

7500 Wetlands and Subaqueous Lands

7503 Oil Gas and Mineral Exploration Regulations

Adopted by the Water and Air Resources Commission 27 September 1971

Effective 1 November 1971

1.0 Authority

The Delaware Water and Air Resources Commission establishes and adopts the following Rules and Regulations, pursuant to the authority granted by Section 6001 of the Delaware Water and Air Resources Act. (Delaware Code, Title 7, Part VII, Chapter 64).

2.0 Statement of Policy

- 2.1 It is declared to be the policy of the State of Delaware that: (1) the development, utilization, and control of all oil, gas and other mineral resources shall be directed to make the maximum contribution to the public benefit, and (2) the State, in the exercise of its sovereign power, acting through the Water and Air Resources Commission, should control the development and use of said resources of the State so as to effectuate full utilization, conservation, and protection of the same.
- 2.2 These Rules and Regulations are based upon the best information presently available. It is anticipated that they will be subject to review and revision periodically as additional information and methods become available.
- 2.3 The terms "shall" and "will," where used herein, are intended to indicate a mandatory requirement. The terms "regulation," "requirement" and "rule" are used interchangeably. If any part of these Rules and Regulations, or the application of any part thereof, is held invalid or unconstitutional, the application of such part to other persons or circumstances, and the remainder of these Rules and Regulations, shall not be affected thereby and shall be deemed valid and effective.
- 2.4 The failure of the State to enforce any of these Rules and Regulations shall not constitute a waiver by the State of any such Rule or Regulation.

3.0 Scope and Applicability

- 3.1 The Regulations herein shall apply to all projects and the aspects thereof dealing with:
 - 3.1.1 the exploration and exploitation of gas, oil and other minerals occurring within the boundaries of Delaware; and
 - 3.1.2 the exploration for and operation of gas storage reservoirs.

4.0 General Definitions

- "Applicant"** Any person who files an application under these Rules.
- "Barrel of Oil"** Forty-two (42) United States gallons of oil at a temperature of sixty (60) degrees Fahrenheit, with deductions for the full percent of basic sediment, water and other impurities present, ascertained by centrifugal or other recognized and customary test.
- "Blowout"** A sudden or violent escape of oil and/or gas from a drilling well, when high formation pressure is encountered.
- "Blowout Preventer"** A heavy casinghead control fitted with special gates or discs which may be closed around the drill pipe, or which completely closes the top of the casing if the pipe is withdrawn.
- "Bottom Hole Pressure"** The pressure in pounds per square inch at or near the bottom of an oil or gas well determined at the face of the producing horizon by means of a pressure recording instrument, adopted and recognized by the oil and gas industry.
- "Casing Pressure"** The pressure built up between the casing and the tubing when the casing and tubing are packed off at the top of the well.

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- “Casinghead Gas”** Any gas or vapor, or both gas and vapor, indigenous to an oil stratum and produced from such stratum with oil.
- “Christmas Tree”** An assembly of valves and fittings at the head of the casing of a well to control the flow. Also spoken of as "wellhead connections."
- “Circulation”** The passing of an approved fluid down through the drill stem and up to the surface in the processes of rotary drilling, setting casing, cleaning, treatment or stimulation.
- “Commission”** The Delaware Water and Air Resources Commission or, if so designated pursuant to Section 6440, the State Geologist. May refer to Commission only or to the Commission and the Governor.
- “Condensate”** The liquid produced by the condensation of a vapor or gas either after it leaves the reservoir or while still in the reservoir. Condensate is often called "distillate," "drips," "white oil," etc.
- “Conservation”** The conserving, preserving, guarding or protecting of the oil and gas resources of the State by obtaining the maximum efficiency with minimum waste in the production of oil and gas.
- “Controlled Deviations”** Controlled directional deviation shall mean the intentional deviation of a well from vertical in a predetermined compass direction; and controlled random deviation shall mean the intentional deviation of a well from the vertical without regard to compass direction for one of the following reasons:
- to straighten a hole which has become crooked in the normal course of drilling; or
 - to sidetrack a portion of a hole because of mechanical difficulty in drilling.
- “Cubic Foot of Gas”** The amount of gaseous hydrocarbons contained in a cubic foot of space at a base temperature of sixty (60) degrees Fahrenheit and an absolute pressure of 14.4 pounds per square inch plus four (4) ounces per square inch, which temperature and pressure are referred to as the base temperature and pressure, respectively.
- “Day”** A period of twenty-four (24) consecutive hours from 7:00 a.m. one day to 7:00 a.m. the following day.
- “Dry Gas”** Natural gas obtained from reservoirs that produce gas only; or natural gas which does not contain the heavier fractions which may easily condense under normal atmospheric conditions; not casinghead gas.
- “Exploration”** Geological, geophysical and other surveys and investigations including seismic methods.
- “Exploratory Well”** Any well drilled to a depth greater than the existing freshwater strata for the purpose of securing geological or other information which may be obtained by penetrating the earth with a drill bit, coring equipment and similar tools.
- “Field”** The general area which is underlaid, or appears to be underlaid, by at least one pool; and “field” shall include the underground reservoir, or reservoirs containing oil or gas, or both. The words "field" and "pool" mean the same thing when only one underground reservoir is involved; however, "field" unlike "pool," may relate to two or more pools.
- “Gas”** All natural hydrocarbon gas, including casinghead gas, and all other fluid hydrocarbons not defined as oil, including condensate originally in the gaseous phase in the reservoir.
- “Gas Lift”** The lifting of liquids from a well by use of extraneously introduced gas.
- “Gas Well”** Any well producing natural gas not associated with crude petroleum at the time of production, or any well completed in the gas cap of an associated reservoir.
- “Illegal Gas”** Gas which has been produced within the State from any well or wells in excess of the amount allowed by any rule, regulation or order of the Commission as distinguished from gas produced within the State from a well not producing in excess of the amount so allowed, which is "legal gas."
- “Illegal Oil”** Oil which has been produced within the State from any well or wells in excess of the amount allowed by any rule, regulation or order of the Commission as distinguished from oil produced within the State from a well not producing in excess of the amount so allowed, which is "legal oil."
- “Inspector”** Any employee of the State duly authorized to act in that capacity.

- “Lease Tank”** The tank or other receptacle into which oil is produced either directly from a well or from a well through a gas separator, gun barrel or other similar equipment.
- “Maximum Efficiency Rate”** Commonly referred to as "MER," is the highest daily rate of production which can be sustained economically from a particular pool for a reasonable period without loss of economically recoverable ultimate production of oil from such pool.
- “Mineral”** Any natural inorganic substance with definite chemical and physical properties which is present in or at the bottom of a body of water, or anywhere within the earth's crust.
- “Month and Calendar Month”** The period or interval of time from 7:00 a.m. on the first day of any month of the calendar to 7:00 a.m. on the first day of the next succeeding month of the calendar.
- “Mud-Laden Fluid”** A mixture of water and clay or other material which will effectively seal the formation to which it is applied.
- “Oil”** Crude petroleum oil and all other liquid hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods; but does not include liquid hydrocarbons that were originally in a gaseous phase in the reservoir.
- “Oil Well”** Any well which produces crude petroleum oil as the term is commonly used in the industry.
- “Owner”** The person who has the right to drill into and to produce from any pool, and to appropriate the production either for himself or for himself and another, or others.
- “Person”** Any individual, firm, co-partnership, company, business trust, association, private corporation, municipal corporation, public or quasi-public operation, county, city and county, district, political subdivision, department or other instrumentality of government, receiver, tutor, curator, executor, administrator, fiduciary, trustee, guardian, or representative of any kind.
- “Pool”** An underground reservoir containing or appearing to contain a common accumulation of oil or gas or both.
- “Pressure Base”** An absolute pressure agreed upon or set as a base, or converting volume of gas metered to a correct volume.
- “Pressure Maintenance”** (1) The reintroduction (in the early stages of field development) of gas or liquid produced from an oil or gas well to maintain the pressure of the reservoir. (2) The introduction of gas or fluid for the same purpose but obtained from an outside source.
- “Producer”** The owner or operator of a well or wells capable of producing oil or gas, or both:
- “Reasonable Market Demand”** The amount of oil reasonably needed for current consumption, together with a reasonable amount of oil for storage and working stocks.
- “Recovered Load Oil”** Any oil or liquid hydrocarbons used in any operation in an oil or gas well and which has been recovered as a merchantable product.
- “Seismic Explorations”** Any geophysical exploration method which involves the use of explosives or other energy sources.
- “Separator”** An apparatus for separating oil, gas, water, etc., with relative efficiency, as it is produced.
- “Shot”** The use and detonation of powder, dynamite, nitroglycerine or other explosives.
- “Shut-In Surface Pressure”** The pressure noted at the wellhead when the well is completely shut-in. Not to be confused with "bottom hole or reservoir pressure."
- “Sour Gas”** Any natural gas containing more than one and one-half (1 1/2) grains of hydrogen sulfide per one hundred (100) cubic feet or more than thirty (30) grains of total sulphur per one hundred (100) cubic feet or gas which, in its natural state, is found by the Commission to be unfit for domestic or industrial purposes.
- “State”** The State of Delaware.
- “Sweet Gas”** All natural gas except "sour gas."
- “Underground Water”** Any supply of water which may be developed by any type of well or spring from beneath the surface of the ground whether the water flows there from by natural force or is withdrawn by pumping or other mechanical device or artificial process.
- “Waste”** In addition to its ordinary meaning, shall mean "physical waste" as that term is generally understood in the oil and gas industry. Waste shall include:

