production test on a newly completed or recompleted production facility before production starts or by the end of the first month of bringing it into production or recommencing production. The test must determine:
 - (a) representative chemical analyses of fluids as they exist in the reservoir;
 - (b) the production capacity of the well;
 - (c) if possible, shut-in and flowing bottom hole pressures.
- (2) The licensee must give the Commissioner a written report on the test within 3 months of finishing the test.

- (3) If an extended production test is undertaken, the licensee must submit a report before the 21st day of each month detailing, for the previous month:
 - (a) pressure information;
 - (b) quantities of fluids produced;
 - (c) sales of gas or hydrocarbon fluids.

95 Reservoir management plan

- (1) The licensee must not start production from a production facility (other than for a production test) until the Commissioner has approved a reservoir management plan.
- (2) The Commissioner may:
 - (a) approve a reservoir management plan; or
 - (b) approve it subject to conditions; or
 - (c) refuse to approve it.
- (3) If it is not practical to submit a reservoir management plan, the licensee must not start production from a production facility (other than for a production test) until the Commissioner has approved a program to work to develop a reservoir management plan. This program of work must indicate the period within which the licensee proposes to develop the reservoir management plan.
- (4) The Commissioner may:
 - (a) approve variations to a reservoir management plan; or
 - (b) direct that a reservoir management plant be revised to comply with good oil-field practice.
- (5) A licensee must comply with an approved reservoir management plan.
- (6) An approval or direction under this regulation must be in writing.
- 96 Evaluation of potential for enhanced recovery or retrograde condensation
- (1) The licensee must not start production from a production facility or gas reservoir until sampling and evaluation of the potential for enhanced recovery or retrograde condensation has been undertaken.

- (2) If it is not practical to undertake an evaluation, the licensee must not start production until the Commissioner has approved a program of work to carry out an evaluation during the course of production. The program of work must indicate the period within which the evaluation will occur.
- (3) If as result of an evaluation retrograde condensation appears likely to occur in a reservoir, the licensee must as soon as practicable:
 - (a) undertake a full pressure-volume-temperature study; and
 - (b) submit the results of that study to the Commissioner within one month after finishing the test.
- (4) An approval under subregulation (2) must be in writing.

97 Concurrent production

- (1) If a licensee states in a notice under section 26 (1) of the Act that a reservoir is of potential commercial interest, the licensee must ensure that if a production facility is to be produced as a gas production facility it is done so only in accordance with a scheme which allows for the concurrent production of natural gas and petroleum from the reservoir and which is not detrimental to the ultimate recovery of hydrocarbons.
- (2) If the licensee makes an application under regulation 2 for exemption from subregulation (1) of this regulation, the application must contain an analysis of the nature of the reservoir, distinguishing between natural gas and other petroleum types.

Division 3 - Obligations of licensee during production

98 Rate of recovery of petroleum

- (1) The annual rate of recovery of petroleum from a fully developed reservoir must be approved by the Commissioner.
- (2) The application for approval must include:
 - (a) the proposed rate of recovery;
 - (b) past performance of wells and the reservoir;
 - (c) a prediction of future performance of the reservoir;
 - (d) an estimate of ultimate recovery from the reservoir.
- (3) Any approval under this regulation must be in writing.

99 Monitors and control mechanisms

The licensee must ensure that monitors and control mechanisms which meet international industry standards are used to control the rate of recovery of petroleum or water from a well.

100 Monitoring of rate of recovery

The licensee must ensure that the rate of recovery of petroleum from well is monitored either:

- (a) continuously; or
- (b) by production tests carried out at a frequency which is in accordance with good oil-field practice.

101 Reservoir and well performance monitoring

(1) Extension of time

The Commissioner may grant an extension of time not exceeding 1 year in which to complete any one or more of the tests required by this regulation if unforeseen circumstances justify an extension.

(2) Reporting of test results

The licensee ensure that a report on the results of any test required by this regulation and any interpretation of those results are sent to the Commissioner within 1 month after finishing the test.

(3) Test to determine changes in flow characteristics of a well

Every 2 years, the licensee must test each producing completion using a calibrated sub-surface pressure gauge which meets international industry standards, to determine changes in the flow characteristics of the well.