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the inefficient, excessive or improper use or dissipation of reservoir energy, and the locating, spacing, drilling, equipping, operating or producing of any oil or gas well or wells in a manner which results, or tends to result, in reducing the quantity of oil or gas ultimately to be recovered from any pool in this State; and

the inefficient storing of oil, and the locating, spacing, drilling, equipping, operating, or producing of any oil or gas well or wells in a manner causing, or tending to cause, unnecessary or excessive surface loss or destruction of oil or gas.

“Watercourse” Any lake, river, creek, cut or other natural body of water or channel.

“Well Log” The written record progressively describing the strata, water, oil or gas encountered in drilling a well with such additional information as to gas volume, pressures, rate or fill-up, water depths, casing strata, casing record, etc., as is usually recorded in the normal procedure of drilling.

5.0 Exploratory Permits and Leasing Procedures

5.1 General Rules Applying to Permits and Leases

- 5.1.1 The issuance of permits and leases is subject to any future rules and regulations which may be adopted by the Commission. When such changes or additions are proposed, all permittees and lessees shall be given due written notice.
- 5.1.2 No permit or lease, or any portion thereof, shall be assignable without the prior written consent of the Commission
- 5.1.3 The State reserves the right to permit reasonable nonconflicting use (including seismic surveys but excluding core hole drilling of lands under lease) so long as: (1) such uses do not unreasonably impair or interfere with operations of the lessee, and (2) requirement is made that the permittee indemnify the lessee against any damage caused by such use.
- 5.1.4 No permit or lease shall be granted to any person then in violation of any laws or regulations applicable to such operations.
- 5.1.5 Avoidable pollution of the ocean, the waters covering submerged lands, the, beaches, land underlying the ocean or other ground or surface waters or any substantial impairment of and interference with the enjoyment and use thereof, including but not limited to bathing, boating, fishing, fish and wildlife production, and navigation, shall be prohibited, and the permittee or lessee shall exercise a high degree of care to provide that no oil, tar, residuary product of oil or any refuse of any kind from any well or works shall be permitted to be deposited on or pass into the waters of the ocean, any bay or inlet thereof, or any other waters of the State; provided, however, that this Section does not apply to the deposit on or passing into such waters of water not containing any hydrocarbons, or vegetable or animal matter. Avoidable pollution means pollution arising from:
 - 5.1.5.1 the acts or omissions of the lessee or permittee or its officers, employees or agents; or
 - 5.1.5.2 events that could have been prevented by the lessee or permittee or its officers, employees or agents through the exercise of a high degree of care. Methods acceptable to and approved by the Commission must be used for the containment and release of any and all wastes generated by members of the working crew and from the operations.
- 5.1.6 The lessee or permittee shall be held responsible for any damages resulting from avoidable pollution caused by the exploration and shall immediately notify the Commission of such damages or pollution and move immediately to correct, alleviate or eliminate such damages or pollution. All such actions shall be subject to the direction of the Commission representative.
- 5.1.7 All permits or leases granted pursuant to this Regulation shall be subject to prior approval by the Department of Defense of the United States and shall be subject to any restriction or limitation imposed by the Department of Defense.
- 5.1.8 The Commission may require, as a condition to the issuance of any permit or lease, that the permittee or lessee make available to the Commission or the State Geologist upon request, all factual and physical exploration results, logs and records for the upper 2,000

feet resulting from the operations under the permit or lease. Any such factual or physical exploration results, logs or records which are required shall not be open to inspection by any other person or agency without the written consent of the lessee or permittee.

5.1.9 The Commission may promulgate reasonable rules, regulations and orders necessary to regulate the activities accounted for herein.

5.2 Permits for Exploratory Surveys

5.2.1 The Commission, upon application by any person, may issue a permit for the geological, geophysical or seismic survey, including the taking of cores and other samples, of any State-owned or private onshore or offshore lands. Such permits shall be nonexclusive and shall not give any preferential rights to any oil, gas and sulphur or other mineral lease.

5.2.2 Applications for permits to conduct such work shall be filed in triplicate on Form DGO-1 at least sixty (60) days prior to the desired approval date, and be accompanied by an application fee of \$250.00.

5.2.3 Having received a complete application, the Commission shall publish legal notice of same. A public hearing on the application will not be required unless requested by the applicant, called by the Commission in the public interest, or an objection is filed within ten (10) days following legal notice. The cost of hearings shall be charged in advance to the applicant and any overpayment returned to same.

5.2.4 After notification and consultation with those State agencies and other parties having an interest in such matters, the Commission shall include such conditions in the permit as it deems necessary to protect the fish, game, wildlife, natural resources and private interests within the State.

5.2.5 Permits are issued only for exploratory surveys.

5.2.6 The Commission may prohibit exploration surveys on any area if it determines that a lease, if applied for, should not be granted as to such areas.

5.2.7 The Commission shall require the permittee to provide the Board of Game and Fish Commissioners and the Delaware Commission of Shell Fisheries with complete information with respect to the underwater area or areas of proposed operations, type of exploration, and a schedule showing the period or periods during which such explorations will be conducted. Such information shall be treated as confidential unless released by the permittee.

5.2.8 Permits issued under this Section shall not exceed two (2) years, and may be renewed for like periods upon application to the Commission.

5.2.9 There shall be no restriction as to the maximum area of public lands open for exploration.

5.2.10 Seismic explorations involving the use of explosives shall not be permitted unless it can be substantiated to the satisfaction of the Commission that the use of explosives is essential to the nature of the exploration and there will be no resultant damages. Where explosives are permitted, the exploration shall be carried out in the following manner:

5.2.10.1 No shots in excess of fifty (50) pounds are to be used.

5.2.10.2 No shots shall be discharged within five hundred (500) feet of any dock, pier, causeway, other structure, marked fishery bed or dredged channel, within one (1) mile of any pass, jetty, mouth of river or fishing boat, nor within two (2) miles of any resort beach during the months of May through September.

5.2.10.3 Shot point location maps shall be maintained by the permittee and be made available upon request by the Commission.

5.2.10.4 The permittee shall notify the Commission at least twenty-four (24) hours in advance of any shots in order that the Commission, if it so desires, may assign a Commission representative to the exploration party.

5.2.10.4.1 The exploration party shall furnish the Commission representative transportation to and from any offshore working area and provide meals and sanitary living quarters aboard exploration ships when said ships are equipped to do so and when it is necessary for the representative to remain for any substantial period of time. A fee of \$1,500.00 per month will be charged to pay the expenses of each Commission representative. One half of

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- this amount will be charged for any portion of a month less than fifteen (15) days, and the full amount charged for any portion of a month exceeding fifteen (15) days. Payments are to be made directly to the Commission.
- 5.2.10.4.2 The representative has the right to stop any particular shooting, if in his opinion it will violate the Rules and Regulations contained herein, but does not have the authority to shut down the entire exploration work. If such operations continue, he will immediately contact the Commission, and the members of the exploration party will assist him to do this with all the facilities at their disposal.
- 5.2.10.4.3 No representative shall have the right to release any operator in the exploration party from the obligations imposed by these Rules and Regulations. Exceptions may be granted by the Commission only after written application setting forth reasons for exceptions. The release will designate the particular area and rule affected and the procedure to be followed in lieu of the established rule.
- 5.2.10.4.4 No more than two (2) Commission representatives shall be assigned to each party. More than two (2) representatives, however, may be present.
- 5.2.10.5 Before any shot is discharged in offshore areas, the exploration party shall install a fish finder, fathometer or other fish locating device. The shooting pattern shall be done in such away as to avoid excessive fish kills. The permittee shall employ any method approved by the Commission to frighten and drive away the fish and marine life which may be in the area. Operations must be suspended in that area until the schools of fish have been driven away.
- 5.2.10.6 All explosives shall be distinctly and permanently marked for identification by the permittee.
- 5.2.10.7 The permittee may be required to police nearby beaches and furnish a crew to bury or dispose of excessive fish kills, where these occur and threaten to become a health hazard or limit the use of the beach.
- 5.2.10.8 All motor vessels and ships used in seismic explorations shall be clearly marked as to identity and shall fly such warning signals as required by Coast Guard regulations for ships engaged in dangerous operations. All explosives, caps and primers will be handled and stored in accordance with the regulations of the U. S. Coast Guard Service.
- 5.2.10.9 Any undischarged suspended shot shall be detonated before the exploration party abandons the working area.
- 5.2.11 For each exploratory well to be drilled in search of minerals, a prior written permit from the Commission is required. Applications for test well permits (Form DG0-2) should be submitted in triplicate at least seven (7) days prior to any anticipated drilling and must be accompanied by a fee of \$500.00 for each well. The written approval shall be valid for a period of six (6) months from the date of issuance. If a well is not started during that period, two (2) successive renewals of three (3) months duration each may be granted at a cost of \$150.00 each. If after the two (2) renewal periods the well has not been started, a new permit must be obtained at a cost of \$500.00. For each drilling permit that must be altered, amended or changed after its initial issuance, an additional fee of \$200.00 shall be required. If public hearing is required, additional costs shall be paid by the applicant.
- 5.2.12 If a permittee should drill a hole, said hole or holes shall be drilled in such a manner so as to interfere as little as possible with the fishing industry and be constructed in such a manner as to comply with all regulations concerning the drilling, safety, casing, abandoning and plugging of wells. All operations in connection therewith shall be carried out in a manner that will not create pollution of any surface or underground water due to the escape, release or injection of oil, gas, salt water or other mineralized waters from any well. Upon abandonment of any hole, all rigging and material shall be removed and the bottom restored to its former condition as nearly as possible.
- 5.2.13 The permittee is to have with it, at all times, a copy of the permit granted and to display on all boats and structures a readable permit number as issued by the Commission.

- 5.2.14 The person directing field operations shall submit monthly reports summarizing exploration activities and providing a detailed inventory of all explosives loaded, used and returned for explorations conducted under each permit.
- 5.2.15 Within thirty (30) days after the expiration date of a permit the permittee shall file a report with the Commission designating all days on which operations necessary or incident to the exploration were conducted in any area or period covered by the permit.
- 5.2.16 The Commission may require any data deemed necessary to assist in correcting a water pollution problem.

5.3 Leasing Procedures

- 5.3.1 Before any person shall remove any oil, gas or other mineral from the public lands of the State of Delaware (Form DGO-3), or store any oil or gas in underground reservoirs within the State of Delaware (Form DGO-4), said person shall submit an application in triplicate to the Commission requesting that such lands be leased and/or such actions be approved. The application shall be submitted at least ninety (90) days prior to any anticipated final authorization, and shall be accompanied by a certified check for \$2,000.00. Any additional necessary expenses shall be paid by the applicant prior to issuance of a lease.
- 5.3.2 Before offering lands for leasing, or whenever any person files an application, the Commission shall hold a public hearing as provided in this Section, the cost of such hearing to be assessed to the successful bidder for any lands put tip for lease.
- 5.3.3 Before granting a lease or inviting bids, the Commission shall cause written notice describing the area under consideration and other pertinent information to be transmitted to:
 - 5.3.3.1 Department of Highways and Transportation
 - 5.3.3.2 State Planning Office
 - 5.3.3.3 Department of Natural Resources and Environmental Control
 - 5.3.3.4 Department of Health and Social Services
 - 5.3.3.5 State Geologist
 - 5.3.3.6 The applicant
 - 5.3.3.7 Prospective applicants or bidders, by publication thereof in two or more publications of general circulation in the pertinent industry
 - 5.3.3.8 The public, by publication thereof once each week for not less than two (2) weeks in a newspaper of general circulation throughout the State and, in addition, in a newspaper of general circulation in the county in which the lands lie or the county or counties contiguous to the area under consideration for bidding. The notice shall set forth the place of hearing and shall set its time at not less than twenty (20) days following date of the last newspaper publication.
- 5.3.4 The Commission may appoint one of its officers or employees to conduct hearings. An officer or employee of each interested State agency, board, or commission named in Section 3.03 of this Regulation may question any witnesses appearing on behalf of the Commission or applicant, and any interested person may offer evidence and otherwise be heard.
- 5.3.5 After the public hearing the Commission shall determine whether an invitation for bidding to lease the area under consideration would be in the public interest. In such determination the Commission shall consider whether a lease or leases of the area under consideration would:
 - 5.3.5.1 be detrimental to the health, safety, or welfare of persons residing, owning real property, or working in the neighborhood of such areas;
 - 5.3.5.2 interfere with the residential or recreational areas to an extent that would render such areas unfit for recreational or residential uses or unfit for park purposes;
 - 5.3.5.3 destroy, impair or interfere with the esthetic and scenic values of the Delaware coast, or other affected area;
 - 5.3.5.4 create any air, water or other pollution;
 - 5.3.5.5 substantially endanger marine life or wildlife;

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- 5.3.5.6 substantially interfere with commerce or navigation; and
- 5.3.5.7 protect State land from drainage of oil, gas or other minerals or objectionable substances.
- 5.3.6 The Commission may offer to lease all State lands, including tide and submerged lands by publication of a notice of its intention to do so, pursuant to the provisions of Section 3.3 of this Regulation. The notice shall describe the lands so offered, and shall specify the minimum rate of royalty and rental, the manner in which bids may be filed with the Commission, the amount of deposit required with the bid, and the time and place for filing bids, which time shall not be less than thirty (30) days after the date of last publication of such notice. Further, the notice shall state that the lease will be awarded to the bidder offering the highest cash bonus, that the form of lease, conditions for bidding and bid forms may be obtained from the Commission upon request, and that the lease is subject to approval by the United States Defense Department.
- 5.3.7 Bids may be for the whole or any particularly described portion of the land advertised.
- 5.3.8 The bid for each tract shall be enclosed in a sealed envelope, shall be on the form provided by the Commission and shall be accompanied by duplicate lease forms executed by the bidder, and by a certified or cashier's check or checks payable to the State of Delaware in the amount fixed by the Commission which sum shall be deposited as evidence of good faith and, except in the case of the successful bidder, shall be returned to the bidder promptly. If the successful bidder fails to pay the balance of the cash bonus bid and the annual rental for the first year within fifteen (15) days after the award of the lease, or fails to post any bond required by the lease or the regulations in effect at the date of the invitation for bids within the time prescribed, the amount of the deposit shall be forfeited to the State.
- 5.3.9 At the time and place specified in the notice, the Commission shall publicly open the sealed bids and shall within thirty (30) days reject all bids or award the lease for each parcel to a responsible bidder who, in addition to complying with all of the conditions for bidding, offers the highest cash bonus. The Commission may reject any or all bids.
- 5.3.10 Following the award of the lease, the payment by the successful bidder of the balance of the cash bonus, the annual rental for the first year, the fees specified in this Section, and the posting of any required bonds, the Commission and the Governor shall execute the lease in duplicate on behalf of the State and transmit one counterpart thereof to the lessee. The lease shall become effective as of the date of such execution.
- 5.3.11 The lease shall grant the exclusive right to remove oil, gas, sulphur or other mineral deposits in the leased land and be for a primary term of ten (10) years and for so long thereafter as oil, gas, sulphur or other minerals are produced in paying quantities from the leased land, or the lessee is diligently conducting, producing, deepening, repairing, redrilling or other necessary lease or well maintenance operations on the leased land, or is excused from conducting such operations under the terms of the lease.
- 5.3.12 The State shall have a lien upon all production for unpaid royalties.
- 5.3.13 In the event production on the Leasehold shall cease at any time or from time to time, after the expiration of the primary term of the lease, the lease shall nevertheless continue in full force and effect if the lessee shall, within six (6) months after the cessation of production or within such longer period of time as the Commission may authorize, commence and thereafter prosecute with reasonable diligence drilling, deepening, repairing, redrilling or other operations for the restoration of production of oil, gas, sulphur or other minerals.
- 5.3.14 Subject to the lessee's right to surrender, the lessee shall commence operations for the drilling of well within five (5) years from date of the lease and commence production within three (3) years of discovery of oil, gas, sulphur or other minerals in paying quantities, unless the Commission shall have, for cause, granted an extension of time for such act. In addition, the lease shall have such exploratory, drilling and producing requirements as the Commission deems necessary to encourage the exercise of due diligence on the part of the lessee.
- 5.3.15 In leasing tide and submerged lands, the Commission may not discriminate between bidders by requiring drilling from:

- 5.3.15.1 upland or littoral drill sites;
 - 5.3.15.2 sites on filled land, whether contiguous or noncontiguous to the littoral lands or uplands; or
 - 5.3.15.3 any pier, platform or other fixed or floating structure in, on or over tide and submerged lands with respect to which this State or any other owner thereof has consented to use.
- 5.3.16 In addition to the cost of processing all documents relative to the leasing of lands, the successful bidder shall also pay for the public hearing held pursuant to Section 3 of this Regulation.
- 5.3.17 The minimum royalties to be stipulated in any lease shall be:
- 5.3.17.1 twelve and one-half (12 1/2) percent of the gross production, or the value thereof, of all oil and gas produced and saved from leased lands and not used by the lessee for operations. Such royalty shall, at the Commission's option, be paid in kind or value, and be computed after an allowance for the actual cost of oil treatment or dehydration of not more, than \$0.05 per barrel of royalty oil so treated or dehydrated.
 - 5.3.17.2 \$1.00 per long ton of sulphur produced and saved
 - 5.3.17.3 \$0.10 per ton of potash produced and saved
 - 5.3.17.4 twelve and one-half (12 1/2) percent, or the value thereof, of all other minerals produced and saved
- 5.3.18 The minimum rental payable annually in advance shall be \$0.25 per acre of leased land. After production has been established, rent shall be deducted from any royalty due under the terms of a lease during the year for which such rent has been paid.
- 5.3.19 The maximum area which shall be included in any single lease to any person shall be six (6) square miles or three thousand eight hundred forty (3,840) acres.
- 5.3.20 Sufficient bonding or insurance requirements, as determined by the Commission, shall be specified to secure to the State performance and the faithful compliance by the lessee with the terms of the lease, and further to secure adjacent landowners and the public generally as to all proper claims for damages arising from operations thereunder.
- 5.3.21 Upon any partial or total termination, surrender or forfeiture of its lease, the Commission may require that the lessee, within a reasonable time, restore that visible portion of the premises to substantially its original condition.
- 5.3.22 The lessee shall at all time proceed with due diligence to protect the leasehold from drainage by wells on lands not owned by the State.
- 5.3.23 If the lessee, as disclosed by information submitted with his bid, proposes to drill one or more wells from filled lands, whether contiguous or noncontiguous to the littoral lands or uplands, or from any pier or from platforms or other fixed or floating structures to be constructed for such purpose, and if permission from any federal or state agency is legally required in order to construct any such filled lands or structures, the lessee shall be allowed a reasonable time following the execution of the lease within which to secure the necessary permission from such federal and state agencies as shall be legally required, and, upon the securing of such permission, a further reasonable time, determined with regard to the nature of the filled lands or structure or structures to be constructed within which to commence operations for the drilling of such well or wells, and if necessary, the drilling term provided for in Section 3.14 of this title shall be extended by the Commission to the date to which the time to commence operations for the drilling of such well or wells has been extended.
- 5.3.24 The lessee may at any time file with the Commission a written surrender of all rights under the lease or any portion thereof or any separate or distinct zone or geological horizon or any portion thereof. Such surrender shall be effective as of the date of its filing subject to the continuing obligation of the lessee to pay all rentals and royalties theretofore accrued and to place all wells on the lands or in the zones or horizons surrendered in condition for suspension or abandonment in accordance with the applicable lease terms, regulations and law. Thereupon the lessee shall be released from all obligations under such lease

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with respect to the lands, zones or horizons surrendered, but no such surrender shall release such lessee from any liability for breach of any monetary obligation of the lease with respect to which such lessee is in default at the time of the filing of such surrender.

- 5.3.25 The Commission shall reserve and may exercise the authority to cancel any lease upon which oil, gas, sulphur or other minerals have not been discovered in paying quantities, upon failure of the lessee after thirty (30) days' written notice and demand for performance to exercise due diligence and care in the prosecution of the prospecting of development or work in accordance with the terms of the lease. After discovery of oil, gas, sulphur or other minerals in paying quantities, on lands subject to any lease, such lease maybe forfeited and cancelled only by appropriate judicial proceedings upon failure of the lessee after ninety (90) days' written notice and demand for performance to comply with any of the provisions of the lease or of laws or regulations applicable thereto and in force at the date of the invitation for bids in pursuance of which the lease was awarded; provided, however, that in the event of any such cancellation the lessee shall have the right to retain under such lease any and all drilling or producing wells as to which no default exists, together with a parcel of land surrounding each such well and such rights of way through the leased lands as maybe reasonably necessary to enable such lessee to drill and operate such retained well or wells. In the event of the cancellation of any lease, the lessee shall have a reasonable time within which to remove all property, equipment, and facilities owned or used by the lessee in connection with operations under the lease.
- 5.3.26 It shall be a continuing condition of such lease that the lessee shall conform to all applicable laws of the State and all duly promulgated rules and regulations pursuant hereto in effect at the date of the invitation for bids in pursuance of which the lease was awarded. Periodic mutual negotiations between lessee and lessor may be carried out to make conditions, rules and regulations current as warranted by changes in environment or operational methods.
- 5.3.27 All leases and other instruments required in carrying out this Regulation shall be executed by the Commission and the Governor. All bonds, contracts and other instruments required by this Regulation for the protection of the interests of this State and its political subdivisions, persons and property therein shall be executed and delivered to the Commission.
- 5.3.28 The proceeds from all leases under this Regulation, including rents and royalties, after payment of the necessary expenses incurred by the Commission in carrying out this Regulation, shall be turned over to the State Treasurer and deposited by him in the General Fund of the State.
- 5.3.29 Under a lease entered into by the Commission pursuant to this Regulation, the fill constituting filled lands may be retained in place or protected by bulkheads, seawalls, revetments or similar enclosures and may be placed at any location approved by the Commission in consultation with interested agencies, boards and commissions.
- 5.3.30 Any interests in lands, or lands in fee simple, acquired by the Commission by purchase, donation, lease, condemnation or otherwise, may be made available to any lessee of the State for the purposes contained in this Regulation and upon such terms and conditions as may be determined by the Commission.
- 5.3.31 The leasing procedures and royalties specified herein pertain to activities on State-owned lands. Applications for such activities on private lands will be subjected to Commission review for the purpose of issuing a permit to conduct the stated operations. No rentals or royalties shall be paid to the State for operations on private lands, if it can be substantiated by the applicant that no public rights are affected.

6.0 Operational Rules for Oil and Gas Drilling

- 6.1 Drilling, Deepening and Plugging Back Wells
- 6.1.1 No operations shall be commenced on the drilling, deepening, or plugging back of a well, without first applying for and receiving approval from the Commission.
- 6.1.2 Applications for such activities shall be filed on Form DG0-5 and be accompanied by a check for \$200.00.

6.2 Drilling and Completion

- 6.2.1 Suitable and sufficient surface casing shall be run and cemented to a depth not less than fifty (50) feet below all freshwater strata encountered in the well and in a manner that will protect such strata from contamination. Sufficient cement shall be added to fill the annular space from the base of the surface casing to the surface.
- 6.2.2 If and when it becomes necessary to run a flow string, such flow string shall be cemented by the pump and plug method, shall be properly tested by the pressure method, and shall set a minimum of eight (8) hours before cement plugs are drilled. Before drilling the cement plug the casing shall be tested by the pressure method. If the pressure method is used, the pressure within the casing at the surface shall be raised to a pressure in pounds per square inch equivalent to the value obtained by multiplying the feet of casing by two-tenths (0.2), except that such pressure need not exceed one thousand five hundred (1,500) psi. If the pressure shows a drop of ten (10) percent or more after thirty (30) minutes have passed since the pressure ceased to be applied, the casing will have failed the test. Such casing shall be repaired and retested.
- 6.2.3 Form DGO-6 shall be filed within thirty (30) days following the completion of a well, the recompletion of a well into a different supply source, as the changing of a producing interval.

6.3 Deviations

- 6.3.1 The maximum point at which a well penetrates the producing formation shall not vary unreasonably from the vertical drawn from the center of the hole. Random deviations are permitted, without approval, for short distances to straighten the hole, sidetrack, or correct other mechanical difficulties.
- 6.3.2 No well hereafter drilled shall be intentionally directionally deviated from the vertical unless the operator shall first file Form DGO-7 and obtain Commission approval.
- 6.3.3 If it becomes necessary to directionally deviate a well after normal straight drilling has commenced, the operator may continue drilling operations, at his own risk, provided, the Commission is notified of the changed drilling conditions. The final bottom-hole location and/or producing interval shall be considered on its merits.
- 6.3.4 Upon completion, a complete angular deviation and directional survey of the well must be run by an approved well surveying company and must be filed with the Commission, together with other required reports. After processing such survey reports, the Commission may set the allowable of the well, or take such other action as the facts may require.
- 6.3.5 In event the proposed, or final, location of the producing interval of the directionally deviated well is not in accord with spacing or other rules of the Commission applicable to the reservoir, proper applications shall be made to obtain approval of exceptions to such rules. Such approval shall be granted, or denied, at the discretion of the Commission, and shall be accorded the same consideration and treatment as if the well had been drilled vertically to the producing interval.