(4) Fluid analysis

The licensee must undertake a full well fluid analysis:

- (a) in conjunction with each test carried out under regulation 102 (3); and
- (b) at other times that the Minister may direct under section 36 of the Act.

(5) Water production

The licensee must test each completion capable of production to determine water production in accordance with good oil-field practice at intervals not exceeding 6 months.

- (6) If a water production test indicates the production of formation water that had not been previously identified, the licensee must ensure that:
 - (a) a full separator test is carried out; and
 - (b) if the Commissioner so requires, a chemical analysis of the produced water is carried out; and
 - (c) further separator tests are then carried out at intervals approved by the Commissioner.

(7) Alternative monitoring

The licensee may apply for approval from the Commissioner to monitor the reservoir and well performance using alternative methods. The Commissioner may approve an alternative method if satisfied that the alternative method will not lead to undue waste of petroleum.

- (8) The licensee must ensure that while a production facility is being cleaned up or tested, the amount of natural gas or petroleum flared in accordance with regulation 55 is kept to a minimum in accordance with good oil-field practice.
- (9) An approval or extension of time granted under this regulation must be in writing.

102 Major stimulation test

- (1) If a production facility is to be subjected to a major stimulation procedure (such as fracturing or acidizing), the licensee must ensure a test is carried out at least 6 months before the stimulation to provide a benchmark against which to determine:
 - (a) any changes as a result of the stimulation in:
 - (i) the fluid flowing from the production facility;
 - (ii) the producing capacity of the production facility;
 - (iii) formation characteristics;
 - (b) if possible, the shut-in and flowing bottom hole pressures.
- (2) The licensee must give the Commissioner a written report on the test within 3 months of finishing the test.

- (3) The licensee does not have to undertake a major stimulation test where reliable test is in existence.
- (4) If necessary to conform with good oil-field practice, the licensee must carry out a further major stimulation test within 3 months of the stimulation. In this case, the licensee need give only one written report covering both tests.

103 Surveys of reservoir build-up

- (1) If downhole equipment permits, the licensee must conduct bottom hole pressure build-up surveys on each well completed in a pool from which petroleum is being produced:
 - (a) at intervals of:
 - (i) one year; or
 - (ii) the time required to produce 10% of the currently estimated original recoverable reserves of the reservoir; and
 - (b) in a manner consistent with good-field practice.
- (2) The licensee must ensure that a written report on the results of any pressure test and any interpretation of those results is sent to the Commissioner within 1 month after finishing the test.

104 Pressure below bubble point

- (1) The licensee must ensure that a completion is not produced so that the bottom hole pressure is below the pressure.
- On application by the licensee, the Commissioner may approve production of a production facility using an alternative method to that required by subregulation (1) if the Commissioner is satisfied that the alternative method will not lead to undue waste of petroleum.

105 Surface connections

The licensee must ensure that each well from which petroleum is recovered is provided in accordance with good oil-field practice with surface connections and equipment that are necessary to prevent the injection of petroleum or water into the well from another well or from production equipment.

106 Subsurface safety devices

(1) The Commissioner may direct the licensee to ensure that a well that is capable of producing petroleum by natural flow is equipped with a subsurface safety device which:

- (a) conforms with good oil-field practice;
- (b) is designed so that it automatically closes off the flow of petroleum or water if the wellhead or production equipment is damaged in a way that could allow the escape of petroleum or water from the well;
- (c) is located in a specified position;
- (d) is operated and tested at intervals of not more than 6 months or as otherwise directed by the Commissioner;
- (e) is repaired or replaced immediately if a test indicates that it may not operate correctly.
- (2) A direction under subregulation (1) must be in writing.

107 Segregation of zones

- (1) A licensee must give the Commissioner at least 3 days notice of an intention to carry out a test for the purpose of this regulation.
- (2) A licensee must carry out tests on whether segregation between the production facilities in each facilities multiple production well has been achieved and maintained. The tests must be carried out within 7 days of:
 - (a) the initial well completion;
 - (b) any change of subsurface equipment;
 - (c) any other operation that may disturb, or exert abnormal differential pressures on, subsurface equipment;
 - (d) the anniversary of the last test under this regulation if none of (a) (c) has occurred in the previous 12 months.
- (3) A licensee must submit a written report to the Commissioner within 1 month of the test which includes:
 - (a) results from the test;
 - (b) an analysis and interpretation of the results;
 - (c) a conclusion stating whether or not segregation has been achieved and maintained.