6.4 Pulling Outside Strings of Casing

- 6.4.1 Freshwater sands are to be protected with casing which has been cemented, and such casing shall not be removed from the well at abandonment. This applies to wells drilled by cable tool and rotary rigs alike.
- 6.4.2 Exceptions to the above apply only if a short string of surface casing is set and cemented with the intention of using a multistage tool below freshwater sands, or if it is intended to cement the entire long or intermediate string of casing from casing seat to the ground surface. If the well is a dry hole, the short string of surface casing must be cemented in its entirety, and the deepest freshwater zone must be protected by a cement plug covering the deepest water zone and at least fifty (50) feet above and below the zone.

6.5 Multiple Completion of Wells

- 6.5.1 Permission may be granted to multicomplete a well in separate reservoirs that are not in communication upon receipt of Form DGO-8.

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- 6.5.2 In the event a written protest is received, the application shall be set for hearing, at the expense of the applicant.
- 6.5.3 Every multiple completed well shall be so equipped, operated, produced and maintained that there will be no commingling of the production from said formations. Upon request of the Commission, any multiple completed well shall be tested at any time to demonstrate the effectiveness of the separation of sources of supply, such tests to be witnessed by representatives of the Commission and by offset operators if desired.
- 6.6 Well Plugging
- 6.6.1 The operator or owner shall not permit any well drilled for oil, gas, saltwater disposal or any other purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted, or the lease is finally abandoned, unless exception is granted.
- 6.6.2 Before any work is commenced to plug any well drilled for the discovery of oil or gas, including any well drilled below the freshwater level, the owner or operator thereof shall file Form DGO-9.
- 6.6.3 Upon receipt of Form DGO-9, the Commission shall send a duly authorized representative to the location specified, to be present at the time indicated in the Form, to supervise the plugging of such well.
- 6.6.4 The methods and procedure for plugging a well shall be as follows:
- 6.6.4.1 The bottom of the hole shall be filled with mud weighing nine (9.0) pounds per gallon, with not less than thirty-six (36) viscosity API full funnel method, to the top of the hole. At the top of each producing formation a cement plug shall be placed which extends either from the bottom of the hole or from a point twenty-five (25) feet below the top of each producing formation upward to a point at least fifty (50) feet above each producing formation.
- 6.6.4.2 A cement plug not less than fifty (50) feet in length shall be placed below all fresh water-bearing strata, and such plug shall extend upward to a point at least twenty-five (25) feet above the base of the surface string of casing.
- 6.6.4.3 A thirty (30) feet cement plug shall be placed at the surface of the ground in each hole plugged in such a manner as not to interfere with soil cultivation.
- 6.6.4.4 The interval between plugs shall be filled with an approved heavy mud-laden fluid. Approved heavy mud-laden fluid is defined as mud weighing nine (9.0) pounds per gallon of not less than thirty-six (36) viscosity ("API Full Funnel Method").
- 6.6.4.5 An uncased rotary drilled hole shall be plugged with approved heavy mud-laden fluid up to the base of the surface string. If the surface string of casing is set below the deepest fresh water-bearing formation, a cement plug shall be placed in the hole extending from a point at least fifty (50) feet below the base of the surface string upward to a point at least twenty-five (25) feet above the base of a surface string. The hole shall also be capped as provided in "c" above.
- 6.6.4.6 The operator shall have the option as to the method of placing cement in the hole by (1) pumping through tubing, (2) pump and plug displacement, or (3) any other method approved by the Commission.
- 6.6.5 Within thirty (30) days after the plugging of any well has been accomplished, the owner or operator thereof shall file Form DGO-10.
- 6.6.6 Before any hole drilled for seismic, core, or other exploratory purposes and which said hole penetrates below the freshwater formation is abandoned, it shall be the duty of the owner or driller of any such hole to plug the same in such manner as to properly protect all water-bearing formations; and within ninety (90) days after such plugging, file Form DGO-10.
- 6.6.7 When the well to be plugged may safely be used as a freshwater well, and such utilization is desired by the landowner, the well need not be filled above the required fifty (50) foot sealing plug set below fresh water; provided, that written agreement for such use is secured from the landowner and filed with the Commission.

6.6.8 No person shall engage in the business of pulling casing and plugging oil or gas wells, or contracting to salvage casing therefrom, until a license has been secured from the Commission. To obtain a license, Form DGO-11 shall be filed with the Commission stating the name and address of applicant, (if a firm or partnership, the names and addresses of the partners; and if a corporation, the names of the chief officers and directors); experience of applicant, and financial responsibility. Upon notice given as required by the procedural rules of the Commission, the Commission may issue a license if it deems the applicant possesses sufficient technical and scientific information and is financially responsible. Such license may at any time be cancelled by the Commission upon a complaint filed on motion of the Commission, or by any person interested in oil or gas production in this State. When such complaint is filed, the Commission shall serve upon the licensee notice of hearing and a copy of the complaint at least ten (10) days prior to the hearing, and if the evidence at said hearing justifies, the license may be cancelled.

6.7 Safety Precautions

6.7.1 All drilling wells shall be equipped with a mastergate, or its equivalent, of at least four (4) blowout preventers, together with a flow-line valve of the proper size and working pressure. The entire control equipment shall be in good working condition at all times.

6.7.2 Upon completion, wells shall be equipped with a christmas tree and down hole storm choke.

6.7.3 All well, tank, oil heating, treating and booster pump installations shall be kept free of any rubbish, debris, dead grass, brush, weeds, other vegetation or any other inflammable material and so maintained at all times. All waste oil shall be disposed of in a manner consistent with the State water and air pollution regulations and fire prevention methods.

6.7.4 When it is deemed necessary by the Commission to protect life, health, or property, the Commission may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half (1 1/2) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

6.7.5 Salt water and other waste liquids may not be impounded and collected or disposed of by evaporation in excavated earthen pits.

6.7.6 All procedures of saltwater disposal shall be approved by the Commission.

7.0 Field Rules Under Leases

7.1 Location and Spacing of Exploratory Wells

7.1.1 The drilling unit for exploratory wells shall be one hundred sixty (160) acres. The length of any unit shall not exceed twice its width.

7.1.2 An exploratory well shall be located at a point lying within the center square forty (40) acre tract within a one hundred sixty (160) acre drilling unit, but in no case be closer than six hundred sixty (660) feet from an outer boundary of the one hundred sixty (160) acre drilling unit.

7.2 Special Rules

7.2.1 Upon completion of a discovery well in a new reservoir the Commission shall promulgate, if necessary, temporary special well spacing and drilling unit rules. Such rules are to be designed to result in providing, with the fewest number of wells and within the shortest possible time, all necessary information pertaining to the reservoir and its contained fluids, in order that a proper plan of drilling wells and production allocation be established.

7.2.2 When such information has been obtained, the Commission shall adopt permanent rules and regulations with respect to the plan of drilling wells on and the allocation of production between each separate leasehold or pooled unit within the said reservoir. Such permanent rules shall provide the minimum size unit on which one well may be drilled, a method of determining the total allowable for the pool, and a method of allocating and distributing the total allowable among the various separate leaseholds or pooled units within said pool so that correlative rights and equity will be protected. Such permanent order shall also provide that there may be permitted to be drilled on each separate

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leasehold or pooled unit within said reservoir up to a certain maximum number of wells (being the number of wells required to economically and efficiently drain the area of the reservoir included within said separate leasehold or pooled unit). Such permanent rule shall provide appropriate required minimum distances from separate leasehold or pooled unit lines and between wells to the same reservoir on the same separate leasehold or pooled unit.

7.3 Well Spacing, for Wells Drilled for Purposes Other Than the Production of Oil, Gas or Condensate

7.3.1 Section 1 of this Regulation shall not apply to wells drilled for geological information (core holes), stratigraphic testing, fluid injection or disposal in conjunction with operations for oil and gas, or for storage or withdrawal from storage of natural gas or other hydrocarbons. An operator, desiring to drill one or more of such wells, shall file application on Form DGO-12 for a permit to drill. In event other parties may be affected thereby, notice shall be required to be given to such parties, who shall have an opportunity to protest, at a formal hearing if requested, or if such hearing is deemed necessary by the Commission.