- (4) If either a test carried out to meet the requirements of this regulation or the production characteristics of a well indicate that segregation between the production facilities is ineffective, the licensee must immediately:
 - (a) inform the Commissioner in writing; and
 - (b) take all reasonable steps to re-establish segregation.
- (5) If steps taken to achieve segregation are not successful, the Commissioner may order that one or more of the production facilities be sealed off.
- (6) The Commissioner may require the well to be shut-in if a licensee fails to demonstrate that segregation between production facilities has been achieved.
- (7) Any order or requirement under subregulation (5) or (6) must be in writing.

108 Prevention of cross flow

If a production facility is shut-in (other than in an emergency), the licensee must ensure that the production facility is left in a condition that will prevent harmful cross flow between zones.

Division 4 - Production royalty

109 Royalty rate

- (1) This regulation applies if there is no relevant agreement with respect to the licensee or no royalty is specified in a relevant agreement or incorporated in the licence.
- (2) It is a term of each petroleum production licence that the licensee must pay the Republic a royalty of 10% of the value at the well-head of all petroleum products recovered by the licensee.
- (3) The licensee must pay the royalty within 30 days of receiving notification of the royalty payable from the Commissioner.
- (4) If the licensee fails to pay the royalty within that period, the licensee must additionally pay interest at the rate of 1.5% per annum on the outstanding unpaid royalty, accruing daily, until the royalty is fully paid.
- (5) In this regulation:-
 - (a) "relevant agreement" has the same meaning as in the Act;
 - (b) "value" means:

- (i) such an amount as is agreed between the Commissioner and the licensee; or
- (ii) if no agreement exists, such amount as reasonably determined by the Commissioner;

(c) "well-head" means:

- (i) the valve station agreed between the Commissioner and the licensee; or
- (ii) if no agreement exists, the valve station reasonably determined as appropriate by the Commissioner.

110 Production measurement

- (1) Before starting production, the licensee must ensure that metering devices are installed to measure the quantity of petroleum, natural gas or water that flows from each production facility.
- (2) Each metering device must be proved and certified for its accuracy in a manner and at a frequency consistent with good oil-field practice.
- (3) If production from separate production facilities is commingled before measurement, the licensee must ensure that the production of petroleum, gas and water from each production facility is determined by testing at intervals in accordance with good oil-field practices.
- (4) The equipment and procedures used to determined the quantity and composition of petroleum and water must be approved by the Commissioner.

(5) Measurement of natural gas

For the purpose of measuring natural gas won and saved from land subject to a licence, the volume of the natural gas is to be calculated at an absolute pressure of 1 atmosphere and at a temperature of 60°F.

(6) Alteration of method of production measurement

The licensee must ensure that alterations are made to a metering device only with the written consent of the Commissioner. The Commissioner may require that an alteration be made in the presence of a person authorised by the Commissioner.

(7) Test of method of production measurement

The Commissioner may direct that any metering device is tested or examined in a manner specified by the Commissioner in the direction.

(8) Seal

For the purpose of assessing the royalty payable on an operation, the Commissioner may select and seal a valve or meter installed:

- (a) at a well or production facility; or
- (b) on a pipeline, tank or other receptacle that is used for the storage or transportation of oil, gas or other fluids produced from the well.
- (9) Except in an emergency, a person must not tamper with a seal or remove it without the written permission of the Commissioner.
- (10) An approval or a direction under subregulations (4) or (7) must be in writing.

111 Royalty return

- (1) The licensee must submit a royalty return within 10 days of the commencement of each month.
- (2) The return must provide details of:
 - (a) gross value of petroleum products produced at the well-head (itemised by type) produced; and
 - (b) associated operating costs incurred; and
 - (c) net value of petroleum products produced at the well-head (itemised by type) produced,

for the licence area for the preceding month.

112 Royalty assessment

(1) Commissioner to calculate royalty

The Commissioner must calculate and notify the licensee of the royalty payable for each month within 14 days of the licensee submitting the royalty return.

(2) Adjustment of royalties

If as a result of a test or examination the metering device is inaccurate in the reasonable opinion of the Commissioner, the Commissioner may assume that the metering device has been inaccurate since last tested and adjust any royalty accordingly. In reaching this determination, the Commissioner must consider any written representation of the licensee and act only with the approval of the Minister.

- (3) The quantity of recovered petroleum products from a well is:
 - (a) the quantity measured by an approved metering device;
 - (b) if no approved metering device is operating, the quantity reasonably determined by the Commissioner. In reaching this determination, the Commissioner must consider any written representation of the licensee and act only with the approval of the Minister.
- (4) A notification, approval or determination under this regulation must be in writing.

Division 5 - Other records and reports

113 Reservoir under development

- (1) The Commissioner may direct the licensee to submit a written report on a reservoir under development. The report must demonstrate that the reservoir is being developed in a manner consistent with sound management practices and compatible with the best long- term recovery, and include:
 - (a) a description of the reservoir;
 - (b) the proposed production policy;
 - (c) current reservoir performance.
- (2) A direction under subregulation (1) must be in writing.

114 Production facility maintenance reports

(1) Corrosion report

The licensee must submit a written report to the Commissioner if:

(a) mechanical damage, erosion or corrosion that could affect the safety or integrity of a production facility occurs;

- (b) any non-routine corrosion (including, but not limited to, instructment pigging, acoustic emission testing and pipe examinations) occurs.
- (2) The report must include, or be followed by, a written report on any repairs carried out.

(3) Annual report

Within 2 months after the end of each year, the licensee must submit a written report to the Commissioner:

- (a) summarising the routine corrosion and other surveys carried out on a production facility during the year; and
- (b) assessing the condition of the production facility as at the end of the year.

115 Records of periodic inspections

The licensee must ensure that accurate records are maintained of periodic inspections of the production facility equipment and piping. The records must include details of the inspections, testing and proving of meter control valves.

PART 8 - RECORDS AND REPORTS AND ACCOUNTS

116 Scope of Part 8

This Part sets out:

- (a) the records (including production records) which the licensee must retain (regulations 117, 118 and 121);
- (b) the reports the licensee must submit (regulations 119 and 120);
- (c) the form of records (regulation 122);
- (d) the procedure for delivering documents to the Commissioner (regulation 123).

117 Retention of copies of records, etc

The licensee must:

- (a) keep a copy of the records, maps, plans and reports required by this Part at an address in the Republic; and
- (b) notify the Commissioner in writing
 - (i) of the address; and
 - (ii) of any change to that address within 30 days of the date of the change.

118 Records

- (1) The licensee must keep full and accurate records of:
 - (a) the drilling, operation, deepening, plugging or abandonment of wells;
 - (b) the strata and subsoil through which wells are drilled;
 - (c) the casing and casing accessories inserted in wells and any alteration to such casing;
 - (d) any petroleum, water and other economic minerals or dangerous substances encountered, and any significant discovery of any mineral (as defined in the Mines and Minerals Act CAP 190);
 - (e) the areas in which any geological or geophysical work has been carried out.

(2) The licensee must keep accurate geological maps and plans, geophysical records and interpretations of both, relating to the licence area.

119 Half-year reports

Within 30 days of the end of each six month period from the grant of the licence, the licensee must submit a written report to the Commissioner for the six month period containing:

- (a) a summary of all geological and geophysical work carried out;
- (b) a summary of all drilling activity and results obtained;
- (c) a list of maps, reports and other geological and geophysical data prepared for the licensee.

120 Annual reports

- (1) Within sixty days after the end of each year of the term of the licence, the licensee must submit a written report to the Commissioner containing:
 - (a) a general discussion of operations carried out (including office studies);
 - (b) the results of all prospecting and production operations carried out in the year concerned;
 - (c) technical conclusions derived from the year's operations;
 - (d) a list of reports submitted during the year;
 - (e) an outline of work plans for the next year;
 - (f) current and appropriately scaled interpretation maps;
 - (g) survey statistics;
 - (h) a summary of annual expenditure;
 - (i) estimates (if available) of economically recoverable reserves of petroleum and natural gas at the end of the year concerned;
 - (i) discussion on delineated possible prospects and leads;
 - (k) detailed discussion on the hydrocarbon prospective of the licence area;
 - (l) any other information relating to the operations as the Commissioner directs.
- (2) A direction under subregulation (1) (1) must be in writing.