7.4 Exceptions to Well Spacing Rule

7.4.1 For the purpose of affording an operator the opportunity of recovering the hydrocarbons under his separate leasehold or pooled unit, an exception to the requirements of well spacing may be granted upon application (Form DGO-13) by the operator of the well for which a location exception is requested. Notice of said application shall be given by mail to all operators of all drilling or production units of which the ownership is not the same as the unit on which the proposed well is to be drilled and which offsets, either directly or diagonally, the drilling unit on which the proposed well is to be located. Such notice to offset operators shall be mailed on the date the application is filed. Waivers from operators of offsetting drilling units having alien ownership may be procured and filed with the application. If waivers from all such parties are furnished, the Commission, if it has no objection, may approve the application forthwith. If waivers are not furnished, the Commission will hold the application in abeyance for fifteen (15) days. If no protest is received within said fifteen (15) day period, the Commission may approve the application. If a protest is timely received, or if the Commission objects to the application, notice shall be given to all affected parties and the application shall be set down for formal hearing at an early date.

7.4.2 An exception to the prescribed location may be granted for good cause. Whenever it shall appear that the drilling unit on which the proposed well is to be located may not be reasonably considered productive in the specific reservoir, or when for some other reason the location of the well at the off-pattern location will result in the exception well being permitted to produce more than the just and equitable share of the hydrocarbons in the reservoir to which such drilling unit should be entitled by virtue of its underlying hydrocarbons in place, the Commission shall restrict the allowable of such off-pattern well so as to protect the correlative rights of offsetting and other operators of drilling units in the reservoir of which the ownership is different, or alien. Such can be accomplished by eliminating nonproductive acreage from the unit.

7.4.3 Whenever it shall appear that the volume of hydrocarbons in place underlying any drilling unit is one-half or less than the average volume of hydrocarbons to place under all the drilling units in the reservoir the Commission may, if in its judgement a well on such deficient drilling unit would not be economically justifiable, refuse to grant the requested exception. In lieu thereof, the Commission shall entertain a new application to incorporate the deficient drilling unit into an adjoining property, of either similar or alien ownership. After notice, hearing, and the issuance of an order approving such combination of units, the property to which such deficient unit is to be added shall be granted an increased allowable in proportion to the share of in place hydrocarbons under the deficient drilling unit, and must have the capacity to produce the increased allowable. If the ownerships of the combined properties are different, the owners of the deficient drilling unit shall acquire, under the terms of such a pooling order, as to the royalty owners, an interest in the royalty under the enlarged property in proportion to the hydrocarbons in place, and, as to the working interest owners, an interest in the working interest share of the production from

the enlarged tract, and in the wells and other equipment on such enlarged tract, in the same proportion. The working interest owner of the deficient drilling unit shall be required to pay, either in cash, or out of production, his proportionate share of the cost of such wells and equipment, on the following basis: the intangible portion of the cost of such wells, reduced by the percentage of the recoverable hydrocarbons under the theretofore producing property produced prior to the date of the administrative order; and the tangible portion of the cost of such wells valued at the market value at the time of the issuance of the order. In event payment is not made in cash at the time of the adjustment, reasonable interest shall be allowed to the creditor on all deferred payments.

7.5 Pooling of Ownerships or Interest Within a Drilling or Production Unit

7.5.1 When two (2) or more separately owned tracts are embraced within a drilling or production unit, or when there are separately owned interests in all or a part of the drilling or production unit, then the persons owning such interests may pool their interests for the development and operation of the drilling or production unit. In the absence of voluntary pooling within the drilling or production unit, the Commission, upon the application of any interested person (Form DGO-14), may enter an order pooling all interests in the drilling or production unit for the development and operation thereof. Each such pooling order shall be made after hearing, and shall be upon terms and conditions that are just and reasonable, and that afford to the owner of each tract or interest in the drilling or production unit the opportunity to recover or receive, without unnecessary expense, his just and equitable share of the oil and gas produced and saved from such drilling or production unit covered by a pooling order and shall be deemed, for all purposes, the conduct of such operations upon each separately owned tract in the drilling or production unit by the several owners thereof. That portion of the production allocated to each tract included in a drilling or production unit covered by a pooling order shall, when produced, be deemed for all purposes to have been produced from such tract by a well drilled thereon.

7.5.2 Each such pooling order shall make provision for the drilling and operating of a well on the drilling or production unit, and for the payment of the cost thereof, which cost may include a reasonable charge for supervision, handling, storage, and interest on money advanced. As to each owner who refuses to pay his share of the costs of drilling and operating the well, the order shall provide for payment of his share of the cost out of, and only out of, production from the well allocable to his interest in the drilling or production unit, excluding royalty or other interest not obligated to pay any part of the cost thereof. In the event of any dispute as to such cost, the Commission shall determine the proper cost. The order may provide in substance that the owners who agree to share in the cost of drilling and operating the well shall, unless they agree otherwise, be entitled to receive, subject to royalty or similar obligations, all of the production of the well until they have recovered all of such costs out of production, and thereafter all of the owners in such drilling or production unit shall be entitled to receive their respective shares of the production of such wells as their interests may appear after deducting their respective shares of current operating costs.

7.6 Unitization of All or Part of a Reservoir

7.6.1 A unit operation, covering all or a part of a reservoir, in which all interests have been combined and the ownership is the same throughout the unit, shall be considered in the same category as a single property or ownership, for the purposes of well spacing. When the operator of a unit desires to drill wells thereon in some configuration other than that provided by the well spacing rules applicable to the reservoir, he shall first submit and obtain approval from the Commission of a plan of development for the specific unit (Form DGO-13).

7.6.2 The Commission may require the unitization of all or part of a reservoir when it determines after notice and hearing, that:

7.6.2.1 the ultimate recovery from the reservoir is expected to be increased by unitized operations.

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- 7.6.2.2 75% or more in interest of both working interest owners and royalty owners in the unitized area have agreed to a plan of unit operation and a contract to effectuate same; and
- 7.6.2.3 the plan is economically feasible and will protect the correlative rights of all owners therein.

8.0 Rules of Allocation

8.1 Naming and Classification of Fields and Pools

- 8.1.1 The Commission shall assign a name to each newly discovered field and pool. This name shall consist of some logical, recognizable designation, along with the geologic name of the producing reservoir.
- 8.1.2 The Commission shall classify the pools in the following categories:
 - 8.1.2.1 Oil Pools
 - 8.1.2.1.1 Pools on Discovery Allowable
 - 8.1.2.1.2 Prorated Pools (Subject to Market Demand Restriction)
 - 8.1.2.1.3 Unprorated (Marginal) Pools
 - 8.1.2.1.4 Pools under Pressure Maintenance or Secondary Recovery (Unit Operations)
 - 8.1.2.2 Gas Pools
 - 8.1.2.2.1 Dry Gas Pools
 - 8.1.2.2.2 Gas Condensate Pools
 - 8.1.2.2.3 Gas Condensate Pools Under Cycling

8.2 Oil and Gas Production From Oil Pools

- 8.2.1 On all new wells, and on all recompleted wells, an initial production test shall be taken and reported on Form DGO-15. Such tests shall be carried out in accordance with instruction on the Form, and shall show oil, gas and water production, gas-oil ratio, and API gravity of the oil. The measurement of oil shall be in terms of barrels of clean oil on the basis of properly calibrated meter or tank measurements. The measurement shall be corrected and reported in terms of barrels of forty-two (42) standard gallons of two hundred thirty-one (231) cubic inches each at a temperature of sixty (60) degrees Fahrenheit.
- 8.2.2 The determination of allowables shall be as follows:
 - 8.2.2.1 Pools on Discovery Allowable. Each well completed which discovers a new pool may, upon approval by the Commission, be classified as a discovery well and assigned a daily oil allowable, not subject to market demand restriction, based upon the depth allowable schedule of Section 2.3. The operator of such well shall furnish to the Commission geologic and engineering data by which it may be determined if a new reservoir has in fact been discovered. If a new discovery is approved, then the discovery allowable, or the capacity to produce oil, whichever is less, shall be the allowable assigned to the discovery well and all subsequent wells completed in said pool until the tenth well is completed or until a period of twenty-four (24) months has elapsed from the date of completion of the discovery well, whichever occurs first. Subsequently, the pool shall enter the classification of prorated pools. At the same time as a discovery allowable is assigned to any well, the Commission shall issue an order promulgating temporary pool rules for such new pool, including a rule providing for temporary drilling units and well spacing so that in the early stage of development of such pool no unnecessary wells maybe drilled, and the limits and characteristics of the reservoir and its fluid content maybe determined with the least number of wells in the shortest possible time.
 - 8.2.2.2 Prorated Pools. Prior to termination of the discovery allowable status of a pool, the Commission may require the submission of all reservoir data obtained and will hold a hearing to secure further evidence and the recommendations of operators for the future operation of such pool. The Commission shall determine the areal extent of said pool and the size of a drilling unit in said pool as soon as possible, based upon the best information available at that time. The Commission shall then