121 Productions records

The licensee must keep full and accurate accounts of:

- (a) the gross quantity of petroleum (itemised by type) won and saved from the licensed area;
- (b) the grades and gravity of any petroleum produced and the composition of natural gas produced;
- (c) the quantities of:
 - (i) crude oil;
 - (ii) natural gas;
 - (iii) each refined petroleum product, including liquefied petroleum gases;
 - (iv) sulphur, in any form, or any other gases, liquids or solids,

disposed of by way of sale or otherwise, the consideration received, the quantity disposed of, and the name of the person to whom any such quantity was disposed;

- (d) the quantity injected into the formation of:
 - (i) crude oil;
 - (ii) natural gas;
 - (iii) each refined petroleum product, including liquefied petroleum gases;
- (e) the quantity consumed for drilling and other production operations (other than quantities reported under paragraph (d) and consumed in pumping to field storage and refineries in the Republic of:
 - (i) crude oil;
 - (ii) natural gas;
 - (iii) each refined petroleum product, including liquefied petroleum gases;
- (f) the quantity of crude oil refined by or on behalf of the licensee in the Republic,

- (g) the quantity of natural gas treated in the Republic by or on behalf of the licensee for the removal of liquids and liquefied petroleum gases, and the quantity of:
 - (i) butane;
 - (ii) propane;
 - (iii) any other liquids or gases or solids obtained from it;
- (h) the quantity of natural gas or petroleum flared.

122 Form of records, reports and accounts

The Commissioner may give the licensee directions by notice in writing setting out the form of any record, report or account required by these regulations.

123 Delivery of documents to Commissioner

- (1) The licensee must deliver to the Commissioner within 30 days of the determination, cancellation or expiration of a licence:
 - (a) all records maintained under these regulations and the licence;
 - (b) all plans and maps of the licence area prepared by or for the former licensee;
 - (c) all tapes, diagrams, profiles and charts prepared by or for the former licensee.
- (2) By written notice, the Commissioner may also direct the former licensee to deliver documents at any time after the determination, cancellation or expiration of a licence. The notice:
 - (a) must specify the document or class of documents to be delivered; and
 - (b) must specify a date by which the documents must be delivered.

PART 9 - ADMINISTRATION

124 Reference map

- (1) The Commissioner must prepare a reference map showing the geographical area of land in the Republic divided into blocks.
- (2) Each block on the reference map is to:
 - (a) be prepared in accordance with section 4 of the Act; and
 - (b) be identified by a number or letter.
- (3) The reference map is to be:
 - (a) held at a place determined by the Commissioner (as notified in the Gazette); and
 - (b) made available for inspection by the public during normal business hours.
- (4) A reference in a licence to an identified block is a reference to a block as identified on the reference map.
- (5) The Commissioner may certify a copy of the reference map to be a true copy of the reference map.
- (6) The certified copy is conclusive evidence of the contents of the reference map for the purposes of any court or tribunal proceedings.

125 Records to be kept by the Commissioner

(1) Public records

The Commissioner must establish a register and record on it:

- (a) the name and address of the person to whom a licence is granted or transferred;
- (b) the date of each application for the grant, transfer or renewal of a licence;
- (c) the date of the grant or refusal to grant a licence;
- (d) the date of renewal or transfer of a licence;
- (e) any modification, waiver or exemption applying to a licence.

(2) Certified copy of records

The Commissioner may give a certificate stating that:

- (a) a licence was granted, transferred or cancelled on, or with effect from, a date specified in the certificate;
- (b) any block, identified in the certificate, is, or was on a date specified in the certificate, subject to a licence;
- (c) a condition specified in the certificate is a condition on which any consent or approval so specified, was given;
- (d) a person named in the certificate is, or was at a date specified in the certificate, a holder of a licence;
- (e) that a direction specified in the certificate was, on a date so specified, given to the person named in the certificate.
- (3) A certificate issued under this regulation may be received in proceedings before any court or tribunal as evidence of that fact, but without prejudice to the right to adduce evidence in rebuttal.

126 Reasons for decision to be obtained

- (1) This regulation applies if the Minister or Commissioner makes a decision under the Act or these regulations and there is no other provision for a person affected by that decision to obtain a statement of the reasons for that decision.
- (2) By notice in writing, an applicant for a decision under the Act or these regulations, a recipient of an order, notice, or direction or a person otherwise affected by a decision may request a statement in writing from the decision maker giving reasons for the decision.
- (3) As soon as practicable, and in any event within 28 days, after receiving the request, the decision maker must prepare the statement and provide it to the person. The statement must:
 - (a) set out the basis of the decision including findings made on material questions of fact;
 - (b) refer to the evidence or other material on which those findings were based;
 - (c) give reasons for the decision.
- (4) The Minister or Commissioner does not have to provide a statement of reasons in relation to:

- (a) information about the personal affairs or business affairs of a person, other than the applicant or a related entity of the applicant; and
- (b) information:
 - (i) that was supplied in confidence; or
 - (ii) the publication of which would reveal a trade secret; or
 - (iii) the furnishing of which would be in contravention of an Act that expressly imposes a duty not to divulge or communicate information of that kind to any person (except in prescribed circumstances).
- (5) If information is not included in a statement or a statement is not given because of subregulation (4), the decision maker must inform the applicant in writing of this.
- (6) In this regulation "decision maker" means either the Minister or the Commissioner.

127 Offences against regulations

(1) General penalty provision

Every person who contravenes or fails to comply with any provision of these regulations is guilty of an offence. If no specific penalty is provided, a guilty person is liable to a fine not exceeding VT1.000.000, or to imprisonment for a term not exceeding one year, or to both such fine and imprisonment.

(2) Certain offences

A person who contravenes or fails to comply with regulation 39 or Part 7 commits an offence and is liable on conviction to a fine not exceeding VT 5,000,000 for each time the offence occurs, or to imprisonment for a term not exceeding 2 years, or to both such fine and imprisonment.

PART 10 - FEES AND CHARGES

128 Licences

The fees and charges for a petroleum prospecting licence and a petroleum production licence are set out in the following table:-

Fee or charge	! Type of petroleum licence			n licence
	! !	prospecting	!!	production
	!!	US\$!	US\$
	!	5,000	!	50,000
Application fee	! 		!	
Licence fee	!		!	
- renewal	!	3,000	!	6,000
- transfer	!	3,000	!	6,000
		·		
Annual charge	!	100	!	1,000
per block	!		. !	

129 Other applications and approvals

The fee payable for any other application, to or approval required from, the Minister or Commissioner under these regulations is US\$500 ("the standard fee")

SCHEDULE

PETROLEUM	REGULATI	ONS NO.	30 OF	1997
P:	rescribed	forms		

PART 11 -- MICHELLANOUS

130 Commencement

These regulations shall come into force on the date of their publication in the Gazette.

Dated this

14 th day

1997.

Minister of Natural Resources



form **2-2**

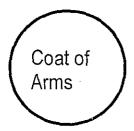
Application for

Prospecting (Exploration and Production) Act 1993 Regulations 1997: 2 - 9

Petroleum Prospecting Licence

Application	ly for a petroleum prospecting licence for the bloc	cks described below
Applicant full r	name, occupation and nationality	address
	Tame, occupation and nationality	audicaa
-corporation		
-name		
-name		
-name -place of incorporation — -directors —	full name and nationality	address
-place of incorporation —	full name and nationality	address
-place of incorporation —	full name and nationality full name and nationality	address % of issued share capital

(maximum 60)			
-precise location			
Amount of capital -at present available			
- can be made available and source			
u.u cou .ioo			
Technical experts or	:	full name	qualifications
advisers		idii namo	qualifications
Signature -of all applicants if individuals		print name	sign here date
-two directors or a director and an officer if corporation			
(give position			
Items to be lodged with this application:	1 2	Location plan of blocks Proposed exploration program and	minimum ovnonditure
appոcation.	3	Statement of environment effects	·
	4 5	Proposals for employing and training Fee	ng Vanuatu citizens