assign to such pool a total pool allowable. The pool allowable may be determined from technical evidence pertaining to the maximum efficient producing rate of the pool, or from the number of productive acres divided by the acres in the applicable drilling unit times the applicable oil well allowable or equal to the total number of drilling units in said pool multiplied by the applicable daily well oil allowable as shown on the Commission's depth-acreage yardstick allowable table for wells throughout the State. The total pool oil allowable, as determined above, shall then be distributed to each separate leasehold or pooled unit so as to allow each tract an opportunity to produce ultimately the liquid hydrocarbons which underlie it. These allowables shall be subject to the monthly market demand factor, if any. In event no Statewide death-acreage allowable yardstick is in use, or where the operators in a pool may hold that the applicable yardstick allowable is too low or too high, and that a higher or lower allowable should be granted to the specific pool because of the unusual thickness or character of the producing formation, or the unusual efficiency of the drive mechanism, operators shall, upon notice and hearing, present to the Commission evidence to support a request for a higher or lower allowable, or MER (Maximum Efficient Rate of Production). Upon consideration of the evidence, if the Commission finds that a higher or lower daily per-well allowable or MER for the pool is justified, and that the pool is capable of producing at such MER without avoidable waste, then such higher or lower allowable or MER may be authorized and used in determining the separate leasehold or pooled unit allowables provided for above.

8.2.2.3 Unprorated (Marginal Pools). The Commission may classify a pool as unprorated and not subject to market demand proration when, upon hearing, it is found that further specific regulation and control is unnecessary, will not aid in the prevention of waste or tend to increase the ultimate recovery from the reservoir, will not adversely affect correlative rights, where well capacities are below normal market demand allowable rates for wells of that depth, and where further regulation and control would not materially affect the market demand function and might result in premature abandonment of wells. Allowables in such pools may be assigned on the basis of each separate leasehold or pooled unit, and shall be equal to the producing capacity of each such property.

8.2.2.4 Pools Under Pressure Maintenance or Secondary Recovery (Unit Operations). The daily oil allowables, in barrels, of a pressure maintenance project covering part or all of a pool, shall be equivalent to either: (1) the MER of such project, as determined by the Commission; or (2) the number of drilling units within such project multiplied by the yardstick allowable applicable to the size of such drilling units and the depth of the pool, such daily oil allowable being subject further to the State market demand factor, if any, for each month. Pools under secondary recovery, whether unit operations or not, will be granted allowables established by special order of the Commission, upon application, notice and hearing.

8.2.3 The daily per well allowables, not subject to market demand restrictions, shall be as follows:

INTERVAL OF DEPTH (FEET)	DAILYWELL ALLOWABLE (BARRELS)
0 - 1,000	20
1,000 - 2,000	40
2,000 - 3,000	60
3,000 - 4,000	80
4,000 - 5,000	100
5,000 - 6,000	120
6,000 - 7,000	140
7,000 - 8,000	160
8,000 - 9,000	180

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9,000 - 10,000	200
10,000 - 10,500	210
10,500 - 11,000	225
11,000 - 11,500	255
11,500 - 12,000	290
12,000 - 12,500	330
12,500 - 13,000	375
13,000 - 13,500	425
13,500 - 14,000	480
14,000 - 14,500	540

8.3 Classification of Wells as Oil Wells or Gas Wells

8.3.1 By special order affecting a single well, or all of the wells in a pool, the Commission may declare the criteria for classification of wells as gas wells or oil wells.

8.4 Associated Gas-Well Allowables

8.4.1 A gas well producing from a reservoir from which oil is also produced is known as an associated gas well. If an associated gas well is completed in an oil pool currently on discovery allowable status, such gas well shall be allowed to produce daily that volume of gas which occupied the same volume in the reservoir as an oil well producing the daily discovery oil allowable with a producing gas-oil ratio of two thousand (2,000) cubic feet of gas per barrel of oil. No gas from a gas well shall be permitted to escape into the atmosphere, and all gas produced therefrom shall be utilized without waste, except by special permission of the Commission, which may be given for good cause shown, including well tests of short duration.

8.4.2 If an associated gas well is completed in a prorated pool, the separate leasehold or pooled unit on which such well is located shall be allowed to produce daily, provided gas from such leasehold is utilized without waste, that volume of gas which occupied the same volume in the reservoir as an oil well which produced oil at the same rate as the yardstick or MER daily per-well allowable which was used in determining the pool allowable of said pool, producing with a gas-oil ratio of two thousand (2,000) cubic feet of gas per barrel of oil, multiplied by a factor, the numerator of which is the number of acres, which may reasonably be considered productive, within the gas area of such separate leasehold or pooled unit available for attribution to such well, not attributed to any other well, and the denominator of which is the number of acres in an oil drilling unit in said pool as determined by the agency.

8.5 Gas-Oil Ratio Penalty and Prevention of Waste of Casinghead Gas

8.5.1 In pools on discovery allowable, any oil well producing with a gas-oil ratio in excess of two thousand (2,000) cubic feet of gas per barrel of oil produced shall be allowed to produce daily only that volume of gas obtained by multiplying the top daily oil allowable which could have been assigned to such well, prior to application of this Regulation, by two thousand (2,000). In all other pools, any separate leasehold or pooled unit producing with a gas-oil ratio in excess of two thousand (2,000) cubic feet of gas per barrel of oil produced shall be allowed to produce daily only that volume of gas obtained by multiplying the top daily oil allowable which could have been assigned to such separate leasehold or pooled unit, prior to the application of this Regulation, by two thousand (2,000). The gas volume thus obtained shall be known as the daily gas limit of the well, or of the separate leasehold or pooled unit. The daily penalized oil allowable of the well, or of the separate leasehold or pooled unit, shall then be determined by dividing its daily gas limit, obtained as herein provided, by its producing gas-oil ratio in cubic feet per barrel of oil produced. The well or leasehold or pooled unit shall be permitted to produce the oil allowable or gas limit whichever comes first.

8.5.2 If gas produced from an oil reservoir is returned to the same reservoir from which it was produced, only the volume of gas not returned to the reservoir shall be considered in applying the rule stated.

- 8.5.3 When a majority of the oil wells in a pool are producing with gas-oil ratios in excess of two thousand (2,000) cubic feet per barrel, and when all the gas produced from such wells is utilized without waste, and when it shall appear that the efficiency of the oil recovery mechanism of the reservoir will not thereby be substantially diminished, the Commission, upon application (Form DGO-16), notice, and hearing, may permit all or a part of the gas so utilized without waste to be deducted from the total volume produced before calculating the producing gas-oil ratio of such well, or such separate leasehold or pooled unit.
- 8.5.4 When it is shown that no avoidable waste or violation of correlative rights will result, the Commission may authorize the operation of a pool under a limiting gas-oil ratio in excess of two thousand (2,000) cubic-feet of gas per barrel of oil produced.
- 8.5.5 If necessary to prevent undue waste of gas and/or dissipation of reservoir energy, the Commission may limit or prevent the production of oil and related venting of gas from an oil well pending:
- 8.5.5.1 the availability of a suitable gas pipeline connection for marketing gas or other means of utilizing gas without waste, or
 - 8.5.5.2 a determination after public hearing that the volume, pressure, quality, or location with respect to a pipeline of vented gas renders the saving of such gas economically infeasible and that the public interest or correlative rights will not be unduly harmed by gas venting incident to such oil production.
- 8.6 Allowable Adjustments for Exceptions to Locations
- 8.6.1 Whenever the Commission has granted an exception to the location of a well on a drilling unit, which was required by the terms of these Regulations or of a special pool rule; promulgated by the Commission, and it appears that such exception location gives the applicant more than his just and equitable share of the hydrocarbons in the reservoir, the Commission shall take such action, by allowable penalty or otherwise, as to offset the advantage over other owners in the pool occasioned by the granting of the exception location.
- 8.7 Proration Schedules
- 8.7.1 The Commission will publish schedules on which are tabulated the daily oil allowables of each well on discovery allowable, and of each prorated and each marginal separate leasehold or pooled unit, and of each pressure maintenance or secondary' recovery project. Schedules shall show the name of pool, name of operator, lease name and number of well, if on discovery allowable, and lease or project name if in one of the other categories of pools. Schedules shall also show such pertinent information as depth of pool, size of drilling unit, and, in a prorated pool, percent of hydrocarbons in place assigned to each separate leasehold or pooled unit, gas-oil ratios and penalties, if any.
- 8.8 Nominations to Purchase Crude Oil - Market Demand
- 8.8.1 On or before the tenth of each month, each purchaser of oil in this State shall render to the Commission, on Form DGO-17, a tabulation showing the names of the pools from which such purchaser intends to purchase crude oil, and the total and daily average volumes of such crude oil desired, for the next succeeding calendar month.
- 8.8.2 Between the fifteenth and the twenty-fifth of each month, the Commission shall, upon notice, hold a public hearing to obtain testimony relating to the market demand for crude oil for the next succeeding calendar month. Following such hearing, and after considering the nominations, the testimony elicited at the hearing, and other pertinent facts, the Commission shall issue an order establishing the market demand for crude oil in the State for the next succeeding calendar month, and prescribing the method whereby the demand will be distributed to the various pools and wells throughout the State.
- 8.9 Gas and Condensate Production from Gas Pools
- 8.9.1 Open-flow capacity of gas wells to be used as a basis for proration of gas production and/or the establishment of maximum allowable withdrawal rates shall be determined by use of appropriate procedures of the Interstate Oil Compact Commission's "Manuel of Back-Pressure Testing of Gas Wells" or Commission approved improvements, modifications, or substitutes. Well owners and/or operators shall cause such open-flow capacity tests to be conducted annually, unless provided otherwise by the Commission.