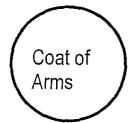


Petroleum Regulations 1997

form 2 - 3

Petroleum Prospecting Licence

	Licensee		
	Licence Area		
	Licence number		
	Period of licence	from	to
	Conditions -statutory	Petroleum (Exploration and Petroleum Regulations 19	
	Other		
-		This licence is granted in accordance and Production) Act 1993 and Petro	
		Granted by	Minister Administering the Act
		Date	



form 2 - 4

Petroleum (Exploration and Production) Act 1993 Regulations 1997: 2 - 4

Transfer of
Petroleum Prospecting Licence
(transferee to be registered as a
holder of licence)

Licence number	1	
Transferor full name		
Transferee full name nationality		
Consideration for transfer		
Signatures	l agree to transfer the licence	
	Transferee (s)	Witness

	l agree to accept the transfer on	(date)
	Transferee (s)	Witness
- Approval	l approve the transfer	
	Minister administering the Act	Date

form 2 - 5 Coat of Arms Transfer of Petroleum (Exploration and Petroleum Prospecting Licence Production) Act 1993 (transferee not to be registered Regulations 1997: 2 - 5 as a holder of licence) Licence number Transferor full name Transferee full name nationality Consideration for transfer Nature of interest Signatures I agree to transfer the interest in the licence described above Witness Transferor (s) I agree to accept the transfer on (date)..... Transferee (s) Witness I approve the transfer Approval

Minister administering the Act

Date

- number of blocks (maximum 60)

4 J & 9

- precise location

Amount of capital - at present available

-can be made available and source

Technical experts or advisers	full name	qualifications
Cianatura		
Signature -of all applicants if individuals -two directors or a director and an officer if corporation (give position)	print name	sign here date

Documents to be lodged with this application:

- Location plan of blocks
- 2 Proposed drill and production programme and minimum expenditure
- 3 Proposals for employing and training Vanuatu citizens
- Fee

1

form 2 - 6

Petroleum (Exploration and Production) Act 1993 Regulations 1997: 2 - 6

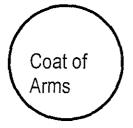
Coat of Application to Arms
Renew
Petroleum Prospecting Licence

Application	l apply to renew the licence described below		
Licence - number			
- previous renewal	No	Yes - When /	1
Change to details of applicant eg names, addresses, directors, shareholders, experts			
Signature - of all applicants if individuals - two directors or a director and an officer if corporation	print name	sign here	date

1

Documents to be lodged with this application:

Plan of work in period of renewed licence



form 2 - 7

Application for

Petroleum Production Licence

Petroleum (Exploration and Production) Act 1993

Regulations 1997 : 2 -7

Application	I apply for a petroleum production licence for the blocks described below	
Applicant - individuals		
- individuals	full name, occupation and nationality	address
		·
- corporation - - name		•
		·
place of incorporation _directors	full name and nationality	address
-ultimate beneficial owners of more than 5% of issued	full name and nationality	% of issued capital
share capital		
	•	

Experience in petroleum drill and production work -brief details

Licence area sought

Petroleum Regulations 1997, Form 2 - 8

Petroleum Production Licence

Coat of Arms

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Licensee		
Licence Area		
Licence number		
Period of licence	from	to
Rents and royalties Conditions - statutory	Petroleum (Explo Petroleum Regula	ration and Production) Act 1993 ation 1997
-other		
	Production) Act 1993 and Petroleu	nce with the Petroleum (Exploration and um Regulations 1997
Grant	ted by	Minister administering the Act
Data		



form 2 - 9

Transfer of
Petroleum Production Licence
(transferee to be registered as a
holder of licence)

Petroleum (Exploration and Production) Act 1993 Regulations 1997: 2 - 9

Licence number		
Transferor full name nationality		•
Transferee full name nationality Consideration	,	
for transfer		
Nature of interest	·	
	I agree to transfer the interest in the licence desc	ribed above
	Transferor(s)	Witness
	l agree to accept the transfer on	(date)
	Transferor(s)	Witness
	W-V2-782-082-02-782-78-78	
Approval	I approve the transfer	
	Minister administering the Act	 Date