- Tests of gas wells may be witnessed or observed by representatives of any operator or producer in the pool, and the producers and/or operators of adjoining or offset separate leasehold or pooled units must be notified of the testing schedule.
- 8.9.2 Upon completion of an exploratory well as the discovery well of a new gas reservoir, the Commission shall issue an order establishing temporary well spacing and drilling or production units designed to reveal the extent and characteristics of the new pool with the least number of wells drilled, and at the earliest possible date. Whenever such pool data is available, the Commission shall give notice and call a hearing to obtain testimony and recommendations of the operators in the new pool concerning permanent drilling or production units, well spacing, and other rules. The Commission shall then issue an order providing permanent rules for such pool.
- 8.9.3 All natural gas and liquid hydrocarbons produced from a gas well, or from a separate leasehold or pooled unit, shall be separated and measured by approved recording meters, tanks, or other measuring devices, before these products shall leave the separate lease or pooled unit, and be reported to the Commission. Exceptions to this rule may be granted by the Commission where gas from two or more leaseholds is measured and liquids separated at a common measuring and separation facility, provided there are proper safeguards to enable equitable distribution of the proceeds to the owners of the hydrocarbons so measured. Meter charts and records shall be kept in a permanent file for a period of at least two (2) years and such information shall be made available to the Commission on request. Bypasses shall not be connected around meters in such manner as to permit the illegal taking of gas or liquid hydrocarbons.
- 8.9.4 Whenever the available production of gas from a pool is in excess of market demand from such pool, or whenever necessary to assure the equitable taking of gas from a pool, or to prevent waste, the Commission shall regulate the taking of gas from such pool by establishing a reasonable and equitable proration formula with which to allocate production among wells and by issuing monthly proration schedules based on such formula Prior to the adoption of permanent special rules for a pool, and provided that no waste will be caused thereby, gas allowables shall be assigned to each gas well in the proportion that the productive acres attributed to such well is to the total productive acreage attributed to all of the gas wells in the pool. Permanent rules adopted for such pool shall provide that the total gas allowable of the pool shall be distributed among the separate leaseholds or pooled units in said pool so as to allow each tract an opportunity to produce ultimately the gaseous hydrocarbons which underlie it.
- 8.9.5 All initial purchasers of gas produced from gas wells throughout the State shall file by the tenth day of each month, nominations, on Form DGO-18 of requirements for gas to be used by them from each associated or nonassociated pool during the following month. An operator using gas-well gas for his own operations, either on leases or in a fuel system, shall also file gas nominations. Operators of gas processing plants who operate field gathering systems and who are the purchasers of gas-well gas at the wellhead, or on the lease, shall file gas nominations.
- 8.9.6 The allocation of allowables to all wells, or to separate leaseholds or pooled units, in nonassociated prorated gas pools will be determined from the nominations submitted. However, in order to ascertain the reasonable market demand for the gas, nominations for gas shall be adjusted to actual production of prorated wells or separate leasehold or pooled units, by applying the difference between the latest total monthly production of prorated wells or leaseholds and the total nominations for gas from prorated wells or leaseholds for that month to the total nominations for gas for all wells, or separate leaseholds or pooled units, that have been submitted for the month of the proration schedule which is in preparation. The total nominations for gas from prorated wells, or separate leaseholds or pooled units, for any month shall be determined by subtracting the total allowable assigned to nonprorated wells, or separate leaseholds or pooled units, during the month from the total nominations for gas from all wells, or separate leaseholds or pooled units, in the pool for that month. Nothing herein shall prevent the Commission from making such further adjustments affecting gas allowables as in its judgement may be necessary for prevention of waste or protection of correlative rights. A prorated well or

- leasehold is a well or leasehold whose allowable is determined by the pool allocation formula. A nonprorated well or leasehold is a well or leasehold which is incapable of producing its allowable as calculated by the pool allocation formula.
- 8.9.7 For the purpose of computing and balancing overproduction and underproduction in a gas field in which the distribution of allowables to the several wells or leaseholds completed in a common reservoir is governed by special operating rules, the dates 7:00 a.m., February 1, and 7:00 a.m., August 1, are to be known as "balancing dates": and the six (6) months' periods beginning 7:00 a.m., February 1, and ending 7:00 a.m., August 1, and beginning 7:00 a.m., August 1, and ending 7:00 a.m., February 1, will be considered as separate entities and will be known as "balancing periods."
- 8.9.8 If a gas well or leasehold during the balancing period does not produce as much gas as is allocated to it by the order of the Commission, the operator of the well or leasehold shall be permitted to carry such underproduction forward to the next succeeding balancing period, as future allowable credit to be produced during that period. The amount of underproduction to be carried forward into any new balancing period as allowed production during, such new balancing period shall consist of the actual underproduction that accrued in the balancing period immediately preceding such new balancing period, and the accumulative well or leasehold status, as to underproduction, will be adjusted on each balancing date accordingly. If a producing well or leasehold has been accumulatively underproduced on each of two successive balancing dates, the well or leasehold shall not be assigned a monthly allowable greater than the maximum monthly production from the well or leasehold during the immediately preceding balancing period; provided, however, the limited allowable assigned to the well or leasehold may be adjusted to a value not to exceed the allowable applicable to the well or leasehold under the allocation formula, upon certification to the Commission from the operator that such well or leasehold is producing gas in excess of the limited allowable assigned it.
- 8.9.9 Each operator of each gas well or leasehold subject to the hereinafter prescribed conditions, may produce the well or leasehold in excess of the monthly allowable allocated to it. Provided, that no well or leasehold shall in any one month produce at a rate in excess of one hundred twenty-five (125) percent the daily average required to produce its normal current monthly allowable. Any well or leasehold overproduced as of a balancing date, which was also over-produced on the balancing date immediately preceding and remained overproduced for the entire period between the two balancing dates, shall be shut in until the overproduction, existent as of the later of such two balancing dates, is made up, unless exception is granted. The operator of a well or leasehold required to be shut in, may request a hearing before the Commission to determine whether shutting in the well or leasehold would damage it. Notice of the hearing will be given to all operators in the field. If, after consideration of the evidence submitted at the hearing, the Commission finds that the well would be damaged if shut in, or that the leasehold thereunder would be jeopardized, the Commission may allow the overproduction charged against it to be made up at a lesser rate than it would be made up if the well or leasehold were shut in. Except where a well or leasehold is shut in to make up overproduction, overproduction existent as of any balancing date shall be made up during the balancing period immediately following, and may be made up at any time during such period; i.e., a specified fractional part of such overproduction need not be made up during each month of such balancing period, so long as all of such overproduction is made up during such balancing period.
- 8.9.10 The Commission shall publish schedules showing the allowable gas production for each well, or separate leasehold or pooled unit. Such schedules shall identify the well or leasehold and shall indicate the status (volume by which such well or leasehold is under- or overproduced as of the first date of the second preceding month). Schedules shall be issued and mailed to interested operators as soon as possible each month, showing the current month's allowable.
- 8.9.11 The rules provided herein for proration of gas shall not apply to withdrawals of gas from gas storage reservoirs.

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- 8.9.12 Before gas from a nonassociated gas pool may be utilized for production of carbon black, a special permit must be obtained for such use from the Commission (Form DGO-19).
- 8.9.13 Operators of wells and pools capable of producing carbon dioxide, nitrogen, hydrogen sulphide, or other gases, or combinations thereof, may and shall be required to secure approval of operating practices from the Commission (Form DGO-20).
- 8.9.14 Monthly volumes of gas and condensate produced from each well, or each separate leasehold or pooled unit, shall be reported to the Commission on Form DGO-21 on or before the last day of the month following the month of production. It shall be the duty of each producer to file such reports, unless the Commission rules otherwise.